



# ANNUAL REPORT

## 2017-2018



**Indian Statistical Institute**

# **PRESIDENT OF THE INSTITUTE, CHAIRMAN AND OTHER MEMBERS OF THE COUNCIL AS ON MARCH 31, 2018**

**President:** Dr. Vijay Kelkar, Padma Vibhushan

1. Chairman: Prof. Goverdhan Mehta, FNA, FRS, Dr. Kallam Anji Reddy Chair School of Chemistry, University of Hyderabad, Central University, Gachibowli, Hyderabad - 500 046, Telangana.
2. Director: Prof. Sanghamitra Bandyopadhyay.

## **Representatives of the Government of India**

3. Shri Surendra Nath Tripathi, Additional Secretary and Financial Advisor, Govt. of India, Ministry of Statistics and Programme Implementation, New Delhi.
4. Shri M.V.S. Ranganadham, DG (ES), Govt. of India, Ministry of Statistics and Programme Implementation, New Delhi.
5. Shri Pramod Kumar Das, Additional Secretary, Govt. of India, Ministry of Finance, Department of Expenditure, New Delhi.
6. Dr. Praveer Asthana, Adviser/Scientist-G, Head (AI and Mega Science Divisions), Govt. of India, Ministry of Science and Technology, New Delhi.
7. Dr. M.D. Patra, Executive Director, Reserve Bank of India, Mumbai.
8. Shri R. Subrahmanyam, Additional Secretary (T), Govt. of India, Ministry of Human Resource Development, New Delhi.

## **Representative of the ICSSR**

9. Dr. V.K. Malhotra, Member-Secretary, Indian Council of Social Science Research, New Delhi.

## **Representatives of the INSA**

10. Dr. Manindra Agrawal, Indian Institute of Technology, Kanpur.
11. Prof. B.L.S. Prakasa Rao, Ph. D, FNA, FASc, FNASc., FAPAS, Former Director ISI, Ramanujan Chair Prof., CR Rao Advance Institute of Mathematics, Statistics and Computer Science, Hyderabad.
12. Dr. Baldev Raj, President, PSG Institutions, Tamil Nadu.
13. Prof. Yadati Narahari, Department of Computer Science and Automation, Indian Institute of Science, Bangalore.

## **Representative of the NITI Aayog/ Planning Commission**

14. Ms. Anna Roy, Adviser (DM&A), Govt. of India, NITI Aayog, New Delhi.

## **Representative of the University Grants Commission**

15. Prof. Debasis Kundu, Department of Mathematics, Indian Institute of Technology, Kanpur.

## **Scientists co-opted by the Council**

16. Prof. Rohini M. Godbole, FNA, Centre for High Energy Physics, Indian Institute of Science, Bangalore.
17. Prof. Mihir K Chaudhuri, Vice-Chancellor, Tezpur University, Assam.

## **Elected representatives of the Institute members not employed in the Institute**

18. Prof. Shibdas Bandyopadhyay, Kolkata.
19. Prof. Atis Kr. Dasgupta, Kolkata.
20. Dr. I.K. Ravichandra Rao, Bangalore.

## **Elected representatives of the employees of the Institute**

21. Dr. Partha Pratim Mohanta, Representative of the Scientific Workers.
22. Shri Gouri Sankar Acharya, Representative of the Non-scientific Workers.

## **Officers of the Institute**

23. Prof. Arup Bose, Professor-in-Charge, Theoretical Statistics and Mathematics Division.
24. Prof. Ayanendranath Basu, Professor-in-Charge, Applied Statistics Division.
25. Prof. Arunava Sen, Professor-in-Charge, Social Sciences Division.
26. Dr. Tapan Chakraborty, Professor-in-Charge, Physics and Earth Sciences Division.
27. Prof. Pabitra Banik, Professor-in-Charge, Biological Sciences Division.
28. Prof. Susmita Sur-Kolay, Professor-in-Charge, Computer and Communication Sciences Division.
29. Shri Somnath Ray, Head, SOC & OR Division.
30. Prof. Abhay G. Bhatt, Head, Delhi Centre.
31. Prof. T.S.S.R.K. Rao, Head, Bangalore Centre.
32. Dr. D. Sampangi Raman, Acting Head, Chennai Centre.
33. Dr. Amita Pal, Dean of Studies.

## **Non-Member Secretary**

Prof. Barun Mukhopadhyay, Chief Executive (Administration & Finance).

# **INDIAN STATISTICAL INSTITUTE**

## **Annual Report April 2017 – March 2018**



**203 Barrackpore Trunk Road  
Kolkata – 700 108  
(<http://www.isical.ac.in>)**





**INDIAN STATISTICAL INSTITUTE  
EIGHTY SIXTH ANNUAL REPORT  
April 2017 – March 2018**

**CONTENTS**

	<b>Page</b>
<b>Director's Report</b>	<b>i</b>
<b>Report on Celebration of 125<sup>th</sup> Birth Anniversary of Prof. P.C. Mahalanobis</b>	<b>iii</b>
<b>Recent Centres</b>	<b>xi</b>
<b>Brief History of the Institute</b>	<b>xiii</b>
 <b>Part I. Teaching &amp; Training, Research and Publications</b>	
<b>1. Teaching &amp; Training</b>	<b>1</b>
Degrees and Training Courses	1
Ph.D. Degrees Awarded	5
International Statistical Education Centre	10
<b>2. Research and other Scientific Activities</b>	<b>11</b>
<b>Theoretical Statistics and Mathematics Division</b>	<b>11</b>
Stat-Math Unit (SMU), Kolkata	12
Stat-Math Unit (SMU), Delhi	12
Stat-Math Unit (SMU), Bangalore	13
<b>Applied Statistics Division</b>	<b>15</b>
Applied Statistics Unit (ASU), Kolkata	16
Interdisciplinary Statistical Research Unit (ISRU), Kolkata	16
Applied Statistics Unit (ASU), Chennai	17
Applied and Official Statistics Unit (AOSU), N-E Centre, Tezpur	17
<b>Computer and Communication Sciences Division</b>	<b>18</b>
Advanced Computing and Microelectronics Unit (ACMU), Kolkata	19
Computer Vision and Pattern Recognition Unit (CVPRU), Kolkata	20
Electronics and Communication Sciences Unit (ECSU), Kolkata	21
Machine Intelligence Unit (MIU), Kolkata	21
Documentation Research and Training Centre (DRTC), Bangalore	22
Systems Science and Informatics Unit (SSIU), Bangalore	23
Computer Science Unit (CSU), Chennai	24
Cryptology and Security Research Unit (CSRU), Kolkata	24
<b>Physics and Earth Sciences Division</b>	<b>25</b>
Geological Studies Unit (GSU), Kolkata	25
Physics and Applied Mathematics Unit (PAMU), Kolkata	26
<b>Biological Sciences Division</b>	<b>28</b>
Agricultural & Ecological Research Unit (AERU), Kolkata	29

	Biological Anthropology Unit (BAU), Kolkata	30
	Human Genetics Unit (HGU), Kolkata	30
	<b>Social Sciences Division</b>	<b>31</b>
	Economic Research Unit (ERU), Kolkata	31
	Linguistic Research Unit (LRU), Kolkata	33
	Population Studies Unit (PSU), Kolkata	33
	Psychology Research Unit (PRU), Kolkata	34
	Sampling and Official Statistics Unit (SOSU), Kolkata	34
	Sociological Research Unit (SRU), Kolkata	36
	Economics and Planning Unit (EPU), Delhi	36
	Economic Analysis Unit (EAU), Bangalore	38
	<b>Statistical Quality Control and Operations Research Division</b>	<b>39</b>
	SQC & OR Unit, Kolkata	40
	SQC & OR Unit, Delhi	41
	SQC & OR Unit, Bangalore	41
	SQC & OR Unit, Coimbatore	41
	SQC & OR Unit, Hyderabad	43
	SQC & OR Unit, Mumbai	43
	<b>Library, Documentation and Information Sciences Division</b>	<b>43</b>
	Library, Kolkata	43
	Library, Delhi	46
	Library, Bangalore	47
	Library, Chennai	48
	Library, Tezpur	49
	PCM Memorial Museum and Archives, Kolkata	50
	<b>Centre for Soft Computing Research: A National Facility, Kolkata</b>	<b>50</b>
	<b>Computer and Statistical Services Centre, Kolkata</b>	<b>51</b>
<b>3.</b>	<b>Projects</b>	<b>52</b>
	<b>Internally Funded Projects</b>	<b>52</b>
	Ongoing Projects	52
	Completed Projects	56
	<b>Externally Funded Projects</b>	<b>59</b>
	Ongoing Projects	59
	Completed Projects	67
	<b>North East Projects</b>	<b>71</b>
	Ongoing Projects	71
	Completed Projects	72
<b>4.</b>	<b>Symposia, Conferences, Workshops, Lectures and Seminars</b>	<b>73</b>
	Symposia and Conferences	73
	North East Symposia and Conferences	74
	Workshops and Training Programme	74

	North East Workshops and Training Programme	80
	Lectures and Seminars	81
<b>5.</b>	<b>Publication of Sankhyā</b>	<b>101</b>
<b>6.</b>	<b>Scientific Papers and Publications</b>	<b>102</b>
	Books Published	102
	Papers Published in Journals	104
	Papers Published in Conference Proceedings	136
	Papers Published in Books	146
<b>7.</b>	<b>Visiting Scientists, Honours and Awards</b>	<b>150</b>
	Visiting Scientists	150
	Honours and Awards	164
<b>8.</b>	<b>Editorial and other Scientific Assignments</b>	<b>167</b>
	Editorial Assignments	167
	Scientific Assignments/Academic Visits Abroad	170
	Scientific Assignments/Academic Visits in India	178
<b>9.</b>	<b>Mathematical Olympiad Organised</b>	<b>193</b>
<b>Part II.</b>	<b>Administration and Office Bearers</b>	
<b>10.</b>	<b>General Administration</b>	<b>194</b>
<b>11.</b>	<b>List of Members of the Academic Council and other Committees of the Institute as on 31 March 2018</b>	<b>203</b>
<b>Part III.</b>	<b>Audited Statement of Accounts and Auditor's Report for the year 2017-2018</b>	





## Director's Report

I am delighted to present before you the Annual Report 2017-18 of the Indian Statistical Institute. This Institute was established by P.C. Mahalanobis in 1931 in Kolkata. It has now grown into a unique institution of higher learning, and is spread over several cities of the country. As in the past, the Institute continues its glorious tradition of disseminating knowledge in Statistics, Mathematics, Computer Science, Quantitative Economics and related subjects. The year 2017-18 saw the Institute continue to flourish under the able leadership and guidance of the ISI President Dr. Vijay Kelkar and the Chairman of the ISI Council, Professor Goverdhan Mehta.

The Institute conducted its 52<sup>nd</sup> Convocation in January 2018. The Institute was happy to have Nobel Laureate Professor David J. Gross, Chancellor's Chair Professor of Theoretical Physics, University of California, Santa Barbara, USA as the Chief Guest and Professor S.R.S. Varadhan, Padma Bhushan and winner of the Abel Prize, Courant Institute of Mathematical Sciences, New York University, USA as the Special Guest.

The year 2017-2018 marked the 125<sup>th</sup> birth anniversary year of P.C. Mahalanobis and was celebrated in a befitting manner through a series of academic programs in Kolkata and the different Centres. The year-long celebrations were inaugurated by the then Hon'ble President of India, Shri Pranab Mukherjee, on June 29, 2017. A few special issues of journals have been envisaged, including those of *Sankhya*, the journal of Statistics started by Mahalanobis. The Institute hosted a number of distinguished visitors who delivered public talks and seminars. Professor Ada Yonath, Nobel Laureate in Chemistry, visited the Institute on November 29, 2017 and delivered a public lecture titled "From Basic Science to Next Generation Medicine". The other visitors include Prof. Vijay Raghavan, Secretary, Department of Biotechnology and now the Principal Scientific Advisor to the Government of India, Prof. M.S. Raghunathan, Padma Bhushan awardee, IIT Bombay, Dr. R.B. Barman, Chairman, National Statistical Commission, Prof. Robert Faff, University of Queensland, Australia, Profs. Marc and Francine Diener, University of Nice, France, Prof. Mukul Majumdar, Cornell University, USA, Profs. Stephen Stigler and Robert Rosner, University of Chicago, USA, and Prof. Bani Mallick, Texas A & M University, USA. The twelfth meeting of the Lectures on Probability and Stochastic Processes, popularly known as LPS, was concluded at ISI Kolkata with the main speakers being Prof. Arvind Ayyer, Indian Institute of Science and Prof. Nathanaël Berestycki, University of Cambridge. The Institute for the first time invited two speakers, Prof. Blaz Zupan from University of Ljubljana, Slovenia and Prof. Nicola Santoro from Carleton University, Canada, under the Global Initiative of Academic Networks (GIAN) program of the Government of India. One of the key conferences of PCM 125 celebration, the International Conference in Statistics and Probability was successfully concluded with the active involvement of several of my colleagues, plenary talks by Prof. Regina Liu, Rutgers University and Prof. Christian Robire, Université Paris-Dauphine and participation from around the globe. On December 18<sup>th</sup>, 2017, we celebrated the Foundation Day of the Institute with Prof. Bikash Sinha, former Director of the Saha Institute of Nuclear Physics and Variable Energy Cyclotron Centre, dwelling upon his reminiscences of his personal interactions with P.C. Mahalanobis and S.N. Bose. A short documentary on S.N. Bose, President of the Institute from 1967 to 1974, by Shila Dutta was also screened. The 125<sup>th</sup> Birth Anniversary of JBS Haldane was celebrated on November 6, 2017 with lectures by Prof. Vidyanand Nanjundiah and Science Communicator Pallava Bagla. Besides these, the Institute hosted many more visitors.

I am delighted to announce that as in previous years, a large number of honors and awards have been bestowed upon the scientists and students of the Institute during the past year. I mention some of these here. Ritabrata Munshi has been awarded the Infosys Prize 2017 in Mathematics. He has also been appointed Chief Editor of the Journal of the Ramanujan Mathematical Society in 2017. Sanghamitra Bandyopadhyay, has been awarded the Infosys Prize 2017 in Engineering and Computer Science, and also been selected for the TWAS Prize in Engineering Sciences 2018. Arunava Sen has been selected for the TWAS-Siwei Cheng Prize in Economic Sciences in 2018, Debasis Misra has won the prestigious Social Choice and Welfare Prize for 2018, the first time an Indian has won this prize. D. Yogeshwaran has been awarded INSA Young Scientist award 2017 and Debdulal Dutta Roy has received the Innovative Scientist Award from the Indian Academy of

## Director's Report

Health Psychology. Siva Athreya has been invited to Chair the 10th World Congress in Probability and Statistics to be held in Seoul in 2020, a rare honor. Nikhil Pal has been elected President of the Computational Intelligence Society of the IEEE and offered Honorary Professor of University of Petroleum China, while V.K. Ramachandran was selected the Vice Chairman of Kerala State Planning Board. Chetan Ghate continues to serve as a member of the Monetary Policy Committee of the Reserve Bank of India that is entrusted with the task of fixing the benchmark policy interest rate to contain inflation within a specified target level. Former Director and currently Raja Ramanna Fellow at the Institute, Sankar K. Pal, has been conferred the Jawaharlal Nehru Birth Centenary Lecture Award by Indian National Science Academy. Our young colleague Sushmita Ruj has received an academic grant from Cisco Systems Inc., USA. Discovery of Shringasaurus, a New Horned Reptile of the Middle Triassic Age, has been a major breakthrough by Saswati Bandyopadhyay, our colleague from the Geological Studies Unit, and her team. This has attracted major media attention. The Institute is proud of them.

The regular academic degree programs of the Institute are going strong as usual. The post graduate diploma in statistical methods and applications conducted in the North-East Center of the Institute in Tezpur has now been opened up for students from across the country, with half of the seats being reserved for those domiciled in the North East. The branch in Giridih saw its first Six Sigma program conducted there under the guidance of colleagues from SQC&OR division. The first batch of students of the two-year Post Graduate Diploma in Business Analytics course, conducted jointly with the Indian Institute of Management Calcutta and Indian Institute of Technology, Kharagpur, have graduated in 2017, and have been very well placed. The Statistical Training Diploma, serving officials and students from different countries, is running successfully in ISEC.

The Cell for collaboration with academia, industry and R&D labs has been very active in interacting with the industry and academia from within and outside the country to set up collaborative work. Memorandum of Understandings (MOUs) have been signed/ extended between ISI and several other organizations including Pricewaterhouse Coopers, Wipro Ltd., AXISCADES, Capital One, Dhirubhai Ambani Institute for Information Technology, EfD Secretariat at Univ. of Gothenberg, GE India Industrial Pvt. Ltd., Tata Consultancy Services and many others. The Institute continues to undertake a large number of externally funded projects as part of its academic activities. The major funding agencies of the projects are Government of India, Government of West Bengal, DST, DGCIS, DAE, DBT, RBI, NITI Aayog, UGC, Metro Rail, Kolkata, Ministry of Tourism, IBM (USA), Intel Corporation, Samsung (Korea), US Army, London School of Economics, International Growth Centre and European Union Commission. A contract has been signed with five ordnance factories to develop systems to control the quality of weapons and ammunition being manufactured by them for the Indian armed forces. The International Passenger Survey funded by the Ministry of Tourism and led by the Institute scientists has concluded successfully. The Institute is a regular member of the square kilometer array (SKA) India consortium, an international initiative to build the world's largest telescope. The Centre for research on the Economics of Climate, Food, Energy and Environment (CECFEE), ISI Delhi is a part of the Environment for Development (EfD) Network and is receiving financial support for conducting environment related studies. Apart from these, the Institute is working very closely with the Government of India and various state governments for solving social problems and for improvement of services being offered by the government, in addition to conducting a large number of training programs for government officials.

I remain extremely grateful to Dr. Vijay Kelkar, Padma Vibhusan, President of the Institute and Prof. Goverdhan Mehta, Chairman of the Institute for providing valuable advice at various stages for the smooth functioning of the Institute. I am thankful to the Secretary, Ministry of Statistics and Programme Implementation and all other officials of the Ministry of Statistics and Programme Implementation, Government of India and Members of the Section 8(1) Committee for their active support. Finally, I thank all the scientific and non-scientific workers, students and well-wishers of the Institute for extending their cooperation for the all-round development of the Institute.

March 31, 2018

Sanghamitra Bandyopadhyay

## Summary of Activities at a Glance

- **MoU with other Organisations (7 Nos.) :**
  - (i) Airport Authority of India; (ii) University of Campinas, Brazil; (iii) Environment for Development, University of Gothenburg, Sweden; (iv) G.E. - Indian Industrial Pvt. Ltd; (v) Pricewaterhouse Coopers Private Limited; (vi) Quality Council of India; (vii) Wipro Limited.
- **Number of books published : 24**
- **Number of papers published : 562**
- **Number of Conferences, Workshops and Seminars held (Total – 477) : 23 (Conference)  
140 (Workshop)  
314 (Seminar)**
- **Prestigious Awards and Honours**
  - Ritabrata Munshi (Stat-Math Unit, Kolkata) : Infosys Prize in Mathematical Sciences, 2017;
  - Neena Gupta (Stat-Math Unit, Kolkata) : B.M. Birla Science Prize in Mathematics, 2017;
  - D. Yogeshwaran (Stat-Math Unit, Bangalore) : IISA Young Scientist Award (2017);
  - Abhik Ghosh (ISRU, Kolkata) : Bose-Nandi Young Statistician Award (1<sup>st</sup> Place), 2017;
  - S. Bandyopadhyay (MIU, Kolkata) : (1) Distinguished Alumnus Award, IIT, Kharagpur, 2017;  
(2) National Leadership Award in Science and Technology (Young), Lakshmi Pat Singhania-IIM Lucknow, 2017; (3) Infosys Prize for Engineering and Computer Science, 2017; (4) J.C. Bose Fellowship, Engineering Sciences, DST, Govt. of India, 2017-22;
  - Rajat K. De (MIU, Kolkata) : Fulbright-Nehru Academic and Professional Excellence Fellowship (Flex Award), 2016- 2018;
  - Sushmita Mitra (MIU, Kolkata) : Fulbright-Nehru Academic and Professional Excellence Fellowship (Flex Award), 2018- 2019;
  - Debdulal Dutta Roy (PRU, Kolkata) : Innovative Scientist Award, Indian Academy of Health Psychology, 2017;
  - D. Mishra (EPU, Delhi) : Mahalanobis Memorial Award, The Indian Econometric Society, 2018.
- **Regional Mathematical Olympiad (RMO), 2017**
  - **Date** : 8 October, 2017
  - **Participants** : 471 (West Bengal),  
623 (Karnataka)
  - **Successful Students** : 35 (West Bengal),  
35 (Karnataka)
- **Indian National Mathematical Olympiad (INMO), 2018**
  - **Date** : 21 January, 2018
  - **Participants** : 70
- **International Statistical Education Centre (ISEC)**
  - **Founded** : 1950
  - **Commencement date of 71<sup>st</sup> Term** : 01 August, 2017
  - **Number of Trainees** : 25
  - **Countries participated** : Bhutan, Cambodia, Fiji, Mongolia, Myanmar, Nepal, Niger, South Africa, South Sudan, Sri Lanka, Tanzania.



# Journey of the Indian Statistical Institute (ISI)

## 1931-1960:

- P C Mahalanobis establishes ISI
- First international journal of Statistics in India, Sankhya, Foreword by Rabindranath Tagore
- Path breaking discoveries by ISI scientists:
  - P.C. Mahalanobis - Mahalanobis distance, large scale sample survey method
  - C.R. Rao – Cramer-Rao Bound, Rao-Blackwell Theorem
  - R.C. Bose – BCH Error correcting codes
  - S.R.S. Varadhan – theory of large deviations
  - Bahadur Efficiency and Basu's Theorem in Statistics
- National Sample Survey conceived in ISI
- UNESCO empowered ISI to train statisticians of developing countries –International Statistical Education Centre (ISEC)
- Second Five-Year Plan drafted
- ISI designs the first analog computer in India
- First digital computer in India, HEC-2M, installed in ISI
- Dinosaur fossil, Barapasaurus tagorei, discovered by ISI geologists

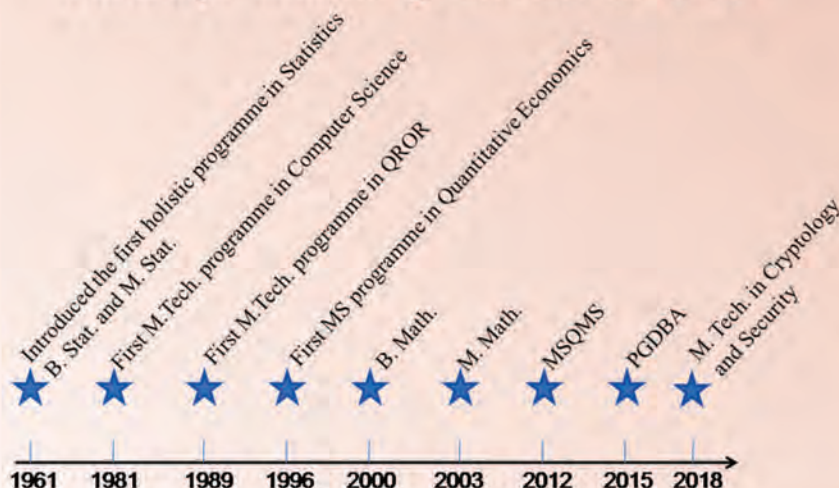
## 1961-2010

- First digital computer (ISIJU-1) built
- Knowledge-based computing systems
- Precursor to modern AI and Data Analytics research in India
- Genomic Study, Bio informatics, Image Processing, Machine Learning
- Outreach program: North-East and Jharkhand
- Pioneering work in
  - AI, Indian Language Technologies, Population Genomics, Comp. Genetics, Cryptology
  - Introduction of Soft Computing Paradigm in India

## 2011 - till date

- Centre in the North-East of India established for development of the region
- Teaching and training in Official Statistics & Policy Research
- Seminal contributions in Game theory, Algebraic Geometry, Poverty and Inequality measures, Disease Genetics
- Discovery of Shringasaurus
- Centre for (i) Cryptology and Security (ii) Climate, Food, Energy and Environment
- Computational and experimental biology research; cancer, auto-immune and neuro-degenerative diseases

## History: Thinking ahead of time







# INDIAN STATISTICAL INSTITUTE

203 B. T. Road Kolkata 700108.



**Founder**

**Professor Prasanta Chandra Mahalanobis**

The Indian Statistical Institute, a premier and internationally acclaimed research, teaching and training institute, founded in 1931, is recognized as an institute of national importance by an act of Parliament in 1959.

The Institute has distinguished faculty in statistics, mathematics, computer science, economics and other disciplines of natural and social sciences. Many of them are fellows of Indian National Science Academy, Indian Academy of Sciences, Indian National Academy of Engineering, National Academy of Sciences, India, Institute of Electrical & Electronics Engineers (IEEE) and many other distinguished scientific societies in India and abroad, and also recipients of prestigious awards like S.S. Bhatnagar Prize, Homi Bhaba Award etc.

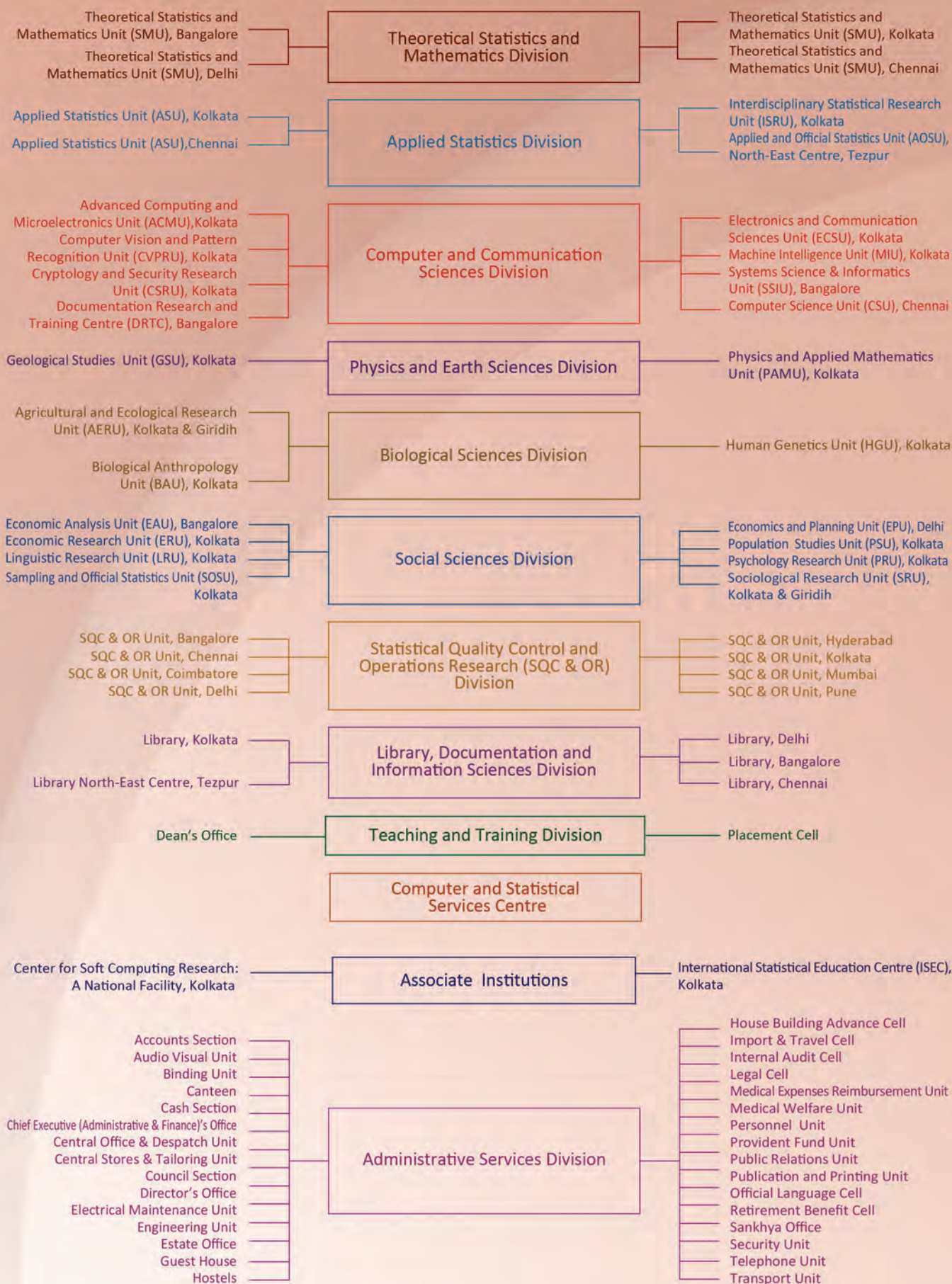
The Institute offers -

- B.Stat.(Hons.), B.Math.(Hons.), M.Stat., M.Math., M.S. in Quantitative Economics, M.S. in Quality Management Science, M.S. in Library and Information Science, M.Tech. in Computer Science, M.Tech. in Quality, Reliability and Operations Research
- Post Graduate Diploma in Statistical Methods and Analytics
- Post Graduate Diploma in Business Analytics (PGDBA) jointly with IIT Kharagpur and IIM Calcutta
- Post Graduate Diploma in Computer Applications (PGDCA)
- Junior/Senior Research Fellowships in several areas of natural and social sciences
- Statistical Training Diploma for students from developing countries (through International Statistical Education Centre)
- Ph.D. degrees in Statistics, Mathematics, Quantitative Economics, Computer Science and Quality, Reliability & Operations Research

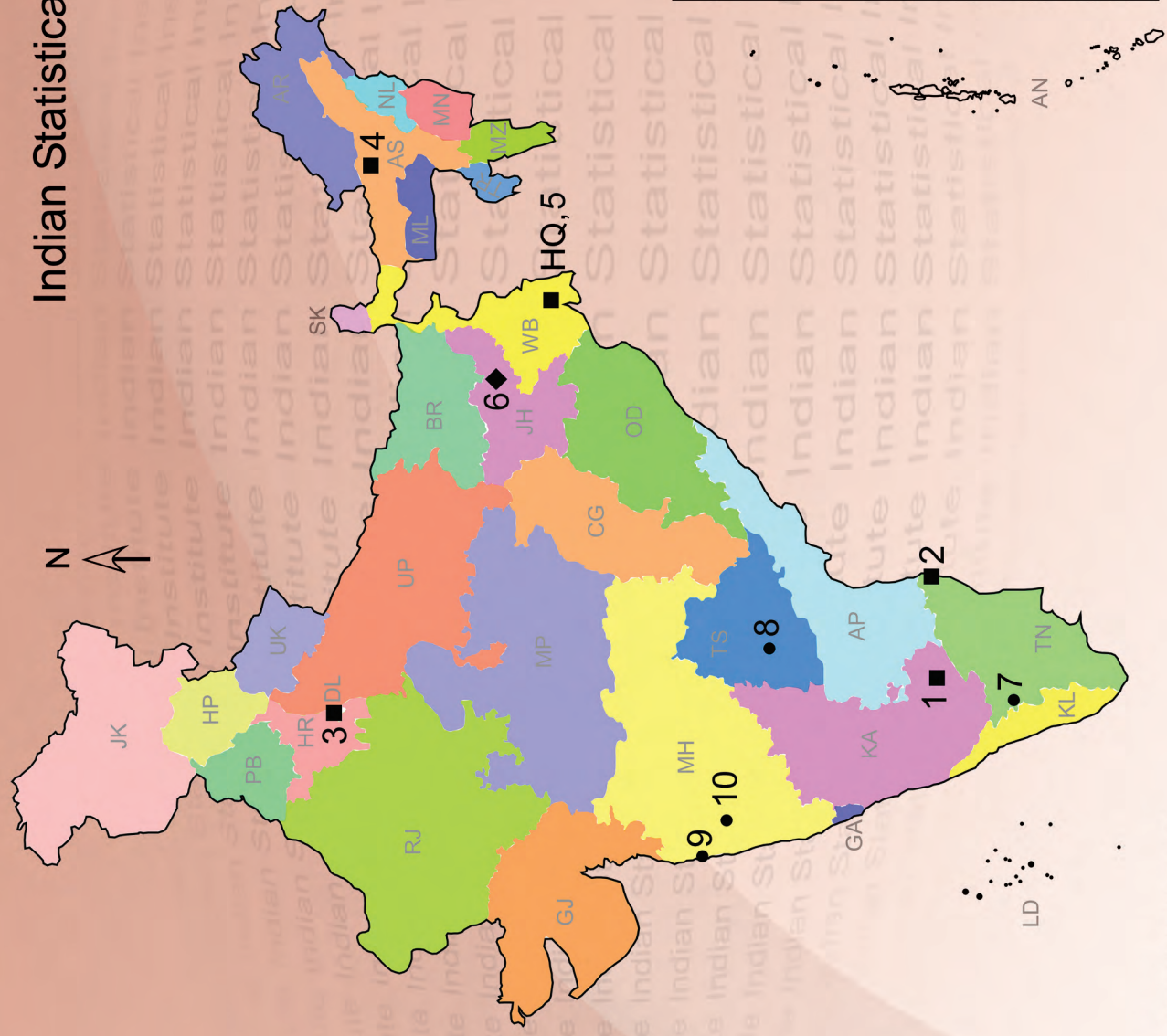
The Institute also confers D.Sc. (Honoris Causa).



## Organization of ISI by Divisions, Constituent Units and Associate Institutions



# Indian Statistical Institute: Locations



Head Quarter (HQ)		Kolkata
Centres		■
1. Bangalore		
2. Chennai		
3. Delhi		
4. North-East (Tezpur)		
5. RC Bose		
Branch		◆
6. Giridih		
Outlying SQC & OR Units		●
7. Coimbatore		
8. Hyderabad		
9. Mumbai		
10. Pune		

Map: Not to the scale





"Silver Jubilee Workshop" organized by Machine Intelligence Unit, ISI, Kolkata on 23 March 2018



"P C Mahalanobis Memorial Lecture 2018", by Prof. Marc Hallin at ISI, Kolkata on 05 February 2018



Public Lecture by Prof. David Jonathan Gross, Nobel Laureate at ISI, Kolkata on 09 January 2018



Prof. S. R. Srinivasa Vardhan delivering a lecture on "The Polaron Measure" at ISI, Kolkata on 08 January 2018



A programme on "ISI-Networks" at ISI, Kolkata on 29 January 2018



Prof. Nigel Hughes delivering lecture at workshop on "Morphometrics & its Applications in Palaeontology" at ISI, Kolkata on 28 March 2018

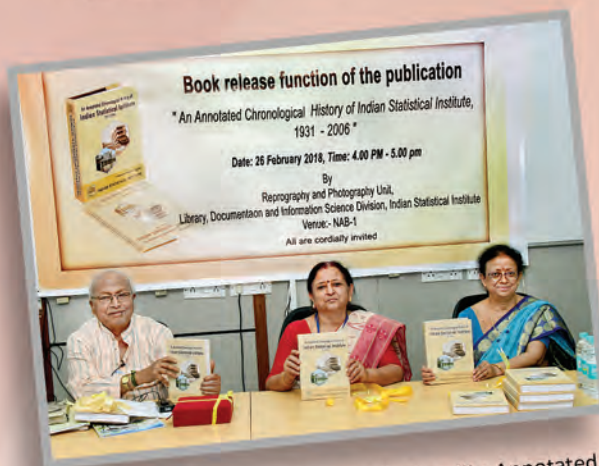




Felicitations of Prof. Mukul Majumdar by Prof. S. Bandyopadhyay, Director, ISI for his lecture on "Sustainability & Uncertainty" at ISI, Kolkata on 20 November 2017



Workshop on "Computational Statistics" at ISI, Kolkata organized by Interdisciplinary Statistical Research Unit, ISI during 19-23 March 2018



Book release function of the publication "An Annotated Chronological History of Indian Statistical Institute, 1931-2006" organized by Reprography & Photography Unit, Library Division on 26 February 2018



Inauguration of International Conference on "Future of Libraries: From Promise to Practice" at DRTC Bangalore Centre, ISI during 15-17 November 2017



Celebration of 71<sup>st</sup> Independence Day at ISI, Kolkata



Training programme on "Career Interest Profile Similarity" organized by Psychology Research Unit on 11 August 2017





Training of Research Personnel of Doordarshan organized by ISI during 06-08 September 2017



7th International Conference on "Pattern Recognition & Machine Intelligence PRMI'17" organized by Machine Intelligence Unit, ISI during 04-08 December 2017



Inauguration of Hindi Training Programme "Praveen" & "Pragya" organized by ISI, Kolkata on 12 July 2017



Prof. Bimal K. Roy, former Director, ISI delivering lecture on "Blockchain-2017" at ISI on 29 November 2017



On the occasion of "Make in India" MoU, made between MEIKO Springs Company Ltd.-Japan with MSMF Unit M/S. Venkateswara Springs, organized by SQC & OR, ISI Coimbatore Centre



Inauguration of 8th Workshop on "Digital Pictorial Photography & Photography Exhibition" organized by Reprography & Photography Unit, Library Division on 15 January 2018





A lecture by Prof. Ashis Kumar Chakraborty, SQC & OR Unit, ISI Kolkata on 19 March 2018



Speakers and participants in Mini Symposium on "Big Data and Large Scale Computing" at ISI Delhi Centre on 27 December 2017



National seminar on "Land, Labour and Livelihood Focus and Development of Marginalized Communities and Social Groups" at ISI Giridih Branch during 30-31 January 2018



Participants of Certification programme for "Six Sigma Black Belt" organized by SQC & OR Unit, Hyderabad Centre during 11-16 December 2017



Training programme on "Statistical Techniques for Business Forecasting" organized by SQC & OR, ISI Mumbai Centre during 27-29 December 2017



"Hindi Karyashala" organized by ISI Kolkata on 16 June 2017





Programme on "Six Sigma Green Belt" organized by SQC & OR Division, ISI Kolkata on 10 July 2017



Training on "Government e Marketplace" organized by ISI Kolkata on 27 July 2017



Celebration of 69<sup>th</sup> Republic Day at ISI Kolkata



P C M Memorial Inter University Football Tournament organized by ISI Club during 23 October – 03 November 2017



Celebration of "World Yoga Day" at ISI Kolkata on 21 June 2017



66<sup>th</sup> Annual Sports at ISI Kolkata on 16 March 2018

## **Celebration of 125<sup>th</sup> Birth Anniversary of Prof. Prasanta Chandra Mahalanobis**

Many Seminars, Lectures and Conferences were held at the Head Quarters at Kolkata and at various Centres, Branches, Outlying Units of Indian Statistical Institute during 2017-18, as a part of 125<sup>th</sup> Birth Anniversary Celebration of Prof. P.C. Mahalanobis.

### **Summary of Programmes at Kolkata**

The yearlong celebration started on June 29, 2017 with garlanding the bust of Prof. P.C. Mahalanobis, on his 124<sup>th</sup> Birth Anniversary. Shri Pranab Mukherjee, the then Hon'ble President of India, inaugurated the ceremony. The Hon'ble Governor of West Bengal, the Hon'ble Minister of Statistics & Programme Implementation, Secretary MoS&PI, Dr. Vijay Kelkar, President of the Institute, Prof. Goverdhan Mehta, Chairman of the ISI Council were also present besides other dignitaries. The Governor of West Bengal released a Pictorial Album on P.C. Mahalanobis and the first copy was presented to Hon'ble President of India.

National Statistics Day was also celebrated in the Institute as a joint programme with Ministry of Statistics & Programme Implementation (MoS&PI), Govt. of India, New Delhi.

The Inaugural session was followed by a second session in Platinum Jubilee Auditorium of the Institute. The Chairman, National Statistical Commission, Secretary, MoS&PI and Guest speakers were present. This session included technical talks by Professors R.L. Brahmachary, K. Vijayraghavan (FRS) and M.S. Raghunathan (FRS), prize distribution for national essay writing competition and series of lectures on the theme of 11<sup>th</sup> Statistics Day.

The programmes organized throughout the year by the different Units in Kolkata are listed below.

### ***Advanced Computing and Microelectronics Unit, Kolkata***

#### ***Lecture Series organised:-***

1. Saket Saurabh, Institute of Mathematical Science, Chennai (02.01.2018): Exact Algorithms via Monotone Local Search.
2. Pradip Bose, IBM, USA (12.01.2018): System Architectural Support for Mobile Cognition.
3. Janos Pach, EPFL Lausanne and Renyi Institute Budapest (16.01.2018): Order and disorder: A precarious balancing act.
4. Pavithra Pravakar, Kansas State University, (17.01.2018): Formal Verification of Robustness Properties of Hybrid Systems.
5. Janos Pach, EPFL Lausanne and Renyi Institute Budapest (19.01.2018): New Crossing Lemmas.
6. Anil Maheswari, Carleton University, Ottawa, Canada (06.02.2018): Faster algorithms for some optimization problems on collinear points.
7. Anusua Bhowmik, AMD Bangalore (12.12.2018): AMD's Ryzen Processor Microarchitecture.
8. Deepak D'Souza, IISc, Bangalore (20.02.2018): Horn-ICE Learning for Invariant Synthesis.



Celebration of 125<sup>th</sup> Birth Anniversary of Prof. PC Mahalanobis

9. Hans Van Ditmarsch, CNRS (French National Research Organization), LORIA, France (08.03.2018): Protocols and the Logic of Knowledge.
10. Robert Wille, Johannes Kepler University Linz, Austria, (28.03.2018): Quantum Computation: Prospects and Challenges.

**Workshop organised:-**

1. Workshop on “*Parallel Processing for Large networks*”: ACMU, Kolkata, December 27-29, 2017.

**Speakers:**

1. Ananth Kalyanaraman (School of EECS, Washington State University, USA)
2. Mainak Chaudhuri (CSE, IIT, Kanpur)

**Computer Vision and Pattern Recognition Unit**

**Workshop organised:-**

1. 2<sup>nd</sup> International Workshop on “*Pattern Analysis and Applications*”: CVPR, Kolkata, January 29-31, 2018.

**Topics:-**

- Pattern Recognition
- Machine Learning
- Medical Image Analysis
- Document Analysis
- Object Spotting and Tracking
- Data mining
- Biometrics
- Sensor Data Analysis
- Language Understanding

**Invited Lectures:-**

1. Probal Chaudhuri (Indian Statistical Institute): Biographical Memoirs - Life and Work of Prasanta Chandra Mahalanobis.
2. Partha Pratim Talukdar (Indian Institute of Science (IISc), Bangalore): Knowledge Graphs.
3. B.B. Chaudhuri (Indian Statistical Institute): Basics of Image Processing and Pattern Recognition.
4. Hishasi Ikeda (Hitachi Ltd., Japan): Artificial Intelligence in Social Innovation Business.
5. Probal Chaudhuri (Indian Statistical Institute): Unsupervised and Supervised Classification of High Dimensional Data.
6. A.R. Unnikrishnan (NVIDIA, South Asia): Role of GPU in High Performance Computing & Deep Learning.

## Celebration of 125<sup>th</sup> Birth Anniversary of Prof. PC Mahalanobis

7. Monojit Choudhury (Microsoft, Bangalore): Is language too deep to learn? Yes, even if not "literally".
8. Gernot A. Fink (Technische Universitat, Dortmund, Germany): Deep Attribute Learning.
9. Koichi Kise (Osaka Prefecture University, Japan): Quantified Reading and Learning for Sharing Experiences.
10. Jens Rittscher (University of Oxford, UK): Quantitative Methods for Cell and Tissue Imaging.
11. Bertrand Coüasnon (IRISA - INSA, France): DMOS: Fusion of Knowledge for Improving your Document Analysis System.
12. Fadoua Drira (University of Sfax, Tunisia): Variational and Deep Learning Methods for Document Image Processing.

### ***Electronics and Communication Sciences Unit***

#### ***Conference organised:-***

9<sup>th</sup> International Conference on "*Advances in Pattern Recognition, 2017 (ICAPR-2017)*": ECSU, Kolkata in collaboration with SSIU, Bangalore and R.C. Bose Centre for Cryptology and Security, Kolkata, held at ISI, Bangalore, December 27-30, 2017.

#### ***Speakers:***

1. Robert M. Haralick (Graduate Center, City University of New York, USA)
2. Sargur Srihari (University at Buffalo, The State University of New York, USA)
3. Edwin R Hancock (Department of Computer Science, University of York, UK)
4. Laurent Najman (Laboratoire d'Informatique Gaspard Monge, ESIEE Universite Paris-Est, France)

### ***Cryptology and Security Research Unit, Kolkata***

#### ***Workshop organised:-***

Workshop on "*Application of Probability and Statistics in Cryptology*": CSRU, Kolkata, February 14-15, 2018.

#### ***Speakers:***

1. Sugata Gangopadhyay (IIT Roorkee)
2. C. Pandu Rangan (IIT Madras)
3. Shashwat Raizada (REBI and Ex-Indian Navy)

Celebration of 125<sup>th</sup> Birth Anniversary of Prof. PC Mahalanobis

### ***Economic Research Unit, Kolkata***

#### ***Symposium organised:-***

1. Symposium on “*Planning, Inequality and the Political Economy of Development in India*”: ERU, Kolkata in collaboration with Asiatic Society, Kolkata, February 09, 2018.

#### ***Speakers:***

1. Amiya Kumar Bagchi (Emeritus Professor, IDSK)
2. Asis Kumar Banerjee (Former Vice-Chancellor, University of Calcutta)
3. Raghab Chattopadhyay (Former Professor of Economics, IIM, Calcutta)
4. Pronab Sen (Country Director, IGC India Central and former Chief Statistician , Gol)

#### ***Chair:***

- Dipankar Dasgupta (Former Professor, ISI)

### ***Population Studies Unit, Kolkata***

#### ***Workshop/ Training Programme organised:-***

1. Workshop on “*Non-Social Cognition and Intelligence using WAIS-IV (NSCI)*”: PSU, Kolkata, December 4-8, 2017.
2. Training Programme on “*R- Programming for Behavioural Data Examination*” (For Post-Graduate & Researchers): PSU, Kolkata, March 14-25, 2018.

### **Summary of Programmes at Delhi**

The yearlong celebration started on June 29, 2017, by garlanding the bust of Prof. P.C. Mahalanobis, on his 124<sup>th</sup> Birth Anniversary. The next event was Tree Plantation by senior most workers of ISI, Delhi Centre. This was followed by welcome address by Head, Delhi Centre and speech by Prof. R.B. Bapat who was the chief guest.

In the evening, Academic Programmes were organized at the Auditorium, in which Prof. R.L. Karandikar, Director, Chennai Mathematical Institute and Dr. Arvind Subramanian, Chief Economic Adviser, Govt. of India were speakers.

Several special lectures/meetings were organized throughout the year in honour of Prof. P.C. Mahalanobis:

#### ***Lecture Series organised:-***

1. Robert Faff, Director of Research, University of Queensland (21.08.2017): Pitching Research for Engagement and Impact.

## Celebration of 125<sup>th</sup> Birth Anniversary of Prof. PC Mahalanobis

2. Marc Diener, Laboratoire Jean Dieudonne, Nice, France (10.10.2017): Microcredit-Stochastic et statistical approaches for understanding and rating.
3. Francine Diener, Laboratoire Jean Dieudonne, Nice, France (11.10.2017): "How to fit a jump diffusion model to return prices?"
4. Stephen Stigler, Distinguished Professor, University of Chicago, USA (08.12.2017): "Mahalanobis and Fisher: Mathematical Statistics as a Global Enterprise."
5. Bani Mallick, Texas A & M University and U.S. Fulbright-Nehru Distinguished Chair, National Institute of Biomedical Genomics, West Bengal (12.12.2017): Bayesian Gaussian Graphical Models and their extensions.
6. Dilip Mookherjee, Professor, Boston University, USA (09.03.2018): Communities, Networks and Development.

### **Symposium organised:-**

1. Mini Symposium on "*Big Data and Large Scale Computing*": Delhi Centre, December 27, 2017.
2. International Symposium on "*Operations Research and Game Theory: Modelling and Computation*": Delhi Centre, January 9-11, 2018.

## **Summary of Programmes at Bangalore**

The centre had yearlong celebration to commemorate 125<sup>th</sup> Birth Anniversary of Professor PC Mahalanobis. The main programmes consisted of series of lectures by distinguished visitors from various academic fields addressing the general audience. Units have also conducted special academic programmes to commemorate this. The details of Special Lectures are as hereunder:

### **Stat-Math Unit, Bangalore**

#### **Lecture Series organised:-**

1. Mustansir Barma, TIFR Centre for Interdisciplinary Sciences – Hyderabad (23.02.2018): Away from the Average: The Physics of Fluctuations.
2. Siddhartha Bhattacharya, TIFR, Mumbai (31.10.2017): Translational tilings of the plane.
3. C.P. Chandrasekhar, Center for Economic Studies and Planning JNU (23.01.2018): The contradictions of neoliberalism - Interpreting India's banking crisis.
4. Nandita Jayaraj, The Life of Science Project (10.10.2017): The invisible women of Indian science.
5. Anil Gupta, IIM, Ahmedabad and Honey Bee Network (07.11.2017): Modelling and research gaps in inclusive innovation research.
6. Madhav Gadgil, National Centre for Cell Science (16.01.2018): Use and abuse of knowledge.
7. Amman Madan, Azim Premji University, Bangalore (06.3.2018): Identity politics in school curricula: post-modernism and the problem of academic knowledge.

## Celebration of 125<sup>th</sup> Birth Anniversary of Prof. PC Mahalanobis

8. Sarang Sane, IIT, Madras (20.03.2018 & 22.03.2018): The Pfaffian of a matrix and unimodular rows & Specialization closed subsets; thick subcategories and Cohen-Macaulay rings.
9. Vijay B. Shenoy, IISc, Bangalore (03.10.2017 and 04.10.2017): Topology of Electronic Phases and The Tenfold Way to Amorphous Topological Insulators.
10. Ajay K. Sood, Indian National Science Academy, IISc, (27.03.2018): Exciting Physics Inspired by Nature: Flocking and Bacterial Heat Engine.
11. Mukund Thattai, National Centre for Biological Sciences, Bangalore (17.10.2017): Possible and Impossible Cells.

### ***Documentation Research and Training Centre, Bangalore***

1. H.K. Kaul, Director, DELNET: Library and Information Science Profession at the Crossroads: Challenges and Opportunities for a Great Future.

### ***Systems Science and Informatics Unit, Bangalore***

1. Upinder S. Bhalla, National Centre for Biological Sciences, Bangalore: Sequence Computation In the Brain Through Sub cellular Mechanisms.

### ***Economic Analysis Unit, Bangalore***

1. Sanjay Reddy, New School for Social Research, New York, USA (18.01.2018): Who gets what in the World? Insights from the Global Consumption and Income Project.

## **Summary of Programmes at Chennai**

The 12<sup>th</sup> Statistics Day and the 125<sup>th</sup> Birth Anniversary celebration of Professor. P.C. Mahalanobis was organized in a grand manner at Chennai Centre.

### ***Lecture Series organised:-***

1. Marc Hallin, European Centre for Advanced Research in Economics and Statistics (ECARES), Belgium (09.02.2018): On Multivariate Distribution and Quantile Functions, Ranks and Signs: A measure transportation approach.
2. V. Swathi, Loyola College: Development of a Geriatric Home Assessment Toll.
3. Sreeraam, Loyola College: Resource Planning using Time Series Analytics.

## **Summary of Programmes at North-East Centre, Tezpur**

The North-East Centre of ISI organized several events to commemorate the 125<sup>th</sup> birth year of Professor P. C. Mahalanobis. It was followed by visit to the site of construction of the permanent campus of the North-East Centre. The documentary on the life of Professor P. C. Mahalanobis and



## Celebration of 125<sup>th</sup> Birth Anniversary of Prof. PC Mahalanobis

rich legacy of ISI, 'The Taming of Chance' was screened. The following distinguished speakers presented lectures on the topics mentioned below during the two-day event.

### **Symposium organised:-**

1. Conference and Workshop on *"Set Theoretic and Topological Methods in Model Theory"*: September 7-12, 2017, ISI N-E Centre, Tezpur.
2. *"Inauguration of Photographic Exhibition"*: at ISI N-E Centre, September 7, 2017, ISI, NE Centre, Tezpur.
3. Workshop on *"Special Training and Contact Programme (for Final-Year Post-Graduate Students)"*: ISI, N-E Centre, Tezpur, December 18-29, 2017 and January 02-15 & 18-31, 2018.
4. Winter School on *"Mathematics for College Students of North-Eastern States"*: January 16-20, 2018, ISI, N-E Centre, Tezpur.
5. *"Professor Prasanta Chandra Mahalanobis Memorial Quiz Competition"*: February 06, 2018, ISI, N-E Centre, Tezpur.
6. Workshop on *"Students' Meet with Eminent Academicians-2018 (SMEA-2018)"*: ISI, N-E Centre, Tezpur, March 23-24, 2018.

### **Lecture Series organised:-**

1. Partha Pratim Majumder (Distinguished Professor & Ex-Director, National Institute of Biomedical Genomics; Retired Professor, ISI Kolkata): (i) Prasanta Chandra Mahalanobis: A Firm Believer of Science and Rationality & (ii) Understanding Structure and Relationships of Indian Ethnic Groups: The Legacy of Prasanta Chandra Mahalanobis.
2. Sanghamitra Bandyopadhyay (Director, ISI): Introduction to Clustering.
3. Radha Binod Barman (Chairman, National Statistical Commission, GoI): Multi-Level Analysis for Productivity and Efficiency: Prospects and Challenges.
4. Arunava Sen (ISI, Delhi Centre): Engineering in Economics - An Introduction to Mechanism Design.
5. Ravindra Shripad Kulkarni (Distinguished Professor, Bhaskaracharya Pratishthana; Ex-Director, Harish-Chandra Research Institute): (i) Algorithmic Construction of Finite Representation of Solvable Graphs & (ii) Philosophy of Mathematics.
6. Probal Chaudhuri, ISI Kolkata: Shape of the Earth, Motion of the Planets, and the Method of Least Squares.

## **Summary of Programmes at Giridih**

The Indian Statistical Institute Giridih celebrated 125<sup>th</sup> Birth Anniversary of Professor Prasanta Chandra Mahalanobis by organising several academic events during 2017-18.

Celebration of 125<sup>th</sup> Birth Anniversary of Prof. PC Mahalanobis

***Stat-Math Unit, Kolkata***

***Conference organised:-***

Conference on “*Growth Curve Model*”: Stat-Math Unit, Kolkata, held at Giridih, October 23-24, 2017.

***Sociological Research Unit, Giridih***

***Conference organised:-***

National Conference on “*Land, Labour and Livelihood: Focus on Development of Marginalized Communities and Social Groups*”: SRU, Giridih, January 30-31, 2018.

***Speakers:***

1. Gurdeep Singh (IIT-ISM, Dhanbad & Former Vice Chancellor, Vinoba Bhave University, Hazaribagh).
2. Dipti Ranjan Sahu (Lucknow University & Present Secretary).
3. Vijoy Shankar Sahay (Indian Sociological Society, and Professor (emeritus)).

***Agricultural and Ecological Research Unit, Giridih***

***Symposium organised:-***

1. National Symposium on “*Agricultural research under a changing climate in Eastern India*”: AERU, Giridih, January 17-18, 2018.

***Speakers:***

1. Birendra Kumar Sinha (Former Union Secretary of Ministry of Rural Development, Govt. of India & Supreme Court Advocate).
2. Biswarup Mandal (Pro-Vice Chancellor of BCKV, Kalyani, West Bengal).
3. Partha Nath Mukherjee (JNU & Former Director of Tata Institute of Social Sciences).



Inaugural programme of National Celebration of 125<sup>th</sup> Birth Anniversary of Prof. Prasanta Chandra Mahalanobis on 29 June 2017

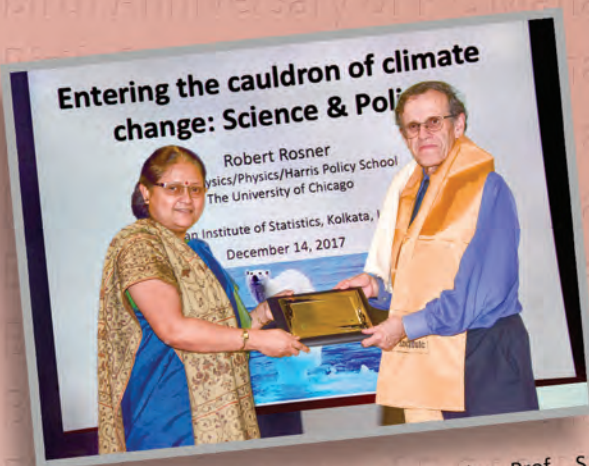


Dr. Vijay Kelkar, President, ISI at garlanding ceremony of 125<sup>th</sup> Birth Anniversary of Prof. Prasanta Chandra Mahalanobis on 29 June 2017



Prof. Ada Yonath, Nobel Laureate, delivering a public lecture at ISI, Kolkata on 29 November 2017





Felicitation of Prof. Robert Rosner by Prof. S. Bandyopadhyay, Director, ISI on 14 December 2017



Prof. S. Bandyopadhyay, Director, ISI felicitating Prof. Saitou Naruya, Japan at symposium organized by Biological Science Division on 07 November 2017



"Students' meet with eminent academicians - 2018" at ISI North-East Centre, Tezpur during 22-24 March 2018



Tezpur Students' meet with eminent academicians - 2018 at ISI North-East Centre, Tezpur during 12-24 March 2018



Prof. Bikas Sinha (Padma Bhushan), delivering public lecture on "Remembering S N Bose and P C Mahalanobis" at ISI on 18 December 2017



Training on "R-Programming for behavioral data examination for post-graduate students and researchers" organized by Psychology Research Unit, ISI, Kolkata during 14-15 March 2018





Prof. S. Bandyopadhyay, Director, ISI inaugurating the programme "Remembering J B S Haldane on his 125<sup>th</sup> Birthday" on 06 November 2017



Prof. S. Bandyopadhyay, Director, ISI delivering lecture on 02 January 2018



Workshop on "Statistical Methods and R-Programming for Biologists", organized by Agricultural & Ecological Research Unit, ISI during 07-13 March 2018



Dr. B. Meenakumari, Chairperson NBA at a workshop on "Economic and Ecological Impacts of invasive Alien Species" on 21 February 2018



Symposium on "Life & Works of Prasanta Chandra Mahalanobis: Impacts on Modern India" on 17 January 2018



Conference on "Population and Development in Eastern and North Eastern Regions of India" organized by Population Studies Unit, ISI on 17 September 2017

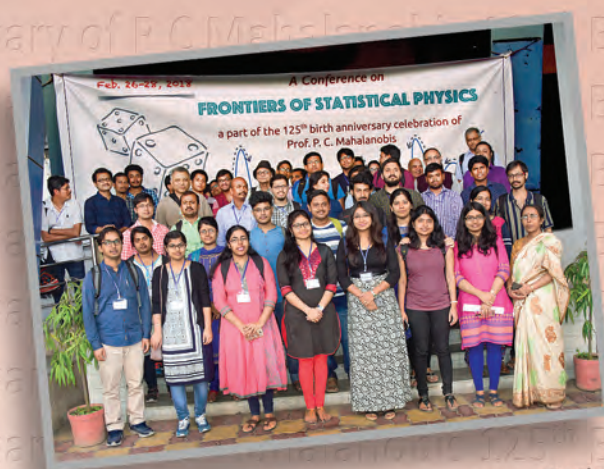




"5<sup>th</sup> India Biodiversity Meet-2018" International Conference at ISI Kolkata, organized by Agricultural & Ecological Research Unit, ISI during 15-17 March 2018



Symposium on "Recent Trends in Operations Research and Data Science" organized by SQC & OR Unit, ISI, Kolkata on 19 December 2017



Conference on "Frontiers of Statistical Physics" organized by Physics & Applied Mathematics Unit, ISI Kolkata during 26-28 February 2018



Second session programme of "National Celebration of 125<sup>th</sup> Birth Anniversary of Prof. Prasanta Chandra Mahalanobis" on 29 June 2017



2<sup>nd</sup> International Workshop on "Pattern Analysis & Applications" organized by Computer Vision and Pattern Recognition Unit, ISI, Kolkata during 29-31 January 2018

## RECENT CENTRES

### ***A Brief Account of Academic Activities at North-East Centre of Tezpur, Assam***

The North-East (N-E) Centre of the Institute was established at Tezpur, Assam on 23<sup>rd</sup> July, 2011. It was inaugurated by Shri Pranab Mukherjee, the then Finance Minister, Govt. of India and the then Chairman, Indian Statistical Institute Council.

The **Post-Graduate Diploma in Statistical Methods and Analytics (PGDSMA)** course has been running successfully at the N-E Centre. All successful students with First Division have been, as per the Memorandum of Agreement, absorbed by Tata Consultancy Services (TCS).

The research topics of this Centre include: Psychosocial work characteristics and health (mainly depression and work stress) with applications of advanced statistical methods e.g. mixed models, structural equation models, autoregressive models, multilevel models etc.; Understanding determinants of healthy life expectancy (involved in the EU-funded project, IDEAR with researchers from Sweden, Denmark, Finland, UK and France); A research project studies the implications for lexicographic preferences of behavioural traits of people which are naive. This study analyses two different classes of traits. This study is a theoretical one. Given the ubiquity of lexicographic preference in experimental studies, these projects can contribute to the understanding of lexicographic behaviour observed in experimental studies; Negative externalities due to private consumption are well studied issues in environmental economics, and especially its implications for market failure. A project is trying to understand the issue as a planner's problem. Findings reveal that it is possible to design institutions where people have incentive to tell the truth about their needs, such that outcomes of such institutions can avoid inefficiency; A research project provides an alternative explanation of standard dictatorial and ultimatum games based on outcomes instead of intrinsic normative concerns. It provides provide a theoretical foundation using a mechanism design approach. The main theoretical result is that in the Bayesian Nash Equilibrium of the game that we have designed, people leave money on the table; Change detection around Kaziranga National Park; Crop health monitoring around Tezpur; Applications of Deep Learning in Medical Imaging; Analysis of atmospheric particulate matter removal using satellite imagery derived vegetative cover; Retrieval of historic atmospheric Black Carbon concentration in the Arctic Region and North America; Profile analysis of polycyclic aromatic hydrocarbons (PAHs) in environmental matrices; Carbon foot-printing of the Indian tea industry; Morphological and chemical characterisation study of dust; Systematic review and Meta-analysis of RCTs on maternal and child nutrition; Meta-analysis combining parallel and cross-over randomized controlled trials to assess impact of fortified foods on serum levels of concentration among children & infants; Current nutritional status of under five year children in India: a retrospective study.

Five workshops and training programmes were organised by the N-E Centre during this year. This includes two which were organised by AOSU of the N-E Centre. The Centre also hosted three other workshops and training programmes, which were organised by different Units from the Headquarters. Three scientific papers were published in journals, two in conference proceedings, and one in an edited book. One book has been published. Four faculty members visited several national institutions and one institution abroad on scientific/academic assignments.

### ***A Brief Account of Academic Activities at RC Bose Centre for Cryptology and Security, Kolkata***

R.C. Bose Centre for Cryptology and Security is a new centre of the Indian Statistical Institute at Kolkata. It aims to promote interdisciplinary research in Mathematics, Computer Science and Statistics towards furtherance of teaching, research as well as training and development in Cryptology and

## Recent Centres

Cyber Security. The Centre acts as a hub for all cryptographic requirements, cutting-edge research activities and technology development in relevant fields, in order to create a critical mass of researchers and experts to fulfil the growing demand in the national and international arena. As in previous years, in 2017-18 the Centre has provided direction and advice to various wings of Armed Forces, DRDO, Police Organisations and Security Agencies. A new certificate course in Cryptology and Data Security has been started this year specially designed for defence personnel. A total of 13 officers from various defence services are enrolled in this years' course. Many externally funded projects funded by Samsung, NetApp Inc., Cisco Systems Inc. etc. were also carried out this year.

As part of capacity building at the national level, the Centre has provided dedicated research internship program in Cryptology and Security to senior undergraduate and fresh post-graduate students from premier institutions of the country. A two-month intensive training in Cryptology is given during summer every year where the interns are given some basic courses in all aspect of Cryptology and Security. Many workshops and training programs have also been conducted for the students of colleges in and around Kolkata. The R.C. Bose Centre is engaged in cutting-edge research in various aspects of Cryptography. The main focus areas of research are: Quantum Information and Quantum Cryptography, Symmetric Key Cryptanalysis, Steganography, Cloud Security, Blockchains, Hardware implementations, Internet of Things. The number of papers published/accepted in reputed international journals in this period is 14.

The Centre continues to collaborate with leading experts from many academic institutions from around the world and had several visitors during this period. The faculty members have also visited many institutions for collaborative work. The R.C. Bose Centre will continue to act as a national hub for cryptographic requirements, cutting-edge research activities and indigenous capacity building in all relevant fields of study.

### ***A Brief Account of Academic Activities at Chennai Centre***

Chennai Centre of Indian Statistical Institute was declared open by **Shri Pranab Mukherjee** the then Chairman of ISI Council and External Affairs Minister, Govt. of India on 26<sup>th</sup> July 2008. During the year 2011, a Post Graduate programme called M. Stat. was introduced. By 2012, several units like Applied Statistics Unit and Computer Science Unit were introduced besides the already functioning SQC & OR Unit. At present there are 12 faculty members belonging to these three units.

Initially Chennai Centre had offered M. Stat (Applications) in the year 2011 and from 2013 1<sup>st</sup> year of M. Stat (NB-Stream) was offered till 2017. All these students would then pursue their 2<sup>nd</sup> year at ISI, Kolkata. Every year one or two students travel to Netherlands for doing their Internship at University of Groningen.

The research interest of faculty are Game Theory, Multi Objective Programming, Linear Complementarity Problems and its variants, Reliability, Statistical Finance, Harmonic mappings, Composition Operators, Quasiconformal and Special functions, Several complex variables, Semi definite Complementarity problems, Stochastic games, Bootstrap methods for High-dimensional Time Series, Cognitive models of strategic reasoning, Topological Quantum Computing, methods and materials, Development of quantum field theory for random and interacting systems etc.

The Centre is also engaged with various corporates on assignments related to Quality Management and Operations Research.

Our new campus at Karapakkam is being developed. Boundary wall work was over and the earth filling work is under progress. Chennai Centre along with scientists from HQ is also actively engaged with GoTN to carryout projects for the development of Tamil Nadu. Also faculty from this Center are involved with conduct of training for various department of GoTN.



## A BRIEF HISTORY OF THE INSTITUTE

In the 1920's, Prasanta Chandra Mahalanobis, then a Professor at Presidency College, Calcutta conducted several studies employing statistical methods with results that vindicated his ideas about the efficacy and possibilities of the emerging science of Statistics. In a meeting on 17<sup>th</sup> December 1931 presided by Sir R.N. Mukherjee, the first President of the Institute, the Indian Statistical Institute (ISI) was formally established and Prasanta Chandra Mahalanobis was appointed the Honorary Secretary. The Indian Statistical Institute was registered on 28<sup>th</sup> April, 1932, as a non-government and non-profit distributing learned society under the Societies' Registration Act No. XXI of 1860. The Institute is now registered under the West Bengal Societies Registration Act XXVI of 1961, amended in 1964. It has the following objectives:

- (i) To promote the study and dissemination of knowledge of Statistics, to develop statistical theory and methods, and their use in research and practical applications generally, with special reference to problems of planning for national development and social welfare;
- (ii) To undertake research in various fields of natural and social sciences with a view to the mutual development of Statistics and these sciences;
- (iii) To provide for, and undertake, the collection of information, investigations, projects, and operational research for purposes of planning and the improvement of efficiency of management and production.
- (iv) To undertake any other ancillary activities in fulfillment of the objectives (i), (ii) and (iii).

The Institute started functioning initially from a room of the Presidency College with enduring support from a number of distinguished personalities and devoted scholars in Kolkata. Over the first two decades, which turned out to be a glorious chapter in the annals of Indian science and institution building, the ISI embarked upon a series of pioneering programmes involving the application of Statistics in search of solution of the urgent and live problems of the country. Such programmes included innovative projects on sample surveys of yield and land utilisation of crops, socio-economic after-effects of Bengal famine and problems of flood research. These innovations and methodological research have since become classics in Statistics. At the same time, the training of scientific personnel began to grow. This also encouraged high level research and brought into focus the need for publication of the research results, for which *Sankhyā*, the first international journal of the country in Statistics, came into being in 1933.

Apart from the impact made in the world of Statistics, the Institute held a pivotal role in the task of nation building, when India became independent, through the brilliant choice of the area of surveys, which were socially and nationally relevant. The patronage and invaluable contribution of Sir Ronald A. Fisher played an important role. Led by Professor Mahalanobis and a very able group of younger statisticians including R.C. Bose, S.N. Roy and C.R. Rao, the Institute was poised to take on the larger role. The Institute is proud to have C.R. Rao, who is among the world leaders in statistical science over the last six decades and still active at the age of 93 as the Director of the Center for Multivariate Analysis at Pennsylvania State University, USA, in its list of alumni.

The 1950s saw the Institute establishing (i) a full fledged research and training school in Statistics and Probability, with its application in natural and social sciences, (ii) a planning wing entrusted with the formulation of the Second Five-Year Plan of India, (iii) publication of *Sankhyā*, (iv) the National Sample Survey wing engaging in comprehensive socio-economic data collection for the nation, (v) a string of Statistical Quality Control units for promoting the quality movement at various industrial centres in the country, (vi) a collaboration with the International Statistical Institute to train Government statisticians from Asia and Africa, and (vii) an Electronic Computer Laboratory that was responsible for developing (a) the 1<sup>st</sup> mechanical hand computing machine, (b) the 1<sup>st</sup> Analog computer, (c) the 1<sup>st</sup> Punched Card storing machine and (d) the 1<sup>st</sup> Solid State Computer in India, to name some of the principal activities. In 1954 Pandit Jawaharlal Nehru, the then Prime Minister of India, entrusted



## Brief History

Professor Mahalanobis and ISI with the responsibility of preparing the draft Second Five-Year Plan for the country. The draft submitted by Prasanta Chandra Mahalanobis and the planning models formulated by him and his colleagues have since been regarded as major contributions to economic planning in India. In 1956, the Institute installed the first electronic computer in the country. In 1961, the ISI, in collaboration with Jadavpur University, undertook the design, development and fabrication of a fully transistorized digital computer, called ISI-JU-1, which was commissioned in 1966. The Institute, from its formative period till present times, received as guests eminent scientists, some of whom were Nobel Laureates. Besides Ronald A. Fisher, J.B.S. Haldane and Walter A. Shewhart, the luminaries included Frederic and Irene Curie, Neils Bohr, A.N. Kolmogorov, P.M.S. Blackett, J.D. Bernal, Joan Robinson, Genichi Taguchi and George Akerlof, 2001 Nobel prize winner in economics and a visiting professor of ISI during 1967-68. In recent times, the visit of Amartya K. Sen, Robert Aumann, Lotfi A. Zadeh, Joseph E. Stiglitz, Sir James A. Mirrlees, Eric Maskin, Ei-ichi Negishi, Ada Yonath, David Jonathan Gross and S.R.S. Varadhan, 2007 Abel Prize winner for his contributions to probability theory and an alumnus of the institute, may be specially mentioned.

The formal recognition came in December 1959, when Pandit Jawaharlal Nehru piloted in the Parliament the enactment of the Indian Statistical Institute Act of 1959, which designated ISI as an 'Institution of national importance'. The activities steadily grew, existing interests became more broad-based and a number of science units were created in the interest of live interaction between Statistics and Natural and Social Sciences. Empowered by the Act to award degrees, the Institute started the B. Stat. and M. Stat. courses. An excellent library was founded at Kolkata and the Documentation Research and Training Centre began functioning in Bangalore. Other developments in infrastructure also began.

During 1971-72, two decisions of the Government of India produced serious repercussions on the functioning of the ISI. One was de-linking of the Institute from the Perspective Planning Division of the Planning Commission in 1971, while the other was the separation of National Sample Survey from the ISI and its take-over by the Central Government in 1972. Professor Mahalanobis passed away on 28<sup>th</sup> June, 1972. It was a critical period for the Institute. To overcome the problem, the ISI sought to strike a judicious balance between the individual academic work on truly fundamental problems and the work that called for a greater engagement with the social and economic problems of the country. The members of the Institute, under the Chairmanship of Shri P.N. Haksar, held a Special General Body Meeting on 26<sup>th</sup> July, 1974 and amended the Memorandum of Association and the Regulations of the Institute, encouraging more inter-disciplinary research and enhancing active participation of the scientists of the ISI in decision-making process of the Institute. The organisational amendments were implemented, with the concurrence of Government of India, in August, 1976. The various research units in natural, social and computer sciences were grouped under a number of scientific Divisions.

Over the decades diversity in research thrusts began to grow manifold, with emphasis on Computer Science and application of Statistics in the new areas of research in natural and social sciences. Two centres, one at Delhi and one at Bangalore were created with full-fledged research and teaching programmes. The Delhi Centre, initially housed within the Planning Commission premises, was started in 1974, and shifted to its present campus in 1975. The Bangalore Centre was conceived by Prof. P.C. Mahalanobis during 1960s. With the Statistical Quality Control unit functioning in Bangalore from 1956, and Documentation Research and training Centre from 1962, Professor Mahalanobis thought of starting a centre of ISI around the mid-sixties. However, the activities of the Bangalore Centre started in September 1978 in a rented building under the Directorship of Professor G. Kallianpur. The various units moved to the present campus in May 1985 and in September 1996, the Bangalore Centre was formally declared as a Centre of ISI. The Chennai centre of the Institute came into being on 26<sup>th</sup> July, 2008 and has to its credit several theoretical and applied research work in Statistics and Mathematics, and many of the projects undertaken have been breakthrough applications. A North-East Centre of the Institute has been established at Tezpur, Assam on 23<sup>rd</sup> July, 2011 and it is also expected to focus on such diversity of teaching, training and research. This centre is currently housed in Tezpur University campus. The Post-Graduate Diploma in Statistical Methods and Analytics (PGDSMA) course has been running successfully at the N-E Centre, Tezpur. The Institute has started offering a

one-year Postgraduate Diploma in Computer Applications (PGDCA) since the year 2014-15 at its Giridih Branch. A two-year full time diploma programme, Post Graduate Diploma in Business Analytics (PGDBA) is being jointly offered by ISI, IIT Kharagpur and IIM Calcutta since 2015 with 51 students in the first batch.

The Institute is fully funded by the Ministry of Statistics & Programme Implementation, Govt. of India. The support and encouragement of the Ministry of Statistics & Programme Implementation, Govt. of India are among the major factors which are helping the Institute to sustain its academic growth and excellence. The Ministry provides funds to the Institute under Plan & Non-Plan budget as per the recommendations of a committee set up for the purpose by the Ministry of Statistics & Programme Implementation, Govt. of India under Section 8(1) of the "Indian Statistical Institute Act. 1959, No. 57 of 1959" based on the programme of research, teaching, training and various academic activities. The grants-in-aid provided by the Ministry of Statistics & Programme Implementation, Govt. of India to the Institute includes the funds required for construction of buildings, hostels, guest house, purchase of equipments, hiring manpower etc. The Ministry plays a pivotal role in expansion of the research & training activities of the Institute by way of opening its new Centres in various parts of the country. The North-East Centre at Tezpur, Assam which was inaugurated by Shri Pranab Mukherjee, the then Finance Minister, Govt. of India and the then Chairman, Indian Statistical Institute Council in the presence of Shri Srikant Jena, Hon'ble Union Minister for Ministry of Statistics & Programme Implementation, Govt. of India; Shri Tarun Gogoi, Hon'ble Chief Minister, Govt. of Assam; Dr. T.C.A. Anant, Secretary, Ministry of Statistics & Programme Implementation, Govt. of India and other dignitaries. In July 2012, the Ministry of Statistics & Programme Implementation, Govt. of India approved establishment of R.C. Bose Centre for Cryptology and Security as a separate Centre of the Institute.

The present structure of eight divisions has been arrived at through some further changes. Recently there have been some changes. Systems Science and Informatics Unit (SSIU) has been started as a part of the Computer and Communication Sciences Division (CCSD) at ISI Bangalore centre in August 2009. The Documentation Research and Training Centre (DRTC) has been made a part of CCSD. Cryptology and Security Research Unit (CSRU) also became a part of CCSD since April, 2014. Which is an integral component of R.C. Bose Centre for Cryptology and Security, Kolkata, a national hub for cryptographic requirements. The Indian Statistical Institute Act of 1959 was amended by the Parliament in 1995 to empower the Institute to award Degrees/Diplomas not only in Statistics, but also in Mathematics, Quantitative Economics, Computer Science and such other subjects related to Statistics as may be determined by the Institute from time to time. Several new courses have also been added since: M. Tech. in Computer Science, M. Tech. in Quality, Reliability and Operations Research, M.S. in Quantitative Economics, B. Math. and M. Math.

In conclusion, a list of the distinguished scientists and statesmen who have served the Institute during the 86 years of its existence in the capacities of President, Chairman or Director is presented. A list of recipients of the honorary D. Sc. degree given by the Institute is also provided.

#### Presidents of the Institute

1	Sir Rajendra Nath Mookerjee	1932-35
2	Shri E.C. Benthall	1936-37
3	Shri James Reid-Kay	1938
4	Shri Badridas Goenka	1939-41
5	Dr. Nalini Ranjan Sarkar	1942-43
6	Dr. Chintaman D. Deshmukh	1944-63
7	Shri Y.B. Chavan	1964-66
8	Prof. Satyendra Nath Bose	1967-75
9	Shri Subimal Dutt	1976-89
10	Prof. M.G.K. Menon	1990-2012
11	Dr. C. Rangarajan	2012-16
12	Dr. Vijay Kelkar	2016-till date

## Brief History

### Chairmen of the Institute

1	Shri B. Rama Rao	1954
2	Shri D.N. Mitra	1955-63
3	Shri K.P.S. Menon	1964-70
4	Shri S.C. Roy	1971
5	Dr. Atma Ram	1972
6	Shri. P.N. Haksar	1973-97
7	Dr. Bimal Jalan	1998-2001
8	Dr. N.R. Madhava Menon	2002-03
9	Shri Pranab Mukherjee	2004-12
10	Shri A.K. Antony	2012-14
11	Dr. Arun Shourie	2014-16
12	Prof. Goverdhan Mehta	2016- till date

### Directors of the Institute

1	Prof. P.C. Mahalanobis	Dec	1931	-	June	1972
2	Prof. C.R. Rao	July	1972	-	June	1976
3	Prof. G. Kallianpur	July	1976	-	Sept	1978
4	Prof. B.P. Adhikari	Aug	1979	-	Oct	1983
5	Prof. Ashok Maitra	April	1984	-	Jan	1987
6	Prof. J.K. Ghosh	Jan	1987	-	Jan	1992
7	Prof. B.L.S. Prakasa Rao	Jun	1992	-	Feb	1995
8	Prof. S.B. Rao	July	1995	-	July	2000
9	Prof. K.B. Sinha	Aug	2000	-	July	2005
10	Prof. S.K. Pal	Aug	2005	-	July	2010
11	Prof. Bimal K. Roy	Aug	2010	-	July	2015
12	Prof. Sanghamitra Bandyopadhyay	Aug	2015	-	till date	

### List of persons awarded the D.Sc. (Honoris Causa) by the Institute

February 1962	Prof. Satyendra Nath Bose, Prof. Ronald A. Fisher, Pandit Jawaharlal Nehru, Dr. Walter A. Shewhart
April 1962	Prof. A.N. Kolmogorov
May 1965	Dr. Chintaman Dwarkanath Deshmukh
December 1974	Prof. Raj Chandra Bose, Dr. M.V. Keldysh, Prof. Jerzy Neyman
February 1977	Prof. Harald Cramer
February 1978	Shri Morarji Desai, Prof. L.V. Kantorovich
December 1989	Prof. C.R. Rao
January 2001	Prof. Gopinath Kallianpur
February 2004	Prof. S.R. Srinivasa Varadhan
March 2006	Prof. L.A. Zadeh
December 2006	Dr. Manmohan Singh
February 2011	Dr. Subhas Mukherjee (Posthumously)
January 2013	Prof. K.R. Parthasarathy, Prof. Jayanta Kr. Ghosh, Prof. Pranab Bardhan

## 1. TEACHING AND TRAINING

A brief account of teaching and training activities of the Teaching and Training Division during the academic session **2017-2018** is given below.

### Degree and Training Courses

During the academic session **2017-2018**, a total of **23975** candidates applied for admission and were called for written selection tests for various programmes offered by the Institute, viz., B. Stat. (Hons.), B. Math. (Hons.), M. Stat., M. Math., Master of Science (M.S.) in Quantitative Economics, Master of Science (M.S.) in Quality Management Science, Master of Science (M.S.) in Library and Information Science, M. Tech. in Computer Science, M. Tech. in Quality, Reliability and Operations Research, Post Graduate Diploma in Statistical Methods and Analytics, Post Graduate Diploma in Computer Applications, Post Graduate Diploma in Business Analytics, **Research Fellowships** in Statistics, Mathematics, Quantitative Economics, Computer Science, Quality, Reliability and Operations Research, Physics, Agricultural Chemistry & Soil Science, Geology, Library and Information Science, Linguistics, Sociology and Psychology. Admission tests were conducted at 49 different centres. A total of **16071** candidates finally appeared for admission tests and a total of 1440 candidates qualified in the written tests and were called for interviews. Based on performance in the written tests, interview and the academic records, 397 candidates were offered admission to various courses during the academic session under review.

The annual examinations for all the regular courses during 2016-2017 academic session were held during May 2017. The 2017-2018 academic session commenced from **July, 2017**.

The number of candidates admitted to the different degree, Diploma programmes and in Junior Research Fellowship during 2017-2018 and the number of students who passed the annual examinations in 2017, are given in **Table 1**.

Till **31<sup>st</sup> March, 2018**, **135** trainees in Mathematics, Statistics, Engineering and Technology from various Universities/Institutions (Academy of Technology, Amrita Vishwa Vidyapeetham, Kolam; Asutosh College, Kolkata; B.R. Ambedkar National Institute of Technology, Jalandhar; Ballygunge Science College, Kolkata; Bengal School of Technology; Bidhan Nagar College; BIT, Zuarinagar; Camellia Institute of Technology, Kolkata; CMC, Vellore; Cochin University of Science & Technology; Department of Technology and Biotechnology, West Bengal; Doon University; Electronics and Telecommunication Engineering, Raipur; Government College of Engineering and Leather Technology, Kolkata; Guru Nanak Institute of Pharmaceutical Science & Technology, Panihati; Heritage Institute of Technology, Kolkata; Hyderabad University, Hyderabad; IEST, Shibpur; IIIT, Chittoor; IISER, Berhampur; IISER, Kolkata; IIT, Delhi; IIT, Kanpur; IIT, Guwahati; IIT, Kharagpur, IIT, Mumbai; IIT, Patna; IIT, Roorkee; Indian Institute of Information Technology, Jabalpur; Indian Institute of Science Education and Research; Indian Institute of Space Science and Technology; Indian National Science Academy, New Delhi; Institute of Engineering & Management, Kolkata; ISM, Dhanbad; International Institute for Population Sciences, Mumbai; Jadavpur University, Kolkata; Jalpaiguri Government Engineering College, Jalpaiguri; Kalyani University, Kalyani; KIIT University, Bhubaneswar; National Institute of Technology, Durgapur; NIT, Rourkela; NIT, Tiruchirappalli; Pondicherry University; RCCIIT, Kolkata; Savitribai Phule Pune University, Pune; SRM University, Chennai; SMIT, Majitar; St. Xavier's College, Kolkata; Techno India University, Kolkata; Techno India, Kolkata; University of Calcutta; University of Delhi; VIT, Vellore) received four weeks/six weeks/two months/three months/four months and six months Project training in different Units of the Institute, viz., ACMU, AERU, ASU, CSSC, CVPRU, ECSU, GSU, HGU, MIU, PAMU, SMU, SOSU and SQC & OR Unit under the guidance of different faculty members of the Institute.



## Convocation

The **52nd Convocation** of the Indian Statistical Institute was held on **9th January, 2018, at 11.00 A.M.** It started with a Vedic Hymn by the ISI Club, followed by a welcome address by Dr. Vijay Kelkar, President, ISI, annual review by Prof. Sanghamitra Bandyopadhyay, Director, ISI and a Convocation Address by Professor David Jonathan Gross, Nobel Laureate, University of California Santa Barbara. Degrees and Diplomas were awarded to students by Dr. Vijay Kelkar. The Convocation was closed by Dr. Vijay Kelkar, after a vote of thanks by Dr. Amita Pal, Dean of Studies, ISI and the National Anthem by ISI Club. The list of recipients of various medals and prizes is given below.

**Prasanta Chandra Mahalanobis Gold Medal** for the most outstanding performance in **M. Stat.** students (2015-2017):

Ambarish Chattopadhyay

ISI Alumni Association **Mrs. M.R. Iyer Memorial Gold Medals** for outstanding performances:

**B. Stat. (Hons.):** Sagnik Nandy                      **M. Stat.** : Debarghya Mukherjee

**M. Tech. (QROR):** Subham Roy

ISI Alumni Association **Rashi Ray Memorial Medals** for outstanding performance in **M. Tech. (CS)** (2015-2017):

Rajarshi Bhattacharjee

ISI Alumni Association **P.C. Panesar Gold Medal** for outstanding performance in **M. Math.** (2015-2017):

Shubhodip Mondal

**Mukul Chaudhuri Memorial Prize** for the best female student in **B. Stat. (Hons.)** first year batch (2016-2017):

Debolina Paul

**Mukul Chaudhuri Memorial Prize** for the best female student in **B. Stat. (Hons.)** second year batch (2016-2017):

Disha Ghandwani

**Nikhilesh Bhattacharya Memorial Gold Medal** for the best student in **B. Stat. (Hons.)** (2014-2017):

Sagnik Nandy

**D. Basu Memorial Gold Medal** for outstanding presentation as well as best performance in **B. Stat. (Hons.) Programme** (2013 – 2016):

Sayan Das

Souvik Ray

**D. Basu Memorial Gold Medal** for outstanding presentation as well as best performance in **B. Stat. (Hons.) Programme** (2014 – 2017):

Apratim Dey

Sagnik Nandy

**S.H. Aravind Gold Medal** for outstanding performance in **B. Math. (Hons.)** (2014-2017):

Tejaswi Tripathi

**Sabyasachi Roy Memorial Gold Medal** for the best project work in second year of **M. Stat. Programme** (2015-2017):

Saikat Palit

**Sunity Kumar Pal Gold Medal** for the best dissertation in **M. Tech. (CS)** (2015-2017):

Koushik K. Dey

**TCS award** for the best dissertation in **M. Tech. (CS)** (2015-2017):

Akshay Bansal

**Dr. N.S. Iyenger Award** for best student of **Econometrics** (2015-2017):

Manish Agarwal

**Sanghamitra Das Memorial Gold Medal Award** for outstanding performance in **M. S. (Q.E.) Programme** (2015-2017):

Manish Agarwal

**Raja Rao Memorial Prize** for outstanding research work (2017-2018):

Dr. Kiranmoy Chatterjee

**M. N. Murthy Memorial Prize** for outstanding research work (2017-2018):

Dr. Prajamitra Bhuyan

**Haldane Memorial Prize** for outstanding research work (2017-2018):

Dr. Abhik Ghosh

In addition to regular teaching duties in various academic programmes of the Institute, the faculty members of the Institute offered research courses in consultation with the research fellow advisory committees of respective divisions for the research fellows of the Institute.

Table – 1

**Number of students passed the different courses during 2017 and number of existing students/fellows during 2017-2018.**

Sl. No.	Courses	Number of students who passed the Annual Examination	
		In 2017	During the year 2017-18
01.	<b>B. Stat. (Hons./Pass)</b> (Offered at Kolkata) 1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year	43 32 18	34 45 <sup>⊗⊗</sup> 33 <sup>⊗</sup>
02.	<b>B. Math. (Hons./Pass)</b> (Offered at Bangalore) 1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year	32 18 20	28 <sup>⊗⊗</sup> 34 <sup>⊗⊗</sup> 23 <sup>⊗⊗⊗</sup>
03.	<b>M. Math.</b> (Offered at Kolkata & Bangalore- in alternative year) 1 <sup>st</sup> year 2 <sup>nd</sup> year	14 17	27 15 <sup>⊗</sup>
04.	<b>M. Stat.</b> (Offered at Kolkata, Delhi & Chennai) 1 <sup>st</sup> year 2 <sup>nd</sup> year	36 <sup>##</sup> = (19+8+9) 32	43 <sup>##</sup> = (19 <sup>\$</sup> +12+12) 36
05.	<b>M.S. (QMS)</b> (Offered at Bangalore) 1 <sup>st</sup> year 2 <sup>nd</sup> year	11 11	13 11
06.	<b>M.S. (QE)</b> (Offered at Kolkata & Delhi) 1 <sup>st</sup> year 2 <sup>nd</sup> year	40 <sup>#</sup> = (13+27) 37 <sup>#</sup> = (15+22)	41 <sup>#</sup> = (17+24) 40 <sup>#</sup> = (13+27)
07.	<b>M. Tech. (CS)</b> (Offered at Kolkata) 1 <sup>st</sup> year 2 <sup>nd</sup> year	21 21	29 21
08.	<b>M. Tech. (QROR)</b> (Offered at Kolkata) 1 <sup>st</sup> year 2 <sup>nd</sup> year	17 17	23 17
09.	<b>M.S. (Library and Information Science)</b> (Offered at Bangalore) 1 <sup>st</sup> year 2 <sup>nd</sup> year	10 07	17 10
10.	<b>Post-Graduate Diploma in Statistical Methods and Analytics</b> (Offered at North-East Centre, Tezpur) 1 <sup>st</sup> year	15	14
11.	<b>Post-Graduate Diploma in Computer Applications</b> (Offered at Giridih) 1 <sup>st</sup> year	04	07
12.	<b>Post Graduate Diploma in Business Analytics</b> (Offered at Kolkata) 1st Semester	52	53
13.	<b>Junior &amp; Senior Research Fellows in different disciplines</b> (Offered at Kolkata, Delhi, Bangalore, Chennai & Hyderabad)	16	204 <sup>***</sup>
<b>Grand Total</b>		<b>541</b>	<b>818</b>

⊗ One student repeating a year, ⊗⊗ Two students repeating a year, ⊗⊗⊗ Three students repeating a year

\$ One student in exchange programme,

# Total number including Kolkata and Delhi,

## Total number including Kolkata, Delhi and Chennai,

\*\*\* JRF & SRF at Kolkata



Table 2

Ph. D degree awarded by the Institute in the 52<sup>st</sup> Convocation held on 09.01.2018

Sl. No.	Name of the Fellow	Title of the Thesis	Subject	University / Institute	Name of the Supervisor(s)
1.	Arnab Mandal M. Sc. (Mathematics) (University of Calcutta)	Quantum Isometry Groups of Dual of Finitely Generated Discrete Groups and Quantum Groups.	Mathematics	ISI	Prof. Debashish Goswami, SMU, ISI, Kolkata
2.	Ayan Bhattacharya M. Sc. (Statistics) (IIT Kanpur)	Heavy-Tailed Random Field from Statistical and Probabilistic Perspective: branching walks and stable fields.	Statistics	ISI	Dr. Parthanil Roy, SMU, ISI, Bangalore
3.	Mansi Garg M. Sc. (Statistics) (Indian Statistical Institute)	Statistical Analysis of Associated Data Using U-Statistics.	Statistics	ISI	Prof. Isha Dewan, SMU, ISI, Delhi
4.	Prasenjit Ghosh M. Sc. (Statistics) (IIT Kanpur)	Some Theoretical and Methodological Aspects of Simultaneous Inference with Special Emphasis on High Dimensional Problems under Sparsity.	Statistics	ISI	Dr. Arijit Chakrabarti, ASU, ISI, Kolkata
5.	Kaushik Jana M. Sc. (Statistics) (University of Kalyani)	Statistical Models and Methods for Some Environmental Problems	Statistics	ISI	Prof. Debasis Sengupta, ASU, ISI, Kolkata
6.	Jayant Jha M. Sc. (Statistics) (IIT Kanpur)	Regression on a Unit Sphere.	Statistics	ISI	Prof. Atanu Biswas, ASU, ISI, Kolkata
7.	Chandril Bhattacharyya M. Sc. (Economics) (University of Calcutta)	Unionization, Optimal Fiscal Policy and Endogenous Economic Growth.	Quantitative Economics	ISI	Prof. Manash Ranjan Gupta, ERU, ISI, Kolkata

## Teaching and Training

8.	Parikshit De M. Sc. (Economics) (University of Calcutta)	Mechanism Design In Sequencing Problems.	Quantitative Economics	ISI	Prof. Manipushpak Mitra, ERU, ISI, Kolkata
9.	Sutirtha Bandyopadhyay M. A. (Economics) (Jadavpur University)	Essays on Applied Welfare Economics.	Quantitative Economics	ISI	Prof. Bharat Ramaswami, EPU, ISI, Delhi
10.	Abhirup Banerjee M. Stat. (Indian Statistical Institute)	Rough Sets and Probabilistic Models for Segmentation and Bias Field Correction in Brain MR Images.	Computer Science	ISI	Dr. Pradipta Maji, MIU, ISI, Kolkata
11.	Sukanta Bhattacharjee M. Tech. (Computer Science) (Indian Statistical Institute)	Algorithms for biochemical sample preparation and technology-shift for microfluidic lab-on-chip.	Computer Science	ISI	Prof. Bhargab B. Bhattacharya, ACMU, ISI, Kolkata
12.	Apurbalal Senapati M. Tech. (Computer Science) (Indian Statistical Institute)	Pronominal Anaphora Resolution in Bengali.	Computer Science	ISI	Prof. Utpal Garain, CVPRU, ISI, Kolkata
13.	Avik Chakraborti M. Tech. (Computer Science) (Indian Statistical Institute)	Design, Analysis and Implementation of Authenticated Encryption Algorithms.	Computer Science	ISI	Dr. Mridul Nandi, ASU, ISI, Kolkata
14.	K. Ramachandra Murthy M. Tech. (Computer Science) (Indian Statistical Institute)	On Eigenspace Transform for Dimensionality Reduction and its Applications to Pattern Classification.	Computer Science	ISI	Prof. Ashish Ghosh, MIU, ISI, Kolkata
15.	Partha Garai M. Tech. (Information Technology) (West Bengal University of Technology, Kolkata)	Development of Some Scalable Pattern Recognition Algorithms for Real Life Data Analysis.	Computer Science	ISI	Dr. Pradipta Maji, MIU, ISI, Kolkata

16.	Moutushi Chatterjee M. Tech. (Quality, Reliability and Operations Research) (Indian Statistical Institute)	On Some Univariate and Multivariate Process Capability Indices.	Quality, Reliability and Operations Research	ISI	Dr. Ashis Kumar Chakraborty, SQC & OR Unit, ISI, Kolkata
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Table 3

**Research Fellows who have been awarded Ph. D degree by Academic Bodies other than ISI during 2017 for work done in the ISI**

Sl. No.	Name of the Fellow	Title of the Thesis	University	Name of the Supervisor (s)
1.	Pranav Chand Rayabarapu	Identification of susceptible genetic polymorphisms associated with Coronary Heart Disease in the South Indian Population.	Osmania University	Prof. B.M. Reddy, BAU, ISI, Hyderabad
2.	Avatharam Ganivada	Fuzzy Rough Granular Neural Networks for Pattern Recognition and Mining.	University of Calcutta	Dr. Shubhra Sankar Ray, MIU, ISI, Kolkata
3.	Aloke Datta	Dimensionality Reduction in Hyperspectral Images.	Jadavpur University	Prof. Ashish Ghosh, Center for Soft Computing Research, ISI, Kolkata
4.	Nanda Dulal Jana	Protein Structure Prediction using Metaheuristic Algorithms: A Perspective from Fitness Landscape Analysis.	Indian Institute of Engineering Science and Technology (IIST), Shibpur	Prof. Jaya Sil, Dept. of Comp. Sc. and Engg., IIST and Dr. Swagatam Das, ECSU, ISI, Kolkata
5.	Saiyed Umer	Design and Development of Biometric Recognition System using Multi-Instance Iris Images.	Jadavpur University	Dr. Bibhas Chandra Dhara, Department of IT, Jadavpur University and Prof. Bhabatosh Chanda, ECSU, ISI, Kolkata
6.	Achyut Kumar Banerjee	Investigations on The Invasiveness of Mikania micrantha Kunth (Asteraceae) With Respect to its Spread and Distribution in Greater Kolkata.	University of Calcutta	Prof. Anjana Dewanji, AERU, ISI, Kolkata



## Teaching and Training

7.	Kaushik Sarkar	Turbulent Flow Characteristics & its Effects on Sedimentations and Process Around Submerged Objects	Jadavpur University	Prof. B.S. Muzumder (Retired), and Prof. Subir Ghosh, PAMU, ISI, Kolkata
8.	Souvik Pramanik	Effects of Cutoff Scale Theory in Physics.	University of Calcutta	Prof. Subir Ghosh, PAMU, ISI, Kolkata
9.	Abhijit Das	Towards Multimodal Sclera and Iris Biometrics Recognition with Adaptive Liveness Detection.	Griffith University	Prof. Michael Blumenstein, Griffith University, Australia and Prof. Umapada Pal, CVPRU, ISI, Kolkata
10.	Arundhati Tarafdar	Words Spotting from Multilingual and Stylistic Documents.	PolyTech Tours, Université François-Rabelais, Tours, France	Prof. Jean-Yves Ramel, Dr. Nicolas Ragot, Laboratoire d'Informatique, PolyTech Tours, Université François-Rabelais, Tours, France and Prof. Umapada Pal, CVPRU, ISI, Kolkata
11.	Nilamadhabha Tripathy	On the Development of an Optical Character Recognition (OCR) System for Complex Indian Documents.	Jadavpur University	Prof. Umapada Pal, CVPRU, ISI, Kolkata and Prof. Mita Nasipuri, Dept. of Computer Science and Engineering, Jadavpur University, Kolkata, India
12.	Dipasree Pal	Some Studies on Improving Automatic Query Expansion.	Jadavpur University	Dr. Mandar Mitra, CVPRU, ISI, Kolkata and Dr. Samar Bhattacharyya, School of Education Technology, Jadavpur University

**Number of candidates who were awarded degrees in the  
52<sup>nd</sup> Convocation of the Institute held on 9<sup>th</sup> January, 2018**

<b>Degree /Diploma</b>	<b>Number of candidates</b>
<b>Doctor of Philosophy (Ph.D.)</b>	<b>28*</b>
<b>Master of Technology (M. Tech.) in Computer Science</b>	<b>21</b>
<b>Master of Technology (M. Tech.) in Quality, Reliability and Operations Research</b>	<b>17</b>
<b>Master of Statistics (M. Stat.)</b>	<b>32</b>
<b>Master of Mathematics (M. Math.)</b>	<b>17</b>
<b>Master of Science (M. S.) in Quantitative Economics</b>	<b>37</b>
<b>Master of Science (M. S.) in Library and Information Science</b>	<b>07</b>
<b>Master of Science (M. S.) in Quality Management Science</b>	<b>11</b>
<b>Bachelor of Statistics (Honours) [B. Stat. (Hons.)]</b>	<b>18</b>
<b>Bachelor of Mathematics (Honours) [B. Math. (Hons.)]</b>	<b>19</b>
<b>Bachelor of Mathematics (B. Math.)</b>	<b>01</b>
<b>Post-Graduate Diploma in Statistical Methods and Analytics</b>	<b>15</b>
<b>Post-Graduate Diploma in Computer Applications</b>	<b>04</b>
<b>Total</b>	<b>227</b>

\* (Including those who worked in the Institute but were awarded Ph.D. degree by other academic bodies.)

### **International Statistical Education Centre (ISEC)**

The International Statistical Education Centre (ISEC) was founded in 1950 at the initiative of Professor P.C. Mahalanobis. The Centre opened at Kolkata through an agreement between the International Statistical Institute and the Indian Statistical Institute (ISI). At present, the Centre is run by the Indian Statistical Institute under the auspices of the Government of India. The Centre functions under a joint Board of Directors. In its history of more than 60 years, Prof. P.C. Mahalanobis was the Chairman of the Board of Directors since the inception of the Centre in 1950 until his death in 1972. Since then, Professor C.R. Rao had been the Chairman of the Board till 2015. Currently, Prof. S.P. Mukherjee is the Chairman of the Board.

The Centre aims to provide training in theoretical and applied statistics at various levels to selected participants from countries of the Middle East, the South and the South-East Asia, the Far-East and the commonwealth countries of Africa. The primary training programme is a 10-month regular course in Statistics leading to a Statistical Training Diploma. In addition, special courses on different topics of varying duration are also organized.

The commencement date of the 71<sup>st</sup> Term of the ISEC Regular Course (2017-2018) was August 1, 2017. There were 25 trainees from eleven countries, namely, (1) Bhutan, (2) Cambodia, (3) Fiji, (4) Mongolia, (5) Myanmar, (6) Nepal, (7) Nigar, (8) South Africa, (9) South Sudan, (10) Sri Lanka, (11)Tanzania. Nineteen trainees were supported by fellowships under the Indian Technical and Economic Co-operation (ITEC) / Special Commonwealth African Assistance Plan (SCAAP) of the Government of India while three were supported by the TCS Colombo Plan. They will be awarded the Statistical Training Diploma in the Convocation, scheduled on May 31, 2018.

The ISEC in its totality has shifted now to the first floor in a new building, named Deshmukh Bhavan, at 202, B.T. Road, Kolkata 700108, and has four class rooms, one computer laboratory, one library and a number of rooms for the Member-Secretary, the Programme Coordinator and the faculty members with all modern amenities including scope for interactive presentations. Professor Sanghamitra Bandyopadhyay, Director, ISI has taken special interest in enhancing the international image of the ISEC courses and its infrastructure. The trainees have been provided with computer facilities and internet connections in the Computer Laboratory and in the ISEC hostel. They also have access to the books at the ISI library. Teachers at the headquarter of the Indian Statistical Institute and officers of the Government of India at the National Statistical Systems Training Academy, the National Sample Survey Office and various ministries have been participating in teaching the Regular Course throughout the years (including the current year). Till now, about 1653 trainees from 84 countries have received the Statistical Training Diploma.



## 2. RESEARCH AND OTHER SCIENTIFIC ACTIVITIES

The major thrust of the Institute is on research in various disciplines comprising Theoretical and Applied Statistics, Mathematics, Computer Sciences, Biological Sciences, Economics and other Social Sciences, Physics and Earth Sciences, Statistical Quality Control and Operations Research, and Library and Information Sciences. Scientists of the Institute carry out independent research in their own basic discipline and also undertake interdisciplinary research in collaboration with other units within the Institute and also with outside organizations. The Institute also takes up various internally and externally funded projects in diverse fields on challenging live problems of national and international importance. As a part of research activities, scientists of the Institute are involved in consultancy work as well. This section gives a brief account of the principal areas of work, over the past year, of the scientific divisions of the Institute, namely, the Divisions of:

- Theoretical Statistics and Mathematics
- Applied Statistics
- Computer and Communication Sciences
- Physics and Earth Sciences
- Biological Sciences
- Social Sciences
- Statistical Quality Control and Operations Research
- Library, Documentation and Information Sciences

In addition, there is a report each from the 'Center for Soft Computing Research: A National Facility' and the 'Computer and Statistical Services Centre'.

### Theoretical Statistics and Mathematics Division

The Theoretical and Mathematics Division, which presently has units in Kolkata, Delhi, Bangalore and Chennai, continued its activities in the areas of Research, Teaching, conducting Workshops, International conferences and project related activities.

Some of the main thrust areas of research of the Division during this period are:

Bootstrap in dependent and high-dimensional models, econometrics, environmetrics, data depth, inference in high dimensional statistical models, life testing reliability, associated random variables, nonparametric inference, parametric and nonparametric Bayesian inference, statistical graphics, statistical signal processing.

Algebra, algebraic Geometry, commutative Algebra, complex analysis, functional Analysis, geometry and topology, Gromov-Hausdorff vague topology, harmonic analysis, linear algebra, non-commutative geometry, number theory, operator algebra, operator theory, quantum Groups,

Drainage networks and Brownian wave, financial mathematics, free probability, Gaussian free fields, large deviation, large dimensional random matrices, percolation, point processes, random complexes, random graphs, random walks on trees, random walk in random environment, urn models.

Colleagues also continued collaborative research under internal and externally funded projects with funding from prestigious organizations like Fulbright Academic Excellence Fellowship, Indo-Israeli projects, JC Bose Fellowship, Marie Curie Research Staff Exchange, Microsoft Research, Hitachi.

Publications by the Division include over 150 papers in reputed international and national journals and colleagues also contributed editorial activities of monographs and journals.

## Research Activities

Recognition bestowed on our colleagues during this period included Associateship of the Academy of Science, BM Birla Science prize, Fellowship of Indian Academy of Sciences, Hans Schneider Prize, Infosys Prize, JC Bose Fellowship, Young researcher awards,

The Division conducted several national and international conferences. The flagship lectures PC Mahalanobis Memorial Lecture and the Ashok Maitra Memorial lectures were delivered by Professor IM Johnstone and Professor Mathew Penrose. Professor S.R.S. Varadhan gave a mini course on Random Graphs.

### ***Stat-Math Unit, Kolkata***

#### **Commutative Algebra:**

- Study of  $A^3$ -forms over a field  $k$  of characteristic zero
- Triviality of any  $A^2$ -form over any one-dimensional Noetherian domain containing the field of rational numbers

Dutta, Amartya Kumar, Gupta, Neena and Lahiri, Animesh

#### **Geometry and Topology:**

- Study of rigidity problems for CAT (-1) spaces
- Study of harmonic analysis on simply connected, negatively curved harmonic manifolds

Biswas, Kingshook

- Nambu structure on Lie algebroid, its associated bialgebroid and obtained some applications

Mukherjee, Goutam, Basu, Samik, Das, Apurba and Basu Somnath

- Introduced deformations of algebraic structures under the presence of finite group actions

Goutam Mukherjee and Yadav, Raj B.

### ***Stat-Math Unit, Delhi***

**“Power of Two Choices” in Negatively Reinforced Pólya Urn. In this work, we consider an implementation strategy for weighted negative reinforcement in Pólya Urn scheme**

Bandyopadhyay, Antar and Kaur, Gursharn

**A study of modified Branching Random Walk model**

Bandyopadhyay, Antar and Ghosh, Partha Pratim

**GMM estimation using incomplete covariates, Group testing, Pseudo-likelihood theory, High-dimensional estimation**

Chatterjee, Arindam

**A study of the irreducibility of a general family of classical orthogonal polynomials, particularly Hermite-Laguerre polynomials and Generalized Laguerre polynomials and their associated Galois groups**

Laishram, Shanta, Nair, S., Shorey, T.N., Jindal, A. and Sharma R.

**A study of irreducibility of Laguerre polynomials  $L^{\{(q)\}}(x)$  and  $L^{\{(q)\}}(x^d)$  with  $q$  in  $\{\pm 1/3, \pm 2/3, \pm 1/4, \pm 3/4\}$ , where  $d$  is the denominator of  $q$**

Laishram, Shanta and Shorey, T.N.

**Worked on exponential diophantine equations**

Laishram, Shanta

**Worked on finding rational points on a Variations of Erdős- Selfridge superelliptic curves which appeared in Mathematika**

Laishram, Shanta, Das, P. and Saradha, N.

**Worked on the problem of existence of infinitely many positive integers who sum of digits in different bases are close enough**

Laishram, Shanta, Deshouillers, J.M., Habsieger, L., and Landreau, Bernard

**Proved some general results on perfect powers in products of terms of arithmetic progressions**

Laishram, Shanta, Ngairangbam, S. and Singh, M.R.

**Worked on Perfect powers in products of polynomials**

Laishram, Shanta and Dey, Pallab Kant

**Working on chirp signal model when variance may not exist and error random variables is from a symmetric stable distribution**

Nandi, Swagata and Kundu, Debasis

**Working on random amplitude chirp signal model. Studying the theoretical properties of an estimator**

Nandi, Swagata and Kundu, Debasis

**Working on multichannel sinusoidal signal**

Nandi, Swagata and Kundu, Debasis

**Working on chirp signal model when a linear trend is present**

Nandi, Swagata

### ***Stat-Math Unit, Bangalore***

**Interacting Particle Systems, Semi-linear Partial Differential Equations, Stochastic Partial Differential Equations, Diffusions on Trees, Dense/Sparse graph limits, and Trap models**

Athreya, Siva

**Bures distance and representation metric:**

- The notion Bures distance, originally defined for states has been extended to completely positive maps.

**Infinite mode Gaussian States:**

- Extension of a convexity and symmetry results of Prof. K R Parthasarthy for finite mode Gaussian states to that of infinite mode Gaussian states.

Bhat, B.V. Rajarama, John, Tiju Cherian and Srinivasan, R.

**Existence of Joint distributions:**

- To explore conditions under which bivariate distributions ensure existence of joint distributions.

Bhat, B.V. Rajarama and Kumar, Vijaya

**Bayesian approach to abundance and density estimation in ecological studies**

Delampady, Mohan, Dey, Soumen and Gopalswamy, Arjun



## Research Activities

**Study of estimates on the greatest prime factor of product of consecutive positive integers and more generally, of consecutive terms in arithmetic progressions dating back to Sylvester in 1892**

Nair, Saranya G. (NBHM Post-doc)

**Study of Lie groups admitting hyperbolic automorphisms**

Raja, C.R.E. and Choudhary, M. (NBHM Post-doc)

Connections between stochastic differential equations and stochastic partial differential equations have been studied. Chaos expansions form the framework in which some foundational results in stochastic analysis have been proved. Chaos expansions for continuous martingales have been studied.

Rajeev, B., Bhar, Suprio, Sarkar, Barun and Tappe, Stefan

**Study of Homotopy inertia groups:**

- For quaternionic projective space, we proved that the concordance inertia group is trivial in dimension 20, but there are many examples in high dimensions where the concordance inertia group is non-trivial.
- Following the results from the past research, planned to determine the group structure of the inertia group  $I(\mathbb{CP}^n \times \mathbb{S}^1)$  of the product  $\mathbb{CP}^n \times \mathbb{S}^1$ .
- In particular, interested to know whether the kervaire sphere in dimension  $4n + 1$  lies in the inertia group  $I(\mathbb{CP}^{2n} \times \mathbb{S}^1)$ ? (Already the case  $n = 1$  would be good).
- For the product  $\mathbb{CP}^n \times \mathbb{S}^1$ , Brumfiel (1971) showed that the inertia group coincides with the homotopy inertia group by using the fact that every homotopy self-equivalence of  $\mathbb{CP}^n \times \mathbb{S}^1$  is homotopic to a diffeomorphism.
- Computing the inertia groups of  $\mathbb{CP}^n \times \mathbb{S}^1$  have some interesting applications to symplectic topology.
- A direct consequence of a main result of Kreck's modified surgery theory (1999) is that the connected sum  $M \# \Sigma$  of a closed simply connected manifold  $M$  of dimension  $2m \geq 4$  with a homotopy sphere  $\Sigma$  is diffeomorphic to  $M$  provided  $\Sigma$  represents zero in a suitable bordism group  $\Omega_B^{2m}$ .
- To classify all simply connected 8-manifolds and their geometric structures using Kreck's modified surgery theory and inertia groups via  $B$ -Bordism theory.
- To study how complex and symplectic structure on a smooth manifold depends on the smooth structure.

Ramesh Kasilingam (INSPIRE Faculty)

**Broad Topic of research: Operator theory and function theory**

- Representations of contractively embedded invariant subspaces in several variables (following L. de Branges)
- Concrete representations and characterizations of a large class of commuting  $n$ -tuples of isometries
- A complete characterization of invariant subspaces of the Hardy space over the unit polydisc. Also this yields an analytic description of a large class of  $n$ -tuples of commuting isometries

- The dichotomy of isometric dilations and von Neumann inequality for  $n$ -tuples,  $n$  larger than 2, with definite results has been pointed out
- A detailed analysis with concrete representations, with applications to invariant subspace problem, of Berger-Coburn-Lebow pairs of isometries
- Similarity and quasi-similarity of Cowen-Douglas class. This also relates the derivatives of sections, curvatures and corona problem in one variable

Sarkar, Jaydeb

**The problem of finding exact eigenvalue distribution of random symmetric Gaussian Toeplitz matrix is still open. Investigating this particular random matrix model so as to derive the limiting spectral distribution of random symmetric Toeplitz matrices.**

Reddy, Nanda Kishore (INSPIRE Faculty)

**Study of central limit theorem for exponentially quasi-local statistics of spin models on Cayley graphs**

Yogeshwaran, D., Vadlamani, Sreekar and Reddy, Tulasi Ram

**Sub-tree counts on hyperbolic random geometric graphs:**

- A study of asymptotics (expectation, variance and central limit theorem) for sub-tree counts (isomorphic copies of a fixed tree in the graph) in hyperbolic random geometric graphs for all  $d \geq 2$ .

Yogeshwaran, D. and Owada, Takashi

## Applied Statistics Division

The Applied Statistics Division came into being in September 1996 in place of the Applied Statistics, Survey and Computing Division. The Computer Science Unit was renamed as the Applied Statistics Unit and the Biometry Unit was transferred to the Biological Science Division. Till 2005-2006, the Applied Statistics Division consisted solely of the Applied Statistics Unit. In 2006, a new unit, namely, the Bayesian and Interdisciplinary Research Unit was created within this Division. Later in 2012, two more units named Applied and Official Statistics unit, North East centre, Tezpur and Applied Statistics Unit, Chennai became parts of this Division. In October 2014 Bayesian and Interdisciplinary Research Unit of this Division was renamed Interdisciplinary Statistical Research Unit.

The main activities of the Division include teaching, training, research and PhD guidance, projects and consultancy, academic administration, editorial work, etc., along with many others miscellaneous duties. All the members of the Division take active part in teaching in the degree and diploma courses of the institute. They also take part in ISEC and other short-term courses. The members of the Division regularly conduct North East workshops and Winter/ Summer schools and training programs on topics of general interest for users of Statistics, including researchers/ teachers, ISS officers and probationers, summer interns, high school students, officials from government and other agencies, etc. The Statistical Trainee programme for fresh MSc (Statistics) students is a unique training programme in which the trainees get hands-on experience with application-oriented research and projects and eventually assist the faculty members.

The research activities of the scientists of the Division have a wide focus. The topics of interest include Sample Surveys, Design of Experiments/ Optimal Designs, Statistical Inference/ Robust Inference, Bayesian Methods/ Decision Theory, Large Sample Theory/ Asymptotic Theory, Multivariate Analysis, Directional Data Analysis, Time Series Analysis, Reliability/Survival Analysis/ Actuarial Statistics, Epidemiology/ Clinical Trials, Environmental Statistics, Demography/ Population Studies, Image Processing/ Pattern and Speech Recognition/Neural Networks, Classification of Multivariate data,

## Research Activities

Financial Statistics, Stochastic Modelling/ Applied Stochastic Processes, Statistical Computing/ Big Data Analysis, Cellular Automata/ Mathematical Genetics, Cryptology and Security, and several others.

### ***Applied Statistics Unit, Kolkata***

- **Reliability:**  
Based on a NHPP model for error occurrence, adapted to periodic debugging data, a method for estimating the reliability of a software has been developed
- **Survival Analysis:**  
Work on parametric analysis of misclassified right censored survival data including temporal misclassification and type misclassification as well, with application to estimation of adverse drug reaction risk
- **Design of Experiments:**  
Optimal allocation of units with fixed covariate values into two or more treatment groups has been investigated in the context of generalized linear models (GLM) and incorporating the issue of robustness and balance.
- **Social Mobility:**  
An axiomatic approach to define social mobility is being attempted with related statistical issues and an application
- **Screening Studies:**  
The problem of finding an optimal screening age for Barrett's Esophagus (BE) in the pathway to Esophageal Adenocarcinoma (EAC) has been addressed and a solution based on a multistage clonal expansion model for EAC development has been found

Dewanji, Anup

**Asymptotic optimality of one group shrinkage priors in high dimensional problems:  
Multiple hypothesis testing under dependence**

Chakrabarti, Arijit

#### **Computational Genomics:**

Understanding the classification of various protein families has been directed to MIPS protein leading a new method for the clustering diverse protein sequences applied to Drosophila olfactory receptor sequences

Pal Chaudhury, Pabitra

### ***Interdisciplinary Statistical Research Unit, Kolkata***

- **Robust Analysis of Censored Data**
- **Weighted Likelihood Estimation**
- **Selection of Optimal Tuning Parameters in Robust Estimation**
- **Robust Bayes Estimation**

Basu, Ayanendranath

**A-optimal and Highly A- efficient Treatment Control Design in the Presence of Covariates**

SahaRay, Rita and Dutta, Ganesh



**Multi-label Classification**

Bose, Smarajit, Chakraborty, Saptarshi

- Multiple Hypotheses Testing in Dependant setup
- Statistical Classification Using Voronoi diagram

Bhandari, Subir Kumar

- The Asymptotic Theory, Both Classical and Bayesian for Systems of Stochastic Differential Equations with Random Effects Distributed as Gaussian Mixtures
- The Asymptotic Theory for Both Classical and Bayesian Paradigms, for Both Fixed and Random Effects Set-ups for Systems of Stochastic Differential Equations by Incorporating Time-varying Covariates in the System
- A Novel State Space Model Based on Stochastic Differential Equations and the Asymptotic Theory for Both Classical and Bayesian Inference

Maitra, Trisha and Bhattacharya, Sourabh

**Bayesian Theory for Investigation of Convergence, Divergence and Oscillation of Infinite Series**

Roy, Sucharita and Bhattacharya, Sourabh

- Performance of a Novel Bayesian Multiple Testing Procedure for the Dependent Set-up
- Asymptotic Properties of A Novel and General Bayesian Multiple Comparison Method Such That the Decision on Any Hypothesis Depends upon the Joint Posterior Probability of the Hypotheses on Which the Current Hypothesis Is Strongly Dependent
- Extension of the Bayesian Semiparametric Gene-gene Interaction Model of Bhattacharya & Bhattacharya (2016)
- Nonparametric Bayesian Model for Case-control Genotype Data using Hierarchies of Dirichlet Processes

Bhattacharya, Durba and Bhattacharya, Sourabh

***Applied Statistics Unit, Chennai***

**Jackknife Empirical Likelihood-based Inference for Sen Poverty Index**

Sudheesh, K.K. and Sreelakshmi, N.

**On the Mean Time to Failure of an Age-replacement Model in Discrete Time**

Sudheesh, K.K. and Asha, G.

**Jackknife Empirical Likelihood Based Inference for Probability Weighted Moments**

Sudheesh, K.K., Deepesh, Bhati and Sreelakshmi, N.

***Applied and Official Statistics Unit, North-East Centre, Tezpur***

**Study on psychosocial work characteristics and health (mainly depression and work stress) with applications of advanced statistical methods e.g. mixed models, structural equation models, autoregressive models, multilevel models**

Chungkham, Holendro Singh, Westerlund, HugoHead, Jenny and Hanson, Linda Magnusson

## Research Activities

### **A Study on the Implications for Lexicographic Preferences of Behavioural Traits of People which Are Naive**

Goswami, Mridu Prabal, Mitra, Manipushpak (ERU, Kolkata) and Sen, Debapriya

### **Negative Externalities Due to Private Consumption and its Implications for Market Failure**

Goswami, Mridu Prabal, Mitra, Manipushpak (ERU, Kolkata) and Sarkar, Soumendu

### **An Alternative Explanation of Standard Dictatorial and Ultimatum Games Based on Outcomes Instead of Intrinsic Normative Concerns**

Goswami, Mridu Prabal, Ghosh, Sanmitra and Sarkar, Shubhro

### **Change Detection around Kaziranga National Park, Crop Health Monitoring around Tezpur, Applications of Deep Learning in Medical Imaging**

Maitra, Sanjit

### **Analysis of Atmospheric Particulate Matter Removal Using Satellite Imagery Derived Vegetative Cover**

Maitra, Sanjit and Jyethi, Darpa Saurav

### **Retrieval of Historic Atmospheric Black Carbon Concentration in the Arctic Region and North America**

Jyethi, Darpa Saurav, Liaquat Husain and Vincent Dutkiewicz

### **Profile Analysis of Polycyclic Aromatic Hydrocarbons (PAHs) in Environmental Matrices**

Darpa Saurav Jyethi and P.S. Khillare

### **Carbon Foot-printing of the Indian Tea Industry**

Jyethi, Darpa Saurav and Pandey, Divya

### **Morphological and Chemical Characterisation Dstudy of Dust**

Jyethi, Darpa Saurav

- **Systematic Review and Meta-analysis of RCTs on Maternal and Child Nutrition**
- **A Meta-analysis Combining Parallel and Cross-over Randomized Controlled Trials to Assess Impact of Fortified Foods on Serum Levels of Concentration among Children and Infants**
- **Current Nutritional Status of under Five year Children in India: a Retrospective Study**

Athe, Ramesh

## **Computer and Communication Sciences Division**

Over the years, the Computer and Communication Sciences Division (CCSD) at ISI has grown to eight units spread over four centres:

- **Advanced Computing and Microelectronics Unit, Kolkata**
- **Computer Vision and Pattern Recognition Unit, Kolkata**
- **Electronics and Communication Sciences Unit, Kolkata**
- **Machine Intelligence Unit, Kolkata**

- **Documentation, Research and Training Centre, Bangalore**
- **Systems Science and Informatics Unit, Bangalore**
- **Computer Science Unit, Chennai**
- **Cryptology and Security Research Unit, RC Bose Centre for Cryptology & Security, Kolkata**

CCSD counts amongst its faculty a number of highly decorated scientists, as well as fellows of various prestigious national and international academies and societies. The various activities undertaken by the staff of this division are summarised in the following pages under the heads of teaching, research, externally and internally funded project work, workshops and conferences conducted, editorial work, etc.

### ***Advanced Computing and Microelectronics Unit, Kolkata***

The research activities in the Advanced Computing and Microelectronics Unit (ACMU) comprise theoretical and applied research in the areas of high performance computing, pervasive and mobile computing, wireless networks, cognitive radio, electronic design automation and testing for nanotechnology and giga-scale integration, embedded systems, system-on-a-chip, intellectual property protection of electronic design, low-power architectures, computational geometry, algorithms, computational biology, and hardware for image processing. The contributions of the faculty members have received world-wide acclaim as evident from their research profiles and publications in archival journals. Here follows a brief account of ongoing research projects and activities of this unit.

A brief report on each of these projects is presented below.

#### **Holy Grail of Error-Resilient Bio-Assay on a Lab-on-a-Chip (HERBAL)**

Bhattacharya, Bhargab B.

#### **Massive Data Algorithms**

Nandy, Subhas C.

- **GP-GPU Computing for Large Scale Networks**
- **Cellular Spectrum Sharing by Cognitive Radio for Ad Hoc Networks**

Das, Nabanita

#### **A Framework for Collaborative Application Execution for Mobile Cloud Computing**

Banerjee, Ansuman

- **Logic Synthesis for Quantum Computing (QCS)**
- **Algorithms for Design Automation in Next Generation Technologies**

Sur-Kolay, Susmita

#### **Efficient Vertical Handover Techniques in Heterogeneous Wireless Networks**

Ghosh, Sasthi C.

#### **The Cops and Robber Game on Graphs**

Das, Sandip

#### **Algorithms and Bounds for Dominating Set, Geodetic Set and Obstacle Number in Graphs**

Bishnu, Arijit, Ghosh, Arijit and Paul, Subhabrata

#### **Geometric Optimization Problems**

Roy, Sasanka

## Research Activities

### ***Computer Vision and Pattern Recognition Unit, Kolkata***

#### **A Search Engine for Historical Events**

Datta, Suchana and Majumdar, Debapriyo

#### **Stroke Order Normalization for Online Text Recognition**

Bhattacharya, Nilanjana, Pal, Umapada and Roy, Partha Pratim

#### **Caption and Scene Text Classification**

Roy, Sangheeta, Shivakumara, Palaiahnakote, Pal, Umapada,  
Lu, Tong Wahab, and Ainuddin Wahid Bin Abdul

#### **Printer Identification towards Forgery Detection**

Wang, Zhen, Shivakumara, Palaiahnakote, Lu, Tong, Basavanna, Mahadevappa,  
Pal, Umapada and Blumenstein, Michael

#### **Video Text Detection**

Sain, Aneeshan, Bhunia, Ayan Kumar, Roy, Partha Pratim and Pal, Umapada

#### **Degraded Quality Printed Document Recognition**

Biswas, Chandan, Mukherjee, Partha Sarathi, Ghosh, Koyel, Bhattacharya, Ujjwal and Parui, Swapan K.

#### **Generation of Synthetic Training Samples for Online Handwriting Recognition**

Bhattacharya, Ujjwal, Plamondon, Rejean, Dutta Chowdhury, Souvik,  
Goyal, Pankaj and Parui, Swapan K.

#### **End to End Online Handwriting Recognition**

Mukherjee, Partha Sarathi, Bhattacharya, Ujjwal, Parui, Swapan K. and  
Chakraborty, Bappaditya

#### **Offline Devanagari Handwriting Recognition**

Chakraborty, Bappaditya, Shaw, Bikash, Aich, Jayanta,  
Bhattacharya, Ujjwal and Parui, Swapan K.,

#### **Offline Handwritten Malayalam Word Recognition**

P J, Jino, Balakrishnan, Kannan and Bhattacharya, Ujjwal

#### **Human Computer Interaction**

Saini, Rajkumar, Roy, Partha Pratim and Pal, Umapada

#### **Human Face Detection**

Chowdhury, Sanjoy, Mukherjee, Parthasarathi and Bhattacharya, Ujjwal

#### **Biometrics**

Das, Abhijit, Pal, Umapada, Ballester, Miguel Angel Ferrer  
and Blumenstein, Michael

#### **Video quality assessment**

Sanyal, Shreyan, Nandi, Sushmita and Palit, Sarbani

#### **Musical Instrument Recognition**

Banerjee, Anushka, Ghosh, Alekha, Palit, Sarbani and  
Ballester, Miguel Angel Ferrer



**Deep learning in Psoriasis Image Analysis**

Pal, Anabik, Chaturvedi, Akshay, Garain, Utpal, Chatterjee, Raghunath,  
Chandra, Aditi and Senapati, Swapan

**Deep Learning for Language Processing**

Chakabarty, Abhisek, Pal, Anabik, Chaturvedi, Akshay, Das, Arjun, Pandit, Onkar,  
Ganguly, Debasis, and Garain, Utpal

**Information Retrieval from Microblogs**

Bandyopadhyay, Ayan, Ganguly, Debasis, Roy, Dwaipayan, Roy, Riya and Mitra, Mandar

**Word Embeddings in Information Retrieval**

Roy, Dwaipayan, Ganguly, Debasis, Bandyopadhyay, Ayan, Chowdhury, Amritap,  
Roy, Riya and Mitra, Mandar

**Information Retrieval Evaluation**

Bhattacharyya, Chiranjib, Majumder, Prasenjit, Roy, Dwaipayan and Mitra, Mandar

***Electronics and Communication Sciences Unit, Kolkata***

**Improved Random Forest**

Mukherjee, D.P.

- Image Processing
- Image Analysis

Chanda, B.

- Statistical Properties of Machine Learning Algorithms
- Handling Data Irregularities in Machine Learning

Das, S.

- Event Recognition from unconstrained video
- Video Scene Classification

Mohanta, P.P.

**Computational Intelligence**

Pal, N.R.

- Object Tracking
- Common Sense Reasoning: Watson-Crick Automata
- DNA Computing

Ray, K.S.

***Machine Intelligence Unit, Kolkata***

**Pattern Recognition**

Late Murthy, C.A. and Chattopadhyay, S.

**Machine Learning**

Ghosh, A. and Maji, P.

**Data Mining**

## Research Activities

<b>Medical Imaging</b>	De, R.K. Bandyopadhyay, S., Mitra S., Ghosh, A. and Maji, P.
<b>Biometry</b>	Mitra, S.
<ul style="list-style-type: none"><li>• Precision Medicine</li><li>• Computational Systems Biology</li></ul>	De, R.K.
<b>Bioinformatics</b>	Bandyopadhyay, S., De, R.K., Maji, P. and Ray, S.S.
<b>Many-Objective Optimization</b>	Bandyopadhyay, S.
<b>Machine Vision, Image Processing and Perception</b>	Ghosh, K. and Bakshi, A.
<b>Remote Sensing Image Analysis</b>	Ghosh, K. and Neogi, S.
<b>Rock thin section Image Analysis</b>	Ghosh, K. and Das, R

### ***Documentation, Research and Training Centre, Bangalore***

The Documentation Research and Training Centre was established as an integral part of the Indian Statistical Institute in 1962. The primary objectives of DRTC are to promote research and training in the area of Library Science, Documentation and Information Science.

#### **Activities**

To achieve the objectives as mentioned above, the activities of DRTC have been grouped into:

- a. Research Programme
- b. Educational and Training programme
- c. Continuing Education etc.

#### **Integrating Ontologies for Information Resources**

Biswas, Sudipta

#### **Formalizing concept for knowledge representation and facet discovery**

Chatterjee, Usashi

**Area of Ontology i.e. especially developing ontologies in the area of natural disaster to efficiently manage the crisis situation**

Sinha, Prashant Kumar

#### **Citation Database**

Sahoo, Subhanshu Bhusan

**Linked data and Ontologies.** He is reviewing the related literature of the stated area and also research data management

Bhoi, Narendra Kumar

**Big Data, Data Curation, Data Repositories, Digital repositories, knowledge representation and management**

Prasad, A.R.D

**Knowledge organization, faceted systems and ontologies, open data and access to information, Knowledge management, open data infrastructures**

Madalli, Devika P

**Digital Library, Semantic Web, Social Network Analysis, Library Automation**

Krishnamurthy, M

**Semantic Web techniques and technologies, Knowledge Representation, Ontology, Metadata, Social network analysis**

Dutta, Biswanath

### ***Systems Science and Informatics Unit, Bangalore***

**Deep Learning Neural Networks, Granular Neural Networks, Pattern Recognition, Image Processing**

Meher, Saroj K., Kothari, Neeta K. and Kumar, D. Arun

**Visualizing Image Segmentation and Filtering Algorithms in Optimization Framework**

Danda, Sravan, Najman, Laurent and Daya Sagar, B.S.

**Morphological Interpolation**

Challa, Aditya, Danda, Sravan, Najman, Laurent and Daya Sagar, B.S.

**Mathematical Morphology on General Data**

Challa, Aditya, Najman, Laurent and Daya Sagar, B.S.

**Granulometric and Fractal Analyses for Feature (Shape-Size-Orientation) Based Classification of Planar and Grayscale Basins Hierarchically Decomposed from CARTOSAT-I DEMs**

Vardhan, S. Ashok and Daya Sagar, B. S.

**Quantitative Morphologic and Scaling Analyses of Lunar Digital Elevation Models (LDEM) Derived from TMC Data of Chandrayaan-1 Mission via Mathematical Morphology and Fractal Geometry**

Surendran, Athira and Daya Sagar, B.S.

**Quantitative Characterization of Complex Topologically Prominent Components of Porous Media derived from Rocks of Petrologic Significance via Mathematical Morphology and Fractal Geometry**

Daya Sagar, B.S.

**Neural information processing**

Majumdar, Kaushik

***Computer Science Unit, Chennai***

**Games in dynamic-epistemic logic**

Ghosh, Sujata and Padmanabha, Anantha

**From logical syntax to cognitive models**

Top, Jordi, Verbrugge, Rineke and Ghosh, Sujata

**Formal studies of the Bangla verb 'mone hoy'**

Banerjee, Arka, Karmakar, Samir and Ghosh, Sujata

- **Weighted Independent Sets in Graph Classes**
- **Variations in vertex coloring**

T., Karthick

**Vertex coloring of Graph Classes**

T., Karthick and Maffray Frederic

**Cograph dimension and permutation dimension of planar graphs**

Chacko, Daphna and Francis, Mathew C.

**Seymour's Second Neighbourhood Conjecture**

Dara, Suresh, Francis, Mathew C., Jacob, Dalu and Narayanan, N.

**Dushnik-Miller dimension of  $d$ -dimensional boxes**

Francis, Mathew C. and Gonçalves, Daniel

***Cryptology and Security Research Unit, Kolkata***

**Quantum Information / Computing / Cryptography**

Paul, Goutam, Acharyya, Atanu (ASU), Das, Nayana (ASU), Das, Soumya, Chattopadhyay, Pritam and Ray, Souvik (SMU)

**Symmetric Cryptanalysis**

Paul, Goutam, Rahman, Mostafizar, Jana, Amit, Gangopadhyay, Sugata (IIT Roorkee).

**Steganography**

Paul, Goutam, Mukherjee, Imon (IIIT Kalyani), Ganguly, Nabanita (JU), Saha, Sanjay Kumar (JU).

**Cloud Security**

Ruj, Sushmita, Sengupta, Binanda (ASU), Sardar, Laltu, Dutta, Sabyasachi, Chatterjee, Ayantika, Nikam Nishant, Dixit Akanksha, Tahir Shahzaib (City University, London), Rajarajan Muthukrishnan (City University, London), Narayananmurthy, Srinivasan (NetApp Inc), Nandi, Siddhartha (NetApp Inc)

**Blockchains**

Ruj, Sushmita, Banerjee, Prabal, Singh Ram Govind, Mazumdar, Subhra, Pachal, Soumen, Kumari, Shashee, Conti, Mauro (Padua University, Italy), Lal, Chhagan (Padua University, Italy), Chattopadhyay, Anupam (NTU, Singapore), Sengupta, Sourav (NTU, Singapore), Raikwar, Mayank (NTU, Singapore)



### **Network Security**

Ruj, Sushmita, Ghosh, Sarbani, Das Bit, Sipra (IEST, Shibpur), Chatterjee, Tanusree (IEST, Shibpur), Chatterjee, Ranit (IEST, Shibpur)

- **Block Cipher Modes of Operations**
- **Secure and Efficient Implementations of Cryptographic Schemes**

Chakraborty, Debrup, Sarkar, Palash (ASU), Lopez, Cuauhtemoc Mancillas (Laboratoire Hubert Curien, France), Ghosh, Sebati (ASU)

## **Physics and Earth Sciences Division**

The Division comprises of two units: Geological Studies Unit (GSU) and Physics & Applied Mathematics Unit (PAMU), both located at Kolkata.

The major areas of research of the Geological Studies Unit are Structural Geology, Sedimentology, Stratigraphy and Palaeontology. Most of these studies are based on extensive field work.

The thrust areas of research in PAMU are Theoretical Physics and Applied Mathematics. Additionally, some experimental work is being done in the Fluvial Mechanics Laboratory of this Unit. Broadly, the scientists work in the areas of Astrophysics and Data Analysis, Biological Optics, Condensed Matter Physics, Cosmology of the Early Universe, High Energy Physics, Mesoscopic Physics and Nanoelectronics, Quantum Field Theory, Quantum Information Theory, Quantum Mechanics, Nonlinear Dynamical Systems, Sediment-fluid Interactions and Flow Visualization.

Scientists have also carried out work on internally as well as externally funded projects. The division has published around 60 research papers in reputed international journals. It is also involved in teaching B. Stat. and M. Tech. courses apart from their own Ph.D. program. Also a few lecture series, workshops and conferences were organized during this period.

### ***Geological Studies Unit, Kolkata***

Research programme of the Geological Studies Unit currently hinges on

- **The Archean greenstone belts of India, its tectonics and sedimentation as well as basin analysis**
- **Paleostress from fault slip analysis and paleosiesmicity in the Main Boundary Thrust zone**

Saha, Dilip

- **Evolution of dolomite formations in the Cuddapah basin**
- **Numerical models of fluid flow in Cuddapah basin**

Bannerjee, Amlan

### **Sedimentary models of Precambrian Ergs in Brazil and India**

Chakravorty, Tapan and Basilici, Giorgio

### **Tectonostratigraphic evolution of the Sonakhan Greenstone Belt**

Patranobis Deb, Sarbani and Mazumdar, Tuasha

### **Study of diversity, ecology, and paleobiogeography of the Triassic, Jurassic and Miocene fauna. The fauna includes both vertebrates and invertebrates (chiefly gastropods)**

Sengupta, Dhurjati Prasad, Bandyopadhyay, Saswati, De, Chandreyee, Das, Shiladri Sekhar and Das, Sandip

## Research Activities

### **Sedimentary record of the Triassic - Jurassic fluvial to lacustrine transition in a continental rift basin and signatures of microbial activity in a Late Triassic**

Ghosh, Parthasarathi and Goswami, Suparna

### **Morphometric studies of fossil vertebrates**

Sengupta, Dhurjati Prasad and Chakravorti, Sanjukta

Bannerjee, Amlan

### **The sedimentology and stratigraphy of the Siwalik succession**

Chakraborty, Tapan, Mallick, Shuvra and Debnath, Arijit

## ***Physics and Applied Mathematics Unit, Kolkata***

The main areas of research in Physics & Applied Mathematics Unit are Theoretical Physics and Applied Mathematics. Additionally, some experimental work is also being done in the Fluvial Mechanics Laboratory of this Unit.

In a nutshell, the Scientists of the Physics & Applied Mathematics Unit (PAMU) of the Institute have been working in the areas of Astrophysics & Data Analysis, Astro-Optics, Condensed Matter Physics, Cosmology and Astroparticle Physics, High Energy Physics, Mesoscopic Physics and Nano-electronics, Quantum Field Theory, Quantum Information Theory, Quantum Mechanics, Nonlinear Dynamical Systems, Sediment-fluid Interactions and Flow Visualization. There is an externally funded new project on Synchronization, clustering and death in Networks of Complex systems (Theory and Application to Biology and Neurophysiology).

A brief account of the specific research work done by the members of PAMU during the year 2017-18 is given below:

## **PHYSICS**

### **Biological Optics**

Roy, A.K. and Sharma, S.K.

### **Cosmology and Astroparticle Physics**

Chandra, D., Pinhero, T., Naskar, A., Choudury, S., Banerjee, A., Mitra, A.,  
Pal, B. K., Alam, U., Bhattacharyya, A., Das, S., Pandey, K. L., Chatterjee, A.,  
Paul, A., Ghoshal, A. and Pal, S

### **Quantum nonlocality and measurement incompatibility**

Kar, G., Bandyopadhyay, S., Ghosh, S., Banik, M.  
Bhattacharya, S. S, Mukherjee, A. and Roy, A.

### **Quantum Thermodynamics**

Parashar Preeti, Guha, Tamal, and Alimuddin Mir

### **Theoretical Fluid Dynamics and Cosmology:**

- **Cosmological applications related to structure formation from Noncommutative corrections in fluid dynamics has been explored.**
- **Cosmological applications related to generation of in-homogeneities and averaging prescriptions from Noncommutative corrections in fluid dynamics has been explored.**

- **Multiple Central Extensions of Galleili group and other properties of Noncommulative fluid in 3+1-dimensions have been studied.**
- **Generation of a cyclic evolutionary universe with small Cosmological constant in Noncommutative Cosmology.**

Ghosh, S., Banerjee, R., A.K., Das, P., Pan, S. and Pal, P.

#### **High Energy Physics:**

**Study of spin-2 models in 2+1-dimensions with effect of non-commutative black hole in bulk metric ton boundary holographic superconductor has been analysed and extension of this model in presence of magnetic field has also been investigated**

Dalmazi, D., Santos, A.L.R dos, Ghosh, S., Mendonca, E.L.,  
Pramanik S. and Das, S.

#### **General Theory of Relativity:**

**Charged particle dynamics in Reissner-Nordstrom space-time is studied in Jacobi metric formalism**

Ghosh, S., Das, P. and Sk., Ripon

#### **Quantum Mechanics:**

- **Zero energy states in graphene have been obtained for a large number of electric fields. Magnetic confinement in graphene using finite magnetic fields has been studied**
- **Higher order standard and confluent super-symmetric partners of generalized quantum nonlinear oscillator have been obtained focusing on regular potentials and spectral modifications**

Roy, P., Roy, B., Nath, D. and Schulze Halberg, A.

#### **Engineering routes for efficient thermoelectric energy conversion at nano-scale level**

Chakraborty, S. and Maiti, S.K

#### **Phonon transport**

Maiti, S K

#### **Molecular spintronics**

Patra, M. and Maiti, S.K

#### **Electron transport in interacting quantum systems**

Roy, S., Saha, M. and Maiti, S.K.

#### **Thin Topological Insulator**

Siu, Z.B., Chowdhury, D. and Basu, B.

#### **Weyl Semimetal**

Menon, A., Chowdhury, D. and Basu, B.

### **APPLIED MATHEMATICS**

#### **Existence and Global stability analysis of chimera states:**

## Research Activities

**The robustness of chimera states together with incoherent and coherent states in dependence on the initial conditions has been discussed using basin stability method**

Ghosh, D., Perc, M., Lakshmanan, M., Osipov, G. V., Parmananda, P., Dana, S.K., Bera, B. K., Majhi, S., Rakshit, S. and Kundu, S.

## **Synchronization in temporal networks:**

**Intralayer and interlayer synchronization in time-varying multiplex network where the intralayer coupling interactions are switched stochastically with a characteristic frequency was explored**

Ghosh, D., Sinha, S., Majhi, S., Rakshit, S. and Bera, B.K.

## **Nonlinear waves:**

**Nonlinear coherent structures, namely bright-dark and dark-dark solitons are obtained in a general coupled nonlinear Schrodinger equation with complex potentials admitting PT symmetry**

Roy, B., Nath, D., Gao, Y., Babu-Mareeswaran, R. and Kanna, T.

## **EXPERIMENTAL RESEARCH - Fluvial Mechanics Laboratory**

**Experiments were done in the flume in Fluvial Mechanics Laboratory, ISI, to study turbulence characteristics due to combined wave-current flows over an obstacle or a sand bed, when the waves propagated against the flow with wave-blocking condition (i.e. the fluid (water) velocity equaled the group velocity of the wave). Differences in the nature of ripples on the sand bed at three distinct zones, fluid flow dominated, wave-blocking dominated and wave dominated zones, were analyzed**

Chatterjee, D., Mazumder, B.S. and Ghosh, S.

**A number of experiments were conducted in the laboratory flume over 2-D fixed rough dune. Two types of beds were used for study over isolated dune and a series of dunes. The time and double-averaging methodologies will be used for the analyses of experimental data**

Sarkar, S.

## **Fluid Dynamics:**

**Turbulence characteristics of wave-blocking phenomena have been explored in Fluvial Mechanics Laboratory**

Chatterjee, D., Mazumder, B.S. and Ghosh, S.

## **Biological Sciences Division**

Agricultural and Ecological Research Unit runs several research projects covering the areas of Agriculture, Ecology, Nano Science, Plant Biotechnology, Biochemistry and Statistical and Mathematical modelling. In Agriculture, emphasis is given on Agronomy, Soil Chemistry, Soil Microbiology and Entomology. In Agronomy several trials are being carried out on cereals, legumes and vegetables in the fields and soils and plant samples are analyzed in the laboratory for several physical and chemical parameters. Scientists are working on projects pertaining to useful implication of nano science in the field of fertilizers and pesticides. Ecology is another major thrust areas of work. Scientists are working on invasive alien plant biology and their distribution along with their association and competition with other useful local plants. Extraction of eco-friendly edible oils as well as bio fuels from some plants are also part of the ecological researches that are being carried out in the Unit. Statistical and Mathematical modelling covers vast areas of interest to the researchers of the Unit



Biological Anthropology Unit conducted bio-anthropological researches on bio-cultural determinants of: (a) Physical growth and development including secular trend; (b) Health and well-being of various occupational groups; (c) Aging and senescence with reference to health of slum dwelling elderly women and also (d) Health and well-being studies on Alzheimer's caregivers in Kolkata and its surroundings. The Unit has six research scholars; they are working on their own topics of research and collecting data from individuals of the respective area with the active supervision of respective supervisors.

The focus of research in the Human Genetics Unit is to understand the genomic and environmental contributions to common diseases in India.

#### **Epigenetic studies of oral cancer:**

Genome-wide CpG methylation confirmed the abnormal and dynamic variations in CpG promoters in various cancer genomes. They also revealed that the CpG methylation status (either hypo or hyper) of promoters affected the expression of protein coding genes and various noncoding RNAs. Oral squamous cell carcinoma (OSCC) is one of the common malignancies in Southeast Asia. Epigenetic changes, mainly the altered DNA methylation, have been implicated in many cancers. Genome-wide DNA methylation analysis identified several novel differentially methylated regions associated with OSCC. Study identified a unique set of hypomethylated regions, enriched in the promoters of immune response genes, and indicated the presence of a strong immune component in the tumor microenvironment.

#### **Genetic and epigenetic studies on Psoriasis:**

Several studies suggested psoriasis to be a complex multifactorial genetic disease, but the exact triggering factor is yet to be determined. Findings of the study suggested the association of IL12B with the psoriasis, however no evidence was observed for the epistatic effect of IL12B with HLA-Cw6 among the psoriasis patients in India.

#### **Statistical Genomics:**

The focus of these studies is to critically analyze existing statistical methodologies and to develop new methodologies for human genetics, especially for gene-mapping and genotype-environment interactions.

### ***Agricultural and Ecological Research Unit, Kolkata***

#### **Fantastic yields in the system of rice intensification: fact or fallacy?**

Banik, P.

#### **Invasive alien species – a friend or a foe?**

Dewanji, A., Jha, P., Chatterjee, S., Bhattacharya, S. and Dewanji, A. (ASU)

#### **Development of natural food preservatives from spices and herbs**

Chattopadhyay, R.R.

#### **Host-parasite interaction between the rice root knot nematode (*Meloidogyne graminicola*) and rice**

Mukherjee, A.

#### **Utilization of Brick factory coal ash and fly ash through application of vermitechnology**

Bhattacharyya, P.

#### **Biochemical and physiological portrayal of Darjeeling tea cultivars towards the selection of superior clones against abiotic stress**

Das, S.

## Research Activities

### **Exploring Potential of Sweet Sorghum (*Sorghum bicolor* L.) for Bio-Ethanol Production in West Bengal**

Barik, S.

### **Evolution of Model Specific Relative Growth Rate with application to biological data**

Bhattacharya, S., Mukhopadhyay, S., Bhowmick, A.R. and Yeasmin, F.

### **Does the generalized mean have the potential to control outliers?**

Mukhopadhyay, S. Basu, A.N. (ISRU), Chattopadhyay, A. and Bhattacharya, S.

### **Modelling of Growth Profile of *Chaetoceros* sp. and its Steady State Behavior with Change in Initial Inoculum Size**

Bhattacharya, S., Kundu, S., Mukherjee, J., Basu, S., Chattopadhyay, J. and Roy, S.

### ***Sterculia foetida*, L.–Eco-friendly, cost effective and rich sources of nutritious edible oil, animal food supplements as well as biofuel and its multimodal application to environmental perspectives**

Mandal Biswas, S.

### **Management Practices for growth, yield and quality of maize (*Zea mays* L)**

Adhikary, S.

### **Modulation and demodulation of photosynthesis using micro-nutrient nanoparticles**

Mitra, S., Barik, S. and Goswami, A.

### **Utilization of naturally occurring nanomaterials for restructuring root systems**

Barik, S. and Goswami, A.

### **Enhancing growth of beneficial gut bacteria with oxide nanoparticles**

Barik, S. and Goswami, A.

## ***Biological Anthropology Unit, Kolkata***

### **A Study on mental health and well-being of dementia caregivers in urban areas of West Bengal**

Mukhopadhyay, S. and Basu, I.

### **Burden of frailty: A study on community dwelling rural elderly population in West Bengal**

Mukhopadhyay, S. and Das, S.

## ***Human Genetics Unit, Kolkata***

### **Whole exome somatic mutation analysis in oral cancer and adjacent leukoplakia tissues: A study to understand progression of oral leukoplakia to cancer**

Roy, B.

### **Genetic Mapping of rare variants, multivariate and longitudinal phenotypes**

Ghosh, S.

### **On integrating several data sources in genetic association study**

Mukhopadhyay, I.

### **Role of epigenetics in psoriasis: Identification of DNA methylation biomarker**

Chatterjee, R.

## **Social Sciences Division**

The Social Sciences Division consists of eight units spread over Kolkata, Giridih, Delhi and Bangalore. These are: Economic Research Unit (Kolkata), Linguistic research Unit (Kolkata), Population Studies Unit (Kolkata), Psychology research Unit (Kolkata), Sampling and Official Statistics Unit (Kolkata), Sociological Research Unit (Kolkata and Giridih), Economics and Planning Unit (Delhi) and Economic Analysis Unit (Bangalore).

The scientific workers of these units are extensively involved in research, teaching, consultancy, editorial work, externally and internally funded project works and academic administration. Research is carried out both at individual and collaborative/interdisciplinary levels. The faculty members are also providing guidance to the Research Fellows. Training programs/ workshops are organized on a regular basis for non-ISI research fellows, college teachers and ISS probationers at different centres and at universities in the Northeastern region of India.

### ***Economic Research Unit, Kolkata***

The scientific workers of the Unit are extensively involved in research, teaching, training, consultancy and academic administration. The research is carried out both at individual and collaborative/interdisciplinary levels. These include theoretical as well as empirical research in economics and econometrics.

The details of the applied and theoretical researches in Economic Research Unit are given below:

**Experimental Analysis of decision under uncertainty, decision under deadlines, decision under peer effects.**

Banerjee, Priyodorshi

**Pro-pooriness Orderings**

Chakravarty, Satya R., Chattopadhyay, Nachiketa and D'Ambrosio Conchita

**Poverty, Social Exclusion and Stochastic Dominance**

Chakravarty, Satya R.

**Ethnic Conflict**

Dasgupta, Indraneel and Bakshi, Dripto

**Linguistic Conflict and Linguistic Justice**

Dasgupta, Indraneel and Guha- Neogi, Ranajoy

**Outsourcing under Incomplete Information**

Kabiraj, Tarun and Sinha, Uday Bhanu

**R&D in a Duopoly under Incomplete Information**

Chatterjee, Rittwik, Chattopadhyay, Srobonti and Kabiraj, Tarun

**Balanced Implementability of Sequencing Rules, Identification of Sequencing Rules That are Implementable with Balanced Transfers in a Sequencing Problem**

Mitra, Manipushpak and De, Parikshit

**Subsistence, Saturation and Irrelevance in Preferences, Identifying Key Properties of Subsistence and Saturation and its Link to Irrelevances in Preferences of a Consumer**

Mitra, Manipushpak and Sen, Debapriya

## Research Activities

### **Equilibrium Co-Existence of Public and Private Firms and the Plausibility of Price Competition. Showing the Equilibrium Co-Existence of Fully Public and Fully Private Firms in a Differentiated Product Duopoly Framework with General Demand Conditions**

Mitra, Manipushpak, Pal, Rupayan, Paul, Arindam and Sharada P.M.

### **Egalitarianism in the Queueing Problem. Identifying the Lorenz Optimal Allocation Rules from Three Different Classes of Fair and Pasreto Efficient Rules and Then Making a Comparison between These Three Rules Using Lorenz Domination and Rawlsian Minmax and Maximin Criterion**

Mitra, Manipushpak, Youngsub Chun and Suresh Mutuswami

### **Naive Lexicographic Preferences over Attributes. Characterizing Lexicographic Preferences When Preferences May Not Be Rational**

Mitra, Manipushpak, Goswami, Mridu Prabhal and Sen, Debapriya

### **Endogenous Conjectural Variations, Showing a Strong Equivalence Result with Price and Quantity Competition when Conjectural Variations are Endogenous**

Mitra, Manipushpak, Ghosh, Arghya and Paul, Arindam

- **Equilibria In Strategic Market Games. Identifying Equilibrium Conditions For Shapleyshubik Strategic Market Games**
- **Testable Restrictions of Equilibrium Outcomes in Strategic Market Games. Identifying Conditions on Individual Preferences Under Which Any Observation of Trading Decisions in The Shapley-Shubik Strategic Market Game Can Be Justified As An Equilibrium Outcome**

Mitra, Manipushpak, Ray, Indrajit and Roy, Souvik

### **Dynamic VCG Mechanisms in Queueing. Identifying Dynamic (Or Online) VCG Mechanisms and Also Addressing the Budget Balance Issue**

Mitra, Manipushpak, Ghosh, Sambuddha and Long, Yan

### **Generalized Measures of Diversity, Lower and Upper Bounds of Poverty Line, Causes and effects of television watching on childhood obesity, Issues on Health and Healthcare in India, Methods for Assessing Overweight and Obesity**

Pal, Monoranjan

### **Nonlinear Models to Study the Effect of Inflation on Inflation Uncertainty in OECD Countries**

Banik Chowdhury, Kushal (Tezpur ISI) and Sarkar, Nityananda

### **Study of the Relationship between Stock Returns and REIT Returns**

Das, Mahamitra and Sarkar, Nityananda

### **Effects of Demonetisation on Financial Sectors of India: A VAR Approach**

Sarkar, Nityananda and Mukhopadhyay, Debabrata

### **Gender Bias in Education, Intra-household Allocation Models**

Majumder, Amita and Mitra, Chayanika

### **Purchasing Power Parity, Cross Country Studies, Poverty, Inequality, Welfare**

Majumder, Amita, Ray, Ranjan and Santra, Sattwik

### **Applied Demand Analysis (Parametric and Semiparametric Models), Commodity Taxation.**

Majumder, Amita, Chakrabarty, Manisha, Ray, Ranjan and Santra, Sattwik

### ***Linguistic Research Unit, Kolkata***

During the period (April 2017 - March 2018) the *Linguistic Research Unit* of the Institute is engaged in research activities in the areas of *Cognitive Linguistics, Corpus Linguistics, Computational Linguistics, Language Technology, Sociolinguistics, Field Linguistics and Descriptive Linguistics*.

- **Substantivist Lexicological Study of Bangla**
- **Interlexical Study of Asamiya in a Substantivist Framework**
- **Sociolinguistics.**

Dasgupta, Probal

- **POS Tagset Generation for Bangla Text Corpus**
- **POS Tagged Hindi-Bangla Parallel Translation Corpus**
- **Chunked Hindi-Bangla Parallel Translation Corpus**
- **Bangla Web Text Corpus Generation**
- **Corpus of Indian English used in Newspapers (From Newspapers)**
- **Bangla Pronunciation Dictionary in Electronic Form**
- **Corpus-Based English Language Teaching (C-BELT) System**
- **Generation of a Lexical Database of Transliterated English Words in Bangla Corpus**
- **Generation of a Lexical Database of Pronominal Forms in Bangla Corpus**

Dash, Niladri Sekhar

### ***Population Studies Unit, Kolkata***

Faculty and Scientific workers of this unit are involved in various teaching, training and research activities. This unit is also contributing in teaching in ISEC Courses in regular as well as specialization in Demography. Some collaborative research projects with other units are undertaken. During the year, the members of the unit published papers in journals and books, and participated as a speaker or resource person in national and international seminars, conferences and workshops. The following are the list of topics of major research being carried out by the unit during the year.

- **An Appropriate Statistical Method for Analysing Determinants of Fertility and Their Roles in Indian Context**
- **Determinants of Population Growth at Household Level – A Case Study Giridih District of Jharkhand**

Pathak, Prasanta

- **Inequality in Childhood Immunization in India during 1992/93 - 2005/06: A Causal Analysis Approach**
- **Gender disparity in socio-economic status of the children across the states in India during 1992-2006**
- **Gender disparity in curative health care utilization among the under 5 children in India during 1992-2006: A causal analysis approach**
- **Inequalities in health care infrastructural facilities and access to health care services across the states in India**

Barman, Subhash

**Socio-economic Inequality of Child Immunization in the Eastern and North-Eastern States of India**

Barman, Subhash and De, Partha

- **Trends in components of under-five mortality in Indian major states**



## Research Activities

- **Evaluating the performance of health care systems across states and their correlates for their inefficiency and backwardness using Nonparametric Data Envelope Model**
- **A study of knowledge, attitudes and practices (KAP) of families toward their children with developmental challenges**

De, Partha

### ***Psychology Research Unit, Kolkata***

Faculty members and research fellows of the Psychology Research Unit are engaged in teaching, research and training in the following specific areas: construction of violence checklist, acquisition of Spatial frames of references, self-care efficacy in diabetes management, a study on metamemory and working memory among school-going adolescents, value profile convergence and divergence in obsessive compulsive disorder and somatoform disorder. Besides this, the unit provides course work on data visualization to the Post Graduate Psychology students of the University of Calcutta. Some Ph.D. scholars of the University of Calcutta have received the academic support from the unit.

#### **Safe school Survey**

Dutta Roy, D. and Sharma, Shubhangi

#### **Association of Visuospatial Reasoning Abilities and Home Environment**

Dutta Roy, D. and Datta, Sumona

#### **Self-care Efficacy in Diabetes Management:**

Dutta Roy, D. and Adhikari, Sravanti

#### **A Study on Metamemory and Working Memory Among School-Going Adolescents**

Dutta Roy, D. and Khatoon, Murshida

#### **Cognitive Factors in Suicide**

Chatterjee, G. and Karmakar, Sabornee

- **South Asian Face Database**
- **The Cognitive Architecture of Face-Processing – Understanding the Separation of Information Streams**
- **Human Face and Body Skin Tone and Their Relationship with Various Biological and Social Parameters.**

Chatterjee, G. and Chakraborty, Nelay

#### **Effect of Internet of Brain Structure**

Chatterjee, G., Ghosh, Priyanka, Kanai, Ryota and Datta, Himadri

#### **Studying the Phenomenon of Disgust with reference to Genetic Contribution using Twins**

Chatterjee, G. and Singh, Dhairyya

#### **Academic Stress and Counselling Among Higher Secondary Students of Kolkata**

Bhattacharya, Himani

### ***Sampling and Official Statistics Unit, Kolkata***

The topics of research of this unit is are follows:

- **Distributive Impacts of Loans to Finance Smallholder Agriculture**

- **Clientelistic Politics and Agent-Intermediated Lending: How Political Agents Use Targeted Loans to Influence Vote Shares**
- **Market Structure and Middleman Margins in Potato Markets in West Bengal: Evidence from Trader Surveys:**
- **Assessing the Relative Importance of Information and Credit Constraints: An Empirical Study of Agricultural Sales**

Mitra, Sandip, Visaria, Sujata, Mookherjee, Dilip and Maitra, Pushkar

**Resource Transfers to Local Governments: Political Manipulation and Voting Patterns in West Bengal**

Mitra, Sandip, Bardhan, Pranab, Mookherjee, Dilip and Nath, Anusha

- **Assessing the factors that affect the health status of M.Sc Second Year students of Kalyani University using Ordinal Logistic Regression analysis. M.Sc.(Stat.) Project, Kalyani University (2017)**
- **Poisson regression on Count Data. M.Sc.(Stat.) Project, Kalyani University (2017)**
- **Estimating Sensitive Population Parameters, Protection of Privacy in Randomized Response Techniques, Determination of Robust Optimum Plot Size and Shape in Agricultural Statistics**
- **Estimating Sensitive Population Proportion By a Three-Stage Forced Response Model**
- **Protection of Respondent's Privacy in Estimating Sensitive Population Proportion By Hypergeometric Randomized Response Model**

Dihidar, Kajal

**Respondent Privacy in Randomized Response Surveys for Continuous Sensitive Variables**

Dihidar, Kajal and Bose, Mausumi (ASU)

**On The Robust Estimation of Optimum Size of Plots and Estimation of Data-Dispersion Matrix Under Complex Spatial Structure Prevalent in Field Experiments**

Dihidar, Kajal and Pal Satyabrata

- **Assessment of the Socio-Economic Impact of National Highway 6**
- **Development and Application of a Concurrent Impact Evaluation Method of The Foreign Trade Policy of India (FTP) 2015-2020**
- **Development of Test Analytic Framework for Multiple Choice Type Online Tests**

Chakraborty, Asit Baran and Others

**Reviewing NSS Sampling Design for Household Surveys in Rural Areas**

Kar, Aloke

- **Developing an Appropriate Structure Preserving Estimation (SPREE) Method for Estimating Domain-Level Aggregates from NSSO Household Surveys**
- **Developing an Appropriate Methodology for Estimating Proportion of Villages with Specific Infrastructural Facility**

Kar, Aloke and Others

- **Examining Why a Reference Period of "Last Week" In Consumer Expenditure Surveys Gives Higher Estimates Than a Reference Period of "Last Month"**
- **Examining To What Extent Values of Consumption Reported in NSS Consumer Expenditure Surveys are Derived By Multiplying Reported Quantity By A Price**
- **Influence of Reporting Behaviour and Reporting Biases on Consumer Expenditure Survey Data**

Chaudhury, Prabir

## Research Activities

### ***Sociological Research Unit, Kolkata***

Teaching in Sociology inside and outside ISI are being carried out by members of the Unit. Courses are taught to students of B. Stat 3<sup>rd</sup> year and of the Post Graduate Diploma in Computer Applications (PGDCA) Course at Giridih. In addition, two Ph.D. students of the Unit (one at Kolkata and other at Giridih) are being supervised.

Researches are being carried out on the following topics:

#### **Small-marginal landholders' farming and livelihood issues: A study in Jharkhand**

Behera, Hari Charan and Pal, Indrajit

#### **Agrarian Questions under Neoliberal Economic Policies in India: A Review and Analysis of Dispossession and Depeasantisation**

Rao, P.V. and Behera, Hari Charan

#### **Effect of Socio-economic and Demographic Factors on Nutritional Status of Indian Post-adolescent Teenagers: A Set Theoretic Approach**

Shome, Suparna, Adak, Dipak Kumar, Pal, Manoranjan (ERU), Hossain, Golam and Bharati, Premananda

#### **Women's Decision Making Autonomy and its Influence on Nutritional Health in India: A North-South Regional Comparison**

Sahoo, D., Shome, Suparna, Pal, Manoranjan (ERU) and Bharati, Premananda

#### **Influence of maternal autonomy and socioeconomic factors on birth weight of infants in India**

Shome, Suparna, Pal, Manoranjan (ERU) and Bharati, Premananda

#### **Influence of Socio-Economic Status and Television Watching on Childhood obesity in Kolkata**

Bharati, Susmita, Pal, Manoranjan (ERU), Shome, Suparna; Roy, P., Dhara, P. and Bharati, Premananda

#### **Assessing Overweight among Children Aged 6-10 Years in Kolkata, India**

Bharati, Susmita, Pal, Manoranjan (ERU), Hossain, M.G. and Bharati, Premananda

#### **Contribution of different anthropometric measures to BMI towards assessing overweight & obesity of (6-10 year) children in Kolkata, India**

Pal, Manoranjan, Bharati, Premananda and Bharati, Susmita

#### **Growth and Nutritional Status among Pre-adolescent and adolescent Bengali boys and girls in North 24 Parganas, West Bengal, India**

S. Banerjee; S. Biswas, Bharati, Susmita, Pal, Manoranjan (ERU), and Bharati, Premananda

#### **Social Network Analysis in the Context of Community Response to Disaster**

Goswami, Rupak, Misra, Sanchayeeta, Mandal, Tandra and Jana, Rabindranath

### ***Economics and Planning Unit, Delhi***

The Economics and Planning Unit faculty continues to work on the cutting edge of economic research, both in theory, as well as empirical analysis.

Recent works in mechanism design and auction theory have focused on stability of matching rules for teams, implementation via undominated strategies in bounded mechanisms, design of auctions with

non-quasi-linear preferences, and contract design for behavioural agents who use multiple rationales to make decisions. Research in contract theory has involved rewarding talents in organisations, and lender competition. Research in agriculture economics has looked at welfare effects of price supports, risk sharing in world food markets, and basis risk in agricultural insurance. In environment economics research has focused on air pollution, and social costs of power from coal and renewables. Research on education has looked at returns to STEM, teacher transfers, internal migration for education, improving learning outcomes through information, school feeding programs, impact of education loans on higher education, and gender peer effects in high schools. Research in caste has explored social connections and financial incentives in India's manufacturing sector, and the relationship between inter caste marriage and education. In health economics research has focused on estimating neonatal mortality rate, gender discrimination in a tertiary care hospital, and optimal utilisation of resources and ranking of the district hospitals across India. Researchers have also worked on the impact of electronic voting machines on democracy and development, and on the impact of land reforms on property rights and financial development. In theoretical macroeconomics researchers have worked on the annuity role of estate tax, progressive benefits of social security (pension), education pension dependency, and optimal intergenerational transfers. Research in empirical macroeconomics has focused on monetary transmission in India, impact of fiscal austerity on macroeconomic outcomes of emerging market economies, and the effects of targeted government employment programs on labor market outcomes.

Below is a more detailed breakdown of research interests by faculty members:

- **Improving Learning Outcomes through Information: Experimental Evidence from India**
- **Social Connections and Financial Incentives: A Quasi-field Experiment in India's Manufacturing Sector and School Feeding Programs and Classroom Performance**

Afridi, Farzana

- **A Revisit to the Annuity Role of Estate Tax**
- **Social Security (pension): Progressive Benefits but Regressive Outcome?**
- **Education Pension dependency**

Bishnu, Monisankar

### **Organizational Structure, whether Talent is rewarded in an Organization**

Roy Chowdhury, Prabal and Bag, Parimal

### **Examining the Effect of Lender Competition in the Presence of Collusion between Borrowers and Bank Officers**

Roy Chowdhury, Prabal and Dam, Kanishka

### **Examining the Effect of Productivity Shocks on Marriage Market Institutions**

Roy Chowdhury, Prabal and Chowdhury, Shyamal

### **NK - DSGE Model to Understand Monetary Transmission in India**

Ghate, Chetan (in collaboration with the banking sector)

- **Small Open Economy – Real Business Cycle Models (SOE-RBC): The Impact of Fiscal Austerity on Macroeconomic Outcomes in Emerging Market Economies**
- **Effects of Targeted Government Employment Programs on Labour Market Outcomes in Developing Economies Using A Search and Matching Friction Framework**

Ghate, Chetan

- **Missing Female Patients: An Analysis of Gender Discrimination in A Tertiary Care Hospital in India, 2016**

## Research Activities

- **The Impact of Electronic Voting Machines on Democracy and Development (Paper Was Cited in The Parliamentary Debate By Union Minister Ravi Shankar Prasad)**
- **Estimating Neo Natal Mortality Rate at the Sub Regional Level for India: A Bayesian Approach**
- **Using Data and Analytics to Advise NITI Aayog for Optimal Utilization of Resources and Ranking of The District Hospitals Across India**

Kapoor, Mudit

- **Design of Auctions in Environments Where Preferences of Agents Need Not Satisfy Quasilinearity Assumption: Applications include Budget Constrained Bidders In Auctions**
- **Contract Design For Behavioral Agents Who Use Multiple Rationales to Make Decisions**

Mishra, Debasis

- **Returns to STEM**
- **Teacher Transfers**
- **Internal Migration for Education**

Mukhopadhyay, Abhiroop

- **Welfare effects of price supports**
- **Risk Sharing in World Food Markets**
- **Basis Risk in Agricultural Insurance**

Ramaswami, Bharat

### **Matching Theory and Mechanism Design Theory: On The Stability of Matching Rules For Teams And Implementation via Undominated Strategies In Bounded Mechanisms**

Sen, Arunava

- **The Effect of Electric Induction Stove Use on Air Pollution**
- **The Social Costs of Power from Coal and Renewables**

Somanathan, E.

- **Optimal Intergenerational Transfers and the Rise and Fall of Pay-As-You-Go Pensions**
- **Land Reforms, Property Rights and Financial Development**
- **Who's Education Matters? An Analysis of Inter Caste Marriages in India**
- **Impact of Education Loans on Higher Education: The Indian Experience**
- **Gender Peer Effects in High Schools: Evidence from India**

Ray, Tridip

### ***Economic Analysis Unit, Bangalore***

Economic Analysis Unit (Bangalore) is engaged in research on Climate change and agricultural yields, Livelihoods and human development in Tripura, Small Farmers in India and research on women workers of coffee industry.

- **Research on Livelihoods and human development in Tripura**
- **Small Farmers in India: Evidence from Village Studies: analysis of data on production, production systems and livelihoods, and the socio-economic characteristics of different strata of the rural population.**

Swaminathan, Madhura and Ramachandran, V.K.

### **Research on women workers of coffee industry using primary survey and secondary sources: Gender division of labour and forms of production of coffee plantation workers**

Chattopadhyay, Molly and Pais, Jesim



**Evaluation of gender gap in official statistics relating to the number of women workers in India:  
Case studies in rice farming, livestock economy and plantation sectors**

Chattopadhyay, Molly, Niyati, S. and Vijayamba, R

**Statistical Quality Control and Operations Research Division**

The Division comprises of eight SQC & OR Units located at Bangalore, Chennai, Coimbatore, Delhi, Hyderabad, Kolkata, Mumbai and Pune and the Central SQC (CSQC) Office located in the main campus at Baranagore which co-ordinates the activities of the Division. The Division presently has 39 Faculty Members at different levels and designations.

The scientific workers of the Division are extensively involved in research, teaching, consultancy (with a special emphasis to enhance Quality and Productivity), editorial work, externally and internally funded project works and academic administration. The uniqueness of the Division is in carrying out research in application areas and disseminating Statistical Knowledge to a large section of the industry, and thus helping the country in enhancing Quality and Productivity of goods and services.

Research is carried out both at individual and collaborative/interdisciplinary levels. Training programs/ workshops are organized on a regular basis.

The Division is instrumental in running the following Academic Programmes:

- M.Tech. (QROR) programme at Kolkata;
- M.S. (QMS) programme at Bangalore and Hyderabad;
- Part-Time Certificate Course in SQC at Bangalore and
- Part-Time Certificate Course in SQC at Hyderabad.

The faculty members of the division also teach in other academic programmes like B.Stat., M.Stat. (both Kolkata and Chennai), M.S. (LIS) (Bangalore). They also supervise Ph.D. theses and Dissertation and Project work of M.Tech. (QROR), M.S. (QMS) and M.Stat. students.

Some of the main thrust areas of research of the Division during this period are: Generalized Positive Subdefinite Matrices and Interior Point Algorithm, Progressive type-I interval censoring with random removal; Process Capability Indices; Fuzzy Optimization Approach for Software Reliability Estimation; Mathematical Programming; Control Charts; Linear Complementarity Problem (LCP) and its generalizations, Optimization problem in graph theory, and Multivariate Statistical Process Control.

The scientific workers of the Division published more than 32 papers in reputed international and national journals and colleagues also contributed towards editorial activities of monographs and journals.

Apart from the usual Industrial/Organisational consultancy projects, the Division has also taken up some very interesting and useful projects of National Importance like

- i. Impact on Noise Quality due to Highway and Infrastructure Development
- ii. Problems and Prospects of Tea Industry in India
- iii. Reduction of Fatalities due to Road Accidents
- iv. Improving Effectiveness of Swachh Bharat Mission – Urban
- v. Improving Defence Production System
- vi. Reducing the Lead Time in Product Development of Knitted Fabric Manufacturing
- vii. Process Optimization for Reducing the Rework on the Wiper Arm Rod
- viii. Developing a methodology to Normalise the scores of the students from Different Examination Boards,

## Research Activities

The Division also caters to the needs of some of the industries abroad.

### ***SQC and OR Unit, Kolkata***

- **Finiteness of Criss-Cross Method in Complementarity Problem**
- **On the Convergence of an Iterative Method for Solving Linear Complementarity Problem with WGPSBD**
- **On existence results for some nonlinear system of equations**

Das, A.K., Jana, R. and Deepmala

- **Impact on Noise Quality due to Highway and Infrastructure Development**
- **Problems and Prospects of Tea Industry in India**

Mukhopadhyay, Arup Ranjan

- **Control Chart for Ordinal Data**
- **A Robust Multivariate Control Chart**

Das, Nandini

**Assessing lifetime performance index of Weibull distributed products using progressive type II right censored samples**

Dey, S., Sharma, V.K., Anis, M.Z. and Yadav, B.

**Estimation of reliability of multicomponent stress-strength for a Kumaraswamy distribution**

Dey, S., Mazucheli, S. and Anis, M.Z.

**Some characterizations of exponential distribution**

Ahsanullah, M. and Anis, M.Z.

**Modeling Multistage Process Monitoring and Fault Detection Strategies under Partial and Imprecise Information**

Das, P., Gauri, S.K. and Nath, S.

**Bayes estimation of quality adjusted lifetime (QAL) distribution in illness-death model**

Pradhan, Biswabrata and Roy, Soumya

**Optimum warranty length under Type-II unified hybrid censoring scheme**

Pradhan, Biswabrata, Sen, Tanmay, Bhattacharya, Ritwik and Tripathi, Yogesh Mani

**Hybrid inspection plan for optimal availability**

Chakraborty, Ashis Kumar and Sinha, Soumi

**Reliability estimation of software at optimal stopping time**

Chakraborty, Ashis Kumar and Panja, Arindam

**Software Reliability Modelling**

Chakraborty, Ashis Kumar and Chatterjee, Parna

**Statistics and Machine learning**

Chakraborty, Ashis Kumar and Chakraborty, Tanujit

**Reduction of Fatalities due to Road Accidents**

Bandyopadhyay, Amitava

**Improving Effectiveness of Swachh Bharat Mission – Urban**

Bandyopadhyay, Amitava, Manna, D.K., Sett, Ranjan, Biswas, Amit, and Sampangi Raman, D

**Improving Defence Production System**

Bandyopadhyay, Amitava, Sett, Ranjan, Das, Arup K., Gupta, Abhijit, Rao, G Murali and Murthy, A.L.N.

**Integrated shift and drift control of a growth process**

Mondal, P.

***SQC and OR Unit, Delhi***

- Mathematical Programming
- Linear Complementarity Problem (LCP) and its generalizations
- Optimization problem in graph theory
- Matrix Theory (Study of Matrix Classes useful in Complementarity, Optimization and Game Theory)
- Non-cooperative games, Algorithms for Stochastic Games.

Neogy, S.K.

- Design of Experiments – Static Characteristics
- Dynamic Characteristics and Categorical Characteristics in a multi response processes

Chakravorty, Rina

- Mathematical Programming
- Matrix classes in Linear Complementarity Problem
- Game theory

Dubey, Dipti

***SQC and OR Unit, Bangalore***

- A study on Panel data regression of cross-sectional data that varies over time
- Study on Multivariate Time Series Analysis

Chowdhury, K.K.

- Development of a control chart procedure for detecting the impending termination of business process outsourced accounts
- Development of a slopping control chart methodology for simultaneously monitoring multiple characteristics
- Development of a methodology for simultaneous optimization of continuous and categorical characteristics
- A control chart for monitoring characteristics exhibiting nonlinear profile over time

John, Bobby

***SQC and OR Unit, Coimbatore***

**Textile Sector**

- Reducing the Lead Time in Product Development of Knitted Fabric Manufacturing

## Research Activities

### for JJ tex

- Reducing the Workers Attrition rate using the statistical Diagnostics for Shiva Tex, a Textile Spinning Mill.
- Reducing the Internal Customer Complaint of small parts cell from Machine Shop in Lakshmi Machine Works(LMW)

### Automobiles Sector

- Process Analytics for Reducing the Rework on the Fuel Indicator Rod from MSME to OEM
- Process Optimization for Reducing the Rework on the Wiper Arm Rod

### Software Sector

- Capability in consistency of Clinical Information System of Electronic Medical Records(EMR) Company by using the Statistical Analysis
- Error reduction of Wrong Clinical Provider Name in a Multinational Health Care Record Company

### Health Care Sector

- Enhancing the Probability of Salvaging of legs among Poly trauma Cases (Ganga Hospital) using Discriminate Analysis and Logistic regression
- Reduction of Re-Categorization Process of error encountered in EMR in a Multinational HealthCare Company.

### Infrastructure

- Sensitivity of Cost of Production by Identifying Critical to Cost Parameter and Critical to Product Mix in a Rock Crusher Plant and introducing process design studies for M-Sand
- Business management System for Corporate Office on key Result Areas (KRA) on various projects sites from different locations.
- Developing Metric for day to day Management Information System

### Food Processing

- Reduction of Flies and Pests in Kitchen Area
- Reduction of Plastics and Synthetic Materials found in the Cooking Space
- Economic Order Quantity of Stores and Control of Dispatching Materials
- Waste Segmentation and Disposal System

### Engineering Sector

- Non-Conformance Reduction for the Flow Products – Machine Shop
- Honouring Delivery Schedules in Exports of Valve Trim Parts to Valve Manufactures for Oil & Gas Industries
- Reducing the Cost of Poor Quality by Minimizing the Pump Failure Service Cost Within Warranty (CRI Pumps)
- Optimisation of Setting up Time Reduction in CNC Versatile Spring Forming Machines

### Public Sector

- 100 Wards Analysis for Coimbatore Corporation To implement Swachh Bharat scheme a Gap analysis *with SMART solutions for SMART City Projects*
- Rural Development Program- Solar Energy – Enhancing the Quality of Life (Malappuram, Chaliyar, Kerala)

### Education Sector

- Educational Data mining for NEET exam

Rajagopal, A.

### ***SQC and OR Unit, Hyderabad***

- **Linear Complementarity Problem**
- **Fuzzy Metric Spaces**
- **Decision Support Systems**
- **Six Sigma**
- **DOE**
- **SPC**
- **Text Data Mining**
- **Generalized Gaussian Distributions (GGD)**

Murthy, G.S.R., Murthy, A.L.N., Rao, G.M. and Subhani, S.M.

### ***SQC and OR Unit, Mumbai***

#### **Multivariate Statistical Process Control**

Sikder Sagar

### **Library, Documentation and Information Sciences Division**

The Library, Documentation and Information Science Division comprises

- Central Library, Kolkata
- ISI Delhi Centre Library, Delhi
- ISI Bangalore Centre Library, Bangalore
- ISI Chennai Centre Library, Chennai
- ISI North-East Centre Library, Tezpur
- Prasanta Chandra Mahalanobis Memorial Museum and Archives, Kolkata

The Division is perhaps the most important central facility of the Institute.

### ***Central Library, Kolkata***

The Central Library occupies a unique place in academic and research activities of the Institute. The Central Library moved to its present location in 1978, and it occupies 5 floors (60000sq.ft) of a ten-storied building at Kolkata. The Central Library seeks to:

- Meet the informational, educational, recreational, and cultural interests and needs of the user community by providing timely access to print and non-print resources appropriate to those needs.
- Encourage and facilitate reading, literacy and lifelong learning by supplying resources in a variety of formats designed to interest, inform, and enlighten.
- Protect the public's right to know by providing equal access to information needed for informed and effective daily living, decision making, problem solving and thoughtful participation in civic/community affairs.
- Provide the highest quality service and to organize and display the collection for easy, open access by all.
- Maintain publication exchange programme of the Institute with regional, international, national, and foreign institutions and organizations.
- Continue to function as the Eastern Regional Library of the National Board of Higher Mathematics [NBHM], Department of Atomic Energy, Government of India since 1989.



## Research Activities

Over the years, the ISI Central Library has attained the distinction of being one of the richest libraries in India in the areas of mathematics, statistics, economics, theoretical computer science and related areas. To achieve the goals of the Library, following activities were undertaken during the year under report:

### Collection Development

The Library maintains an excellent collection of books, journals, reports, rare and special collection, government publications, data-books, theses and other documents/ materials in print and electronic formats. During the year under report, the library accessioned 589 printed books and 2230 e-books on statistics and mathematics (accessible among three centers via springer through IP ranges), 03 CDs and 02 books on project collection were purchased from ISI budget, while 50 books were received on complimentary basis. The Library also accessioned more than 1000 bound volumes of journals and subscribed to 150 scholarly journal titles in print. More than 30 journal titles were received as complimentary and 85 titles in exchange with Sankhya. The library received and processed more than 2000 loose issues of journals. It classified and catalogued 589 new books. It also procured and processed 150 titles which includes govt. Reports, Annual Reports, Data Books, Unit Level Data from census, NSSO and CSO (in CD's) on government reports/data-books etc. Beside this, the library has added a collection of 150 English books and 32 Bengali books and 2 Hindi books on literature, humanities, travel, health and recreation and 22 Daily Newspapers & Magazines in its Workers' Circulating Library.

### E-Resources

The library has a good collection of electronic resources on different media and has access to several online journals/databases. During the year under report, the library has added approximately 2230 e-books, 10 CDs & DVDs containing books and CDs on statistical data. The library has provided the online access to about 22000+ full-text journals. It has renewed the online database like MathSciNet, Econlit with full text, Science Direct, Springer Link, T & F Journal online, Wiley Inter Science, Oxford University Press Journals, CUP Journals, JSTOR through consortia. It has also subscribed to the IEL online of the IEEE/IEE publications, ACM Digital Library and Current Index to Statistics (CIS) on Web. The library has also subscribed to Census data, online database (CEIC data base) and statistical data sources (CMIE and India Stat. com) available through IP's and/or password based to provide data services to its potential users.

### Publications Exchange Programme

The library maintains the publication exchange programme of 'Sankhya - the Indian Journal of Statistics' with 52 national and 23 international institutions/organizations. The 23 international agencies are from various countries of the world such as Bangladesh, Belgium, Brazil, Canada, China, Taiwan, Croatia, Czech Republic, Denmark, France, Hungary, Italy, Japan, Pakistan, Poland, Romania, Russia, Slovakia, Spain, Switzerland, Thailand, UK and USA. In exchange, the Library has received 85 titles during the reporting period.

### Membership

Membership of the ISI-Library is restricted to persons with post-graduate or equivalent academic qualification and interest in the objectives of the Institute. Faculty members, research scholars, students, research associates, visiting scientists, ISEC trainees, project-linked staff, project assistants, ISI-employees, outside students and the Institute members are eligible for the membership of the Institute Library. However, they have to apply for the membership of the library and receive a bar-coded Library Card. During reporting period, library membership was given to 274 persons and 1022 readers were given special permission to use the library for a short period. Currently the total number of library member is 3406. Total number of members including staff, students and research scholars of the Institute is 960 in its Workers' Circulating Library.

## Services

The ISI-Library, since its inception has been providing a variety of library and information services to its users. The services presently being provided include:

**Web-OPAC:** Members use this facility to browse and search the database to see the status of a document including their own transactions.

**Lending/ Document Delivery Service:** During this period 52850 books and other documents were issued to the user on loan and reference. Publications from Government of India and other International Organization and data CDs, were issued to users for reference purpose. It provided 4900 pages of reprint requests and 20000 pages in soft copy from different full text database /journals. It provided email-based reminder services like 7-day advance alert, long overdue notice and check-in information. The Workers' Circulating Library issued 2000 books for lending and reference during this period.

**Inter-library loan:** 05 Books were borrowed from other libraries, while 21 books were lent to other libraries.

**Current Awareness Service:** 12 monthly lists of current additions to the library were made available online.

**Self-Photocopying Service:** The library provided the Self-photocopying service in its periodical section, which was available everyday throughout the library hours. During this period 4000 pages were photocopied from the journals.

**Electronic Document Delivery Service:** Full-text articles and/or bibliographical data were provided through email from online resources. Besides electronic document delivery, 2000 pages of printouts were also supplied against demand.

**Online Full-Text Access to Journals/ Database:** During the period under review, the library has provided services from more than 22000+ online journals and major databases like MathSciNet, Econlit with full text, Science Direct, Springer Link, T & F Journal online, Willy Inter Science, Oxford university Press Journals, CUP Journals, JSTOR, IEEE/IEE publications, ACM Digital Library and Current Index to Statistics (CIS) on Web through consortia. The online access is available through campus-wide network.

**Reprographic & Photographic Service:** During the year, it provided around 409270 pages of photocopies, 662 graphic designs, 7901 scanned items, 3500+ pages of color and b/w pages of print outs, 18300 pages of color photocopies, and 966 spiral bindings. 853 pages were laminated. The Unit is developing a digital archival repository comprising of ISI's old documents like ISI council proceedings, library's accession register, administrative documents, old letters of ISI's distinguished persons etc. that are preserved in paper document and microfilm. 17650 frames of microfilm/fiche were digitized. The Unit has provided the Digital Photo Archive of ISI. It has digitized all rare photographs of ISI since its inception.

**Documentation Service:** A searchable bibliographic database has been prepared on scientific contributions made by the ISI scientists on all subject fields since 1934. The entries are currently being subjected to editing.

**General Enquiry Assistance & Consultation Service:** Assistance has been extended to 274 external visitors including participants of the Winter School, NBHM Nurture Programme, Summer Research School and visiting students of different institutions. During the reporting period orientation programme was given to the newly admitted students & research scholars.

## Research Activities

### Special Initiatives:

**Consortia arrangements:** It has completed binding of more than 1000 physical volumes of journals. Lamination and de-acidification of 16 rare books of 3500 pages were completed. 173 books were fumigated and rare and out-of-print books were scanned and photocopied.

**Preservation and conservation:** It has completed binding of more than 1000 physical volumes of journals. Lamination and de-acidification of 16 rare books of 3500 pages were completed. 173 books were fumigated and rare and out-of-print books were scanned and photocopied.

**Institutional Repository (IR):** A prototype of IR of ISI has been created. Currently it covers scientific writings of Professor P.C. Mahalanobis, full-text of 3000+ ISI research papers, full text of all convocation addresses, ISI Annual Report from 1933 to 2008 and 100 Ph.D. theses.

**Digitization:** 40 Monographs (books & reports) were digitized. These will be made available on the Web after the completion of the work.

### *Library, Delhi*

Indian Statistical Institute, Delhi Centre, maintains an academic library, which aims to be a leading library in the fields of Economics, Mathematics, Statistics, Operations Research and Statistical Quality Control. The library caters mainly to the needs of bonafide students, scholars and staff of the Institute. However, it is also open for reference to academic and research users of other educational and scientific institutions of the city and its neighboring regions.

It is an automated library with an extensive collection of books, journals, CDs, reports, govt. publications and other documents in print and electronic formats. The ISI Delhi Centre library also act as one of the NBHM regional library of northern India and provides information resources to support academic and research activities in the areas of Mathematics, and allied subject areas. Some of the main activities of the library during the period under review were as under:

#### Collection Development

**Books:** The library accessioned 123 new books and 183 bound volumes during the year under report from the ISI and NBHM funds. The library also received 25 books as gift from different sources. Thus raising the current library stock both books and bound journals to 51907 volumes.

**Journals:** During the period under review 132 journals, both foreign as well as Indian have been renewed. 20 journals on gratis and 9 journals in exchange are being received in the library from various sources.

**Online Resources:** The library also participated consortia based subscription to electronic resources and provided users more than 700 full text electronic journals access including EconLit, SIAM e-journals, Current Index to Statistics, MathSciNet, Science@Direct, SpringerLink, J-STOR, , Wiley Journals, Cambridge Journals, Oxford Journals, Taylor & Francis, INFORMS, AMS, IMS, Sankhya and many others.

**E-Books:** Under the ISI consortia arrangement Springer e-books package a total of 2237 e-books access has been provided to users on statistics and mathematics subject.

**CDs:** The library has more than 580 CDs of different reference books and journals including databases.

**Exchange Programme:** Exchange program established with seven scientific institutions in the regions of China, Korea, Netherlands, Poland, Spain and Vietnam for getting their publications in exchange to our journal 'Sankhya'- Indian Journal of Statistics and "Texts and Readings in Mathematics" (book series).

### Library Services

**Circulation services:** During the period April 1 2017 to March 31, 2018, total 167 members, availed the lending facilities as permanent members of the library, whereas more than 220 users availed reference facilities of the library. More than 3000 publications have been circulated among the members.

**Reprographic services:** During the period under review more than 2500 pages have been Xeroxed and made available to users of the library and outsiders. Xerox facilities were also provided to research scholars of neighboring institutes under NBHM programme.

**Electronic document delivery service:** In addition to Photocopy facilities, more than 1200 full-text articles (PDF files) were provided to the users.

**Current awareness service:** The following lists were brought out regularly from the Library:

- Monthly list of current periodicals
- New additions of books

**Web-OPAC Facility:** The users have been given *koha* Web OPAC access facilities on the Internet.

**Web Enable Library Services:** The library provides web enabled library service to users. The library web site contains information about the library its collection, services, rules, list of electronic journals, catalogues, databases, telephone directories, and online requisition forms etc. The contents of library web pages are regularly updated to serve the internal and external needs of users.

**Union Catalogue of Serials:** The Indian Statistical Institute Delhi Centre library has developed this Union Catalogue of Serials database with a view to promote the new improved access to journal holdings among the users. The database stored the serial holdings information of three ISI Libraries i.e. Kolkata, Delhi and Bangalore. The tool provides a web based central access point to all print and electronic journal holdings information and can be search under Journal title, Keywords, ISSN, Item types, Alphabetical browse (A-Z) or even Library wise serial holdings.

### ***Library, Bangalore***

Indian Statistical Institute Bangalore Centre Library is aiming to be identified as a model Library in the Indian Academic scenario. The Library is providing many modern Library Services using Internet and they are popularly known as Web based Information Services. ISI Bangalore Centre Library has also initiated interactive applications for its users. The Library has developed a very distinguished collection in different knowledge domains namely Mathematics, Statistics, Systems science, Information Science, Economics, Quality management and Operations Research, Library and Information Science, Computation and Artificial Intelligence and so on. Various services are designed to meet the Information needs of the Faculty members, Students, Research Scholars and Visiting Scientists. Walk-in users from other Research Institutes and Universities are also permitted to use the Library. The following activities were undertaken by the Library during the period April 2017 – March 2018:

### Collection Development

The Library purchased 101 books, received 74 books as gift during this period. The Library subscribed to 153 journals titles, 6 journals titles were subscribed from NBHM grants. Additionally Library has

## Research Activities

subscribed to "IEL ONLINE" giving access to journals and technical reports published by IEEE. The Library has 39 E-Books from World Scientific Publishing.

**Library Collection:** Total no. of books is 30,651 and bound volumes are 19607.

**Membership:** More than 160 registered users enjoyed the Library facilities and the services during the year. In addition, facilities were extended to around 380 walk-in users during this period.

**Current Content Service:** Content pages of around 1400 journals have been scanned.

**Circulation Service:** Around 6213 books and 360 journals were circulated during this period. 310 loose issues of journals were issued to users overnight.

**Inter-library Loan Service:** Due to good liaison amongst the local libraries, the library has been involving itself in providing Inter-library Loan Service.

**Document Delivery Service:** Under this service around 800 documents in pdf format were downloaded and supplied to the registered users.

**Reprographic Service:** During this period 21371 photocopies were supplied to the Library users.

**Web based Library Services:** The Library has devised various services using World Wide Web. They are all accessible at <http://www.isibang.ac.in/library>. Full-text online journals were accessed through this website. The Library also provides access to various abstracting and indexing services.

## *Library, Chennai*

Academic Library for Indian Statistical Institute Chennai Centre (ISIC) was started in 2011 to cater to the information needs, adding to the existing library of SQC & OR unit, at Taramani. This evolving library aims to a vibrant collection in the fields of Statistics, Applied Statistics, Mathematics, Computer Science, Statistical Quality Control and Operation Research making it prototypical in functioning, administration and unique in collection. Various services are provided for an efficient usage of library facilities by the students, faculty members, visiting scientists and research scholars. Researchers from other institutions are offered reference service.

### Collection Development

The Library maintains an excellent collection of books, journals, magazines, question papers, multimedia resources etc. From April 2017 till date, 155 books were added raising the collection to 3612 books. Library at SETS office was shifted and merged with ISI SQC & OR Unit library and the collected has increased above 5500. Around 21 International online journals and 10 magazines were subscribed. Further, during the reporting period Library received 526 books as donation by Prof. Sethuraman, Retired Professor from Indian Statistical Institute living in Florida, U.S.A.,

### Technical Processing

Around 155 books were classified from April 2017 till date. Database entry in KOHA Library Automation software were updated in Z39.50 Standard bibliographic format for all the books. Web OPAC with accessibility and users' details were updated in the library database. Other services like Inter-Library Loan, content service, reprography service and document delivery service are initiated.

### Web based library services

It has remote access to more than 2000 e-journals accessible through ISI Kolkata Library procured under ISI Consortia.



## Membership

ISIC library has restricted access to postgraduate students, research scholars, faculty members and visiting scientists totaling to around 35. Institutional Membership were renewed with Indian Institute of Technology, Madras (IITM) and Inter library Loan with other ISI Centers and Units were activated.

## Library Services

Lending and document delivery service: Around 750 documents were delivered from April 2017 till date showing the active participation of the users. Automation of library with full setup of RFID was fully completed. Database was completed for ISI Chennai Centre Library, Taramani, SQC & OR Unit Library, Aminjikarai and ISI Chennai Centre Hostel library totaling to 5800 books. Full automation of library was completed.

## *Library, Tezpur*

ISI N-E Centre Library started functioning from July 2011. The library aims to provide value services to its users by developing quality documents in the field of Statistics, Mathematics, Quantitative Economics and other allied subjects. The Library has good collection on the three main subjects. Further, it has limited collection in the fields of Computer Science, Soil Science, Library Science and Environmental Science etc. The ISI N-E Centre Library always tries to cater to the needs of user community.

The library installed the software *KOHA* in the year 2013 and then onwards all the circulation works are done through this software. In October 2015, ISI N-E Centre Library upgraded its KOHA version from 3.02 to 3.20.

## Collection Development

ISI N-E Centre Library has an excellent collection of books, journals etc. In order to cater to the requirements of the user, the library has procured 82 new books in different fields during the 2017-18 session. Total number of books accessioned till date is 2758. The ISI N-E Centre Library also received 11 books from different sources as gift. All the purchased books are technically processed. The Library has 58 CDs of different reference books. The ISI N-E Centre Library has subscribed to 20 Indian and Foreign Journals and 5 Newspapers and 4 magazines during this period.

## Membership

The main users of this Library are the students, faculty members, visiting scientists and staffs of the Institute. Total number of Library members in 2017-18 is 29. In addition, facilities were extended to around 50 users who participated in different workshops and seminars held in the institute.

**Circulation Service:** Around 600 books were circulated in this period.

**Web Opac:** Library members use this facility to browse and search the bibliographic database of the library and check the status of documents including their own transactions. The Library web page contains information about the Library, its collection, services, catalogue and list of Journals.

**Current Awareness Service:** Monthly book arrival list is regularly updated in the Library webpage.

**Electronic Document Delivery Service:** Under this service around 20 full-text articles and e-books in pdf format were downloaded and e-mailed to the students as per their requirement.

## Research Activities

**Web Based Service:** Library has remote access to e-resources i.e., full-text and bibliographic databases from ISI Kolkata library website.

### ***Prasanta Chandra Mahalanobis Memorial Museum and Archives***

The Museum and Archives carried out regular up keeping programme for 921 exhibits through 101 panels and a collection of artifacts related to P. C. Mahalanobis displayed in the ground floor, Chatal and Professor's residence along with the pest control programme for the whole building of Amrapali. During this period 3130 sheets including books (17 nos.) and archival files (9 nos.) were treated. 568 files of untreated documents and 154 books has been listed.

Dspace software has been installed and 1167 items were uploaded on this software. Among the archival collections 62 Audio records are digitally converted. 1500 scanned documents are modified and 450 (approx.) slides were scanned.

Digitized cassettes and original cassettes has been accessioned. Museum artifacts and books of P.C.M's study room has been accessioned and this works is continuing. A list of all almirahs of Museum and Archives has been prepared. Documents of 33 (nos.) archival files are indexed for software and converted in Pdf files. (Continuing) One file related to PCM & Tagore and two files of B.N.Seal are recorded. Some photographs are scanned and referential work had been done for Publication work.

Besides general visitors, eminent persons and scientists and students from colleges, Universities were among the visitors of the museum (383 approx.). Scholars and researchers from different field consulted our archival collection for reference (20 nos.).

### **Center for Soft Computing Research: A National Facility, Kolkata**

#### **Moving Object Segmentation from Video Images**

Dey, B. and Kundu, M.K.

#### **Rough Sets in Video Tracking**

Chakraborty, D. and Pal, S.K.

#### **Moving Object Detection**

Subudhi, B.N. and Ghosh, A.

#### **Remote Sensing Image Analysis**

Datta, A. and Ghosh, A.

#### **Image Co-segmentation**

Bandyopadhyay, S. and Ghosh, A.

#### **Granular Computing**

Ganivada, A., Ray, S.S. and Pal, S.K.

#### **Network Mining**

Kundu, S. and Pal, S.K.

#### **Bio-informatics**

**micro RNA Analysis**

Pal, J.K., Ray, S.S. and Pal, S.K.

**Cognitive Vision**

Ghosh, K. and Mukherjee, A.

**Multisensory Information Processing in Psychophysics**

Ghosh, K. and Chandran, Keerthi

**Information Processing Mechanism in Plants**

Ghosh, K, Roy, S and Bal, B

**Climate informatics and climate change**

Chatterjee, C., Datta, S. and Das, S.

**Computer and Statistical Services Centre, Kolkata**

The IT infrastructures of the Institute were updated and maintained by the CSSC. The outlying Centres (Delhi, Chennai, Tezpur and Bengaluru) and the Giridhi Unit of the Institute are connected with Site-to-Site VPN (Virtual Private Network). The IT infrastructures of the Institute including server's virtualization (cloud), software [VMware (esxi and VCenter), Matlab, Mathematica, ArcGis, R etc], Network (wired and wifi), Network and Internet security, IP Telephones, Video conferencing facility, e-library and internet facilities (NKN - 1 gbps) were managed by the CSSC and used by all the Centers of the Institute as a LAN. The meetings including Academic Council meetings among the Institute's Centers (Delhi, Bengaluru, Chennai and Tezpur) and Giridhi Unit through Video Conferencing facilities were managed by the CSSC. The cloud infrastructure with virtualization software, Cisco UCS servers (304 cores/608 threads) and the EMC 260 TB storage were managed by the CSSC, providing the computing facility to the users of the Institute. The classes (M.Tech. in Computer Science and PGDA of ISI Tezpur) through video conferencing facilities were organized by the CSSC throughout the year. The Server of the accounting package FACT installed in ISI Kolkata was accessed from all outlying Centers and Units through the Site-to-Site VPN connections for maintaining the central accounts system of the Institute. The LAN (wired) connections in each of the rooms of all the hostels excluding ISEC in the Kolkata campus are connected to the Computer Center (CSSC) with 10 Gbs backbone. The wifi facility covering the ISEC hostel was maintained by the Center. The CSSC arranged to provide Laptops and Desktops to the faculties, scientific staff and research scholars of the Institute. The CSSC also arranged to provide technical support to the Institute by Computer Trainees trained by the CSSC.

Members of CSSC took part in teaching different courses of the Institute and also supervised project work of non-ISI students studying MCA, B.Tech. etc.

### 3. PROJECTS

#### Internally Funded Projects

##### *Ongoing Projects*

Sl. no.	Name of the project	Principal Investigator(s)	Unit(s) involved
<b>Theoretical Statistics and Mathematics Division</b>			
1.	Ashok Maitra Memorial Lectures on Probability	A. Bandyopadhyay & K. Maulik	Stat-Math Unit, Delhi
<b>Applied Statistics Division</b>			
1.	Understanding the classification of various protein families and protein–protein interaction networks	P. Pal Choudhury	ASU, Kolkata
2.	Life and livelihood in areas affected by underground and open cast coal mining: A case study in Raniganj coalfields	D. Sengupta	ASU, Kolkata
<b>Computer and Communication Sciences Division</b>			
1.	The Cops and robber game on graphs	S. Das	ACMU
2.	Massive Data Algorithm - Phase II	S. C. Nandy	ACMU
3.	Algorithms for Design Automation in next Generation Technologies	S. Sur-Kolay	ACMU
4.	Efficient Vertical handover techniques in heterogeneous Wireless networks (VHO)	S. C. Ghosh	ACMU
5.	Algorithms and Bounds for Dominating Set, Geodetic Set, and Obstacle Number in Graphs	A. Bishnu	ACMU
6.	Geometric Optimization Problem	S. Roy	ACMU
7.	GP-GPU Computing for Large Scale Networks (GPLN)	N. Das	ACMU
8.	Holy Grail of Error-Resilient Bio-Assay on a Lab-on-a-chip (HERBAL)	B.B. Bhattacharya	ACMU
9.	A framework for Collaborative Application Execution for Mobile cloud Computing (MCC)	A. Banerjee	ACMU
10.	Multi-lingual Word Spotting	U. Pal	CVPRU
11.	Detection and Assessment of Image and Video Quality Degradation	S. Palit	CVPRU
12.	DEER: Document Engineering based Envisioning of Reading Behavior	U. Garain	CVPRU
13.	Information Retrieval from Microblogs	M. Mitra	CVPRU
14.	Study Towards an End-to-End Online Handwriting Recognition System	U. Bhattacharya	CVPRU
15.	Estimation of Ball Possession Statistics in Soccer Video	D.P. Mukherjee	ECSU
16.	Ensemble Memetic Algorithms for Multi-constrained Combinatorial in the Framework of the Travelling Thief Problem	S. Das	ECSU

17.	Transfer Learning: Neuro and Fuzzy Approaches	N.R. Pal	ECSU
18.	Event Recognition in the Video Captured in Uncontrolled Condition	P.P. Mohanta	ECSU
19.	Machine learning for cancer management using radio images and gene expressions	S. Mitra	MIU
20.	Modeling Host-Pathogen Interactions	R.K. De	MIU
21.	Computational Methods to Integrate Microarray Data and Protein-Protein Interaction Networks for Disease Gene Identification	P. Maji	MIU
22.	Developing Algorithms for miRNA Expression Analysis in Cancer	S.S. Ray	MIU
23.	Computational Methods for Studying HIV-1 Pathogenicity in Humans: Analysis over Multiple Infection Stages, Mechanisms and Biomolecular Networks	S. Bandyopadhyay	MIU
24.	Analyzing the structure and dynamics of large scale real world complex networks	Late C.A. Murthy (to be supervised by D.P. Mandal)	MIU
25.	Development of GPGPU base parallel algorithms for land cover classification of remotely sensed big data	B. Uma Shankar	MIU
26.	Deep learning neural networks for pattern classification	S.K. Meher	SSIU
27.	Binary code for the brain	K. Majumdar	CSU
<b>Physics and Earth Sciences Division</b>			
1.	Oxygenation of the Proterozoic ocean	A. Banerjee	GSU
2.	Diversity, palaeobiogeography and palaeoecology of Miocene gastropods from India with special emphasis on Kutch, Gujarat	S.S. Das	GSU
3.	Archean greenstone belts in India – tectonics and sedimentation	D. Saha	GSU
4.	Gondwana vertebrates of peninsular India; a new perspective from field collection and morphometric data	D P. Sengupta	GSU
5.	Sedimentological and geochemical characteristics of the Late Triassic – Middle Jurassic formations in a Gondwana succession of Pranhita-Godavari Valley Basin – clues for changes in depositional environment and palaeoclimate	P. Ghosh	GSU
<b>Biological Sciences Division</b>			
1.	Invasive alien species – a friend or a foe?	A. Dewanji	AERU
2.	Surface Functionalized Porous Nanomaterial Loaded Micronutrient Fertilizers for Gangetic Alluvial Soils	A. Goswami	AERU

## Projects

3.	Biochemical and physiological portrayal of Darjeeling tea cultivars towards the selection of superior clones against abiotic stress.	S. Das	AERU
4.	Exploring Potential of Sweet Sorghum ( <i>Sorghum bicolor</i> L.) for Bio-Ethanol Production in West Bengal	S. Barik	AERU
5.	Fantastic yields in the system of rice intensification: fact or fallacy?	P. Banik	AERU
6.	Development of natural food preservatives from spices and herbs	R.R. Chattopadhyay	AERU
7.	Host-parasite interaction between the rice root knot nematode ( <i>Meloidogyne graminicola</i> ) and rice	A. Mukherjee	AERU
8.	Utilization of Brick factory coal ash and fly ash through application of vermitechnology	P. Bhattacharyya	AERU
9.	Candencing photosystem II with naturally occurring $\text{CaMn}_4\text{O}_5$ nano – cluster and nano particles of hematite ( $\alpha - \text{Fe}_2\text{O}_3$ )	A. Goswami	AERU
10.	<i>Sterculia foetida</i> , L.– Eco-friendly, cost effective and rich sources of nutritious edible oil, animal food supplements as well as biofuel and its multimodal application to environmental perspectives	S. Mandal Biswas	AERU
11.	Management Practices for growth, yield and quality of maize ( <i>Zea mays</i> L)	S. Adhikary	AERU
12.	Whole exome somatic mutation analysis in oral cancer and adjacent leukoplakia tissues: A study to understand progression of oral leukoplakia to cancer	B. Roy	HGU
13.	Genetic Mapping of rare variants, multivariate and longitudinal phenotypes	S. Ghosh	HGU
14.	On integrating several data sources in genetic association study	I. Mukhopadhyay	HGU
15.	Role of epigenetics in psoriasis: Identification of DNA methylation biomarker	R. Chatterjee	HGU
<b>Social Sciences Division</b>			
1.	Pilot Survey of the Informal/ Unorganised Sector: Application of an Easily Implementable Sampling Strategy	A. Majumder	ERU
2.	Safe School Survey	D.D. Roy	Psychology Research Unit
3.	Separation of information streams in face image processing	G. Chatterjee	Psychology Research Unit & CVPRU
4.	Algorithmic High-frequency Trading using Machine Learning Techniques	D. Mukherjee	SOSU



5.	Small-marginal landholders' farming and livelihood issues: A study in Jharkhand	H.C. Behera & I. Pal (CoPI) Asian Institute of Technology, Thailand	SRU, Giridih
6.	Female Employment: Soil Endowment and Agriculture Technology	F. Afridi & K. Mahajan (Ambedkar University Delhi)	EPU
7.	Conditional Aid as a Tools for Aid Selectivity	P. Roy Chowdhury, P. Bag (National University of Singapore) & K. Dam (CIDE, Mexico)	EPU
8.	Fairness is Flexible	P. Kothari, S. Banerjee (Queensland University of Technology and University of Melbourne) & P. Roy Chowdhury	EPU
9.	The Effect of Leaded Petrol on Crime Rates in India	E. Somanathan & A. Mukhopadhyay	EPU
10.	Public Goods Provision and Political Competition	F. Afridi, A. Dhillon (King's College, London), A. Roy Chaudhuri & E. Solan (School of Mathematical Sciences, Tel Aviv University)	EPU
11.	An economic analysis of alternative treatment methods of ovarian cancer in India: An appraisal of economic burden, quality of life and mortality risk	P. Roy Chowdhury, A. Mukhopadhyay (Tata Medical Centre), Z. Husain (IIT Kgp), M. Datta (Presidency Univ.), I. Roy Chowdhury (JNU), J. Bhaumik (TMC)	EPU

## Projects

		& Neeraj Bhatla (AIIMS)	
12.	Power Sharing Across Ethnic Groups In India	A. Roy Chaudhuri & S. Bhattacharjee (SNU)	EPU
<b>Statistical Quality Control and Operations Research Division</b>			
1.	Development of Cleanliness Index for Tamil Nadu	A. Biswas & A. Bandyopadhyay	SQC & OR Unit, Chennai & Kolkata
<b>Library, Documentation and Information Sciences Division</b>			
1.	Development of Digital libraries : Shewhart collections, Haldane collections, Dissertations, working papers and others	A.K. Pal	Library, Kolkata

## Completed Projects

Sl. No.	Name of the project	Principal Investigator(s)	Unit(s) involved
<b>Theoretical Statistics and Mathematics Division</b>			
1.	ISI-Networks International Conference on Probability & its applications	K. Maulik	Stat-Math Unit, Kolkata
2.	Ashok Maitra Memorial Lectures on Probability	A. Bandyopadhyay & K. Maulik	Stat-Math Unit, Delhi & Kolkata
3.	Lectures on Probability & Stochastic Processes	A. Chakraborty & R.S. Hazra	Stat-Math Unit, Kolkata
<b>Applied Statistics Division</b>			
1.	Weight Selection in Multiple Hypothesis Testing	K. Das	ISRU
<b>Computer and Communication Sciences Division</b>			
1.	Unsupervised algorithms for deriving insights from text data and building intelligent query suggestion systems	D. Majumdar	CVPRU
2.	Development of Methodologies Towards Robust Reading of Old Degraded Bangla Printed Documents	S.K. Parui	CVPRU
3.	Tracking of Moving Objects from Video Scenes using Pattern Classifiers	A. Ghosh	MIU
4.	Indian Language Spoken Document Retrieval.	D.P. Mandal	MIU

5.	Computational Model of Brightness Perception in Images.	K. Ghosh	MIU
<b>Physics and Earth Sciences Division</b>			
1.	Sedimentology and stratigraphy of the Siwalik succession of eastern Himalaya and its bearing on the evolution of the Neogene foreland basin in the eastern Himalaya	T. Chakraborty	GSU
2.	A study of the Neogene and Quaternary successions of eastern Himalayan foreland basin	T. Chakraborty	GSU
3.	Evolution of dolomite formations in the Cuddapah basin: Numerical estimation constrained by field proxies	A. Banerjee	GSU
4.	Tectonostratigraphic evolution of the Sonakhan Greenstone Belt: A link between Archean greenstones and younger cratonic basins	S. Patranabis-Deb	GSU
5.	Implications of biotic events present within the Mesozoic non-marine vertebrates of the Gondwana basins of peninsular India	D.P. Sengupta & S. Bandyopadhyay	GSU
6.	Turbulence phenomena due to combined wave current flows over objects	S. Ghosh	PAMU
7.	Live-bed scour around Bridge abutment	S. Sarkar	PAMU
8.	Live-bed scour around Bridge pier	S. Sarkar	PAMU
9.	Conference on Frontiers of Statistical Physics	B. Basu & S.K. Maiti	PAMU
<b>Biological Sciences Division</b>			
1.	Phytonematode problems of rice in Jharkhand: density, diversity and pathogenesis	A. Mukherjee	AERU
2.	Biorational management of rice pests and diseases: evaluation of nanoparticle based and endophyte-mediated approaches	A. Mukherjee	AERU
3.	Study of soil carbon dynamics through integrated nutrient management in different agroecosystems of Assam	P. Bhattacharyya	AERU
4.	Parallel analysis of transport of contaminants in soil-plant systems in different soil types of eastern India: a sustainable approach	P. Bhattacharyya	AERU
5.	A Study on Sweet Sorghum ( <i>Sorghum bicolor</i> L.) Crop using different fertility levels at different locations in West Bengal for maximization of crop production to obtain increased bio-fuel yield	S. Barik	AERU
6.	Determination of functional response under selective predation through experimentation and modeling	J. Chattopadhyay & S. Bhattacharya	AERU
7.	Health status and Survival Strategy of the tea garden labourers of locked tea gardens of Jalpaiguri district, West Bengal	S.K. Roy	BAU

## Projects

8.	Living with Age: An Investigation on the Urban Poor Elderly Women	S. Mukhopadhyay	BAU
9.	Identification of epigenetic biomarkers in the cell free nucleic acids of the Oral Potentially Malignant Disorder (OPMD) and Oral Squamous Cell Carcinoma (OSCC) patients from eastern India	R. Chatterjee	HGU
<b>Social Sciences Division</b>			
1.	Bangla Pronunciation Dictionary	N.S. Dash	LRU
2.	Contract farming participation and emerging in agrarian relation: A case of potato growers in West Bengal	H. C. Behera	SRU, Giridih
3.	Backward linkages in the provision of education: Effect of tertiary education on schooling.	A. Mukhopadhyay, S. Bhattacharjee (SNU) & N. Chaddha (SNU)	EPU
4.	What drives career choice in urban India?	A. Mukhopadhyay, T. Jain (ISB) & N. Prakash (U. Conn)	EPU
5.	Linear correlation, basis risk and the design of index based crop insurance.	B. Ramaswami & D. Singh Negi	EPU
6.	Why is the aggregate demand side channel of monetary transmission weak in India?	C. Ghate, P. Basu (Durham), P. Gopalakrishnan (RBI), S. Banerjee (CSSSC) & S. Gupta	EPU
7.	Fiscal Policy, Public Debt, and Emerging Market Economy Business Cycles	C. Ghate, C. Dave (NYU-Abu Dhabi), P. Gopalakrishnan (RBI) & S. Tarafdar (SNU)	EPU
8.	Identity, Networks and Labor Productivity	F. Afridi, A. Dhillon (King's College) & S. Xin Li (University of Texas, Dallas)	EPU
9.	Simultaneous Borrowing and Saving in Microfinance	P. Roy Chowdhury & D. Dasgupta	EPU

## Projects

10.	Persistence of Caste System in India: The Practice of Intra-Caste Marriage	T. Ray & A. Roy Chaudhuri	EPU
11.	Council Characteristics of Gram Panchayats and Local Public Good Provision	B. Ramaswami & S. Das (Yale University)	EPU
12.	Impact of Expanding Choices on Household Calorie Consumption in India	T. Ray and A. Das Gupta (ISI Delhi)	EPU
13.	Gender and Labour: A Study of Coffee Industry of Karnataka	M. Chattopadhyay	EAU
<b>Statistical Quality Control and Operations Research Division</b>			
1.	Problems and Prospects of Tea Industry in India	A.R. Mukhopadhyay	SQC & OR Unit, Kolkata
2.	Modelling multistage Process Monitoring and Fault Detection Strategies under Partial and Imprecise Information	P. Das	SQC & OR Unit, Kolkata
3.	Workshop on Statistical Techniques for Research Methodology	A. Sarkar	SQC & OR Unit, Mumbai & Chennai

## Externally Funded Projects

### *Ongoing Projects*

Sl. no.	Name of the project	Principal Investigator(s)	Unit(s) involved	Funded by
<b>Theoretical Statistics and Mathematics Division</b>				
1.	J.C. Bose Fellowship	D. Goswami	Stat-Math Unit, Kolkata	DST
2.	J.C. Bose Fellowship	A. Bose	Stat-Math Unit, Kolkata	DST
3.	Risk Analysis, Ruin and Extremes (RARE)	K. Maulik & P. Roy	Stat-Math Unit, Kolkata	Marie Curie Research Staff Exchange Fellowship from the 7 <sup>th</sup> European Community Framework Programme
4.	Microsoft Research India: Unrestricted Research Grant	K. Maulik & A. Banerjee	Stat-Math Unit, Kolkata & ACMU	Microsoft Research India
5.	Workshop on Analytic Number Theory	S. Ganguly & R. Munshi	Stat-Math Unit, Kolkata	NCM

## Projects

6.	Problems in Affine Algebraic Geometry	N. Gupta	Stat-Math Unit, Kolkata	DST
7.	Networks conference on Probability	K. Maulik	Stat-Math Unit, Kolkata	DAE
8.	Lectures in Probability and Stochastic Processes XII	A. Chakraborty & R.S. Hazra	Stat-Math Unit, Kolkata	DAE
9.	BOBASIO Region Airspace Safety Assessment Study	A. Bandyopadhyay & D. Sarkar	Stat-Math Unit, Delhi	Airport Authority of India
10.	J.C. Bose Fellowship	R.B. Bapat	Stat-Math Unit, Delhi	DST, Govt. of India.
11.	Sums of integers Fourier, combinatorics, computation	S. Laishram	Stat-Math Unit, Delhi	Ministry of Defence, Govt. of India
12.	Implementation of the Attacks on Elliptic Curve Discrete Log Problem	S. Laishram	Stat-Math Unit, Delhi	Ministry of Defence, Govt. of India
13.	$E_0$ -semigroups: classification and invariants	B.V. Rajarama Bhat & D. Markiewicz	Stat-Math Unit, Bangalore	UGC
14.	Uniqueness for Stochastic Partial Differential Equations	S. Athreya & L. Mytnik	Stat-Math Unit, Bangalore	UGC
15.	Etale Fundamental groups	M. Kumar & L. Bary-Soroker	Stat-Math Unit, Bangalore	UGC
16.	Mathematical Examination of a Load Forecasting Model - Part II	M. Delampady, B.V. Rajarama Bhat, V.R. Padmawar & Soumen Dey	Stat-Math Unit, Bangalore	Hitachi India Limited, Bangalore
17.	J.C. Bose Fellowship project	B. V. Rajarama Bhat	Stat-Math Unit, Bangalore	Science and Engineering Research Board
18.	$n$ -tuples of commuting Isometries	J. Sarkar	Stat-Math Unit, Bangalore	DST
<b>Applied Statistics Division</b>				
1.	International Passenger Survey	A. Sen Gupta	ASU, Kolkata	Ministry of Tourism, Govt. of India
2.	Methodological Study Towards Compilation and Forecasting of Services Trade Statistics	A. Sen Gupta	ASU, Kolkata	DGCI&S, Ministry of Commerce and Industry, Govt. of India
3.	Changes in pattern of irrigation, cultivation and livelihood of rural Bengal: The experience of Jamalpur block of Bardhaman	D. Sengupta	ASU, Kolkata	DST, Govt. of West Bengal



Projects

4.	Indo-German DST Project	M. Nandi & S. Chatterjee	ASU, Kolkata	IISc, Bangalore
5.	Changes in pattern of irrigation, cultivation and livelihood of rural Bengal: The experience of Jamalpur block of Bardhaman	D. Sengupta	ASU, Kolkata	DST, Govt. of West Bengal
6.	Critical Appraisal and Methodological Recommendations on TV-Viewership Study(CAMROTS)	A. Sen Gupta	ASU, Kolkata	BAARC
7.	Survey for Studying the efficacy and impact of NATs	S. Purkaysstha	ASU, Kolkata	Board of Practical Training (ER). Under Ministry of HRD, Govt. of India
8.	Cryptography & Cryptanalysis	S. Maitra	ASU, Kolkata	Department of Atomic Energy (DAE), Board of Research in Nuclear Sciences, Govt. of India
<b>Computer and Communication Sciences Division</b>				
1.	Design for Manufacturability aware Global Routing	S. Sur-Kolay	ACMU	IBM, USA
2.	A Framework for Response Time Analysis for Embedded Programs on Modern Processors	A. Banerjee	ACMU	Advanced Systems Lab Hyderabad, DRDO, Govt. of India
3.	Binary Analysis for Software Security	A. Banerjee	ACMU	Scientific Analysis Group, DRDO, Govt. of India
4.	Approximate Computing Techniques for Robotics	A. Banerjee	ACMU	Tata Consultancy Services Innovation Labs
5.	Real-time end-to-end Text Detection and Recognition in the Wild	U. Pal	CVPRU	Ministry of Higher Education, Scientific Research of The Republic of Tunisia & DST, Govt. of India
6.	Planogram Image Matching	D.P. Mukherjee	ECSU	TCS
7.	National Post Doctoral Fellowship	J. Dasgupta	ECSU	SERB
8.	Information Access from Document Images of Indian Languages	B. Chanda	ECSU	MHRD

## Projects

9.	Identification of Bainite and Martensite from Steel Micrographs – Phase II	P. Das & D.P. Mukherjee	SQC & OR Unit, Kolkata & ECSU	Tata Steel
10.	Systems and Methods for Object Recognition Based Estimation of Plannogram Compliance	D.P. Mukherjee	ECSU	TCS
11.	MOBILE+ project: a network project involving various Indian and European Institutes	A Ghosh	MIU	European Commission
12.	Recognition of Antinuclear Antibodies by Automated HEP-2 Cell IIF Image Analysis for Diagnosis of Connective Tissue Disease	P. Maji	MIU	DST, Govt of India
13.	A Big Data Perspective for Energy Management in Smart Grids and Dwellings	U. Maulik, (Jadavpur University) & S. Bandyopadhyay,	MIU	Indo-French Centre for the Promotion of Advanced Research (IFCPAR/CEFIPRA)
14.	Copula Functions in Analysis of Single Cell Gene Expression Data	S. Bandyopadhyay	MIU	DST (JC Bose Fellowship Project)
15.	Multi-dimensional Research to Enable Systems Medicine: Acceleration Using a Cluster Approach	S. Bandyopadhyay	MIU	Department of Biotechnology
16.	Analysis of Biological Network through discovery of Colored Motifs	S. Bandyopadhyay	MIU	Ministry of Electronics and Information Technology (Visveswaraya Scheme)
17.	Land Cover Classification of Remote Sensing Images Using Granular Computing Methodologies	Saroj K. Meher	SSIU	DST, Govt. of India
18.	Quantitative Characterization of Complex Topologically Prominent Components of Porous Media derived from Rocks of Petrologic Significance via Mathematical Morphology and Fractal Geometry	B.S. Daya Sagar	SSIU	DST-SERB, Govt. of India
19.	Quantitative Morphologic and Scaling Analyses of Lunar Digital Elevation Models (LDEM) Derived from TMC Data of Chandrayaan-1 Mission via Mathematical Morphology and Fractal Geometry	B.S. Daya Sagar	SSIU	ISRO-Chandrayaan, Govt. of India
20.	Quantification of neural information and subsequent coding scheme	K. Majumdar	SSIU	DBT

Projects

21.	Automatic detection of micro-seizures and a study on how they evolve into macro-seizures	K. Majumdar & F. Mormann (Department of Epileptology, University of Bonn, Germany)	SSIU	DBT & German Ministry of Education
22.	Cisco Grant	S. Ruj	CSRU	Cisco Systems Inc.
23.	NetApp Faculty Fellowship	S. Ruj	CSRU	NetApp Inc. USA
24.	Samsung GRO	S. Ruj	CSRU	Samsung Electronics, Korea
25.	Cryptanalysis of Symmetric Cipher Algorithms	G. Paul	CSRU	BARC, DAE, India
<b>Physics and Earth Sciences Division</b>				
1.	Sedimentary models of Precambrian Ergs in Brazil and India (Sept 2017 – August 2019)	G. Basilici & T. Chakraborty	University of Campinas & GSU	FAPESP, Brazil
2.	Systematics, Palaeobiogeography and change in diversity of Tertiary Gastropoda of Kutch, Gujarat	S.S. Das	GSU	SERB, DST, Govt. of India
3.	New Statistical Techniques to Identify Modified Gravity as the Source of Cosmic Acceleration	U. Alam	PAMU	DST
4.	Quest for Dark Matter and Inflation	A. Chatterjee	PAMU	DST
5.	Some Current Quantum Mechanical Problems in Linear and Nonlinear Quantum Systems	A. Sinha	PAMU	DST
6.	Macroscopic dynamics in ensembles of dynamical systems: some challenging issues	D. Ghosh	PAMU	DST
<b>Biological Sciences Division</b>				
1.	Surface functionalized solid and phytochemical loaded mesoporous nanomaterials for mosquito vector control	A. Goswami	AERU	DBT, Govt. of India
2.	Modulation and demodulation of photosynthesis using nanoparticles	A. Goswami	AERU	DST, Govt. of India
3.	Identification of Genetic and Epigenetic Associations Among Psoriasis patients in India	R. Chatterjee	HGU	SERB, DST, Govt. of India
4.	Identification of the contribution of Human Leukocyte Antigen (HLA) alleles and functional coding variants to the risk of psoriasis in patients from West Bengal	R. Chatterjee	HGU	DBT, Govt. of WB

## Projects

5.	A Comprehensive Genomic and genetic characterization of Pancreatic Cancer patients in Indian Population	N. Sikdar (Ramalingaswamy Fellow)	HGU	DBT, Govt. of India
6.	Ramanujan Fellowship Grant	S. Datta (Ramanujan Fellow)	HGU	DST, Govt. of India
<b>Social Sciences Division</b>				
1.	Updatation of District Human Development Report, Hooghly	A. Majumder & C. Neogi	ERU	Office of the District Magistrate & the Collector, Hooghly, (Planning Section), Govt. of West Bengal
2.	Gender Violence in India: Its Roots, Nature and Extent	C. Sharma Biswas	ERU	ICSSR, Govt. of India
3.	Children's World: International Survey on Children's Well-being	S. Das	ERU	Jacobs Foundation
4.	Baseline survey project of Development of Horticulture in Paschimanchal districts	M. Pal	ERU & SRU	Director of Horticulture, Govt. of West Bengal
5.	The cognitive architecture of face-processing – understanding the separation of information streams	G. Chatterjee	PRU	DST, INSA
6.	Reviewing the existing system of compilation of trade indices	N. Chattopadhyay	SOSU	DGCI & S, Govt. of India
7.	IGP Project on evaluating the framework of various tests conducted	N. Chattopadhyay	SOSU	Tata Consultancy Services Limited (TCS ion)
8.	Design and Conc. Evaluation of Foreign Trade Policy	S. Mitra	SOSU	DGCI & S, Govt. of India
9.	Statistics and its applications for RBI Officers	N. Chattopadhyay	SOSU	Reserve Bank Of India
10.	Manchester University-ISI Project on Political Economy	N. Chattopadhyay	SOSU	ESRC Grant, Manchester University
11.	Socio-Economic Impact of National Highways	N. Chattopadhyay	SOSU	National Highways Authority of India
12.	Developing an Appropriate Structure Preserving Estimation (SPREE) Method for Estimating Domain-Level Aggregates from NSSO Household Surveys	D. Mukherjee	SOSU	M.O.S.& P.I., Govt. of India

Projects

13.	Developing an Appropriate Methodology for Estimating Proportion of Villages with Specific Infrastructural Facility	N. Chattopadhyay	SOSU	M.O.S.& P.I., Govt. of India
14.	UNDP consultancy assignment for development of Disaster Score Card for India: development of Disaster Risk Index for the districts/ States/UTs and Disaster Resilience Index	N. Chattopadhyay	SOSU	UNDP
15.	Centre for research on the Economics of Climate, Food, Energy and Environment (CECFEE)	E. Somanathan	EPU	Environment for Development (EfD) Initiative
16.	Strengthening livelihood opportunity for the forest dwellers in Jharkhand and Odisha	H.C. Behera	SRU Giridih	Ministry of Tribal Affairs, Govt. of India
<b>Statistical Quality Control and Operations Research Division</b>				
1.	Development of Quality System – Ordnance Factory, Ambajhari, Nagpur	R. Sett & A. Bandyopadhyay	SQC & OR Unit, Kolkata	Ordnance Factory
2.	Comprehensive Training Programme on Quality System Development at 5 OFs	A. Bandyopadhyay & R. Sett	SQC & OR Unit, Kolkata & Hyderabad	Ordnance Factory
3.	Normalization of Marks with Admission Committee for Professional courses	A.K. Chakraborty	SQC & OR Unit, Kolkata	Govt. of Gujarat
4.	Baseline Survey at LWSIT	R. Sett	SQC & OR Unit, Kolkata	LWSIT
5.	DFSS GB Pgms	K.K. Chowdhury	SQC & OR Unit, Bangalore	TVSM Hosur.
6.	Statistical Techniques for Quality Control	U.H. Acharya	SQC & OR Unit, Bangalore	FIAT Ltd. Pune.
7.	NVT Quality Certification	P.K. Perumallu	SQC & OR Unit, Bangalore	NVT QC
8.	Training & Consultancy in Design of Experiments	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	Toyota Industries Engine India Pvt Ltd
9.	Foundation Course on Business Analytics using R	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	Tesco
10.	Six Sigma Training & Implementation	S. Ray	SQC & OR Unit, Bangalore	Mother Dairy Fruits & Vegetables, Delhi

## Projects

11.	Six Sigma Training & Implementation	S. Ray	SQC & OR Unit, Bangalore	Du, Dubai
12.	Program on Advanced Statistical Techniques	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	Altran Technologies
13.	Certification Program on Six Sigma Green Belt	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	UltraTech Cement Gulbarga
14.	Foundation Course on Business Analytics	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	Tata Steel, Jamshedpur
15.	Certification Program on Six Sigma Green Belt	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	Gujarat Cement Works, Amreli, Gujarat
16.	Foundation Course on Business Analytics	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	Ernst & Young
17.	Certification Program on Six Sigma Green Belt	B. John K.K. Chowdhury	SQC & OR Unit, Bangalore	Rajshree Cement Works, Gulbarga
18.	Quality System Development of Ordnance Factories at OFMK, Medak	A. Bandhyopadhyay & G Murali Rao, A.L.N. Murthy	SQC & OR Unit, Kolkata & Hyderabad	Ordnance Factory, Ministry of Defence, Govt. of India
19.	Certification program on Business Analytics and Data Mining	A. Sarkar	SQC & OR Unit, Mumbai, Kolkata & Bangalore	Participants
20.	Six Sigma Green Belt Program	S. Sikder	SQC & OR Unit, Mumbai	Controllerate of Naval Arm Inspection (W)
21.	DFSS Deployment	S. Rath	SQC & OR Unit, Pune	Asian Paints Ltd.
22.	Six Sigma Black-Belt	S. Rath	SQC & OR Unit, Pune	Participants
23.	Six Sigma Master Black-Belt	S. Rath	SQC & OR Unit, Pune	Participants
24.	Data Analytic Program	S. Rath	SQC & OR Unit, Pune	Participants
25.	Six Black-Belt Program	S. Rath	SQC & OR Unit, Pune	Vodafone, Pune
26.	Six Sigma Deployment Program	S. Rath	SQC & OR Unit, Pune	TACO Group



## Projects

27.	Six Sigma Black-Belt Program	S. Rath	SQC & OR Unit, Pune	Balasore Alloys Ltd., Orissa
28.	DoE Program	S. Rath	SQC & OR Unit, Pune	Tata Chemicals Ltd.
29.	Six Sigma Black-Belt Program	S. Rath	SQC & OR Unit, Pune	Participants
30.	Six Sigma Master Black-Belt Program	S. Rath	SQC & OR Unit, Pune	Participants
31.	Data Analytic Public Program	S. Rath	SQC & OR Unit, Pune	Participants
<b>Centre for Soft Computing Research: A National Facility</b>				
1.	DAE Raja Ramanna Fellowship	S.K. Pal	CSCR	Department of Atomic Energy, Govt. of India
2.	DST INSPIRE Faculty Award	S. Das	CSCR	DST, Govt. of India
3.	Retrieval of Atmospheric water vapour from NAVIC/GAGAN data & prediction of extreme weather events based on machine learning techniques	S. Das	CSCR	ISRO
4.	Understanding vision from filling in and visual illusion perspectives with the help of computational modeling	K. Ghosh	CSCR	Cognitive Science Research Initiative, DST, Govt. of India
5.	Development of computer vision based 3D Indian sign languages recognition to assist differently abled	S. Roy	CSCR	Women Scientist Scheme-B, DST, Govt. of India

## Completed Projects

Sl. no.	Name of the project	Principal Investigator(s)	Unit(s) involved	Funded by
<b>Theoretical Statistics and Mathematics Division</b>				
1.	Exponential Diophantine Equations: Resolution of some well known Diophantine equations	S. Laishram	Stat-Math Unit, Delhi	Ministry of Defence, Govt. of India
<b>Applied Statistics Division</b>				
1.	Design and Development of Database and Analytical Tools for Microarray Data on Leishmani Donovanii Parasite	A. Sen Gupta	ASU, Kolkata	DBT, Ministry of Science and Technology, Govt. of India.

## Projects

<b>Computer and Communication Sciences Division</b>				
1.	Lithography Aware Physical Design for Below 20 nm Process Technology	S. Sur-Kolay	ACMU	Indo-Taiwan Joint Research Programme in Science & Technology
2.	An Equivalence Checking Framework for Vulnerability Assessment for FPGA-based design flows	A. Banerjee	ACMU	Centre for Artificial Intelligence and Robotics, DRDO, Govt. of India
3.	Delay Fault Modeling and Test Generation for Power Supply Noise	S. Sur-Kolay & B.B. Bhattacharya	ACMU	Intel Corporation, USA
<b>Social Sciences Division</b>				
1.	Traffic Survey on Fare Structure	D. Mukherjee	SOSU	Metro Railway, Kolkata
2.	Poverty and Aspiration	S. Mitra	SOSU	ESRC grant through CAGE, Warwick University, UK
3.	Manchester University-ISI Project on Political Economy	S. Mitra	SOSU	ESRC Grant, Manchester
4.	Climate Change and Agricultural Yield in Karnataka	M. Swaminathan	EAU	Karnataka Govt.
<b>Statistical Quality Control and Operations Research Division</b>				
1.	Six Sigma training and Implementation	A.K. Chakraborty	SQC & OR Unit, Kolkata, Bangalore, Hyderabad & Mumbai	ITC, PSPD
2.	Development of Sampling Scheme	R. Sett	SQC & OR Unit, Kolkata	ITC Ltd.
3.	QMS Implementation at ISC, ITC	R. Sett	SQC & OR Unit, Kolkata	ITC Ltd.
4.	Certificate Program on Business Analytics	A. Gupta	SQC & OR Unit, Kolkata	Participants
5.	Six Sigma Training & Implementation	S. Ray, A. Roy Chowdhury & E.V. Gijo	SQC & OR Unit, Bangalore	HAL Management Academy, Bangalore

Projects

6.	Module-wise Training on Statistical Techniques	E.V. Gijo A. Roy Chowdhury & S. Ray	SQC & OR Unit, Bangalore	Biocon Ltd., Bangalore
7.	Six Sigma Training & Implementation	A.K. Chakraborty & A. Roy Chowdhury	SQC & OR Unit, Bangalore & Kolkata	ITC, Bollaram; ITC Triveni & ITC, Kovai
8.	Program on Design of Experiments	B. John	SQC & OR Unit, Bangalore	TITAN Company Limited (Jewellery Division)
9.	Facilitation and guidance for statistical modelling	B. John	SQC & OR Unit, Bangalore	Hewlett Packard
10.	Program on Business Analytics	B. John & K.K. Chowdhury,	SQC & OR Unit, Bangalore	Airbus India
11.	Program on Business Analytics	A. Banerjee, B. John & A. Sarkar	SQC & OR Unit, Kolkata, Bangalore & Mumbai	L&T Infotech
12.	Program on Business Analytics	A. Sarkar & B. John	SQC & OR Unit, Mumbai & Bangalore	Adani Power
13.	Training program on Statistical Techniques	E.V. Gijo	SQC & OR Unit, Bangalore	Environmental Management & Policy Research Institute (EMPRI)
14.	Six Sigma Green Belt Certification Program	U.H. Acharya & E.V. Gijo	SQC & OR Unit, Bangalore	TESCO
15.	Six Sigma Training & Implementation	U.H. Acharya	SQC & OR Unit, Bangalore	Sundaram Clayton, Hosur
16.	Statistical Techniques for Quality Control	U.H. Acharya	SQC & OR Unit, Bangalore	FIAT Ltd. Pune
17.	General Training program on Six Sigma Green Black Belt including project guidance	A. Rajagopal	SQC & OR Unit, Coimbatore	Participants
18.	Quality System Implementation	A. Rajagopal	SQC & OR Unit, Coimbatore	SRC, Salem

## Projects

19.	Metric for day to day management information system	A. Rajagopal	SQC & OR Unit, Coimbatore	SRC, Salem
20.	New product Development and flow of orders from Kerala for school uniforms processing	A. Rajagopal	SQC & OR Unit, Coimbatore	TCTP, Erode
21.	Quality System Implementation	A. Rajagopal	SQC & OR Unit, Coimbatore	MYK, Hyderabad
22.	Implementation of increasing turnover	A. Rajagopal	SQC & OR Unit, Coimbatore	MYK, Hyderabad
23.	Quality System Implementation	A. Rajagopal	SQC & OR Unit, Coimbatore	Shiva Texyarn Ltd.
24.	Measurable objective performance Evaluation	A. Rajagopal	SQC & OR Unit, Coimbatore	Shiva Texyarn Ltd.
25.	DFSS for Engineering R&D	A. Rajagopal	SQC & OR Unit, Coimbatore	Brakes India
26.	Project Management of External Assignments for Customers satisfaction	A. Rajagopal	SQC & OR Unit, Coimbatore	FCRI
27.	Six Sigma Training and Guidance towards Business Excellence	A.L.N. Murthy & G. Murali Rao	SQC & OR Unit, Hyderabad	ITC Limite – PSPD, Bhadrachalam
28.	Statistical Methods for Data Analytics	G. Murali Rao & A.L.N. Murthy	SQC & OR Unit, Hyderabad	Meritus Intelytics Pvt. Ltd. (Merilytics) Hyderabad
29.	Quality & Reliability Engineering	G. Murali Rao	SQC & OR Unit, Hyderabad	DIAT, Pune
30.	Green Belt Training	A. Sarkar	SQC & OR Unit, Mumbai	XIMB, Bhubaneswar
31.	Workshop on Business Analytics and Data Mining	A. Sarkar	SQC & OR Unit, Mumbai & Bangalore	Adani Power
32.	Training on SPC	S. Sikder	SQC & OR Unit, Mumbai	Global Nonoven, Igatpuri, Maharashtra
33.	Green Belt Training	A. Sarkar	SQC & OR Unit, Mumbai	Grasim Industries, Bharuch
34.	Workshop on Business Analytics and Data Mining	A. Sarkar	SQC & OR Unit, Mumbai	Tanfeeth, Dubai
35.	Green Belt Training	A. Sarkar	SQC & OR Unit, Mumbai	BNP Paribas, Mumbai

## Projects

36.	Green Belt Training	A. Sarkar	SQC & OR Unit, Mumbai	Hindalco Industries, Singrauli, Madhya Pradesh
37.	Statistical Techniques for Business Forecast	A. Sarkar	SQC & OR Unit, Mumbai	Participants
38.	Statistical Techniques for Business Forecast	A. Sarkar	SQC & OR Unit, Mumbai	Participants
39.	Workshop on Business Analytics and Data Mining	A. Sarkar	SQC & OR Unit, Mumbai & Bangalore	Participants
40.	Green Belt Training	A. Sarkar	SQC & OR Unit, Mumbai	Participants
41.	FMEA Training	A. Sarkar	SQC & OR Unit, Mumbai	Biological E Limited, Hyderabad
42.	Weekend Six Sigma Green Belt Training	S. Sikder	SQC & OR Unit, Mumbai	Participants
43.	Six Sigma Black Belt Training	A. Sarkar	SQC & OR Unit, Mumbai	Participants
44.	Weekend Six Sigma Green Belt Training	S. Sikder	SQC & OR Unit, Mumbai	Participants
45.	Weekend Six Sigma Green Belt Training	S. Sikder	SQC & OR Unit, Mumbai	Participants
46.	Statistical Techniques for Research Methodology	A. Sarkar	SQC & OR Unit, Mumbai	Participants
47.	Statistical Techniques for Business Forecasting	A. Sarkar	SQC & OR Unit, Mumbai	Participants
48.	Six Sigma Black Belt Training	A. Sarkar	SQC & OR Unit, Mumbai	Participants

## North East Projects

### ***Ongoing Projects***

Sl. no.	Name of the project	Principal Investigator(s)	Unit(s) involved
<b>Physics and Earth Sciences Division</b>			
1.	Paleogeography of the Neogene foreland basin of Eastern Himalaya and its relationship with contemporaneous sediments of Mizoram	T. Chakraborty	GSU

## Projects

### ***Completed Projects***

Sl. no.	Name of the project	Principal Investigator(s)	Unit(s) involved
<b>Biological Sciences Division</b>			
1.	North East Training Program	S. Ghosh	HGU
<b>Statistical Quality Control and Operations Research Division</b>			
1.	Data Analytics for Medical and Healthcare Professionals	G. Murali Rao & A.L.N. Murthy	SQC & OR Unit, Hyderabad



#### 4. SYMPOSIA, CONFERENCES, WORKSHOPS, LECTURES AND SEMINARS ORGANISED

##### *Symposia and Conferences*

1. Conference on “*Probability Meeting*”: Stat-Math Unit, Bangalore, May 12–14, 2017.
2. Nurture Camp on “*Madhava Competition*”: Stat-Math Unit, Bangalore, June 05-09, 2017.
3. Conference on “*Quantum Probability: Past, Present and Future* (On the occasion of 70<sup>th</sup> birthday of Professor Luigi Accardi)”: Stat-Math Unit, Bangalore August 10-12, 2017.
4. Symposium on “*Stat-Math*”: Stat-Math Unit, Bangalore, September 18-19, 2017.
5. Conference on “*9th Meeting of the Forum for Information Retrieval Evaluation (FIRE 2017)*”: CVPR, Kolkata, in collaboration with DA-IICT, Gandhinagar; Indian Institute of Science, Bangalore and Information Retrieval Society of India, December 08-10, 2017.
6. 9<sup>th</sup> International Conference on “*Advances in Pattern Recognition, 2017 (ICAPR-2017)*”: ECSU, Kolkata; SSIU, Bangalore and R.C. Bose Centre for Cryptology and Security, Kolkata, December 27-30, 2017.
7. 7<sup>th</sup> International Conference on “*Pattern Recognition and Machine Intelligence (PReMI’17)*”: MIU, Kolkata, December, 05-08, 2017.
8. International Conference on “*Condensed Matter Physics*”: PAMU, Kolkata, November 14–16, 2017.
9. National Conference on “*Frontiers of Statistical Physics*” PAMU, Kolkata, in collaboration with Presidency University, Kolkata, February 26–28, 2018.
10. National Symposium on “*Applications of Mathematics and Statistics on Biological and Physical Systems*”: AERU Kolkata, December 12, 2017.
11. 5<sup>th</sup> International Conference on “*India Biodiversity Meet-2018*”: AERU, Kolkata, March 15-17, 2018.
12. National Symposium on “*Agricultural research under a changing climate in Eastern India*”: AERU, Giridih, January 17-18, 2018.
13. Symposia on “*Planning, Inequality and the Political Economy of Development in India*”: ERU, Kolkata, February 09, 2018.
14. National Conference on “*Population and Development in Eastern and North-Eastern Regions of India*”, PSU, Kolkata in collaboration with Indian Association for Study of Population (IASP), September 14-15, 2017.
15. Mini-Conference on “*Networks and Games*”: SOSU, Kolkata, July 03-04, 2017.
16. 7<sup>th</sup> Conference on “*West Bengal Growth*”, SOSU, Kolkata, December 26-27, 2017.
17. 13<sup>th</sup> Annual Conference on “*Economic Growth and Development*”: EPU, Delhi, December 18-20, 2017.

## Conferences and Seminars

18. Symposium on “*Recent Trends in Operations Research and Data Science*” (Celebration of 125<sup>th</sup> Birth Anniversary of Prof. Prasanta Chandra Mahalanobis): SQC & OR, Kolkata, December 19, 2017.
19. Mini Symposium on “*Big Data and Large Scale Computing*”: SQC & OR, New Delhi, December 27, 2017.
20. International Symposium on “*Operations Research and Game Theory: Modeling and Computation*”: SQC & OR, New Delhi, January 09-11, 2018.
21. Symposium on “*Six Sigma Case Study Presentation Contest*”: SQC & OR, Bangalore, February 27-28, 2018.
22. Symposium on “*Artificial Intelligence for Business Intelligence Achieving Continuous Improvement (Six Sigma case studies)*” (Celebration of 125<sup>th</sup> Birth Anniversary of Prof. Prasanta Chandra Mahalanobis): SQC & OR, Coimbatore, in collaboration with INTEL Nervana AI Academy, October 28-29, 2017.

## **North-East Symposia and Conferences**

1. 5<sup>th</sup> Workshop on “*Pattern Analysis and Applications*”: CVPR, Kolkata, held at Central Institute of Technology, Kokrajhar, Assam, February 05-08, 2018.

## **Workshops and Training Programmes**

1. Workshop on “*h-principle*”: Stat-Math Unit, Kolkata, in collaboration with NCM and NBHM, Department of Atomic Energy, May 22-June 10, 2017.
2. Training Programme on “*Mathematical & Computational aspects of Integer Factorization*”: Stat-Math Unit, New Delhi, in collaboration with DRDO, November 28 - December 07, 2017.
3. Workshop on “*Modern aspects of Function Theory, Operator Theory and Operator Algebras (2018)*”: Stat-Math Unit, Bangalore, March 05-10, 2018.
4. Training Programme on “*Statistical Data Analytics*”: ASU, Kolkata, in collaboration with GE India Technology Centre Private limited, April 22-23, 2017.
5. Workshop on “*Winter School on Data Analytics*”: ASU, Kolkata, March 26-29, 2018.
6. Workshop on “*Computational Statistics*”: ISRU, Kolkata, March 19-23, 2018.
7. Training Programme on (Global Initiative For Academic Networks) “*Decentralized Computations (From Nets to Swarms)*”: ACMU, Kolkata, December 04-08, 2017.
8. Workshop on “*Parallel Processing for Large networks*”: ACMU, Kolkata, December 27-29, 2017.
9. Workshop on “*Introduction to Algorithms and Optimization*”: ACMU, Kolkata, in collaboration with IEEE CEDA All India Chapter, July 04–12, 2017.
10. 2<sup>nd</sup> International Workshop on “*Pattern Analysis and Applications*”: CVPR, Kolkata, January 29-31, 2018.

11. Training Programme on "*Image captioning with deep learning*": ECSU, Kolkata, June 05, 2017.
12. 4<sup>th</sup> Summer School on "*Computer Vision, Graphics and Image Processing*": ECSU, Kolkata, May 31–July 14, 2017.
13. Workshop on "*Healthcare: Statistical and Computational Aspects*": ECSU, Kolkata, March 23, 2018.
14. Summer School on "*Recent Advances in Computational Intelligence*": MIU, Kolkata, in collaboration with IEEE Computational Intelligence Society and IEEE Kolkata Chapter, September 18-22, 2017.
15. Training Programme on "*Interactive and Visual Approaches to Data Mining (GIAN-IVADM)*": MIU, Kolkata, October 30 – November 03, 2017.
16. Silver Jubilee Workshop on "*Machine Intelligence and Applications*": MIU, Kolkata, March 23, 2018.
17. Workshop on "*Satellite Remote Sensing and Image Analysis Activities*": SSIU, Bangalore, in collaboration with the Bangalore Section IEEE GRSS Chapter, June 12, 2017.
18. Summer Internship on "*Cryptology*": CSRU, Kolkata, May 01-July 31, 2017.
19. Workshop on "*Advances in Authenticated Encryption*": CSRU, Kolkata, in collaboration with National Mathematics Initiative, India September 19-22, 2017.
20. Workshop on "*Blockchain Technologies*": CSRU, ISI Kolkata, November 29 -December 01, 2017.
21. Workshop on "*Application of Probability and Statistics in Cryptology* (on the occasion of the 125th Birth Anniversary of Prof. Prasanta Chandra Mahalanobis)": CSRU, Kolkata, February 14-15, 2018.
22. Course on "*Morphometrics and its Applications in Palaeontology*": GSU, Kolkata in collaboration with University of California (Riverside), Kolkata, March 28–29, 2018.
23. Workshop on "*Statistical Methods and R Programmemeing for Biologists*": AERU Kolkata, March 7-13, 2018.
24. Training Programme on "*Summer School on SPSS*": BAU, Kolkata, August 22-25, 2017.
25. Training Programme on "*Winter School on Research Methods in Biology and Application of Statistics*": BAU, Kolkata, February 05–10, 2018.
26. Workshop on "*Spatial Analysis (Statistics and Econometrics)*": ERU, Kolkata, January 08–10 and 15–16, 2018.
27. Training on "*Career Interest Profile Similarity*": PRU, Kolkata, August 08, 2017.
28. Orientation workshop on "*Non-social Cognition and Intelligence using WAIS-IV*": PRU, Kolkata, December 04-08, 2017.
29. Training on "*R-Programmemeing for Behavioural Data Examination for Post-Graduate & Researchers*": PRU, Kolkata, March 14-15, 2018.

## Conferences and Seminars

30. Training Programme on "*Interaction* (for District Statistical Officers of National Statistics Bureau, Royal Government of Bhutan)": SOSU, Kolkata, June 23, 2017.
31. Training Programme on "*Statistical Theory and Applications - I*" (for Officers of RBI): SOSU, Kolkata, May 29- June 30, 2017.
32. Training Programme on "*Statistical Theory and Applications - II*" (for Officers of RBI): SOSU, Kolkata, August 08-September 08, 2017.
33. Workshop on "*Training of Research Personnel of Doordarshan*": SOSU, Kolkata, September 06-08, 2017.
34. Training Programme on "*Economic Statistics, Sampling, and Inequality and Poverty Measures for Government Officials of N-E States*": SOSU, Kolkata, October 09-13, 2017.
35. Workshop on "*Network and Graphical Statistics*": SOSU, Kolkata, January 05, 2018.
36. Training Programme module on "*Sample Survey Methodology and Practical Aspects of Conducting Surveys*" (for ISS Probationers 39th Batch): SOSU, Kolkata, January 23-February 16, 2018.
37. Training Programme on "*Data Analytics including Data Dissemination*" (for ISS Probationers 39th Batch): SOSU, Kolkata, February 19–March 23, 2018.
38. Training Programme on "*Recent Developments in Survey Methodology*" (for ISS Officers): SOSU, Kolkata, March 12-16, 2018.
39. Training Programme on "*Recent Developments in International Statistical Systems*" (for ISS Officers): SOSU, Kolkata in collaboration with Overseas Learning Component at Statistics, Netherlands, March 19-23, 2018.
40. National Conference on "*Land, Labour and Livelihood: Focus on Development of Marginalized Communities and Social Groups*": SRU, Giridih, January 30-31, 2018.
41. Training Programme on "*Research Design/Planning for Collection and Analysis of Data for Researchers in Social Sciences and Allied Areas*" (on the occasion of 125th Birth Anniversary of Prof. Prasanta Chandra Mahalanobis): SRU, Kolkata, March 06-07, 2018.
42. Training Programme on "*Microeconomics*" (for ISS Probationers): EPU, Delhi, May 22-June 02, 2017.
43. 6<sup>th</sup> Workshop on "*Macroeconomics*": EPU, Delhi, October 26, 2017.
44. Workshop on "*Professional Development*": EPU, Delhi, October 30–November 02, 2017.
45. 3<sup>rd</sup> Annual Workshop on "*CECFEE*": EPU, Delhi, held at Udaipur, November 17-18, 2017.
46. Workshop on "*Jobless Growth*": EPU, Delhi, in collaboration with World Bank, March 08, 2018.
47. Workshop on "*Public Economic*": EPU, Delhi, in collaboration with Delhi School of Economics, March 20-21, 2018
48. Training Programme on "*Use of Indian Database*": EAU, Bangalore, May 29 –June 02, 2017.
49. Workshop on "*Contemporary Rural Issues in India*": EAU, Bangalore, March 27, 2018.

50. Training Programme on "*Six Sigma Green Belt*": SQC & OR, Kolkata, 10–14 July 2017.
51. Training Programme on "*Business Analytics*": SQC & OR, Kolkata, July 29–September 17 2017.
52. Training Programme on "*Six Sigma Green Belt*": SQC & OR, Kolkata, held at ISI, Giridih, October 30–November 03, 2017.
53. Workshop on "*Design and Analysis of Experiments*": SQC & OR, Kolkata, November 06–11, 2017.
54. Workshop on "*Six Sigma Green Belt*": SQC & OR, Kolkata, November 20–24, 2017.
55. Workshop on "*Scientific Framework for National Transformation*": SQC & OR, Kolkata, January 16–18, 2018.
56. Workshop on "*Six Sigma Green Belt*" SQC & OR, Kolkata, March 19–23, 2018.
57. Training Programme on "*Six Sigma Green Belt*": SQC & OR, New Delhi, April 26 - 28, 2017.
58. Training Programme on "*Six Sigma Green Belt*": SQC & OR, New Delhi, May 24 - 26, 2017.
59. Training Programme on "*Six Sigma Green Belt*": SQC & OR, New Delhi, August 02–04, 2017.
60. Training Programme on "*Six Sigma Black Belt 1<sup>st</sup> Module*": SQC & OR, New Delhi, August 22– 24, 2017.
61. Training Programme on "*Six Sigma Green Belt*": SQC & OR, New Delhi, September 13–15, 2017.
62. Training Programme on "*Six Sigma Black Belt 2<sup>nd</sup> Module*": SQC & OR, New Delhi, September 19 - 22, 2017.
63. Training Programme on "*Six Sigma Black Belt 3<sup>rd</sup> Module*": SQC & OR, New Delhi, October 10–13, 2017.
64. Training Programme on "*Six Sigma Black Belt 4<sup>th</sup> Module*": SQC & OR, New Delhi, November 15–17, 2017.
65. Workshop on "*Programme on Environmental Data Interpretation, Compilation and Reporting*": SQC & OR, New Delhi, in collaboration with Central Pollution Control Board, Ministry of Environment, Forest and Climate Change, Govt. of India, February 05–09, 2018.
66. Training Programme on "*Six Sigma Green Belt*": SQC & OR, New Delhi, held at Grasim Industries-Indian Rayon, Veraval, Gujrat, March 26–28, 2018.
67. Training Programme on "*Reliability Engineering & Life Testing (RE-01)*": SQC & OR, Bangalore, April 25–28, 2017.
68. Training Programme on "*Six Sigma Green Belt (GB-41)*": SQC & OR, Bangalore, May 15–20, 2017.
69. Training Programme on "*Statistical Techniques for Business Analytics (BA-04)*": SQC & OR, Bangalore, May 25–27 and June 1–3, 2017.
70. Training Programme on "*Six Sigma Master Black Belt (MBB-27)*": SQC & OR, Bangalore, June 05–17, 2017.

## Conferences and Seminars

71. Training Programme on "*Six Sigma Black Belt (BB-25)*": SQC & OR, Bangalore, July 10–15 (Phase-1) and August 28– September 02, 2017 (Phase-2).
72. Training Programme on "*Problem Solving using Design of Experiments (DoE-04)*": SQC & OR, Bangalore, July 20–22, 2017.
73. Training Programme on "*Six Sigma Green Belt (GB-42)*": SQC & OR, Bangalore, July 24-29, 2017.
74. Training Course on "*Predictive Modeling using Python (PM-01)*": SQC & OR, Bangalore, August 17–19, 2017.
75. Training Programme on "*Six Sigma Green Belt (GB-43)*": SQC & OR, Bangalore, September 12-17, 2017.
76. Training Course on "*Business Forecasting using R (BF-03)*": SQC & OR, Bangalore, October 26–28, 2017.
77. Training Programme on "*Six Sigma Green Belt (GB-44)*": SQC & OR, Bangalore, November 06-11, 2017.
78. Training Programme on "*Business Analytics using R (BA-05)*": SQC & OR, Bangalore, November 20-25, 2017.
79. Training Programme on "*Six Sigma Black Belt (BB-26)*": SQC & OR, Bangalore, October 09- 15 (Phase-1) and November 27– December 02, 2017 (Phase-2).
80. Training Programme on "*Six Sigma Master Black Belt (MBB-28)*": SQC & OR, Bangalore, January 08–21, 2018.
81. Training Programme on "*Six Sigma Green Belt (GB-45)*": SQC & OR, Bangalore, January 22- 27, 2018.
82. Training Programme on "*Multivariate Data Analysis*": SQC & OR, Bangalore, February 08-10, 2018.
83. Training Programme on "*Six Sigma Black Belt (BB-27)*": SQC & OR, Bangalore, February 12– 17 2018 (Phase-1) and March 12–17, 2018 (Phase-2).
84. Training Programme on "*Predictive Modeling using Python (PM-02)*": SQC & OR, Bangalore, February 22–24, 2018.
85. Training Programme on "*Six Sigma Green Belt (GB-46)*": SQC & OR, Bangalore, March 19–24, 2018.
86. Training Programme on "*Six Sigma Black Belt Programme*": SQC & OR, Coimbatore, January-October 2017.
87. Training Programme on "*New Product Development*": SQC & OR, Coimbatore, April 05, 2017.
88. Training Programme on "*Performance metric analysis*": SQC & OR, Coimbatore, April 24-27, 2017.

## Conferences and Seminars

89. Training Programme on "*Students from local engineering colleges*": SQC & OR, Coimbatore, May 2017 - June 2017.
90. Training Programme on "*Product and Process Improvement – Engineers*": SQC & OR, Coimbatore, May 31 and August 07, 2017.
91. Training Programme on "*Design for Six Sigma*": SQC & OR, Coimbatore, June 10-15 and August 29-31, 2017.
92. Training Programme on "*Navigating the company from the corporate office*": SQC & OR, Coimbatore, June 19-20 and 23-24, 2017.
93. Training Programme on "*Cluster Analysis of Product Mix*": SQC & OR, Coimbatore, July 07-08, 2017.
94. Training Programme on "*Metric for Day to day management information system*": SQC & OR, Coimbatore, August 18, 2017.
95. Training Programme on "*Prediction Analysis*": SQC & OR, Coimbatore, September 14, 2017.
96. Training Programme on "*Decision making Management*": SQC & OR, Coimbatore, September 25, 2017.
97. Training Programme on "*Health Analytics*": SQC & OR, Coimbatore, September 26, 2017.
98. Workshop on "*AI for BI achieving CI*": SQC & OR, Coimbatore, October 28-29, 2017.
99. Training Programme on "*Six Sigma Green Belt*": SQC & OR, Hyderabad, September 11-15 2017.
100. Training Programme on "*Business Analytics with Six Sigma Master Black Belt*": SQC & OR, Hyderabad, September 18-23, 2017 (Phase-I) and October 23-28, 2017(Phase-II).
101. Training Programme on "*Six Sigma Black Belt*": SQC & OR, Hyderabad, December 11–16, 2017(Phase-I) and January 16 – 20, 2018(Phase-II).
102. Training Programme on "*Six Sigma Green Belt*": SQC & OR, Mumbai, held at YWCA conference hall, Mumbai, April 07-09 and 15-16, 2017.
103. Training Programme on "*Statistical Techniques for Data Mining and Business Analytics*": SQC & OR, Mumbai, held at M/s. Adani Power, April 17-19, 2017.
104. Training Programme on "*Six Sigma Black Belt*": SQC & OR, Mumbai, May-July, 2017.
105. Training Programme on "*Six Sigma Green Belt*": SQC & OR, Mumbai, held at YWCA conference hall, Mumbai, June 09-11 and 17-18, 2017.
106. Training Programme on "*Six Sigma Green Belt*": SQC & OR, Mumbai, held at Grasim Industries, Vilyat, June 12-14, 2017.
107. Training Programme on "*Six Sigma Green Belt*": SQC & OR, Mumbai, held at BNP Paribas, Mumbai, June 27-28, July 27-28 and August 21-22, 2017.
108. Training Programme on "*Statistical Techniques for Business Forecasting*": SQC & OR, Mumbai, July 13-15, 2017.



## Conferences and Seminars

109. Training Programme on “*Six Sigma Green Belt*”: SQC & OR, Mumbai, held at Hindalco Industries, Singrauli, Madhya Pradesh, July 19-21, 2017.
110. Training Programme on “*Statistical Techniques for Data Mining and Business Analytics*”: SQC & OR, Mumbai, held at Tanfeeth Dubai, July 30 – August 03, 2017.
111. Training Programme on “*Statistical Techniques for Six Sigma GB*”: SQC & OR, Mumbai, held at Birla Sunlife, August 18, 2017.
112. Training Programme on “*Statistical Techniques for Data Mining and Business Analytics*”: SQC & OR, Mumbai, held at Hotel Athithi, Mumbai, September 08-10 and 22-24, 2017.
113. Training Programme on “*Six Sigma Green Belt*”: SQC & OR, Mumbai, held at YWCA conference hall, Mumbai, October 06-08 and 14-15, 2017.
114. Training Programme on “*Statistical Techniques for Research Methodology*”: SQC & OR, Mumbai, October 27-30, 2017.
115. Training Programme on “*FMEA*”: SQC & OR, Mumbai, held at E-biological Limited, Hyderabad, November 17, 2017.
116. Training Programme on “*Six Sigma MBB*”: SQC & OR, Mumbai, November-December, 2017.
117. Training Programme on “*Statistical Techniques for Business Forecasting*”: SQC & OR, Mumbai, December 27-29, 2017.
118. Training Programme on “*Certification Programme on Business Analytics and data Mining*”: SQC & OR, Mumbai, held at Mahindra, Kandivali, January 19-21, February 02-04, February 23-25 and March 09-11, 2018.
119. Training Programme on “*Six Sigma Black Belt*”: SQC & OR, Mumbai, January-March, 2018.
120. Training Programme on “*Basic Statistical Techniques for Research*”: SQC & OR, Mumbai, held at Bajaj Corp Ltd, February, 2018.
121. Training Programme on “*Six Sigma Green Belt*”: SQC & OR, Mumbai, held at NIA Karanja, March 28-29, 2018.
122. Training Programme on “*Multimedia*” (for School Students): Reprography & Photography Unit, Library, Kolkata, January 11, 2018-February 06, 2018.
123. 8<sup>th</sup> Workshop on “*Digital Pictorial Photography and a Photography Exhibition*”: Reprography & Photography Unit, Library, Kolkata, February 15–19, 2018.
124. Workshop on “*Remotely Sensed Big Data Analysis and Mining*”: CSCR, Kolkata, in collaboration with Geosensing and Remote Sensing Society, Kolkata Chapter, January 23-24, 2018.

## **North-East Workshops and Training Programmes**

1. Summer Workshop on “*Analysis and Probability (NE-SWAP 2017)*”: Stat-Math Unit, Bangalore, held at Manipur University, Imphal, Manipur, July 06-10, 2017.
2. Workshop on “*Mathematical Genomics at Department of Zoology*”, ASU, Kolkata, held at Sikkim University, February 19-22, 2018.

## Conferences and Seminars

3. Lecture Series on "*Survival Analysis*", ASU, Kolkata, held at Department of Statistics, Tripura University, Agartala, March 25-27, 2018.
4. Workshop on "*Mathematical Genomics at Department of Bio Engineering and Technology*", ASU, Kolkata, held at Gauhati University, March 27-30, 2018.
5. Workshop on "*Knowledge Management and the Role of Libraries*": AOSU, N-E Centre, Tezpur, October 31, 2017.
6. Workshop on "*Special Training and Contact Programme (for Final-Year Post –Graduate Students)*": AOSU, N-E Centre, Tezpur, December 18-29, 2017 and January 02-31, 2018.
7. Workshop on "*Students' Meet with Eminent Academicians-2018 (SMEA-2018)*", AOSU, N-E Centre, Tezpur, March 23 - 24, 2018.
8. 3<sup>rd</sup> Workshop on "*Computing: Theory and Applications*": MIU, Kolkata, in collaboration with National Institute of Technology, Meghalaya (NITM), Shillong, February 19-24, 2018.
9. Workshop on "*Modern Ecological and Agricultural Practices with Statistical Methodology and R-Software*": AERU, Kolkata in collaboration with Rajiv Gandhi University, Itanagar, Arunachal Pradesh, February 26-27, 2018.
10. Workshop on "*Statistical and Computing Methods for Life-Science Data Analysis*": BAU, Kolkata in collaboration with Department of Botany, Mizoram University, Aizawl, Mizoram, March 05-10, 2018.
11. Training Programme on "*Research Methodology Course in Social Science (for Ph.D. Students)*": ERU, Kolkata in collaboration with The Indian Council of Social Science Research (ICSSR), held at the North-East Centre, Indian Statistical Institute, Tezpur, January 15-25, 2018.
12. Workshop on "*Application of Statistics in Social Sciences' Sample size determination, Scaling techniques and reliability analysis, Factor analysis, Cluster analysis, Discriminant analysis*": SOSU, Kolkata, held, at NITAP, Yupia, Arunachal Pradesh, November 06-12, 2017.
13. Workshop on "*SQC Practices and Data Analytics*": SQC & OR, Kolkata, at held at the North-East Centre, Indian Statistical Institute, Tezpur, February 12-14, 2018.
14. Workshop on "*Six Sigma Green Belt*": SQC & OR Unit, Kolkata, March 19-23, 2018.
15. Training Program on "*Advanced Data Analysis*", SQC & OR, Bangalore, held at ICFAI University, Agartala, Tripura, November 28-30, 2017.
16. Workshop on "*Knowledge Management and the Role of Libraries*": Library Unit, North-East Centre, Tezpur, October 31, 2017.

## **Lectures and Seminars**

### **Theoretical Statistics and Mathematics Division**

#### **Stat-Math Unit, Kolkata**

1. Asanuma, T., University of Toyama, Japan (08.03.2018): Semi-injective local homeomorphisms from the real metric space to itself.

## Conferences and Seminars

2. Banerjee, Kalyan, IISER, Mohali (11.04.2017, 12.04.2017 & 13.04.2017): Algebraic cycles and rationality problems.
3. Bera, Anil Kumar, University of Illinois at Urbana Champaign, USA (03.07.2017): Asymptotic Variance of Test Statistics in ML and QML Frameworks.
4. Baier, Stephan, JNU, New Delhi (12.07.2017): Moments of the error term in the Sato-Tate law for elliptic curves.
5. Banerjee, Moulinth, University of Michigan, USA (17.07.2017): Intelligent Sampling for Estimating change points in very long sequential data: A needles in a Haystack problem.
6. Bhattacharjee, Monika, University of Florida, USA (22.08.2017): Change point estimation in dynamic stochastic block model.
7. Blanc, David, University of Haifa, Israel (05.02.2018): Higher structure in algebra and algebraic topology.
8. Basu, Saugata, Purdue University, USA (19.03.2018): Quantitative bounds on the topology of semi-algebraic and definable sets.
9. Basu, Saugata, Purdue University, USA (21.03.2018): On the number of lines on projective hypersurfaces.
10. Crisp, Tyrone, Radboud University, Nijmegen, Netherlands (21.07.2017): Descent of operator modules.
11. Chakraborty, Anirvan, EPFL, Switzerland (10.08.2017): Functional Registration and Local Variation.
12. Drappeau, Sary, Aix-Marseille Universite, France (09.11.2017): Kloosterman sums over primes and Siegel zeros.
13. Drappeau, Sary, Aix-Marseille Universite, France (10.11.2017): A walk about generating series.
14. Das, Pratulananda, Jadavpur University, Kolkata (18.12.2017): Analytic P-ideals and their importance in the study of convergence.
15. Ghosh, Anish, TIFR, Mumbai (26.10.2017): Quadratic forms and ergodic theory.
16. Holkar, Rohit Dilip, IISER, Pune (05.06.2017): Locally free actions of groupoids and proper correspondences.
17. Islam, Mitul, University of Michigan Ann Arbor, USA (04.07.2017): Rigidity theorems in Geometry.
18. Jana, Subhajit, ETH, Zurich (20.07.2017): Analytic New vector Theory over Archimedean Local Fields.
19. Jha, Somnath, IIT, Kanpur (17.10.2017 & 18.10.2017): Congruent number problem.
20. Karmakar, Sayar, University of Chicago, USA (20.03.2018): Simultaneous inference on time-varying models.

## Conferences and Seminars

21. Mawia, Ramdin, Harish Chandra Research Institute, Allahabad (12.04.2017): The distribution of values of Hardy's function.
22. Mukherjee, Mayukh, Technion, Israel (30.08.2017): Asymptotic estimates on the geometry of Laplace eigenfunctions.
23. Majee, Ananta K., University of Tübingen, Germany (09.10.2017): On stochastic optimal control in ferromagnetism.
24. Mandal, Satya, University of Kansas, USA (20.12.2017): Commutative Algebra and Algebraic K-Theory.
25. Mohari, Anilesh, IMSc, Chennai (07.03.2018): Translational invariant states and its isomorphism problem in quantum spin chain.
26. Mohari, Anilesh, IMSc, Chennai (12.03.2018): Quantum Markov States and its uses.
27. Nadkarni, M.G. (26.10.2017): Pedagogy of the Convergence Theorem.
28. Patankar, Vijay, JNU, New Delhi (06.11.2017): Distinguishing Galois representations by their normalized traces.
29. Paul, Debashis, University of California, Davis (19.02.2018): Spectral analysis of a class of high-dimensional linear processes.
30. Raghunathan, M.S., IIT, Bombay (30.06.2017): The congruence Subgroup Problem.
31. Roy, Arindam, Rice University, USA (17.07.2017): Unnormalized differences and fractional parts of zeros of the derivative of the Riemann  $\zeta$  function.
32. Roy, Sutanu, NIISER, Bhubaneswar (28.02.2018): Quantum symmetries of twisted tensor product of  $C^*$ - algebras.
33. Ramana, S. Surya, Harish Chandra Research Institute, Allahabad (25.03.2018): Additive Energy of Dense Sets of Primes.
34. Sen, Sanchayan, McGill University, France (29.05.2017): Random structures: Phase transitions, scaling limits and universality.
35. Sengupta, Tathagata, University of Hyderabad (19.12.2017): Principal Bundles on Curves.
36. Saha, Biswajyoti, TIFR, Mumbai (04.01.2018): Multiple Stieltjes constants.
37. Sitaram, Alladi, IISc, Bangalore (26.03.2018): Lectures on Harmonic Analysis 1.
38. Sitaram, Alladi, IISc, Bangalore (27.03.2018 & 28.03.2018): Lectures on Harmonic Analysis.

## ***Stat-Math Unit, Delhi***

1. Barany, Michael, Dartmouth College, USA (28.02.2018): Organization Men: Bourbaki and the identity of international mathematicians and mathematics in the mid-twentieth century.
2. Basu, Rabeya, IISER, Pune (03.04.2017): Unification of Classical Groups.

## Conferences and Seminars

3. Chaubey, Yogendra P., Concordia University, Montreal, Canada (07.02.2018): On nonparametric smooth estimators of probability density function for circular data.
4. Diener, Marc, Laboratoire Jean Dieudonné, Nice, France (10.10.2017): Microcredit: stochastic et statistical approaches for understanding and rating.
5. Diener, Francine, Laboratoire Jean Dieudonné, University of Nice, France (11.10.2017): How to fit a jump diffusion model to return prices?
6. Drappeau, Sary, University of Marseilles, France (29.11.2017): Kloosterman sums over primes and Siegel zeros.
7. Deshouillers, Jean-Marc, University of Bordeaux, France (17.04.2017): Automatic sequences and Sarnak's conjecture.
8. Deshouillers, Jean-Marc, University of Bordeaux, France (12.02.2018): Sums of powers: old and new questions, with an emphasis on the probabilistic approach.
9. David, Sinnou, Université Pierre et Marie Curie, Paris, France (14.03.2018): Bounding torsion points of abelian varieties.
10. Ganesan, Ghurumuruhan, NYU, Abu Dhabi (23.08.2017): Phase Transition in Inhomogeneous Erdos Renyi random graphs.
11. Ghate, Eknath, TIFR, Mumbai (11.12.2017): From Galois Theory to Galois Representations.
12. Ghate, Eknath, TIFR, Mumbai (13.12.2017): Reductions of Galois representations and the Monomial Lattice.
13. Ghoshal, Subhashis, North Carolina State University, USA (15.12.2017): Bayesian estimation and uncertainty quantification for differential equation models.
14. Haq, Rukhsan-ul, JNCASR, Bangalore (12.04.2017): Majorana fermions and topological Quantum Computing.
15. Hallin, Marc, ECARES and Département de Mathématique, Université libre de Bruxelles, Belgium (15.02.2018): On Multivariate Distribution and Quantile Functions, Ranks and Signs: a Measure Transportation Approach.
16. Kovse, Matjaz, University of Maribor, Slovenia and Indian Institute of Technology, Bhubaneswar (27.09.2017): Vertex Decomposition of Steiner Wiener Index and Steiner Betweenness Centrality.
17. Mubayi, Dhruv, University of Illinois, Chicago (05.07.2017): New Developments in Hypergraph Ramsey Theory.
18. Mesnager, Sihem, Universities of Paris VIII and Paris XIII LAGA (CNRS) and Telecom Paris Tech, France (09.10.2017): Hyper-bent and generalized hyper-bent functions.
19. Mallick, Bani, Texas A&M University and U.S. Fulbright-Nehru Distinguished Chair, National Institute of Biomedical Genomics, Kalyani, West Bengal (12.12.2017): Bayesian Gaussian Graphical Models and their extensions.
20. Mallick, Anish, ICTS-TIFR, Bangalore (17.01.2018): Multiplicity of spectrum for certain class of random operators.

21. Paul, Debashis, UC Davis, USA (26.07.2017): Spectral analysis of high-dimensional linear processes with applications.
22. Ranjan, Pritam, IIM, Indore (03.05.2017): Computer Experiments – A Brief Overview.
23. Reddy, Tulasi Ram, New York University, Abu Dhabi, UAE (26.10.2017): On critical points of random polynomials.
24. Roy, Rishideep, IIM, Bangalore (21.03.2018): Extremes of log-correlated Gaussian fields.
25. Sharma, Divyum, University of Waterloo, Canada (26.04.2017): On the multi-base representation of integers.
26. Stigler, Stephen, University of Chicago (08.12.2017): Mahalanobis and Fisher: Mathematical Statistics as a Global Enterprise.
27. Sofi, Mohammad Amin, University of Kashmir (21.02.2018): Continuous selections involving the non-linear Hahn Banach theorem.
28. Saikia, Neelam, IIT, Guwahati (25.04.2018): Certain Character sums, hypergeometric series, and their connections to algebraic curves.
29. Toth, Balint, Renyi Institute of Mathematics, Budapest, Hungary and School of Mathematics, University of Bristol, UK, (08.03.2018 & 09.03.2018): Invariance principle for the random Lorentz gas beyond the Boltzmann-Grad (Gallavotti-Spohn) limit.
30. Waldschmidt, Michel, University of Jussieu, Paris, France (13.09.2017): Representation of positive integers by binary cyclotomic forms.

### ***Stat-Math Unit, Bangalore***

1. Accardi, Luigi, Centro Interdipartimentale Vito Volterra, Italy (13.03.2018, 15.03.2018, 20.03.2018, 22.03.2018 & 27.03.2018): Quantum decomposition of classical random variables.
2. Banerjee, Arindam, Purdue University, USA (13.06.2017 & 20.06.2017): Dualizing Complexes in the Noncommutative Arithmetic Context & Homological Invariants and Combinatorics of Finite Simple Graphs.
3. Bhattacharya, Prasit, University of Notre Dame, USA (06.07.2017): Recent progress towards the telescope conjecture.
4. Bhattacharya, Siddhartha, TIFR, Mumbai (31.10.2017): Translational tilings of the plane.
5. Basu, Riddhipratim, ICTS, Bangalore (28.11.2017): Longest Increasing Subsequence Under Curvature Constraint.
6. Baryshnikov, Yuliy, University of Illinois, Urbana-Champaign, USA (08.02.2018): Disappearing coefficients and lacunae for hyperbolic polynomials.
7. Bhar, Suprio, TIFR-CAM, Bangalore (19.02.2018): Stochastic PDEs in  $S'$  for SDEs driven by Levy noise.
8. Barma, Mustansir, TIFR Centre for Interdisciplinary Sciences, Hyderabad (23.02.2018): Away from the Average: The Physics of Fluctuations.

## Conferences and Seminars

9. Chhetri, Maya, UNC Greensboro Greensboro, North Carolina, USA (12.05.2017): Asymptotically linear systems.
10. Chakraborty, Anirvan, École polytechnique fédérale de Lausanne, Switzerland (17.08.2017): Functional Registration and Local Variation.
11. Calder, Nigel S., University of Waikato, New Zealand (05.09.2017): Using mobile technologies to enhance the learning of mathematics.
12. Chandgotia, Nishant, Tel Aviv University, Israel (12.10.2017): Irrational rotations; random affine transformations and the central limit theorem.
13. Chandrasekhar, C.P., Center for Economic Studies and Planning, JNU (23.01.2018): The contradictions of neoliberalism - Interpreting India's banking crisis.
14. Dasgupta, Aparajita, Imperial College, London (16.08.2017): Pseudo-differential Operators on Compact Lie Groups.
15. Deshpande, Amit, Microsoft Research (12.02.2018): Constrained Determinantal Point Processes.
16. Fakhruddin, Najmuddin, TIFR, Mumbai (06.04.2017): Affine Grassmannians; affine flag varieties and local models.
17. Gupta, Anil, IIM, Ahmedabad and Honey Bee Network (07.11.2017): Modelling and research gaps in inclusive innovation research.
18. Gadgil, Madhav, National Centre for Cell Science, Maharashtra (16.01.2018): Use and abuse of knowledge.
19. Hallin, Mark, Université Libre de Bruxelles, Belgium (13.02.2018): P.C. Mahalanobis memorial.
20. Ile, Runar, Norwegian Business School, Norway (27.11.2017): Flops as blowing-ups in maximal Cohen-Macaulay modules.
21. Jayaraj, Nandita, The Life of Science Project (10.10.2017): The invisible women of Indian science.
22. Kaur, Jotsaroop, IISER, Bhopal (07.09.2017): Localisation of Bochner Riesz means on sets of positive Hausdorff dimension in  $\mathbb{R}^d$ .
23. Mukherjee, Mayukh, Technion, Israel (03.08.2017): Asymptotic estimates on the geometry of Laplace eigenfunctions.
24. Mallick, Anish, ICTS-TIFR, Bangalore (09.11.2017): Multiplicity theorem of singular Spectrum for general Anderson type Hamiltonian.
25. Madan, Amman, Azim Premji University, Bangalore (06.3.2018): Identity politics in school curricula: post-modernism and the problem of academic knowledge.
26. Nayak, Narendra, FIRA, Mangalore (20.08.2017): The case for scientific temper article 51ah of the Constitution of India.
27. Pattabhiraman, Shankar, Beckman Coulter Inc Bangalore Development Centre (11.04.2017): DNA Genes and disease.



28. Parthasarathy, Aprameyan, Paderborn University, Germany (27.07.2017): Boundary values; resonances and scattering poles on rank one symmetric spaces.
29. Pal, Soumik, University of Washington, USA (20.09.2017): Shuffling cards by spatial motion.
30. Parameswaran, A.J., TIFR, Mumbai (28.09.2017): Fundamental Group and Fundamental Group Scheme.
31. Ravi, Charanya, University of Oslo, Norway (24.08.2017): An equivariant analog of the Bass-Quillen conjecture.
32. Rangarajan, Bharatram, Chennai Mathematical Institute, Chennai (21.11.2017): Ihara-Bass Theorem for the Zeta Function of a Graph and the Ramanujan Property.
33. Sivaguru, R., TIFR, Mumbai (06.04.2017): Geometry and Function Theory in Several Complex Variables.
34. Sen, Sanchayan, McGill University, Canada (01.06.2017): Random structures: Phase transitions; scaling limits; and universality.
35. Shenoy, Vijay B., IISc, Bangalore (03.10.2017 and 04.10.2017): Topology of Electronic Phases and The Tenfold Way to Amorphous Topological Insulators.
36. Singhal, L., TIFR, Mumbai (19.10.2017): Cylinder absolute games on solenoids.
37. Shekhar, Sudhanshu, IIT, Kanpur (26.10.2017): Non-commutative Twisted Euler characteristic in Iwasawa theory.
38. Shekhar, Atul, KTH, Stockholm (22.01.2018): Holder exponents for Loewner traces.
39. Sandeep, K., TIFR-CAM, Bangalore (01.02.2018): Extremals of inequalities and their uniqueness.
40. Sharada, B.N., Parivarthan, Bangalore (06.02.2018): Substance Use & Abuse: Consequences and Risks.
41. Sinha, Kaneenika, IISER, Pune (12.02.2018): Pair correlation for Hecke eigenvalues.
42. Soulier, Philippe, University Paris Nanterre, France (15.02.2018): An invariance principle for sums and record times of regularly varying stationary sequences.
43. Sinha, Kalyan B., JNCASR, Bangalore (15.03.2018): Martingale problem in Quantum Probability.
44. Saha, Arnab, Australian National University, Canberra (14.03.2018): Isocrystals associated to arithmetic jet spaces of abelian schemes.
45. Sane, Sarang, IIT, Madras (20.03.2018 & 22.03.2018): The Pfaffian of a matrix and unimodular rows & Specialization closed subsets; thick subcategories and Cohen-Macaulay rings.
46. Sood, Ajay K., Indian National Science Academy, IISc, (27.03.2018): Exciting Physics Inspired by Nature: Flocking and Bacterial Heat Engine.
47. Thirunellai, Rajamani Kumar, Robert Bosch Engineering and Business Solutions Ltd (18.04.2017): Computer Aided Diagnosis using Machine Learning Approaches.

## Conferences and Seminars

48. Thattai, Mukund, National Centre for Biological Sciences, Bangalore (17.10.2017): Possible and Impossible Cells.
49. Thoppe, Gudan, Technion, Israel Institute of Technology, Israel (28.11.2017): Betti Numbers of Gaussian Excursions in the Sparse Regime.
50. Toth, Balint, University of Bristol, UK and Alfred Renyi Institute of Mathematics, Budapest, Hungary (12.03.2018): Ashok Maitra Memorial.
51. Toth, Balint, University of Bristol, UK and Alfred Renyi Institute of Mathematics, Budapest, Hungary (13.03.2018): Erdos-Renyi random graphs + forest fires = self-organised criticality.
52. Vadlamani, Sreekar, TIFR CAM, Bangalore (04.04.2017): Integral geometry: at the crossroads of geometry and measure theory.
53. Vyas, Rishi, Ben Gurion University, Israel (15.06.2017): A noncommutative Matlis-Greenlees-May equivalence.

## **Applied Statistics Division**

### ***Applied Statistics Unit, Kolkata***

1. Banerjee, Moulinath, Department of Statistics, University of Michigan, USA (25.07.2017): Divide and Conquer in Non-Standard Problems.
2. Basu, Pallab, International Centre for Theoretical Sciences, Bengaluru (08.11.2017): Understanding the nature of Micro-RN.
3. Bandyopadhyay, Prasanta, Department of History and Philosophy, Montana State University, USA (14.12. 2017): Simpson's Paradox: Logic, Philosophy, and a Dash of History.
4. Chaubey, Yogendra P, Department of Mathematics and Statistics Concordia University, Montreal, Canada (10.01.2018): On nonparametric smooth estimators of probability density function for circular data.
5. Datta, Jyotishka, Department of Mathematical Sciences University of Arkansas at Fayetteville, USA (10.01.2017): Sparse signal recovery and default Bayesian analysis using global-local shrinkage priors.
6. Hassan, Sk. Sarif, Department of Mathematics, Pingla Thana Mahavidyalaya, Vidyasagar University, West Bengal (17.12.2017): Dynamical Systems in Biology Problems.
7. Karjee, Jyotirmoy, TCS Research & Innovation, Bangalore (18.04.2017): Statistical Analysis of Network Data in Cloud platform for Internet of Things Applications.
8. Shukla, Ankur, Department of Applied Mathematics, Indian Institute of Technology (ISM), Dhanbad (20.06.2017): Reliability Analysis and Faults Prediction during the Development Phase of Software.
9. Majumdar, Anandamayee, Center for Advanced Statistics and Econometrics, Soochow University, Suzhou, China (19.04.2017): Gradients in Spatial Response Surfaces with Application to Urban Land Values.

10. Narisetty, Naveen, Department of Statistics, University of Illinois at Urbana-Champaign, USA (14.08.2017): Consistent and Scalable Bayesian Model Selection for High Dimensional Data.
11. Nandy, Rajesh Ranjan, School of Public Health, UNT Health Science Center, USA (12.12.2017): Independent Component Analysis in the presence of unknown correlated Gaussian noise.
12. Paul, Debashis, Department of Statistics, University of California, Davis, USA (03.01.2017): Modeling non-Gaussian processes on a sphere using multi-resolution analysis.
13. Panda, Mahesh Kumar, Department of Statistics, Central University of Orissa, Odisha (22.06.2017): Exact designs for polynomial regression in view of de la Garza phenomenon.
14. Sengupta, Srijan Department of Statistics, Virginia Tech, USA (11.07.2017): A blockmodel for node popularity in networks with community structure.

### ***Interdisciplinary Statistical Research Unit, Kolkata***

1. Datta, Gauri Shankar, University of Georgia, USA (28.06.2017): Robust Hierarchical Bayes Small Area Estimation for Nested Error Regression Model.
2. Dutta, Somak, Iowa State University, USA (03.08.2017): Bayesian spatial variable selection methods for detecting activation regions in fMRI studies.
3. Ghosh, Abhik, University of Oslo, Norway (21.09.2017): A General Robust Bayes Pseudo-Posterior: Exponential Convergence results with Applications.
4. Kuchibhotla, Arun Kumar, University of Pennsylvania, USA (11.01.2018): Uniform Linear Representation results for High-dimensional Generalized Linear Model.
5. Mukherjee, Soumendu Sundar, University of California, Berkeley (15.06.2017): Scalable and fast community detection using divide and conquer techniques.
6. Mukherjee, Partha Sarathi, Boise State University, USA (19.12.2017): A Multi-resolution and Adaptive Image Denoising Framework.
7. Majumder, Subho, University of Florida, USA (21.12.2017): Fast and General Best Subset Selection using Data Depth and Resampling.
8. Roy, Vivekananda, Iowa State University, USA (21.06.2017): Convergence analysis of block Gibbs samplers for Bayesian probit linear mixed models.
9. Rao, Arni S.R. Srinivasa, Augusta University, Georgia, USA (12.01.2018): From Fibonacci to Alfred Lotka and beyond: Modelling the dynamics of population and age-structures.

### ***Applied Statistics Unit, Chennai***

1. Chakraborty, Partha Sarathi, The Institute of Mathematical Sciences, Tamil Nadu (01.09.2017): Fun with Probability.
2. Deshpande, Jayant V., Chennai Mathematical Institute, Chennai, Tamil Nadu (21.04.2017): Some issues in Reliability Theory.

## Conferences and Seminars

3. Dasgupta, Shibasish, Global Data Insight & Analytics, Ford Motor Private Limited (12.01.2018): A Bayesian Predictive Approach to Design Studies for Comparing Biomarkers.
4. Das, Purba, Chennai Mathematical Institute, Chennai, Tamil Nadu (06.04.2018): Understanding Sea Ice Melting via Functional Data Analysis.
5. Ghosh, Sibasish, The Institute of Mathematical Sciences (IMSc), Tamil Nadu (02.03.2018): Witnessing arbitrary bipartite entanglement in a measurement-device-independent way.
6. Gupta, Ashmita, Wageningen University, Netherlands (09.03.2018): Female labor as insurance: Trade Liberalization and Female Labor Force Participation in India.
7. Hallin, Marc, European Center for Advanced Research in Economics and Statistics (ECARES), Belgium (09.02.2018): On Multivariate Distribution and Quantile Functions, Ranks and Signs: A measure transportation approach.
8. Krishnan, T., Chennai Mathematical Institute, Tamil Nadu (16.02.2018): Basics of EM Algorithm.
9. Krishnan, T., Chennai Mathematical Institute, Tamil Nadu (16.03.2018): Basics of EM Algorithm.
10. Krishnan, T., Chennai Mathematical Institute, Tamil Nadu (23.03.2018): Statistics: Some caveats.
11. Ramasubramanian, S., Chennai Mathematical Institute (08.09.2017): Cramer-Lundberg model revisited.
12. Rao, B.V., Chennai Mathematical Institute, Tamil Nadu (02.02.2018): Urn Models.
13. Rao, B.V., Chennai Mathematical Institute, Tamil Nadu (16.02.2018): Random Walk.
14. Rao, B.V., Chennai Mathematical Institute, Tamil Nadu (16.03.2018): Brownian Motion.
15. Rao, B.V., Chennai Mathematical Institute, Tamil Nadu (23.03.2018): Martingales.

## ***Applied and Official Statistics Unit, Tezpur***

1. Bhattacharyya, Dhruba Kumar, Tezpur University, Tezpur (09.10.2017): Big Data Analytics in Bioinformatics: A Machine Learning Perspective.
2. Baruah, Nayandeep Deka, Tezpur University, Tezpur (27.10.2017): Srinivasa Ramanujan: A Glimpse of His Life and Mathematics.
3. Lahkar, Ratul, IIM Udaipur, Udaipur (10.10.2017): Game Theory: Nash Equilibrium and Interpretation.
4. Mohan, Manju, IIT Delhi, Delhi (03.04.2017): Concept Note on Combating Air Pollution in Urban Airsheds of India.
5. Sumesh, S.S., Tezpur University, Tezpur (30.08.2017): Social Contours of Farmer Suicides in Neo-Liberal India.
6. Sahoo, Sambhunath, Tezpur University, Tezpur (31.10.2017): Knowledge management in today's libraries.

7. Yumnam, Veda, Tezpur University, Tezpur (15.12.2017): Unpacking Health Equity in Conflict Affected Areas: A Social Determinants Framework.

## **Computer and Communication Sciences Division**

### ***Advanced Computing and Microelectronics Unit, Kolkata***

1. Bhattacharya, Anup, IIT, Delhi (10.11.2017): Approximate Clustering with Same-Cluster Queries.
2. Bhowmik, Anusua, AMD, Bangalore (12.12.2018): AMD's Ryzen Processor Microarchitecture.
3. Bose, Pradip, IBM, USA (12.01.2018): System Architectural Support for Mobile Cognition.
4. Das Choudhury, Sruti, University of Nebraska-Lincoln, USA (28.11.2017): Intelligent Image Analysis for Plant Phenotyping.
5. D'Souza, Deepak, IISc, Bangalore (20.02.2018): Horn-ICE Learning for Invariant Synthesis.
6. Ditmarsch, Hans Van, CNRS (French National Research Organization), LORIA, France (08.03.2018): Protocols and the Logic of Knowledge.
7. Fujita, Masahiro, University of Tokyo, Japan (27.04.2017): Very efficient power gating for higher performance computing.
8. Kolay, Sudeshna, TU Eindhoven, Netherlands (05.01.2018): Kernelization in Incidence geometry.
9. Majumdar, Shikharesh, Carleton University, Canada (10.01.2017): Resource Management on Clouds for Supporting Big Data Platforms and Smart Systems.
10. Maheswari, Anil, Carleton University, Ottawa, Canada (06.02.2018): Faster algorithms for some optimization problems on collinear points.
11. Pande, Partha Pratim, Washington State University, USA (25.07.2017): Going Vertical: Energy-Efficient and Reliable Manycore Computing based on 3D Integration.
12. Pach, Janos, EPFL Lausanne and Renyi Institute, Budapest (16.01.2018): Order and disorder: A precarious balancing act.
13. Pravakar, Pavithra, Kansas State University, USA (17.01.2018): Formal Verification of Robustness Properties of Hybrid Systems.
14. Pach, Janos, EPFL Lausanne and Renyi Institute, Budapest (19.01.2018): New Crossing Lemmas.
15. Sarkar Arnab, IIT, Guwahati, (08.06.2017): Optimal Scheduling of Real-time Tasks using Supervisory Control of Timed DES.
16. Saurabh, Saket, Institute of Mathematical Science, Chennai, Tamil Nadu (02.01.2018): Exact Algorithms via Monotone Local Search.
17. Sen, Sandeep, IIT, Delhi (25.02.2018): Randomized techniques in algorithm design.

## Conferences and Seminars

18. Ukil, Abhisek, University of Auckland, New Zealand (30.01.2018): Smart Grid, Energy Efficiency, and Machine Learning Applications.
19. Valtr, Pavel, Charles University, Prague (20.02.2018): On the maximum crossing number.
20. Wille, Robert, Johannes Kepler University Linz, Austria (28.03.2018): Quantum Computation: Prospects and Challenges.

## ***Electronics and Communication Sciences Unit, Kolkata***

1. Agarwal, S., TCS, Kolkata (19.06.2017): 3-D Registration.
2. Chakraborty, R., McGovern Institute for Brain Research, MIT, USA (20.02.2018): A Geometric framework for statistical analysis of trajectories of distinct temporal spans.
3. Dhara, B.C., Jadavpur University, Kolkata (15.06.2017): Image Security: Secret Image Sharing, Image Encryption and Image Steganography.
4. Karan, S., Calcutta Telephones, Kolkata (06.03.2018): Some Studies on Nanoparticles and Image Analysis.
5. Majumdar, A., IIIT, Delhi (20.06.2017): Dictionary Learning.
6. Mondal, S., Clarkson University, New York (05.01.2018): Cell Dynamics Analysis to Assess Hypoxic Damage and Recovery.
7. Purkait, P., Toshiba Research Europe Ltd., Cambridge, UK (03.07.2017): Single-frame Rolling Shutter Compensation.
8. Zafar, H., Rice University, USA (29.01.2018): Probabilistic Models and Inference Algorithms for Single-cell Genomics: Applications in Cancer Evolution.

## ***Machine Intelligence Unit, Kolkata***

1. Ahuja, Narendra, Department of Electrical and Computer Engineering, Beckman Institute and Coordinated Science Laboratory, University of Illinois, Urbana-Champaign (23.03.2018): The Fun and Fulfillment Research can Bring to Life: Examples From Computer Vision (Video Conference)
2. Banerjee, Mohua, Department of Mathematics and Statistics, Indian Institute of Technology, Kanpur (23.03.2018): Information systems, Updates and Logic.
3. Chaudhuri, Parag, Indian Institute of Technology, Bombay (28.03.2018): Populating Virtual Worlds: Characters and Physics.
4. Ghosh, Debdas, Indian Institute of Technology (BHU), Varanasi (09.03.2018): Fuzzy ideal cone method for capturing the entire fuzzy non-dominated set of a fuzzy multi-criteria optimization problem.
5. Mandal, Gautam, Tata Institute of Fundamental Research, Mumbai (23.03.2018): The arrow of time.
6. Ranka, Sanjay, Department of Computer Information Science and Engineering, University of Florida, USA (23.03.2018): Smart Algorithms for Transportation Applications.

7. Saha, Sudipto, Bose Institute, Kolkata (15.02.2018): Systematic discovery of novel linear motifs mediating protein-protein interactions.
8. Saha, Ratan K., IIT, Allahabad (21.03.2018): Imaging and characterization of biomedical samples with photoacoustics.

***Systems Science and Informatics Unit, Bangalore***

1. Frery, A.C., Instituto de Computação, Universidade Federal de Alagoas, Maceió, Brazil, (12.02.2018): Statistical Information Theory and Geometry for SAR Image Analysis.

***Computer Science Unit, Chennai***

1. Akhtar, Nasim, Indian Institute of Technology, Guwahati (12.05.2017): Dimensions of the Graphs of Alpha-Fractal Interpolation Functions.
2. Chakraborti, Anirban, Jawaharlal Nehru University, New Delhi (22.12.2017): Socio-economic inequalities: Can humans be modeled like atoms?
3. Gowda, M. Seetharama, University of Maryland, Baltimore County (23.11.2017): The Lyapunov rank of a proper cone.
4. Ravishanker, Nalini, University of Connecticut, USA (15.12.2017): Modeling Financial Durations Using Penalized Estimating Functions.
5. Tangirala, Arun K., Department of Chemical Engineering, IIT, Madras (06.10.2017): Data-driven reconstruction of causal graphs for multivariate stationary processes.

**Physics and Earth Sciences Division**

***Geological Studies Unit, Kolkata***

1. Bhattacharya, S.K., Research Centre for Environmental Changes, Academia Sinica, Taipei, Taiwan (04.08.2017): Stable isotope geochemistry and its application in natural sciences.
2. Basilici, Giorgio, University of Campinas, Brazil (18.12.2017): How and where Titanosaurs laid their eggs in Argentina?
3. Basilici, Giorgio, University of Campinas, Brazil (19.12.2017): Were Precambrian deep-water deposits similar to Phanerozoic analogous?
4. Elzbieta, M. Teschner, Opole university, Poland (26.02.2018): Insight into the Late Triassic localities of Krasiejow, SE Poland: Geological and Paleontological Excursion.
5. Hofmann, Axel, University of Johannesburg, South Africa (08.03.2018): Surface Processes on Early Earth.



## Conferences and Seminars

6. Hughes, Nigel, University of California, USA (Riverside) (26.03.2018): Ups and downs in the Himalaya using fossils to decipher its history and role of fossils in scientific outreach in rural Bengal.
7. Walter, J., University of Fribourg/Freiburg, Switzerland (16.01.2018): New Insight into Basal Turtle Evolution.

### ***Physics and Applied Mathematics Unit, Kolkata***

1. Aluri, Pavan, Kumar, KIAS, South Korea (19.09.2017): Estimating hidden signals violating isotropy underlying CMB maps.
2. Bose, Debanjan, Sung Kyun Kwan University, South Korea (20.04.2017): Highlights from icecube neutrino observatory.
3. Bera, Manabendra Nath, Spain (25.10.2017): Universal laws of thermodynamics.
4. Bagchi, Manjari, Institute of Mathematical Science, Chennai (15.02.2018): Exotic pairs of stellar undead : binary radio pulsars with compact companions.
5. Feudel, Ulrik, University of Oldenburger, Germany (07.12.2017): Critical transitions due to shocks.
6. Freund, Jan, University of Oldenburg, Germany (07.12.2017): Granger causality of diffusion processes.
7. Ghosh, Sibasish, The Institute of Mathematical Sciences, Chennai (25.08.2017): On thermalization of two-level quantum systems.
8. Ghoshal, Anish, INFN, Laboratori Nazionali di Frascati, Italy (28.02.2018): Dark photon searches and bounds: Resonant production in beam dump for 8Be anomaly.
9. Kar, Satyaki, Indian Association for the Cultivation of Science, Jadavpur (07.07.2017): Periodically driven dynamics using two-rate protocols.
10. Kapitaniak, Tomasz, Lodz University of Technology, Poland (07.12.2017): The search for the smallest chimera.
11. Rana, Swapan, ICFO–The Institute of Photonic Sciences, Barcelona, Spain (19.02.2018): Coherence Theory: from resource-theoretic perspective.
12. Saha, Debashis, Institute of Theoretical Physics and Astrophysics, Gdansk, Poland (09.09.2017): State independent contextuality advances one-way communication.

## **Biological Sciences Division**

### ***Agricultural and Ecological Research Unit, Kolkata***

1. Bramhachari, Ratanlal, Dept. of Chemistry, Rajabazar Science College, Kolkata (30.11.2018): Brain, Nerve and Signalling System in Plants and Why Sex, An Unnecessary Item, Arose At All.

## Conferences and Seminars

2. Chakraborty, Subhendu, Centre for Ocean life, DTU Aqua, National Institute of Aquatic Resources, Technical University of Denmark (08.01.2018): A New Approach to Trait-based Plankton Modelling.
3. Karanth, Praveen, IISC, Bangalore (06.03.2018): Dispersal vs. Vicariance: The origin of India's extant tetrapod fauna.
4. Sarkar, Ramrup, CEPD, CSIR – National Chemical Laboratory, Pune (23.08.2017): Systems Biology of Leishmaniasis: Genome to Population.
5. Schreiber, Igor, ICE, Prague, Czech Republic (12.01.2018): Chemical Process Modelling.

### ***Human Genetics Unit, Kolkata***

1. Biswas, Roopa, Dept. of Anatomy, Physiology and Genetics, University of the Health Sciences, Bethesda, MD, West Bengal (05.12.2017): Innovations in Cancer Research: RNA-based Therapeutics for Prostate Cancer.
2. Majumder, Arunabha, Department of Biostatistics, UCLA, Los Angeles (09.01.2018): An efficient Bayesian meta-analysis approach for studying cross-phenotype genetic associations.

## **Social Sciences Division**

### ***Economic Research Unit, Kolkata***

1. Bera, K. Anil, Department of Economics, University of Illinois, Urbana Champaign, USA (22.06.2017): Testing/Tasting Spatial Models: A Specification Search Approach.
2. Basuchoudhary, Atin, Virginia Military Institute, Lexington, VA (27.07.2017): Using Machine Learning to Predict Conflict.
3. Brueckner, Markus, Australian National University, Australia (07.12.2017): Inequality and Economic Growth: the Role of Initial Income.
4. Bag, Primal, Department of Economics, National University of Singapore, Singapore (28.12.2017): Project Implementation and Unrewarded Talent.
5. Bhattacharjee, Arnab Professor of Economics and Director, Spatial Economics & Econometrics Centre (SEEC), Heriot-Watt University, Edinburgh, United Kingdom (22.03.2018): How (Not) to do the Cholesky Decomposition: or, How Does the UK Economy Respond to International Shocks?
6. Chatterjee, Chirantan, Economics & Public Policy, Indian School of Business, Knowledge City, Sector 81, SAS Nagar, Mohali, Punjab (15.06.2017): IPR and Organization of Knowledge: New Evidence from India.
7. Chatterjee, Kalyan, Department of Economics, The Pennsylvania State University, University Park, PA, USA (07.07.2017): On Interim Rationality, Belief Formation, and Learning in Decision Problems with Bounded Memory.
8. Dutta, Souvik, Indian Institute of Management, Bangalore (18.05.2017): Social Reform as Path to Political Leadership: A Dynamic Model.

## Conferences and Seminars

9. Das, Somnath, Department of Economics, Purdue University, USA (24.08.2017): Effect of Merger on Market Price and Product Quality: American and US Airways.
10. Dutta, Bhaskar, Department of Economics, University of Warwick, UK and Ashoka University, Haryana (01.11.2017): Coalition Formation and History Dependence.
11. Dietrich, Franz Paris School of Economics, CNRS, France (20.02.2018): A Theory of Bayesian Groups.
12. Ferrero, Mario, Department of Economic, University of Eastern Piedmont, Italy (12.10.2017): Incentives Beyond the Grave.
13. Ferrero, Mario, Department of Economic, University of Eastern Piedmont, Italy (02.11.2017): The Economics of Religion: An Overview of Research.
14. Ferrero, Mario, Department of Economic, University of Eastern Piedmont, Italy (09.11.2017): Divine Competition in Greco-Roman Polytheism.
15. Lahkar, Ratul, Department of Economics, Indian institute of Management, Udaipur (16.10.2017): An Evolutionary Analysis of Growth and Fluctuations with Negative Externalities.
16. Lahiri, Sajal, Department of Economics, Southern Illinois University, U.S.A. (21.12.2017): Why Direct Counter-Terror Measures Only May Fail.
17. Mukherjee, Conan, Indian Institute of Technology, Bombay (01.06.2017): On Evaluating Authors' Performance by Publications: An Axiomatic Study.
18. Nath, Swaprava, Indian Institute of Technology, Kanpur (28.02.2018): Surprise in Elections.
19. Ranjan, Abhishek, Department of Management Engineering, Technical University of Denmark (03.08.2017): Vickrey Meets Alonso: Commute Scheduling and Congestion in a Monocentric City.
20. Shah, Ajay, National Institute for Public Finance and Policy, New Delhi (08.08.2017): Data-driven Techniques in Measuring the Exchange Rate Regime.
21. Saha, Shrabani, Lincoln International Business School, University of Lincoln, United Kingdom (10.08.2017): The Impact of National Institutional Quality on International Tourism Inflows: Cross-Country Evidence.

## ***Linguistic Research Unit, Kolkata***

1. Barlow, Michael, Applied Linguistics Studies, University of Auckland, New Zealand (02.03.2018): How to use NLP Toolkits in analysis of corpus texts.
2. Ehsanul, Kabir, Mitcham Institute, Victoria, Australia (08.11.2017): The state and status of language technology works in Bangla language.
3. Santosh, T.S., Institute of English Teaching, Muscat, Oman (21.06.2017): Some new methods of Computer Assisted language Teaching.
4. Warsi, M. Jahangir, Washington University of St. Luis. USA (12.07.2017): Linguistic diversities in texts used in social networking communication.

***Population Studies Unit, Kolkata***

1. Chattopadhyay, Kiranmoy, Department of Statistics, Bidhannagar College, Kolkata (07.12.2017): Estimation of Error in Census or Vital Events Coverage: A New Capture-Recapture Model.
2. Kanjilal, Barun, Indian Institute of Health Management Research, Rajasthan (IIHMR) (23.03.2018): Transformation in Indian Healthcare Market: some recent evidences.
3. Mukhopadhyay, Simantini, Institute of Development Studies, Kolkata (15.03.2018): How misleading is self-reported morbidity? Revisiting Sen's positional objectivity.
4. Raut, Lakshmi Kant, Indian Institute of Management, Udaipur, Rajasthan, (02.05.2017): Early Childhood Development, Earnings Inequality and Social Mobility in an Educational Signaling Model.
5. Yadav, Ashish Kumar, ESI-Post Graduate Institute of Medical Sciences & Research, Kolkata, (09.02.2018): Child Survival: An Epidemiological Understanding using Survival Models.

***Sampling and Official Statistics Unit, Kolkata***

1. Lahiri, Partha, University of Maryland, USA (05.09.2017): Small Area Estimation: An Introduction.

***Economics and Planning Unit, Delhi***

1. Anukriti, S, Boston College, USA (21.07.2017): On the Quantity and Quality of Girls: New Evidence on Abortion, Fertility, and Parental Investments.
2. Bhalla, Manaswini, IIM, Bangalore (05.05.2017): The Business of Religion and Caste in India.
3. Bhadury, Soumya Suvra, National Council of Applied Economics Research, New Delhi (19.05.2017): Has Money Lost Its Relevance? Resolving the Exchange Rate Disconnect Puzzle in the Small, Open Economies.
4. Bluffstone, Randall A., Portland State University, United States (23.02.2018): If People Pay for Improved Biomass Stoves, Do they Use Them More Frequently? Evidence from a Field Experiment in Ethiopia.
5. Bhargava, Alok, University of Maryland, USA (06.03.2018): Climate variability, rice production and groundwater depletion in India.
6. Chakraborty, Pavel, Jawaharlal Nehru University, New Delhi (27.10.2017): IPR and Organization of Knowledge.
7. Chaudhuri, Ritwik, IBM Research (19.01.2018): Study of evolution of cooperation in a peer influence based network.
8. Dasgupta, Kunal, University of Toronto, Canada (21.04.2017): Distribution Costs, Product Quality, and Cross-Country Income Differences.
9. Dubey, Pradeep, Stony Brook University, USA (23.05.2017): Insurance contracts with competitive pooling.

## Conferences and Seminars

10. Dutta, Bhaskar, University of Warwick, UK and Ashoka University, Haryana (01.09.2017): Coalition Formation and History Dependence.
11. Das, Mausumi, Delhi School of Economics, Delhi (03.11.2017): Culture & Market: A Macroeconomic Tale of Two Institutions.
12. Deb, Rahul, University of Toronto, Canada (29.08.2017): Evaluating Strategic Forecasters.
13. Das, Sanjukta, NCAER, New Delhi (02.02.2018): Whose Right Is It Anyway? Welfare Implications of Food Security Programs.
14. Dutta, Bhaskar, Ashoka University, Haryana (16.03.2018): Efficient Partnership formation in networks.
15. Halevy, Yoram, University of British Columbia, British Columbia and University of Toronto, Canada (22.02.2018): Behavioral Bargaining.
16. Hassler, John, IIES, Stockholm University, Sweden (22.03.2018): Integrated Assessment in a Multi-region World with Multiple Energy Sources and Endogenous Technical Change.
17. Javadekar, Apoorva, CAFRAL, Maharashtra (07.09.2017): Mutual Fund Flows and Fund's Strategic Behavior When Investors Are Inattentive.
18. Juneja, Sandeep, TIFR, Mumbai (10.01.2018): Credit Risk: Simple Closed Form Approximate Maximum Likelihood Estimator.
19. Kishore, Kaushal, University of Pretoria, South Africa (07.04.2017): Dynamic Tax Competition, Home Bias and the gain from Non-preferential Taxation Regimes: A case for unilateral commitment.
20. Krishnapriya, P.P. Delhi School of Economics, Delhi (04.05.2017): Effects of information on energy related choices: Experimental evidence from rural Uttar Pradesh and Kerala.
21. Kacker, Kanishka, World Bank (29.05.2017): Does Regulation distort Costs? Reassessing evidence from the US Electricity Industry.
22. Kochhar, Nishtha, Georgetown University, USA (18.08.2017): Jati inequality in rural India.
23. Lahiri, Amartya, University of British Columbia, British Columbia & CAFRAL, Maharashtra (15.09.2017): Urbanization, Structural Transformation and Rural-Urban Disparities in China and India.
24. Morduch, Jonathan, NYU, USA (26.07.2017): Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh.
25. Mani, Subha, Fordham University, USA (04.08.2017): Cognitive, Socioemotional, and Behavioral Returns to College Quality.
26. Moorthy, Sridhar, University of Toronto, Canada (08.11.2017): Advertising strategy in the presence of reviews: an empirical analysis.
27. Mookherjee, Dilip, Boston University, USA (07.03.2018): Communities, Networks and Development.

## Conferences and Seminars

28. Maniquet, François, UC Louvain, Belgium (19.03.2018): Condorcet consistency in large elections with boundedly rational voters.
29. Nath, Swaprava, Carnegie Mellon University, USA (07.07.2017): Surprise in Elections.
30. Pant, Manoj, Jawaharlal Nehru University, New Delhi (06.10.2017): Coincident Indicators and Forecasting in Economics using EEDM Analysis: A Study of the IIP.
31. Raghavan, Madhav, HEC, University of Lausanne, Switzerland (12.01.2018): Priority Rules in Project Allocation.
32. S, Aney, Madhav, Singapore Management University, Singapore (28.04.2017): Corruption in the Supreme Court of India.
33. Sarkar, Sumit, University of Texas, Dallas (13.10.2017): Know When to Run: Making Recommendations in Crowdsourcing Contests.
34. Serizawa, Shige, Osaka University, Japan (20.03.2018): Minimum price Walrasian equilibrium for general preferences: Serial Vickrey mechanisms.
35. Thakur, Gogol Mitra, Ambedkar University, Delhi (18.10.2017): Petty Services, Profit-Led Growth and Rural-Urban Migration in a Developing Economy.
36. Venkatesh, Raghul S, Aix-Marseille School of Economics, France (09.03.2018): Information Transmission with Substitutability and Resource Constraints.

## ***Economic Analysis Unit, Bangalore***

1. Durga, A.R, Tamil Nadu Agricultural University, Coimbatore (13.11.2017): Water Institutions, Transaction Cost and Efficiency: The Case of Water user Associations in Kerala
2. Narayana, D., Gulati Institute of Finance and Taxation, Kerala (28.06.2017): Demonstration and Impact in GDP.
3. Pais, Jesim, Society for Social and Economic Research, New Delhi, (19.02.2018): An Overview of the Global Pulses Economy.
4. Reddy, Sajnay, New School for Social Research, New York (18.01.2018): PCM Lecture, Who gets what in the World? Insights from the Global Consumption and Income Project.
5. Singh, Shamsher, Indian Institute of Management, Ahmedabad (02.01.2018): Conceptualising Caste and Social Hierarchy: A Sociological Enquiry.
6. Singh, Shamsher, Indian Institute of Management, Ahmedabad (08.01.2018): Caste, Class and Agrarian Structure: Studies from the Field.
7. Singh, Shamsher, Indian Institute of Management, Ahmedabad (19.01.2018): Gender, Land and Agrarian Relations.

## **Center for Soft Computing Research, Kolkata**

1. Bhattacharjee, Shrutilipi, Technical University of Munich, Germany (20.04.2017): Semantic Kriging: A Semantically Enhanced Approach for Spatial Interpolation.

## Conferences and Seminars

2. Brahmachary, R.L., Bose Institute, Kolkata (03.01.2018): Intelligence in Plants, Animals and Machines.
3. Das, Sumantra, Indian Institute of Chemical Biology, Kolkata (18.08.2017): Molecular basis to therapy.
4. Frery, A.C, Universidade Federal de Alagoas, Brazil (13.02.2018): Statistical Information Theory and Geometry for SAR Image Analysis.
5. Guha, Debatosh, Institute of Radio Physics and Electronics, University of Calcutta, Kolkata (15.09.2017): A Story of Challenges and Success in Research Career of an Engineer.
6. Misra, Sudip, IIT Kharagpur, West Bengal (09.06.2017): Internet of Things: Enabling Cross-Domain Convergence and Innovation.



## 5. SANKHYĀ

The internationally renowned journal *Sankhyā*, an official publication of the Indian Statistical Institute, was founded by Professor P.C. Mahalanobis in 1932 and began publication under his editorship. It is devoted to original research articles in Probability, Mathematical Statistics and Applied Statistics. Reviews and discussion articles on current research activity in the above areas are also published. A rigorous peer review process is followed for acceptance of articles submitted for publication in *Sankhyā*. Many seminal articles in Probability, Theoretical Statistics and Applied Statistics have appeared in *Sankhyā*. The journal is published in two separate series – Series A and Series B. Series A with two issues per year, one in February and the other in August, covers Probability and Theoretical Statistics, while Series B with two issues per year, one in May and the other in November, covers Applied and Interdisciplinary Statistics. The present Editorial Board (till December 2018) of *Sankhyā* is as follows:

Editor-in-Chief	: Dipak K. Dey, University of Connecticut, USA.
Series A Editors	: Krishna Athreya, Iowa State University, Ames, USA : Gopal K. Basak, Indian Statistical Institute, Kolkata, India : Francisco Louzada, University of Sao Paulo, Sao Paulo, Brazil
Series B Editor	: Sudipto Banerjee, University of California, Los Angeles, USA : Bertrand Clarke, University of Nebraska, Lincoln, USA : Bani Mallick, Texas A & M University, College Station, USA : Sumitra Purkayastha, Indian Statistical Institute, Kolkata, India
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Technical Support	: Urmichhanda Bhattacharya, Indian Statistical Institute, Kolkata, India
Editorial Office Support	: Ranjit Mandal, Indian Statistical Institute, Kolkata, India : Sarvagnan Subramanian, Springer Journal's Editorial Office, Chennai, India

Beginning 2010, the Institute has been collaborating with Springer for printing and marketing the international edition of *Sankhyā*, in both prints and electronic editions. The editorial system is now completely electronic, that is, the entire process starting from submission of articles to editorial processing ending in final editorial decision for articles is now done online. The free access to the articles of every editions of *Sankhyā* is available through the *Sankhyā* website ([sankhya.isical.ac.in](http://sankhya.isical.ac.in)).

The figures below provide the sale volume of the international subscription (in Indian Rupees) for the year 2017.

Series	Print Edition	Online Subscription	Other	Total	Royalty Received by ISI (after deduction of expenditure and TDS)
A	3,20,562.63	5,16,163.48	7,08,337.24	15,45,063.35	<b>10,39,761.00</b>
B	3,20,591.87	3,54,400.90	7,07,313.08	13,82,305.85	
A & B		26,257.89		26,257.89	

The following issues have been published during April 2017 to March 2018:

May, 2017	: Volume 79, Part I, Series B [Both Electronic and Print Editions]
August, 2017	: Volume 79, Part II, Series A [Both Electronic and Print Editions]
November, 2017	: Volume 79, Part II, Series B [Both Electronic and Print Editions]
February, 2018	: Volume 80, Part I, Series A [Both Electronic and Print Editions]

## 6. SCIENTIFIC PAPERS AND PUBLICATIONS

(Some Publications may have multiple entries due to collaboration across Units)

### Books Published

#### Theoretical Statistics and Mathematics Division

##### *Stat-Math Unit, New Delhi*

1. Isha, Dewan, Deshpande, Jayant V. and Naik, Nimbalkar Uttara: *Nonparametric Statistics - Theory and Methods*, World Scientific, Singapore, 2017.

#### Applied Statistics Division

##### *Applied and Official Statistics Unit, Tezpur*

1. Hyde, M., Chungkham, H.S. and Ladusingh, L.: *Work and Health in India*, Policy Press, University of Bristol, London, United Kingdom, 280, ISBN 978-1447327363, 2017.

#### Computer and Communication Sciences Division

##### *Computer Vision and Pattern Recognition Unit, Kolkata*

1. Margner, V., Pal, Umapada and Antonacopoulos, A.: *Document Analysis and Text Recognition*, World Scientific, ISBN: 9789813229266, 2018.
2. Majumder, P., Mitra, M., Mehta, P. and Sankhavara, J. (eds.): *Text Processing - FIRE 2016 International Workshop*, Revised Selected Papers, Kolkata, LECTURE NOTES IN COMPUTER SCIENCE (LNCS) 10478, Springer, ISBN 978-3-319-73605-1, 2018.
3. Majumder, P., Mitra, M., Mehta, P. and Sankhavara, J. (eds.): *9th Annual Meeting of the Forum for Information Retrieval Evaluation (FIRE 2017)*, Bangalore, 2017, ACM, ISBN 978-1-4503-6382-2, 2017.

##### *Electronics and Communication Sciences Unit, Kolkata*

1. Jana, N.D., Das, S. and Sil, J.: *A Metaheuristic Approach to Protein Structure Prediction: Algorithms and Insights from Fitness Landscape Analysis*, Springer, eBook ISBN: 978-3-319-74775-0, Hardcover ISBN: 978-3-319-74774-3, Online Version: DOI: 10.1007/978-3-319-74775-0, 2018.

##### *Machine Intelligence Unit, Kolkata*

1. Ghosh, A., Pal, R. and Prasath, R. (eds.): *Mining Intelligence and Knowledge Exploration:*

*5th International Conference (MIKE 2017)*, Hyderabad, Springer, 10682, 2018.

2. Thampi, S.M., Mitra, S., Mukhopadhyay, J., Li, K.-C., James, A.P. and Berretti, S. (eds.): *Intelligent Systems Technologies and Applications 2017*, Series: Advances in Intelligent Systems and Computing, Springer, 2017.

### **Systems Science and Informatics Unit, Kolkata**

1. Majumdar, Kaushik: *A brief survey of quantitative EEG*, Taylor & Francis–CRC Press, Boca Raton, FL, USA, 2017.
2. Sagar, B.S.D., Cheng, Q. and Agterberg, F.: *Handbook of Mathematical Geosciences: Fifty Years of IAMG*, Springer, New York, ISBN 978-3-319-78998-9 (Hardback), Online Version: DOI: 10.1007/978-3-319-78999-6, 1001, 2018.

### **Social Sciences Division**

#### **Economic Research Unit, Kolkata**

1. Chakravarty, Satya R.: *Analyzing Multidimensional Well-Being: A Quantitative Approach*, John Wiley, New Jersey, 319, 2017.
2. De, U.K., Pal, M. and Bharati, P.: *Issues on Health and Healthcare in India: Focus on the North Eastern Region*, (India Studies in Business and Economics) Springer Nature Singapore Pvt. Ltd., ISBN 978-981-10-6103-5, ISBN 978-981-10-6104-2 (eBook), ISSN 2198-0020 (electronic), ISSN 2198-0012, 2018.
3. De, U.K., Pal, M. and Bharati, P.: *Inequality, Poverty and Development in India: Focus on the North Eastern Region*, (India Studies in Business and Economics) Springer Nature Singapore Pvt. Ltd., ISBN 978-981-10-6273-5, ISBN 978-981-10-6374-2 (eBook), ISSN 2198-0020 (electronic), ISSN 2198-0012, 2017.

#### **Linguistic Research Unit, Kolkata**

1. Dasgupta, Probal, Ertl, István, Jacobsen, Jesper and Moinhos, Suso (ed.): *Beletra Almanako 28*, Mondial, New York, ISBN: 9781595693440, 2017.
2. Dasgupta, Probal, Ertl, István, Jacobsen, Jesper and Moinhos, Suso (ed.): *Beletra Almanako 29*, Mondial, New York, ISBN: 9781595693471, 2017.
3. Dasgupta, Probal, Ertl, István, Jacobsen, Jesper, Moinhos, Suso and Ruggiero, Nicola (ed.): *Beletra Almanako 30*, Mondial, New York, ISBN: 9781595693617, 2017.
4. Dash, NiladriSekhar and Arulmozi, S.: *History, Features, and Typology of Language Corpora*, Singapore, Springer Nature, ISBN: 978-981-10-7457-8 (Hardback), 322 (Hardback), Online Version: <https://www.springer.com/us/book/9789811074578>, 2018.
5. Kiselman, ChristerOscar, Corsetti, Renato and Dasgupta, Probal (eds.): *Aliroj al Esperanto*, Kava-Pech, Dobřichovice, Czech Republic, ISBN: 9788087169865, 2018.

## Publications

### ***Sociological Research Unit, Kolkata***

1. Ghosh, BholaNath and Himansu, Ghosh (eds.): *Social Problems in India*, Concept Publishing Company, New Delhi, Pages 266+xix, ISBN:13:978-93-86682-02-4, 2017.

### ***Economics and Planning Unit, Delhi***

1. Ray, Tridip and Mishra, Ajit (eds.): *Markets, Governance, and Institutions in the Process of Economic Development*, Oxford University Press, Oxford, UK, 392, 2018.

### ***Economic Analysis Unit, Bangalore***

1. Swaminathan, Madura and Bakshi, Sandipan: *How Do Small Farmers Fare: Evidence from Village Studies in India*, Tulika Books, New Delhi, 2017.

## **Library, Documentation and Information Sciences Division**

### ***Library, Kolkata***

1. Ganguly, Nibedita: *An Annotated Chronological History of Indian Statistical Institute 1931-2006*, Library, Documentation and Information Science Division, ISBN: 978-81-927468-1-4, 2018.

## **Centre for Soft Computing Research, Kolkata**

1. Ghosh, A., Pal, R. and Prasath, R. (eds): *Mining Intelligence and Knowledge Exploration*, 5th International Conference, Mining Intelligence and Knowledge Exploration (MIKE) 2017, Hyderabad, **Vol. 10682**, Springer, 2018.
2. UmaShankar, B., Ghosh, K., Mandal, D.P., Ray, S.S., Zhang, D. and Pal, S.K. (eds.): *Pattern Recognition and Machine Intelligence*, 7th International Conference on Pattern Recognition and Machine Intelligence (PReMI'17), Springer, LECTURE NOTES IN COMPUTER SCIENCE (LNCS), **Vol. 10597**, ISBN 978-3-319-69900-4 (ebook) ISBN 978-3-319-69899-1, 2017.

## **Papers Published in Journals**

### **Theoretical Statistics and Mathematics Division**

#### ***Stat-Math Unit, Kolkata***

1. Biswas, Indranil and Datta, Mahuya: Non-orientable manifolds, complex and symplectic structures and characteristic classes, *Bulletin of Mathematical Sciences*, **141**, 2017.
2. Basak, G K., Ghosh, M.K. and Mukherjee, D.A: Stochastic Model with Inflation, Growth and Technology for the Political Business Cycle, *Computational Economics*, Online Version: <https://doi.org/10.1007/s10614-017-9729-x>, 2017.

3. Basak, Gopal, K., Das, Pranab, Kumar and Rohit, Allena: Capital inflow-terms of trade 'nexus': Does it lead to financial crisis? *Economic Modelling*, **65**, 18-29, 2017.
4. Bandyopadhyay, Pradipta, Dutta, S. and Sensarma, A.: Almost Isometric Ideals and Non-Separable Gurariy Spaces, *Journal of Mathematical Analysis and Applications*, **462**, 279–284, 2018.
5. Dutta, Amartya Kumar: Weighted Arithmetic Mean in Ancient India, *Bhavana*, **1(4)**, 24-36, 2017.
6. Dasgupta, Amites and Datta, Mahuya: Nash twist and Gaussian noise measure for isometric C1 maps, *Communications on Stochastic Analysis*, **11**, 2017.
7. Das, Mrinal K., Tikader, Soumi, Zinna, and Md. Ali: Orbit spaces of unimodular rows over smooth real affine algebras, *Inventiones Mathematicae*, **212**, 133-159, 2018.
8. Goswami, Debashish and Joardar, Soumalya: Non-existence of faithful isometric action of compact quantum groups on compact, connected Riemannian manifolds, *Geometric And Functional Analysis*, **28 (1)**, 146-178, 2018.
9. Gupta, Neena: Some problems on polynomial rings, *Mathematics Student*, **86(3-4)**, 7-19, 2017.

### **Stat-Math Unit, Delhi**

1. Bapat, Ravindra B. and Roy, Souvik: Cayley-Hamilton for mixed discriminants, *Journal of Combinatorial Mathematics and Combinatorial Computing*, **101**, 223-231, 2017.
2. Bapat, Ravindra B., Jain, Surendra Kumar, Karantha, Manjunatha Prasad and Raj, M. David: Outer inverses: Characterization and applications, *Linear Algebra and Its Applications*, **528**, 171-184, 2017.
3. Bapat, R.B. and Karimi, Masoud: Construction of cospectral integral regular graphs, *Discussiones Mathematicae Graph Theory*, **37(3)**, 595-609, 2017.
4. Bapat, R.B., Panda, S.K. and Pati, S.: Self-inverse unicyclic graphs and strong reciprocal eigenvalue property, *Linear Algebra and Its Applications*, **531**, 459-478, 2017.
5. Bapat, R.B., Kalita, D., Nath, M. and Sarma, D.: Convex and quasiconvex functions on trees and their applications, *Linear Algebra and Its Applications*, **533**, 210-234, 2017.
6. Bapat, Ravindra B., Karimi, Masoud and Liu, Jia-Bao: Kirchhoff index and degree Kirchhoff index of complete multipartite graphs, *Discrete Applied Mathematics*, **232**, 41-49, 2017.
7. Bapat, Ravindra B., Karantha, Manjunatha Prasad, Nandini, Nupur and Shenoy, Divya P.: Outer inverses and Jacobi type identities, *Linear Algebra and Its Applications*, **536**, 274-294, 2018.
8. Bapat, Ravindra B., Fujita, Shinya, Legay, Sylvain, Manoussakis, Yannis, Matsui, Yasuko, Sakuma, Tadashi and Tuza, Zsolt: Safe sets, network majority on weighted trees, *Networks*, **71(1)**, 81–92, 2018.
9. Bapat, Ravindra B. and Karimi, Masoud: Integral complete multipartite graphs, *Linear Algebra and Its Applications*, **549**, 1-11, 2018.

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10. Chatterjee, Arindam: High-dimensional simultaneous inference with the bootstrap, *TEST*, **26 (4)**, 729-730, 2017.
11. Dewan, Isha, Sreedevi E.P. and Sankaran, P.G.: A martingale based test for independence of time to failure and cause of failure for competing risks models, *Communications of Statistics -Theory and Methods*, **46**, 8178-8186, 2017.
12. Dewan, Isha and Garg, Mansi: On limiting distribution of U-statistics based on associated random variables, *Statistics and Probability Letters*, 7-16, 2018.
13. Dewan, Isha and Garg, Mansi: On estimation of limiting variance of partial sums of functions of associated random variables, *Journal of Statistical Planning and Inference*, 1-17, 2018.
14. Jain Tanvi: Hadamard powers of some positive matrices, *Linear Algebra and its Applications*, 528, 147-158, 2017.
15. Laishram, Shanta, Das, P. and Saradha, N.: \emph{Variations of Erd\H{o}s-Selfridge superelliptic curves and their rational points}, *Mathematika*, **64**, 380-386, 2018.
16. Laishram, Shanta, Jindal, A. and Sarma, R.: \emph{Irreducibility and Galois Groups of Generalized Laguerre Polynomials  $L_n^{(-1-n-r)}(x)$ }, *Journal of Number Theory*, **183**, 388-406, 2018.
17. Roy. Rahul and Tanemura, Hideki: Percolation clusters as generators of orientation ordering, *Journal of Statistical physics*, **168**, 1259-1275, 2017.
18. Singh, Ranveer and Bapat, Ravindra. B.: On characteristic and permanent polynomials of a matrix, *Special Matrices*, **5**, 97-112, 2017.

## **Stat-Math Unit, Bangalore**

1. Athreya, K.B. and Rajeev, B.: Weak convergence of the past and future of Brownian motion given the present, *Proceedings of the Indian Academy of Sciences – Mathematical Sciences*, **127(1)**, 165–174, 2017.
2. Athreya, Siva, Löhr, Wolfgang and Winter, Anita: Invariance principle for variable speed random walks on trees, *Annals of Probability*, **45(2)**, 625–667, 2017.
3. Bagchi, Bhaskar, Datta, Basudeb and Spreer, Jonathan: A characterization of tightly triangulated 3-manifolds, *European Journal of Combinatorics*, **61**, 133-137, 2017.
4. Bhattacharya, Ayan, Hazra, RajatSubhra and Roy, Parthanil: Branching random walks, stable point processes and regular variation, *Stochastic Process. Appl.*, **128(1)**, 182-210, 2018.
5. Bhat, B.V. Rajarama, Mallick, Nirupama and Sumesh, K.: Regular representations of completely bounded maps, *Pacific J. Math.*, **289(2)**, 257-286, 2017.
6. Chattopadhyay, A., Das, B.K. and Sarkar, Jaydeb: Rank of a co-doubly commuting submodule is 2, *American Math Society*, **146**, 1181-1187, 2018.
7. Das, B.K., Sarkar, S. and Sarkar, Jaydeb: Factorizations of Contractions, *Advances in Mathematics*, **322**, 186-200, 2017.

8. Foias, C., Pearcy, C. and Sarkar, Jaydeb: Contractions with Polynomial Characteristic Functions II Analytic Approach, *Journal of Operator Theory*, **78**, 281-291, 2017.
9. Glöckner, Helg and Raja, C.R.E.: Expansive automorphisms of totally disconnected, locally compact groups, *J. Group Theory*, **20(3)**, 589–619, 2017.
10. Joseph, Mathew, Khoshnevisan, Davar and Mueller, Carl: Strong invariance and noise-comparison principles for some parabolic stochastic PDEs., *Ann. Probab.*, **45(1)**, 377–403, 2017.
11. Kumar, Manish: Embedding problems for open subgroups of the fundamental group, *Ann. Inst. Fourier (Grenoble)*, **67(6)**, 2623–2649, 2017.
12. Nair, S.G. and Shorey, T.N.: Generalized Lagurre polynomials with applications, *Math. Student*, **86**, 87–101, 2017.
13. Nair, S.G. and Shorey, T.N.: Fibonacci sequence with applications and extensions, *Math. Student*, **86**, 55–62, 2017.
14. Nair, S.G. and Shorey, T.N.: On products from blocks of consecutive odd integers, *Publ. Math. Debrecen*, **92**, 1-15, 2018.
15. Rajarama Bhat, B.V., Lindsay, J. Martin and Mukherjee, Mithun: Additive units of product systems, *Trans. Amer. Math. Soc.*, **370(4)**, 2605–2637, 2018.
16. RajaramaBhat, B.V., Parthasarathy, K.R. and Sengupta, Ritabrata: On the equivalence of separability and extendability of quantum states, *Rev. Math. Phys.*, **29(4)**, 16, 2017.
17. Rao, T.S.S.R.K.: A Cheney and Wulbert type lifting theorem in optimization, *Boll. Unione Mat. Ital*, **10(4)**, 585–589, 2017.
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19. Rao, T.S.S.R K.: On a theorem of Abatzoglou for operators on abstract  $L$  and  $M$ -spaces, *J. Math. Anal. Appl.* **453(2)**, 1000–1004, 2017.
20. Rao, T.S.S.R.K.: Into isometries that preserve finite dimensional structure of the range, *Problems and recent methods in operator theory*, Contemporary Mathematics- American Mathematical Society, Providence, Rhode Island, USA, **687**, 219–224, 2017.
21. Reddy, NandaKishore: Equality of Lyapunov and Stability Exponents for Products of Isotropic Random Matrices, *International Mathematics Research Notices*, Online Version: DOI: <https://doi.org/10.1093/imrn/rnx134>, 2017.
22. Reddy, Tulasiram, Vadlamani, Sreekar and Yogeshwaran, D.: Central limit theorem for exponentially quasi-local statistics of spin models on Cayley graphs, *Journal of Statistical Physics*, Online Version: DOI: 10.1007/s10955-018-2026-9, 2018.
23. Sarkar, Jaydeb, Trivedi, H. and Veerabathiran, H.: Covariant representations of subproduct systems: Invariant subspaces and curvature, *New York Journal of Mathematics*, **24**, 211-232, 2018.
24. Sury, B.: Fifteen, two hundred and ninety and Bhargava, *Math. Newsl.* **27(3)**, 183–187, 2017.

## Applied Statistics Division

### *Applied Statistics Unit, Kolkata*

1. Atkinson, Anthony C. and Biswas, Atanu: Optimal response and covariate-adaptive biased-coin designs for clinical trials with continuous multivariate or longitudinal responses, *Computational Statistics and Data Analysis*, **113**, 297-310, ISSN 0167-9473, 2017.
2. Angers, J.F., Biswas, A. and Maiti, R.: Bayesian forecasting for time series of categorical data, *Journal of Forecasting*, **36**, 217–229, 2017.
3. Basak, Papri, Maitra-Majee, Susmita, Das, JayantaKumar, Begum, Tina, Ghosh, Dastidar, Shubhra, Pal Choudhury, Pabitra and Majumder, ArunLahiri: An evolutionary conserved pentapeptide stretch contains the two essential Lysine residues for L-myo-inositol 1-phosphate synthase catalytic activity, *PLoS ONE*, **12(9)**, Online Version: DOI: org/10.1371/journal.pone.0185351, 2017.
4. Bhuyan, P. and Dewanji, A.: Estimation of system reliability for dynamic stress-strength modeling with cumulative stress and strength degradation, *Statistics*, **51**, 766-781, 2017.
5. Bhuyan, P. and Sengupta, D: Estimation of Reliability with Semi-parametric Modelling of Degradation, *Computational Statistics and Data Analysis*, **115**, 172-185, 2017.
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7. Biswas, A., Bhattacharya, R. and Mukherjee, T.: An adaptive allocation design for circular treatment outcome, *Journal of Statistical Theory and Practice* Volume, **11(4)**, 719-730, 2017.
8. Budhiraja, S., Pradhan, B. and Sengupta, D.: Maximum likelihood estimators under progressive Type-I interval censoring, *Statistics and Probability Letters*, **123**, 202-209, 2017.
9. Chakrabarti, Arijit and Ghosh, Prasensjit: Asymptotic optimality of one-group shrinkage priors in sparse high-dimensional problems, *Bayesian Analysis*, **12(4)**, 1133-1161, 2017.
10. Das, JayantaKumar, Pal Choudhury, Pabitra, Chaturvedi, Neelambuj, Tayyab, Mohd and Hassan, Sk.Sarif: Ranking and clustering of Drosophila olfactory receptors using mathematical morphology, *Genomics*, ISSN: 0888-7543, Online Version: <https://doi.org/10.1016/j.ygeno.2018.03.010>, 2018.
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13. Khoo, W.C., Ong, S.H. and Biswas, A.: Modelling time series of counts with a new class of INAR (1) models, *Statistical Papers*, **58**, 393, 2017.
14. Komaki, F. and Biswas, A.: Bayesian optimal response-adaptive design for binary responses using stopping rule, *Statistical Methods in Medical Research*, **27(3)**, 891-904, Online Version: DOI: 10.1177/0962280216647210, 2018.



15. Maiti, R. and Biswas, A.: Time series analysis of categorical data using auto-odds ratio function, *Statistics*, 2017, Online Version: <https://doi.org/10.1080/02331888.2017.1421196>, 2018.
16. Sahoo, S. and Sengupta, D.: Testing the hypothesis of increasing hazard ratio in two samples, *Computational Statistics and Data Analysis*, **114**, 119-129, 2017.
17. Samajder, Sudhabrata and Sarkar, Palash: Multiple (truncated) Differential Cryptanalysis Explicit Upper Bounds on Data Complexity Cryptography and Communications-Discrete Structures, *Boolean Functions and Sequences*, Online Version: DOI: <https://doi.org/10.1007/s12095-017-0268-z>, 2018.
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### ***Interdisciplinary Statistical Research Unit, Kolkata***

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### *Linguistic Research Unit, Kolkata*

1. Aman, Atul, Dash, NiladriSekhar and Chakraborty, Jayshree: A Sociolinguistic outline of Khortha, *4th National Language Conference (4NLC-2017)*, National Institute of Science and Technology, Berhampur, Online Version: <http://languageconference.in/page/programme>, 2017.
2. Das, Bishwa Ranjan, Maringanti, HimaBindu, and Dash, NiladriSekhar: Developing a Transliteration System from English to Odia by using a Statistical Method, *4th National Language Conference (4NLC-2017)*, National Institute of Science & Technology, Berhampur, Online Version: <http://languageconference.in/page/programme>, 2017.
3. Dash, NiladriSekhar and Chakraborty, Arpita: Extraction and Processing of Web-Based News Text Data to Create a Structured Corpus of Indian English, *23<sup>rd</sup> Himalayan Languages Symposium (HLS-23)*, Department of English and Foreign Languages, School of Humanities & Social Sciences, Tezpur, 11-12, 2017.
4. Dash, NiladriSekhar: Decomposing Bangla Verbs as Decontextualized Autonomous Lexical Units for Multi-Domain Applications, *23<sup>rd</sup> Himalayan Languages Symposium (HLS-23)*, Department of English and Foreign Languages, School of Humanities & Social Sciences, Tezpur, 42, 2017.
5. Dhar, Ankita, Dash, NiladriSekhar and Roy, Kaushik: Application of TF-IDF Feature for Categorizing Documents of Online Bangla Web Text Corpus, *6<sup>th</sup> International Conference on Frontiers of Intelligent Computing: Theory and applications (FICTA 2017)*, Bhubaneswar, 31-40, 2017.
6. Dhar, Ankita, Dash, NiladriSekhar and Roy, Kaushik: Categorization of Bangla Web Text Documents based on TF-IDF-ICF Text Analysis Scheme, *52<sup>nd</sup> Annual Convention of Computer Society of India (CSI 2017)*, Kolkata, **CCIS 836**, 477-484, 2018.

7. Dhar, Ankita, Dash, NiladriSekhar and Roy, Kaushik: Classification of Text Documents Through Distance Measurement: An Experiment with Multi-Domain Bangla Text Documents, *IEEE International Conference on Advances in Computing, Communication and Automation (ICACCA-2017)*, Dehradun, 21-26, 2017.

### ***Economics and Planning Unit, Delhi***

1. Rajashekara, H.M., Nagajothi, K., Sanda, AshokVardhan and DayaSagar, B.S.: Categorization of hierarchically partitioned Waterbody-spread via Moran's Index, *IEEE International Geoscience and Remote Sensing Symposium*, Texas, USA, 4518-4521, Online Version: DOI: 10.1109/IGARSS.2017.8128265, 2017.

### **Statistical Quality Control and Operations Research Division**

#### ***SQC & OR Unit, Bangalore***

1. John, Bobby: Improving the recruitment process quality using predictive modelling, *14th Annual Conference of Indian Society for Quality*, Online Version: [http://www.isqconference.org/wp-content/uploads/2018/01/12Paper\\_BobbyJohn\\_Improving-the-Recruitment-Process-using-Predictive-Modeling.pdf](http://www.isqconference.org/wp-content/uploads/2018/01/12Paper_BobbyJohn_Improving-the-Recruitment-Process-using-Predictive-Modeling.pdf), 2017.

### **Library, Documentation and Information Sciences Division**

#### ***Library, Kolkata***

1. Mandal, TapanKumar: Unification of Gold and Green Open Access Resources in the domain of Mathematics and Statistics, *33rd Annual Convention of the Society for Information Science & Conference on Open Access: The Road to Freedom*, Knowledge Resource Centre (Library), CSIR-IICB, Kolkata, 41, 2017.
2. Pal, J.K., Das, P.K. and Das, S.: Paradigm shift of institutional ownership to Open Access Repositories in an Indian Context, *33rd Annual Convention of the Society for Information Science & Conference on Open Access: The Road to Freedom*, Knowledge Resource Centre (Library), CSIR-IICB, Kolkata, 43-44, 2017.

### **Center for Soft Computing Research: A National Facility, Kolkata**

1. Bandyopadhyay, S.: Object of Interest Detection in Video Sequence using Co-segmentation: A New Era in Video Surveillance, *4th IEEE International Conference on Recent Advances In Information Technology (RAIT)*, 188-193, 2018.
2. Chandran, K.S., Banerjee, S. and Ghosh, K.: A Study onCrossmodal Correspondence in Sensory Pathways through Forced ChoiceTask and Frequency Based Correlation in Sound-Symbolism, *5th International Conference on Mining Intelligence and Knowledge Exploration (MIKE 2017)*, Lecture Notes in Computer Science, **10682**, Springer, Hyderabad, 212-220, 2017, ISBN 978-3-319-71927, Online Version: [https://doi.org/10.1007/978-3-319-71928-3\\_21](https://doi.org/10.1007/978-3-319-71928-3_21), 2017.

## Publications

3. Mukherjee, A., Roy, R., Paul, A. and Ghosh, K.: Blind spot filling in from retino-cortical perspectives based on colour and texture, *35th Annual Meeting of Indian Academy of Neuroscience*, 88-89, 2017.

## Papers Published in Books

### Theoretical Statistics and Mathematics Division

#### *Stat-Math Unit, Delhi*

1. Dewan, Isha and Nimbalkar, UttaraNaik: On Competing Risks with Masked Failures, *Mathematical and Statistical Applications in Life Sciences and Engineering*, Adhikari. A., Adhikari, M.R. and Chaubey, Y.P. (eds), Springer, Singapore, 257-281, 2017.

### Applied Statistics Division

#### *Interdisciplinary Statistical Research Unit, Kolkata*

1. Chatterjee, A., and Das, K.: State Estimation and Anomaly Detection in Wireless Sensor Networks, *Emerging Wireless Communications & Network Technologies*, Arya K., Bhadoria R., Chaudhari N. (eds), Springer, 317-334, Online Version: [https://doi.org/ 10.1007/978-981-13-0396-8\\_16](https://doi.org/10.1007/978-981-13-0396-8_16), 2018.

#### *Applied and Official Statistics Unit, Tezpur*

1. Magnusson, Hanson L.L., Hyde, M., Chungkham, H.S. and Westerlund, H.: Work Stress and Health: Theories and Models, *Work and Health in India*, Hyde M., Chungkham H.S., Ladusingh L (eds), Policy Press, University of Bristol, UK, 20-45, 2017.

### Computer and Communications Sciences Division

#### *Machine Intelligence Unit, Kolkata*

1. Bhattacharyya, M. and Bandyopadhyay, S.: Involvement of MicroRNAs in Alzheimer's Disease, *MicroRNA: Perspectives in Health and Diseases*, J. Paul, and R. Muthuswami (eds.), CRC Press, 97-112, 2018.
2. Pal, M. and Bandyopadhyay, S.: Exploration of Many-Objective Feature Selection for Recognition of Motor Imagery Tasks, *Progress in Intelligent Computing Techniques: Theory, Practice, and Applications, Advances in Intelligent Systems and Computing*, P. Sa, M. Sahoo, M. Murugappan, Y. Wu and B. Majhi (eds.), 719, Springer, Singapore, 331-337, Online Version: DOI: 10.1007/978-981-10-3376-6\_36, 2017.

**Systems Science and Informatics Unit, Bangalore**

1. Sagar, B.S.D.: Mathematical Morphology in Geosciences and GISci: An Illustrative Review, *Handbook of Mathematical Geosciences*, B. S. D. Sagar, Q. Cheng and F. Agterberg (eds.), Springer, Online Version: DOI: 10.1007/978-3-319-78999-6\_35, 2018.

**Biological Sciences Division**

**Biological Anthropology Unit, Kolkata**

1. Mukhopadhyay, B. and Sarkar, S.: Lifestyle correlates of metabolic syndrome among a tribal population inhabiting Siikim, India, *Anthropology in North East India*, S. Sengupta (ed.), Gyan Publishing House, New Delhi, 261-273, 2018.

**Social Sciences Division**

**Economic Research Unit, Kolkata**

1. Chakravarty, Satya R. and Chattopadhyay, Nachiketa: Multidimensional Poverty and Material Deprivation: Theoretical Approaches, *Handbook of Research on Economic and Social Well-being*, Conchita D'Ambrosio (ed.), Edward Elgar, Cheltenham, 153-170, 2018.
2. Dasgupta, I.: Linguistic Assimilation and Ethno-religious Conflict, *The Theory of Externalities and Public Goods: Essays in Memory of Richard C. Cornes*, W. Buchholtz and D. Ruebbelke (eds.), Springer International Publishing, Berlin, 219-242, 2017.
3. Sharma Biswas, C.: Women Empowerment in India, *Women's Entrepreneurship and Microfinance*, C. Neogi, A. Kumar Bhandari and S. Ghosh (eds.), Springer, 3-16, 2018.
4. Srivastava, M., Roy, P., Bharati, S., Pal, M. and Bharati, P.: Association of Nutritional Status and Drinking Water Among the Children of North East India, *Issues on Health and Healthcare in India: Focus on the North Eastern Region*, Utpal Kumar De, Manoranjan Pal and Premananda Bharati (eds.), Springer, 26, 459-465, 2018.

**Linguistic Research Unit, Kolkata**

1. Dasgupta, Probal: Rethinking free speech, *Ways with Language: A Festschrift in honour of Prof. Udaya Narayana Singh*, Shailendra Kumar Singh, Kavita Rastogi, Prasannanshu, Arimardan Kumar Tripathi, Jayati Chatterjee (eds.), Lakshi, New Delhi, 3-5, 2017.
2. Dasgupta, Probal: Between temples and templates: history's claims on the translator, *Reflections on Translation and the Ancient Indian Literature*, Mau Das Gupta, Satyajit Layek (eds.), Saptarshi, Kolkata, 106-121, 2017.
3. Dasgupta, Probal: Ain pravaasaat 'vaagh' badaltaanaa [tr. Renuka Ozarkar], *Bahubhaashiktaa: Gunvattaapuurna Shikshanaachaa Paayaa*, Avinash Pandey, Vinaya Malati Hari (eds.), Unique Academy, Pune, 184-201, 2017.

## Publications

4. Dasgupta, Probal: Du problemoj en la sintakso de Esperanto, *Aliroj al Esperanto*, Christer Oscar Kiselman, Renato Corsetti, Probal Dasgupta (eds.), Kava-Pech, Dobřichovice, 65-77, 2018.

### ***Psychology Research Unit, Kolkata***

1. De, Partha: Inequalities in Child Survival in Eight Northeastern States of India, *Issues on Health and Healthcare in India: India Studies in Business and Economics*, U. De, M. Pal and P. Bharati (eds.), Springer, Singapore, 319-337, ISBN 978-981-10-6103-5, Online Version: DOI <https://doi.org/10.1007/978-981-10-6104-2018>, 2018.
2. De, Partha: Maternal Mortality and Associated Risk Factors: A Study in Kolkata Metropolitan Area of West Bengal, India, *Social Problems in India*, B.N. Ghosh and H.S. Ghosh (eds.), Concept Publishing Company (P) Ltd. (India), New Delhi, 100-122, ISBN-13: 978-93-86682-02-4, 2017.

### ***Sociological Research Unit, Kolkata***

1. Ghosh, B.N and Chakraborty, Sujata: Education & Identity: A Case Study of a Santal village of West Bengal, *Social Problems in India*, Bhola Nath Ghosh and Himansu Ghosh (eds.), Concept Publishing Company, New Delhi, Pages 266+xix, ISBN -13:978-93-86682-02-4, 2017.
2. Ghosh, B.N.: Changing status of Khasi (Tribe): An Experiences of Rural Meghalaya, *Human Development and Sustainability Challenges and Strategies*, Asok Kumar Sarkar and Prasanta Kumar Ghosh (eds.), Atlantic Publishers & Distributors (P) Ltd., New Delhi, 127-141, 2017.

### ***Economics and Planning Unit, Delhi***

1. Mukhopadhyay, Abhiroop and Chandrasekhar, S.: The Changing Nature of Rurality: Reframing the Discourse on Migration and Commuting, *Structural Transformation and Dynamics of Labour Mobility*, D. Narasimha Reddy and Kailash Sarap (eds.), Palgrave Macmillan, Singapore, 183-207, Online Version: <https://doi.org/10.1007/978-981-10-5628-4>, 2017.
2. Mukhopadhyay, Abhiroop: Human Capital and the Economy: Where are the Tertiary Educated? *India Development Report*, S. Mahendra Dev (ed.), Oxford University Press, Oxford University Press (India Online Version: <https://global.oup.com/academic/product/india-development-report-2017-9780199483549?lang=en&cc=au>), 2017.
3. Ray, Tridip and Gulati, Namrata: Inequality and Neighbourhood Effects: Market Access and Welfare of the Poor, *Markets, Governance, and Institutions in the Process of Economic Development*, Ajit Mishra and Tridip Ray (eds.), Oxford University Press, Oxford, UK, 11, 174-201, 2018.

### ***Economic Analysis Unit, Bangalore***

1. Madhura, Swaminathan and Das, Arindam: Cropping Pattern, Productivity and Incomes from Crop Production, *How Do Small Farmers Fare: Evidence from Village Studies in India*, Madhura Swaminathan and Sandipan Bakshi (eds.), Tulika Books, New Delhi, 95-125, 2017.



## Publications

2. Madhura, Swaminathan and Sivamurugan, T: PARI Villages: An Introduction, *How Do Small Farmers Fare: Evidence from Village Studies in India*, Madhura Swaminathan and Sandipan Bakshi (eds.), Tulika Books, New Delhi, 25-61, 2017.
3. Madhura, Swaminathan, Das, Arindam, Modak, Tapas, Sarkar, Biplab: Costs and Prices, *How Do Small Farmers Fare: Evidence from Village Studies in India*, Madhura Swaminathan and Sandipan Bakshi (eds.), Tulika Books, New Delhi, 171-200, 2017.
4. Madhura, Swaminathan and Bakshi, Sandipan: Conclusions, *How Do Small Farmers Fare: Evidence from Village Studies in India*, Madhura Swaminathan and Sandipan Bakshi (eds.), Tulika Books, New Delhi, 340-354, 2017.

## Statistical Quality Control and Operations Research Division

### SQC & OR Unit, Kolkata

1. Bandyopadhyay, A., Sett, R. and Manna, D.: The Problem of Fake Indian Currency Notes, *NOTE BANDI: Demonetisation and India's Elusive Chase for Black Money*, R. Ramkumar (ed.), Oxford University Press, New Delhi, 341-350, 2018.
2. Deepmala and Jana, R. and Jana, R.: Finiteness of Criss-Cross Method in Complementarity Problem, *Mathematics and Computing*, D. Giri, R.N. Mohapatra, H. Begehr and M.S. Obaidat (eds.), 170-180, Springer, Online Version DOI: 10.1007/978-981-10-4642-1\_2, 2017.
3. Das, A.K., Jana, R. and Deepmala: On Generalized Positive Subdefinite Matrices and Interior Point Algorithm, *Operations Research and Optimization*, Springer Nature Singapore Pvt. Ltd., Singapore, S. Kar, U. Maulik, Li X. (eds.), Springer Nature Singapore Pvt. Ltd., Singapore, 225, 3016, 2018.

## Patents

### Computer and Communications Sciences Division

#### Advanced Computing and Microelectronics Unit, Kolkata

1. Nia, A., S., Sur-Kolay, Raghunathan, A. and Jha, N.K.: *Continuous Authentication System and Method Based on BioAura*, **U.S. Patent No.-15/425,440** filed 2017.

## 7. VISITING SCIENTISTS, HONOURS AND AWARDS

### VISITING SCIENTISTS

A number of distinguished scientists from India and abroad participated in the research, training and other scientific activities of the Institute during the year. Some of them came to the Institute on invitation and spent fairly long periods in the Institute to assist in the regular research and teaching programmes, while others came for short periods and gave lectures and seminars. Most of them were available for consultation by the faculty members of the Institute. Names of the visiting scientists are given below.

#### Theoretical Statistics and Mathematics Division

##### *Stat-Math Unit, Kolkata*

1. Adhikari, Kartick, Dept. of Mathematics, IISc. Bangalore, April 05, 2017- February 05, 2019.
2. Asanuma, T., University of Toyama, Japan, February 17- March 15, 2018.
3. Bagchi, Sayan, INSPIRE Faculty, Since October 03, 2017 for five years.
4. Baier, Stephan, JNU, Delhi, July 01-10, 2017.
5. Basu, Deepan, INSPIRE Faculty, Since September 20, 2017 for five years.
6. Bhattacharya, Soumya, INSPIRE Faculty, Since October 04, 2017 for five years.
7. Bhattacharjee, Monika, University of Florida, August 14-22, 2017.
8. Chakraborty, Anirvan, Ecole Polytechnique Federale de Lausanne, Switzerland, January 01-March 31, 2018.
9. Chakraborty, Sagnik, School of Mathematics, TIFR, Mumbai, Since July 01, 2016- June 30, 2017.
10. Chakraborty, Sayan, Munster University, January 08-15, 2018.
11. Chowdhury, Indranil, HRI, Allahabad, September 06-October 05, 2017.
12. Drappeau, Sary Aurelien, Aix-Marseille University, November 06-13, 2017.
13. Ghosh, Sayan, Department of Mathematics, IIT, Bombay, January 01-March 31, 2018.
14. Ghosh, Surojit, School of Mathematical Sciences, Ramakrishna Mission Vivekananda University, July 01, 2017- February 28, 2018.
15. Holkar, Rohit Dilip, IISER, Pune, May 03-June 10, 2017.
16. Mawia, Ramdin, HRI, Allahabad, January 01- March 31, 2018.
17. Mohari, Anilesh, IMSc. Chennai, February 25- March 24, 2018.

#### Visiting Scientists, Honours and Awards

18. Mukherjee, Mayukh, Technion-Israel Institute of Technology, Department of Mathematics, January 30-February 28, 2018.
19. Roy, Sutanu, NIISER, Bhubaneswar, 05-10 June, 2017.
20. Saha, Biswajyoti, TIFR, Mumbai, January 01-07, 2018.
21. Saha, Ekta, TIFR, Mumbai, January 01-07, 2018.
22. Saha, Koushik, Department of Mathematics, IIT, Bombay, 02-31 May, 2017 & December 13-22, 2017.
23. Selvan, A. Antony, Institute of Mathematical Science, Chennai, June 10, 2017-March 31, 2018.
24. Sensarma, Aryaman, IIT, Kanpur, June 27, 2017-July 31, 2018.
25. Singh, Saurabh Kumar, School of Mathematics, TIFR, Mumbai, July 01, 2016- June 30, 2017.
26. Zinna, Md. Ali, School of Mathematical Sciences, NISER, Bhubaneswar, October 23-27, 2017.

#### ***Stat-Math Unit, Delhi***

1. Adhya, Sumanta, West Bengal State University, July 31-August 12, 2017.
2. Atik, Fouzul, IIT Kharagpur, July 13, 2017-July 12, 2018.
3. Barany, Michael, Dartmouth College, February 14-March 06, 2018.
4. Basu, Rabeya, IISER Pune, April 02-06, 2017 & September 04-October 22, 2017.
5. Bing, Zheng, Lanzhou University, December 04-08, 2017.
6. Chakraborty, Debopam, Tezpur University, Assam, June 29-July 05, 2017.
7. Chakraborty, Partha Sarathi, IMSc, Chennai, June 19-July 16, 2017.
8. Chaubey, Yogendra P., Concordia University, Canada, February 01-March 31, 2018.
9. Chintamani, Mohan, University of Hyderabad, June 12-18, 2017.
10. Das, Pranabesh, IMSc Chennai. February 14-March 13, 2018.
11. David, Sinnou, Université Pierre et Marie Curie, Jussieu, Paris, France, March 11-16, 2018.
12. Debashis, Paul, UC Davis, July 24-28, 2017.
13. Deshouillers, Jean-Marc, University of Bordeaux, France, April 14-17, 2017 & February 10-16, 2018.
14. Devi, A.R. Usha, Bangalore University, April 10-June 10, 2017; October 11-17, 2017 & January 13-23, 2018.
15. Drappeau, Sary, University of Marseilles, France, November 20-30, 2017.

#### Visiting Scientists, Honours and Awards

16. Ganesan, Ghurumuruhan, NYU, Abu Dhabi, August 22-25, 2017.
17. Ghate, Eknath, TIFR Mumbai, December 11-15, 2017.
18. Ghosal, Subhasis, North Carolina State University, December 14-15, 2017.
19. Haq, Rukhsan-ul, JNCASR Bangalore, April 10-14, 2017.
20. Keane, Michael, NYU, Shanghai, May 10-16, 2017.
21. Kovse, Matjaz, University of Maribor, Slovenia, September 24-30, 2017.
22. Mallick, Anish, ICTS-TIFR, Bangalore, January 13-21, 2018.
23. Mandal, Arunava, IIT, Bombay, November 03, 2017- till November 02, 2018.
24. Mesnager, Sihem, University of Paris VIII, France, October 08-10, 2017.
25. Mishra, Manish, IISER, Pune, June 06-30, 2017.
26. Mishra, Nachiketa, International Centre for Theoretical Sciences, TIFR, Bengaluru, September 11-15, 2017.
27. Nandy, Rajesh, University of North Texas Health Science Center, Dallas, December 07-08, 2017.
28. Paul, Prabal, BITS Goa, June 12-17, 2017.
29. Ranjan, Pritam, IIM, Indore, May 03-04, 2017.
30. Reddy, Tulasi Ram, NYU, Abu Dhabi, October 20-28, 2017.
31. Roy, Rishideep, IIM, Bangalore, March 18-31, 2018.
32. Roy, Sutanu, NISER, Bhubaneswar, May 15-19, 2017.
33. Sahoo, Gopinath, IIT, Bhubaneswar, February 15, 2018- till February 14, 2019.
34. Saikia, Neelam, IIT, Guwahati, April 15-26, 2018.
35. Sengupta, Ritabrata, IISER, Berhampur, June 01-30, 2017.
36. Sharma, Divyum, University of Waterloo, Canada, April 17-30, 2017 & September 18-October 01, 2017.
37. Sharma, Rakesh Kumar, Shri Mata Vaishno Devi University, Katra, July 04-08, 2017.
38. Shorey, T.N., NIAS, Bangalore, November 12-21, 2017.
39. Sivasubramanian, S., IIT, Bombay, June 28-July 05, 2017.
40. Sofi, Mohammad Amin, University of Kashmir, January 25-February 28, 2018.
41. Waldschmidt, Michel, University of Paris VI, France, September 10-14, 2017.

42. Yaikhom, Gagarine, University of Edinburgh, UK, April 07-09, 2017.

***Stat-Math Unit, Bangalore***

1. Accardi, Luigi, Centro Interdipartimentale Vito Volterra, Italy, March 05- till April 05, 2018.
2. Aneesh, M., Visiting Scientist, July 01, 2017-March 31, 2018.
3. Banerjee, Tathagata, National Post Doctoral Fellowship, Since January 01-August 31, 2017 & September 01, 2017-till date.
4. Baryshnikov, Yuliy, University of Illinois at Urbana-Champaign, USA, February 06-10, 2018.
5. Chattopadhyay, Pratyusha, INSPIRE Faculty, Since November 01, 2013-till date.
6. Choudhuri, Manoj, NBHM Post-doctoral Fellow, April 03, 2017-till date.
7. Das, Bata Krishna, IIT, Mumbai, January 07-14, 2018.
8. De, Sandipan, NBHM Post-doctoral Fellow, February 01, 2017-till date.
9. Dolai, Dhriti Ranjan, INSPIRE Faculty, Since February 20-August 31, 2017 and September 01, 2017-till date.
10. Fakhruddin, Najmuddin, TIFR Mumbai, April 02-07, 2017.
11. Ganeshan, G., NYU, Abu Dhabi, July 04-11, 2017.
12. Gopalaswamy, Arjun, University of Oxford, UK, April 01, 2017-March 31, 2018.
13. Haria, Kalpesh, INSPIRE Faculty, Since June 18, 2015- August 17, 2017.
14. Jayanarayanan, C.R., IIT, Palakkad, June 18-23, 2017.
15. Kasilingam, Ramesh, INSPIRE Faculty, Since September 24, 2015-till date.
16. Krishnan, Arundhathi, JC Bose Fellowship, November 01, 2017-March 31, 2018.
17. Maji, Amit, NBHM Post-doctoral Fellow, October 01, 2015 - August 31, 2017 and NPDF Post-doctoral Fellow Since September 01, 2017-till date.
18. Majumder, Souradeep, ISF-UGC Project & National Post Doctoral Fellowship, Since July 31, 2015-June 06, 2017 & September 26-October 03, 2017.
19. Mukherjee, Mithun, IISER, Trivandrum, April 09-20, 2017.
20. Nair, Saranya, NBHM Post-Doctoral Fellow, Since March 31, 2017-till date.
21. Parameswaran, A.J., TIFR, Mumbai, September 25-October 03, 2017.
22. Raani, Senthil K.S., NBHM Post-Doctoral Fellow, December 04, 2017-till date.
23. Rajendran, Dhanya, INSPIRE Faculty, Since April 20, 2016-till date.

#### Visiting Scientists, Honours and Awards

24. Ramachandran, Koushik, Oklahoma State University, Japan, June 01-09, 2017.
25. Rao, Koteswara, NBHM Post-Doctoral Fellow, September 27, 2017-till date.
26. Reddy, Harish, ISF-UGC Visiting Scientist, Since November 17, 2016-January 31, 2018.
27. Reddy, Nanda Kishore S., ISF-UGC Visiting Scientist, April 04, 2017-March 31, 2018.
28. Saha, Arnab, Australian National University, Australia, March 12-16, 2018.
29. Sarkar, Santanu, INSPIRE Faculty, October 31, 2016-till date.
30. Sen, Sanchayan, McGill University, Canada, May 30-June 04, 2017.
31. Shekhar, Atul, ISF-UGC Visiting Scientist, Since May 30, 2016-July 31, 2017 & January 11-27, 2018.
32. Sivaguru, R., TIFR, Mumbai, April 04-09, 2017.
33. Srinivasan, R., CMI, Chennai, May 10-21, 2017 and August 01-September 22, 2017.
34. Soulier, Philippe, University Paris Nanterre, France, February 10-22, 2018.
35. Subhash, B., IISER, Tirupathi, July 09-19, 2017 and February 25-March 03, 2018.
36. Tappe, Stefan, University of Hannover, Germany, August 28-September 01, 2017.
37. Thakur, Ajay Singh, IIT, Kanpur, July 09-19, 2017 & February 25-March 03, 2018.
38. Toth, Balint, University of Bristol, UK & Alfréd Rényi Institute of Mathematics, Hungarian, Academy of Sciences, Hungary, March 11-15, 2018.
39. Vaish, Vaibhav, INSPIRE Faculty, Since January 04, 2016-till date.
40. Vsemirnov, Maxim A., St. Petersburg Department of Steklov, Russia, March 01, 2018 for 2 months.

#### **Applied Statistics Division**

##### ***Applied Statistics Unit, Kolkata***

1. Karati, Sabyasachi, University of Calagary, Canada, June 01-August 07, 2017.
2. Panda, Kumar Mahesh, Central University of Odisha, May 23-June 23, 2017.
3. Shukla, Ankur, Indian Institute of Technology, Dhanbad, June 19-23, 2017.

##### ***Interdisciplinary Statistical Research Unit, Kolkata***

1. Chee, Chew-Seng, School of Informatics and Applied Mathematics, University Malaysia Terengganu, Malaysia, January 15-February 15, 2018.

2. Jana, Nabakumar, National Institute of Technology, Shillong, June 01-July 31, 2017.
3. Roy, Vivekananda, Iowa State University, USA, May 17-July 17, 2017.

***Applied Statistics Unit, Chennai***

1. Chacko, Daphna, National Institute of Technology, Calicut, November 19-December 09, 2017.
2. Koul, Hira. L., Michigan State University, USA, December 13-27, 2017.
3. Hallin, Marc European Centre for Advanced Research in Economics and Statistics (ECARES), Belgium, February 09-12, 2018.

***Applied and Official Statistics Unit, Tezpur***

1. Barman, Radha Binod, National Statistical Commission, Govt. of India, March 23-25, 2018.
2. Kulkarni, Ravindra Shripad, Bhaskaracharya Pratishthana, Pune, March 22-26, 2018.
3. Lahkar, Ratul, Indian Institute of Management, Udaipur, October 09-10, 2017.

**Computer and Communication Sciences Division**

***Advanced Computing and Microelectronics Unit, Kolkata***

1. Bhattacharya, Anup, IIT, Delhi, January 01-March 31, 2018.
2. Chakraborty, Basabi, Iwate Prefectural University, Japan, December 21, 2017-January 01, 2018.
3. Ditmarsch, Hans Van, LORIA, France, March 07-10, 2018.
4. Dutta, Kunal, INRIA, Sophia Antipolis Cedex, France, December 19, 2017-January 09, 2018.
5. Kalyanraman, Ananth, School of EECS, Washington State University, USA, December 24-30, 2017.
6. Pach, Janos, EPFL Lausanne and Renyi Institute, Budapest, during January 14 - 22, 2018
7. Paul, Subhabrata, IIT, Patna, February 20-23, 2018.
8. Saket Saurabh, IMSC, Bangalore, December 24, 2017-January 03, 2018.
9. Santoro, Nicolo, School of Computer Science, Carleton University, Canada, December 03-09, 2017.
10. Valtr, Pavel, Charles University, Czech Republic, February 17-21, 2018.

## Visiting Scientists, Honours and Awards

### ***Computer Vision and Pattern Recognition Unit, Kolkata***

1. Roy, Partha Pratim, IIT, Roorkee, December 12-27, 2017.
2. Shivakumara, P., University of Malaya, Malaysia, August 12-19, 2017.
3. Rittscher, Jens, University of Oxford, U.K, January 22-February 03, 2018.

### ***Electronics and Communication Sciences Unit, Kolkata***

1. Chang, Qin, China University of Petroleum, March 10-24, 2018.
2. Chatterjee, Aratrik, IISc, Bangalore, August 14, 2017-February 14, 2018.
3. Majumder, Angshul, IIIT, Delhi, May 30-July 28, 2017.
4. Paul, Prithwineel, IIT, Madras, January 01-March 31, 2018.
5. Wang, Jian, China University of Petroleum, December 03-21, 2017 and March 10-24, 2018.
6. Zhang, Huaqing, China University of Petroleum, December 03, 2017-January 09, 2018.

### ***Machine Intelligence Unit, Kolkata***

1. Dauda, Kazeem Adesina, Kwara State University, Nigeria, September 15, 2017-March 14, 2018.
2. Mallik, Saurav, Department of Biostatistics, University of Miami, Florida, USA, December 01- 22, 2017.
3. Phophalia, Ashish, IIIT, Vadodara, Gujrat, May 22-July 22, 2017.

### ***Documentation, Research and Training Centre, Bangalore***

1. Satija, M.P., Guru Nanak Dev University, Amritsar, Punjab, August-October, 2017.

### ***Systems Science and Informatics Unit, Bangalore***

1. Edwin R Hancock, Department of Computer Science, University of York, UK, December 26-30, 2017.
2. Laurent Najman, Laboratoire d'Informatique Gaspard Monge, ESIEE, Universite Paris-EST, France, December 27, 2017-January 04, 2018.
3. Nitin Williams, MRC, Cambridge University, UK, April 05-06, 2017.
4. Paul A. Rosen, Jet Propulsion Laboratories (JPL), NASA-Caltech, USA, June 11-13, 2017.
5. P.N. Suganthan, School of Electronics and Electrical Engineering, Nanyang Technological University, Singapore, December 26-30, 2017.



6. Robert M. Haralick, Graduate Center, City University, New York, USA, December 25-31, 2017.
7. Sargur Srihari, University at Buffalo, The State University, New York, USA, December 26-30, 2017.
8. William J. Emery, Colorado University at Boulder, USA, June 11-13, 2017.

***Computer Science Unit, Chennai***

1. Chacko, Daphna, National Institute of Technology, Calicut, November 19-December 09, 2017.
2. Koul, Hira L., Michigan State University, USA, December 13-27, 2017.

**Physics and Earth Sciences Division**

***Geological Studies Unit, Kolkata***

1. Basilici, Giorgio, DGRN, Institut de Geociencias, University of Campinas, São Paulo, Brazil, November 20-December 24, 2017.
2. Bhattacharya, S.K., Research Centre for Environmental Changes, Academia Sinica, Taipei, Taiwan, August 04, 2017.
3. Elzbeita M. Teschner, University of Opole, Poland, February 14-28, 2018.
4. Hughes, Nigel, University of California (Riverside), USA, March 26-31, 2018.
5. Joyce, Walter, University of Fribourg/Freiburg, Switzerland, January 15-20, 2018.

***Physics and Applied Mathematics Unit, Kolkata***

1. Das, T., Center for Nanoscale Science and Technology, National Institute of Standards and Technology, Maryland, USA, October 09-March 31, 2018.
2. De, Debajyoti, The Neotia University, West Bengal, November 01, 2017- March 31, 2018.
3. Paulsamy, Muruganandam, Department of Physics, Bharathidasan University, Tiruchirappalli, October 03-07, 2017.
4. Rahaman, R., Department of Mathematics, Allahabad University, June 19-July 24, 2017.
5. Rakshit, B., Department of Mathematics, Amrita University, Coimbatore, June 15-22, 2017.

**Biological Sciences Division**

***Agricultural & Ecological Research Unit, Kolkata***

1. Edmonds, Christopher, Tokyo International University, Japan, March 10-19, 2018.

## Visiting Scientists, Honours and Awards

### ***Human Genetics Unit, Kolkata***

1. Dutta, Arindam, CSIR- Indian Institute of Chemical Biology (IICB), July 12-October 11, 2017.

## **Social Sciences Division**

### ***Economic Research Unit, Kolkata***

1. Bera, Anil, Department of Economics, University of Illinois, USA, June 21–July 04, 2017 & January 08-10 and 15-16, 2018.
2. Bhowmik, Anuj, Department of Economic, School of Humanities and Social Sciences, Shiv Nadar University, Greater Noida, Uttar Pradesh, June 13-July 10, 2017 & December 15, 2017-January 04, 2018.
3. Chakraborty, Bikas, K. Centre for Applied Mathematics & Computational Science, Saha Institute of Nuclear Physics, Kolkata, Since August, 2017.
4. Chatterjee, Kalyan, Department of Economics, The Pennsylvania State University, University Park, USA, June 23-July 16, 2017.
5. De, Parikshit, Department of Economic Sciences, Indian Institute of Science Education and Research, Bhopal, Madhya Pradesh, August 01- September 14, 2017.
6. De, Utpal K., Department of Economics, North-Eastern Hill University, Shillong, Meghalaya, December 12, 2017-February 06, 2018.
7. Ferrero, Mario, Department of Economics, University of Eastern Piedmont, Via del Duomo, Italy, September 20-November 30, 2017
8. Ghosh, Arghya, School of Economics, UNSW Business School, University of New South Wales, Sydney, Australia, June 19-30, 2017 & March 19-30, 2018.
9. Kundu, Srikanta, Centre for Development Studies, Trivandrum, Kerala, June 08-July 03, 2017.
10. Mondal, Debasis, Department of Humanities & Social Science, IIT, New Delhi, April 10-16, 2017 & May 23-June 14, 2017.
11. Saha, Shrabani, Lincoln International Business School, University of Lincoln, Lincoln, UK, August 04-27, 2017.
12. Sinha, Uday Bhanu, Department of Economics, Delhi School of Economics, University of Delhi, June 19-30, 2017.

### ***Linguistic Research Unit, Kolkata***

1. Barlow, Michael, Applied Linguistics Studies, University of Auckland, New Zealand, March 02, 2018.

#### Visiting Scientists, Honours and Awards

2. Bhattacharya, Mahidas School of Languages and Linguistics, Jadavpur University, Kolkata, June 27, 2017.
3. Chakrabarty, Jayshree, IIT, Kharagpur, June 27, 2017.
4. Chakrabarty, Rajib, SNLTR, Kolkata, November 8, 2017.
5. Chatterjee, Sanjay, KIT, Kalyani, West Bengal, December 1, 2017.
6. Dan, Mina, Calcutta University, Kolkata, June 22, 2017.
7. Das Biswas, Samapika, Institute of Engineering and Management, Salt Lake, Kolkata, October 13, 2017.
8. Ehsanul Kabir, Md., Mitcham Institute, Victoria, Australia, November 08, 2017.
9. Ghosh, Shantanu, MIT, USA, December 28, 2017.
10. Mukherjee, Sunanda, Asiatic Society, Kolkata, December 18, 2017.
11. Paul, Mousumi, Institute of Engineering and Management, Salt Lake, Kolkata, October 13, 2017.
12. Prasad, Rajendra, IIIT, Sri City, Andhra Pradesh, December 01, 2017.
13. Rasid, Mamun, Dept. of Information Technology, Govt. of Bangladesh, November 17, 2017.
14. Ray, Kaushik, Barasat State University, Barasat, West Bengal, June 30, 2017.
15. Reza, Md. Selim, Shahjalal University of Science and Technology (SUST), Bangladesh, December 20, 2017.
16. Saha, Atanu, School of Languages and Linguistics, Jadavpur University, Kolkata, June 22, 2017.
17. Saha, Diganta, Dept. of Computer Science and Engineering, Jadavpur University, Kolkata, October 10, 2017.
18. Santosh, T.S., Institute of English Teaching, Muscat, Oman, June 20-21, 2017.
19. Warsi, M. Jahangir, Washington University, St. Luis. USA, July 12, 2017.

#### ***Psychology Research Unit, Kolkata***

1. Banerjee, Usri, University of Calcutta, Kolkata, December 04, 2017.
2. Basu Amrita, Jadavpur University, Kolkata, March 14, 2018.
3. Basu, Jayanti, University of Calcutta, Kolkata, March 15, 2018.
4. Chatterjee, Ishita, University of Calcutta, Kolkata, August 11, 2017.
5. Chatterjee, Susmita, Maharaja Manindra College, Kolkata, December 05, 2017.
6. Kumar, Subodh, Brain Behaviour Research Foundation, Gurgaon, December 06, 2017.

#### Visiting Scientists, Honours and Awards

7. Mani, Smritikana, Calcutta Medical College, Kolkata, March 14, 2018.
8. Mishra, Alope K., Brain Behaviour Research Foundation, Gurgaon, December 06, 2017.
9. Mishra, Meena, Brain Behaviour Research Foundation, Gurgaon, December 06, 2017.
10. Mondal, Ananya, University of Calcutta, Kolkata, December 05, 2017.
11. Mondal, Manas K., IIT, Kharagpur, August 11, 2017.
12. Mukherjee, Divyagopal, R.G. Kar Medical College, Kolkata, December 06, 2017.
13. Mukherjee, S.P. University of Calcutta, Kolkata, December 08, 2017.
14. Mukhopadhyay, Susmita, IIT, Kharagpur, August 11, 2017 & December 05, 2017.
15. Mukhopadhyay, Pritha, University of Calcutta, Kolkata, December 05, 2017.
16. Pal, Sujit, Department of Higher Education, Govt. of West Bengal, December 04, 2017.
17. Roy, Prasanta, Psychiatry Centre for Excellence, Kolkata, December 05, 2017.
18. Subramanian, Lalitha, Ramchandra University, December 08, 2017.
19. Tarafder, Sreemoyee, West Bengal State University, Barasat, West Bengal, December 04, 2017.

#### ***Sampling and Official Statistics Unit, Kolkata***

1. Lahiri, Parthasarathi, Joint Program in Survey Methodology (JPSM) & Department of Mathematics, University of Maryland, USA, September 05, 2017.

#### ***Economics and Planning Unit, Delhi***

1. Altug, Samru, KOC University, Turkey, October 26, 2018.
2. Aney, Madhav S., Singapore Management University, Singapore, April 28, 2017.
3. Anukriti, S, Boston College, USA, July 21, 2017.
4. Bhadury, Soumya Suvra, National Council of Applied Economics Research, New Delhi, May 19, 2017.
5. Bhalla, Manaswini, IIM Bangalore, May 05, 2017.
6. Bhargava, Alok, University of Maryland, USA, March 06, 2018.
7. Bluffstone, Randall A., Portland State University, USA, February 23, 2018.
8. Bradford, Scott, Brigham Young University, USA, July 24-December 31, 2017.
9. Chakraborty, Pavel, Jawaharlal Nehru University, New Delhi, October 27, 2017.

#### Visiting Scientists, Honours and Awards

10. Chakravarty, Shoibal, Ashoka Trust for Research in Ecology and the Environment, Bangalaoe, January 13-15, 2018.
11. Chatterjee, Swarnendu, Maastricht University, Netherlands, October 03, 2017-till October 02, 2018.
12. Chaudhuri, Ritwik, IBM, India Research Laboratory, New Delhi, January 19, 2018.
13. Das, Piyali, Indiana University, USA, August 01, 2017-till July 31, 2018.
14. Das, Sanjukta, National Council of Applied Economic Research, New Delhi, February 02, 2018.
15. Das, Mausumi, Delhi School of Economics, New Delhi, November 03, 2017.
16. Dasgupta, Kunal, University of Toronto, Canada, Since January 15-April 30, 2017.
17. Deb, Rahul, University of Toronto, Canada, August 29, 2017.
18. Dubey, Pradeep, Stony Brook University, USA, May 23, 2017.
19. Dutta, Bhaskar University of Warwick, UK and Ashoka University, Haryana, September 01, 2017 and March 16, 2018.
20. Gopalakrishnan, Pawan, RBI, Mumbai, Govt. of India, May 01-05, 2017.
21. Halevy, Yoram, University of British Columbia and University of Toronto, Canada, February 22, 2018.
22. Hassler, John, IIES, Stockholm University, Sweden, March 22, 2018.
23. Jain, Chandan, Shiv Nadar University, Uttar Pradesh, March 01-31, 2018.
24. Javadekar, Apoorva, Centre for Advanced Financial Research and Learning (CAFRAL), Mumbai, September 07, 2017.
25. Juneja, Sandeep, TIFR, Mumbai, January 10, 2018.
26. Kacker, Kanishka, World Bank Group, Washington D.C., USA, May 29, 2017.
27. Kishore, Kaushal, University of Pretoria, South Africa, April 17, 2017.
28. Kochhar, Nishtha, Georgetown University, USA, August 18, 2017.
29. Krishnapriya, P.P., Delhi School of Economics, New Delhi, May 04, 2017 & August 11, 2017-till August 10, 2018.
30. Kumru, Cagri S, Australian National University, Australia, October 26, 2018.
31. Lahiri, Amartya, University of British Columbia, Canada & Centre for Advanced Financial Research and Learning (CAFRAL), Mumbai, September 15, 2017.
32. Mani, Subha, Fordham University, USA, July 25-August 06, 2017.
33. Maniquet, François, Université catholique de Louvain, Belgium, March 19, 2018.

#### Visiting Scientists, Honours and Awards

34. Mitra Thakur, Gogol, Ambedkar University, Delhi, October 18, 2017.
35. Mookherjee, Dilip, Boston University, USA, March 07-09, 2018.
36. Moorthy, Sridhar, University of Toronto, Canada, November 08, 2017.
37. Morduch, Jonathan, New York University (NYU), USA, July 26, 2017.
38. Nath, Swaprava, Carnegie Mellon University, USA, July 07, 2017.
39. Pant, Manoj, Jawaharlal Nehru University, New Delhi, October 06, 2017.
40. Patnaik, Megha, Stanford University, USA, July 20, 2017-till July 19, 2018.
41. Raghavan, Madhav, HEC, University of Lausanne, Switzerland, January 12, 2018.
42. Sane, Renuka, National Institute of Public Finance and Policy, New Delhi, July 24-November 30, 2017.
43. Sarkar, Sumit, University of Texas at Dallas, USA, October 13, 2017.
44. Serizawa, Shige, Osaka University, Japan, March 20, 2018.
45. Sharma, Bhavyaa, National Institute of Public Finance and Policy, New Delhi, January 01-till April 30, 2018.
46. Singh, Gurbachan, Free Lancer, January 01-till April 30, 2018.
47. Sinha, Pramod, National Institute of Public Finance and Policy, New Delhi, January 01 - April 30, 2018.
48. Venkatesh, Raghul, Aix-Marseille School of Economics, France, March 09, 2018.
49. Wadhwa, Wilima, ASER Centre, New Delhi, July 24-November 30, 2017.

#### ***Economic Analysis Unit, Bangalore***

1. Durga A.R, Tamil Nadu Agricultural University, Coimbatore, January 01-March 31, 2018.
2. Kamra Ashish , PEC University of Technology, Chandigarh, October 25-November 13, 2017.
3. Narayana, D., Gulati Institute of Finance and Taxation, Trivandrum, Kerala, June 26-20, 2017.
4. Pais, Jesim, Institute for Studies in Industrial Development, New Delhi, February 13-20, 2018.
5. Singh, Shamsher, Indian Institute of Management, Ahmedabad, November 23-February, 22, 2018.

#### **Statistical Quality Control and Operations Research Division**

##### ***SQC & OR Unit, Delhi***

1. Raghavan, T.E.S., University of Illinois, Chicago, USA, March 01-10, 2018.

***SQC & OR Unit, Chennai***

1. Chacko, Daphna, National Institute of Technology, Calicut, November 19-December 9, 2017.
2. Hallin, Marc, European Centre for Advanced Research in Economics and Statistics (ECARES), Belgium, February 09-12, 2018.
3. Koul, Hira L, Michigan State University, USA, December 13- 27, 2017.

***SQC & OR Unit, Coimbatore***

1. Arthanari, T.S., Business School, Auckland, New Zealand. January 06, 2018.

## **HONOURS AND AWARDS**

### **Theoretical Statistics and Mathematics Division**

#### ***Stat-Math Unit, Kolkata***

Gupta, N.:

Awarded: B.M. Birla Science Prize in Mathematics, 2017.

Munshi, R.:

Awarded: Infosys Prize 2017 for Mathematical Sciences, 2017.

Selected: Fellow of the Indian Academy of Sciences, 2017.

#### ***Stat-Math Unit, Bangalore***

Yogeshwaran, D.:

Awarded: The INSA Young Scientist Award, Indian National Science Academy (INSA), 2017.

### **Applied Statistics Division**

#### ***Interdisciplinary Statistical Research Unit, Kolkata***

Das, K.:

Selected: Associate Fellow, West Bengal Academy of Science and Technology, 2018.

Ghosh, A:

Awarded: (1) Prof. A.M. Mathai Award for the best Research paper, Indian Mathematical Society, 2017;  
(2) Bose-Nandi Young Statistician Award (1<sup>st</sup> Place), Calcutta Statistical Association (CSA), 2017;  
(3) ISCB Conference Awards for Scientists (CASc) for biostatisticians from the countries underdeveloped in clinical biostatistics, International Society for Clinical Biostatistics, 2017.

### **Computer and Communication Sciences Division**

#### ***Advanced Computing and Microelectronics Unit, Kolkata***

Bhattacharya, B.B.:

Awarded: INAE Chair Professorship, Indian National Academy of Engineering, Since 2016-2018.

#### ***Computer Vision and Pattern Recognition Unit, Kolkata***

Bhattacharya, U.:

Awarded: (1) Best Paper Award, 3<sup>rd</sup> International Conference on Next Generation Computing Technologies, 2017;

(2) Best Paper Award, 7<sup>th</sup> International Conference on Soft Computing for Problem Solving 2017.



Mitra, M.:

Awarded: Association for Computing Machinery's Special Interest Group on Information Retrieval Test of Time Award, 2017.

Pal, U.:

Selected: Fellow of the West Bengal Academy of Science and Technology, 2017.

### ***Electronics and Communication Sciences Unit, Kolkata***

Mukherjee, D.P.:

Selected: Fellow of West Bengal Academy of Science and Technology, 2017.

### ***Machine Intelligence Unit, Kolkata***

Bandyopadhyay, S.

Awarded: (1) Distinguished Alumnus Award, IIT, Kharagpur, 2017;  
(2) National Leadership Award in Science and Technology (Young), Lakshmipat Singhanian-IIM Lucknow, 2017;  
(3) Infosys Prize for Engineering and Computer Science, 2017;  
(4) J.C. Bose Fellowship, Engineering Sciences, DST, Govt. of India, 2017-2022;

De, R.K.:

Awarded: Fulbright-Nehru Academic and Professional Excellence Fellowship (Flex Award), 2016- 2018.

Mitra, S.:

Awarded: Fulbright-Nehru Academic and Professional Excellence Fellowship (Flex Award), 2018- 2019.

Selected: INAE Chair Professor, 2018-2019.

## **Physics and Earth Sciences Division**

### ***Physics and Applied Mathematics Unit, Kolkata***

Pal, S.:

Awarded: Research Alumni Strategy Grant, University of Bonn, Germany, 2018.

## **Social Sciences Division**

### ***Psychology Research Unit, Kolkata***

Dutta Roy, D.:

Awarded: Innovative Scientist Award, Indian Academy of Health Psychology, 2017.

### ***Sociological Research Unit, Giridih***

Behera, Hari Charan

Selected: (1) Fellow, Royal Asiatic Society of Ireland & Great Britain, 2017;

Visiting Scientists, Honours and Awards

(2) Fellow, Royal Anthropological Institute, London, 2017.

***Economics and Planning Unit, Delhi***

Mishra, D.:

Awarded: Mahalanobis Memorial Award, The Indian Econometric Society, 2018.

Mukhopadhyay, A.:

Awarded: Honorary Associate Researcher, Centre for Science and Humanities, CNRS (France).

Sen, A.:

Awarded: Siwei Cheng Prize in Economics, The World Academy of Sciences, 2017.

***Economic Analysis Unit, Bangalore***

Ramachandran, V.K.:

Appointed: Vice Chairman, Kerala State Planning Board, Trivandrum.

Swaminathan M.:

Appointed: Non-Official Director, Board of Nationalised Bank, Union Bank of India.

**Center for Soft Computing Research, Kolkata**

Bandyopadhyay, S.:

Awarded: Student Paper Award, National Workshop on Remote Sensing and Application (RSA), IEEE GRSS Kolkata Chapter.

Pal, S.K.:

Selected: IEEE Tencent Rhino-Bird International Expert, 2017.

## 8. EDITORIAL AND OTHER SCIENTIFIC ASSIGNMENTS

### EDITORIAL ASSIGNMENTS

#### Theoretical Statistics and Mathematics Division

##### ***Stat-Math Unit, Kolkata***

Basak, G.K. (Editor): *Sankhya Series A*, Indian Statistical Institute.

##### ***Stat-Math Unit, Delhi***

Bandyopadhyay, A. (Associate Editor): *Sankhya Series A*, Springer and Indian Statistical Institute;  
(Associate Editor): *Journal of Statistical Planning and Inference (JSPI)*, Elsevier.

Dewan, I. (Associate Editor): *Journal Indian Statistical Association*.

##### ***Stat-Math Unit, Bangalore***

Bhat, B.V. Rajarama (Chief Editor): *Proceedings of the Indian Academy of Sciences, Mathematics*.

#### Applied Statistics Division

##### ***Applied Statistics Unit, Kolkata***

Dewanji, A. (Associate Editor): *Journal of Statistical Planning and Inference*, Elsevier.

##### ***Interdisciplinary Statistical Research Unit, Kolkata***

Basu, A. (Associate Editor): *Computational Statistics*, Springer.

Bose, S. (Associate Editor): *Sankhya .A*.

SahaRay, R. (Associate Editor): *Sankhya A*, Springer; (Associate Editor): *Journal of Indian Society of Agricultural Statistics*.

#### Computer and Communication Sciences Division

##### ***Advanced Computing and Microelectronics Unit, Kolkata***

Bhattacharya, B.B. (Editor): *Journal of Electronic Testing: Theory and Applications*, Springer;  
*Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization*, Taylor & Francis.

Editorial and other Assignments

Sur-Kolay, S. (Associate Editor): *ACM Transactions on Embedded Computing Systems*, ACM.

### **Computer Vision and Pattern Recognition Unit, Kolkata**

Garain, U. (Associate Editor): *International Journal of Document Analysis and Recognition*, Springer.

Pal, U. (Associate Editor): *Pattern Recognition*, Elsevier, Since 2016; *Pattern Recognition Letters*, Elsevier, Since 2014; *ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP)*, ACM, Since 2012; *IET Biometrics*, IET, Since 2016; *International Journal of Document Analysis and Recognition*, Springer, Since 2015.

### **Electronics and Communication Sciences Unit, Kolkata**

Mukherjee, D.P. (Associate Editor): *IEEE Transactions on Image Processing*, Since November 2014; *IET Image Processing*, Since February 2016; *SADHANA, Academy Proceedings in Engineering Sciences*, Springer, Since June 2014.

Pal, N.R. (Associate Editor): *IEEE Transactions on Cybernetics*, IEEE, 2017; *International Journal of Approximate Reasoning*, Elsevier, 2017; *Journal of Neuroscience and Neuroengineering*, American Scientific Publishers, 2017.

### **Machine Intelligence Unit, Kolkata**

Bandyopadhyay, S. (Associate Editor): *IEEE Transactions on Systems, Man and Cybernetics: Systems (IEEE)*.

De, R.K. (Associate Editor): *Sadhana*.

Ghosh, A. (Associate Editor): *IET Computer Vision*.

Mitra, S. (Editor): *IEEE/ACM Trans. on Computational Biology and Bioinformatics (IEEE)*, Wiley; *Interdisciplinary Reviews: Data Mining and Knowledge Discovery*; *Information Sciences*; *Neurocomputing*; *INAE Letters*; *Fundamenta Informaticae*.

### **Systems Science and Informatics Unit, Bangalore**

Daya Sagar, B.S. (Editorial Advisory Board Member): *Computers & Geosciences*; (Review Editor): *Frontiers: Environmental Informatics*; (Guest Editor): *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*; (Lead Editor): *Handbook of Mathematical Geosciences: Fifty Years of IAMG*, Springer; (Associate Editor): *Springer Indian Statistical Institute Series*.

## **Physics and Earth Sciences Division**

### **Geological Studies Unit, Kolkata**

Patranabis-Deb, S. (Editor): *Geological Journal*, Wiley-Blackwell Group, Since 2014; *Geological Magazine*, Cambridge University Press, Since 2017.

Saha, D. (Editor): *Indian Journal of Geology*; (Section Editor): *Current Science*; (Editorial Advisory Board Member): *Indian Journal of Geosciences*.

### ***Physics and Applied Mathematics Unit, Kolkata***

Pal, S. (Member of the Consortium): *CMB Bharat* (a proposed Indian space mission for Cosmic Microwave Background observations).

## **Social Sciences Division**

### ***Economics Research Unit, Kolkata***

Chakravarty, S.R. (Associate Editor): *Social Choice and Welfare*, Springer Verlag.

Majumder, A. (Associate Editor): *International Econometric Review*, Econometric Research Association, Since 2009.

Sarkar, N. (Associate Editor): *Indian Growth and Development Review*, Emerald Group Publishing Limited, Since 2008; *International Econometric Review*, Econometric Research Association, Since 2009.

### ***Linguistic Research Unit, Kolkata***

Dasgupta, P. (Editor with István Ertl, Suso Moinhos, Jesper Lykke Jacobsen): *Beletra Almanako*, New York: Mondial.

Dash, N.S. (Editor-in-Chief): *Journal of Advanced Linguistic Studies*; (Review Board Member): *GLOSSA*; (Lexicographical Advisor): *Bengali Dictionary Project*, Oxford University Press, From February-till September 2018; (Advisory Committee Member): *Technological Development of Rajasthani Language*, JRN Rajasthan Vidyapeeth, 2017- 2019.

### ***Sociological Research Unit, Kolkata***

Jana, R. (Statistical Editor): *Indian Journal of Dermatology*, Since 2012-17.

### ***Economics and Planning Unit, Delhi***

Mishra, D. (Associate Editor): *Mathematical Social Sciences*, Since January 2014; *Social Choice and Welfare*, Since November 2016; *Journal of Mechanism and Institution Design*, Since 2016.

Ghate, C. (Policy Editor): *Indian Growth and Development Review*, Since 2008; (Editorial Advisory Board): Reserve Bank of India, Occasional Paper Series.

Roy Chowdhury, P. (Editor): *Indian Growth and Development Review*.

Somanathan, E. (Editor): *Environment and Development Economics*, Cambridge University Press Journal, Since January 2015.

Editorial and other Assignments

***Economics and Analysis Unit, Bangalore***

Ramachandran, V.K. (Editor): *Review of Agrarian Studies*.

***Centre for Soft Computing Research, Kolkata***

Ghosh, A. (Associate Editor): *IET-Computer Vision*.

Pal S.K. (Associate Editor): *Information Sciences*, Elsevier; *Fuzzy Sets and Systems*, Elsevier; *Fundamenta Informaticae*, IOS Press; *Int. J. Pattern Recognition and Artificial Intelligence*, World Scientific; *Int. J. Computational Intelligence and Applications*, World Scientific; *IET Image Processing*, IEE Press; *LNCS Trans. on Rough Sets*, Springer; (Editor-in-Chief): *International Journal of Signal Processing, Image Processing and Pattern Recognition*, SERSC; (Executive Advisory Editor): *International Journal of Approximate Reasoning*; *International Journal of Computational Science and Engineering*; *International Journal of Image and Graphics*; *International Journal of Business Intelligence and Data Mining*; *International Journal of Machine Intelligence and Sensory Signal Processing*; (Guest Editor): *Pattern Recognition Letters*; *IET Image Processing, Natural Computing*, Springer; (Book Series Editor): *Frontiers in Artificial Intelligence and Applications (FAIA)*, IOS Press; *Statistical Science and Interdisciplinary Research*, World Scientific; (Book Editor): *Pattern Recognition and Big Data*, World Scientific Press; *Soft Computing Applications in Sensor Networks*, CRC (Taylor & Francis) Press.

**SCIENTIFIC ASSIGNMENTS/ACADEMIC VISITS ABROAD**

**Theoretical Statistics and Mathematics Division**

***Stat-Math Unit, Kolkata***

Datta, M.:

(1) International Centre for Theoretical Physics, Trieste, Italy, February 18-20, 2018; (2) University of Cagliari, Cagliari, Italy, February 16-17, 2018.

***Stat-Math Unit, Delhi***

Bandyopadhyay, A.:

(1) 10<sup>th</sup> ISI-ISM-ISSAS Three Institute Joint Meeting, ISM, Tokyo, Japan, November 30-December 02, 2017.

Bapat, R.B.:

(1) International Linear Algebra Society, Ames, Iowa, USA, July 24-28, 2017; (2) Department of Statistics, University of Tokyo, Japan, 13-24 November, 2017.

Chatterjee, A.:

(1) 10<sup>th</sup> ISI-ISM-ISSAS Three Institute Joint Meeting, Institute of Statistical Mathematics (ISM), Tokyo, Japan, November 29-December 01, 2017; (2) University of Minnesota, USA, December 28-29, 2017.

Dewan, I.:

(1) International Conference on Mathematical Methods in Reliability (MMR 2017), Grenoble, France, July 03-06, 2017.

Jain, T.:

(1) Department of Mathematics, Iowa State University, July 24-28, 2017.

### ***Stat-Math Unit, Bangalore***

Bhat, B.V.R.:

(1) Tokyo University of Science, October 1-7, 2017.

Rajeev, B.:

(1) University of Freiburg, Germany, March 2-9, 2018.

Sarkar, J.:

(1) Hebei Normal University, China, May 13-21 2017; (2) Tsinghua Sanya International Mathematics Forum (TSIMF), Sanya, China, May 22-27, 2017; (3) Technion, Israel, June 16-26, 2017.

Yogeshwaran, D.:

(1) Purdue University, USA, July 26-29, 2017; (2) Banff International Research Station, Banff, Canada, July 30-August 04, 2017.

### **Applied Statistics Division**

#### ***Applied Statistics Unit, Kolkata***

Dewanji, A.:

(1) Fred Hutchinson Cancer Research Centre, Seattle, USA, 30 July 30-August 25, 2017.

Sengupta, D.:

(1) 61<sup>st</sup> World Statistics Congress (WSC), Marrakech, Morocco, July 16-21, 2017.

#### ***Interdisciplinary Statistical Research Unit, Kolkata***

Basu, A.:

(1) Complutense University, Madrid, Spain, May 04-11, 2017.

Ghosh, A.:

(1) Complutense University of Madrid, Spain, July 02-08, 2017; (2) International Society of Clinical Biostatistics (ISCB) Conference 2017, Vigo, Spain, July 08-14, 2017; (3) University of Oslo, Norway, January 03-13, 2018.

SahaRay, R.:

(1) Indiana University & Purdue University, Indiana, Department of Mathematical Sciences, USA, November 01-30, 2017; (2) Institute of Applied Statistics, Sri Lanka, December 28-29, 2017.

#### ***Applied Statistics Unit, Chennai***

Sudheesh, K.K.:

(1) 10<sup>th</sup> MMR Conference, Université Grenoble Alpes, Grenoble, France, July 3-6, 2017.

Editorial and other Assignments

***Applied and Official Statistics Unit, Tezpur***

Jyethi, D.S.:

(1) Research Triangle Park, North Carolina, USA, October 15-19, 2017.

**Computer and Communication Sciences Division**

***Advanced Computing and Microelectronics Unit, Kolkata***

Das, N.:

(1) 42<sup>nd</sup> IEEE-LCN 2017 Conference, Singapore, October 07–13, 2017.

Nandy, S.:

(1) NII Shonan Workshop on Geometric Graphs, Algorithms and Applications, Shonan Village, Tokyo, Japan, October 30 – November 02, 2017.

Sur-Kolay, S.:

(1) 35<sup>th</sup> IEEE International Conference (ICCD 2017), Boston Massachusetts (MA), USA, November 05-17, 2018.

Ghosh, S.C.:

(1) 31st AINA 2017 Conference, Taipei, Taiwan, Mar 24–April 03, 2017.

Banerjee, A.:

(1) Workshop on Pioneering Processor Paradigms, Austria, February 24–28, 2018.

***Computer Vision and Pattern Recognition Unit, Kolkata***

Pal, U.:

(1) CDAR-WML: Workshop on Machine Learning, Kyoto, Japan, November 11, 2017; (2) Fellow of International Association for Pattern Recognition (IAPR), 2018; (3) 14<sup>th</sup> International Conference on Document Analysis and Recognition (ICDAR), Kyoto, Japan, November 13-15, 2017; (4) 4<sup>th</sup> Asian Conference on for Pattern Recognition (ACPR), Nanjing, China, November 26-29, 2017.

***Electronics and Communication Sciences Unit, Kolkata***

Das, S.:

(1) 23<sup>rd</sup> International Conference on Soft Computing, Brno, Czech Republic, June 20-22, 2017; (2) 13<sup>th</sup> International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD 2017), Guilin, China, July 29-31, 2017; (3) School of Mechanical Science and Engineering, Huazhong University of Science & Technology, Wuhan, China, November 18-20, 2017; (2) School of Electrical Engineering, Zhengzhou University, China, November 21–26, 2017.

Mukherjee, D.P.:

(1) IEEE International Symposium on Biomedical Imaging (ISBI) 2017, Melbourne, Australia, April 18-21, 2017; (2) Reinforced Random Forest at the University of Technology Sydney, April 24, 2017.

Pal, N.R.:

(1) Politecnico di Milano, Italy, April 10, 2017, (2) CIS Workshop on Computational Intelligence, La Serena, Chile, April 21, 2017; (3) Computational Intelligence and Machine Learning: Trends,



Challenges and Opportunities, April 24, 2017 Santiago, Chile; (4) Huazhong University of Science and Technology, May 14-June 13, 2017; (5) IEEE SMCS (Systems, Man and Cybernetics Society) Workshop on Computational Psychophysiology, Beijing, May 22, 2017; (6) IEEE Technical Activities Board (TAB) Meeting, New Brunswick, USA, June 21-24, 2017; (7) China University of Petroleum, Qingdao, September 09-13, 2017; (8) Chongqing Three Gorges University, September 14-15, 2017; (9) IEEE Technical Activities Board (TAB) Meeting, Phoenix, Arizona, USA, November 15-17, 2017; (10) Administrative Committee Meeting and the Strategic Planning Retreat of the IEEE Computational Intelligence Society, Honolulu, Hawaii, USA, November 30-December 03, 2017; (11) 13<sup>th</sup> International Conference on Computational Intelligence and Security (CIS2017), Hong Kong, China, December 15-18, 2017; (12) IEEE Technical Activities Board (TAB) Meeting, Orlando, USA, February 14-18, 2018.

### ***Machine Intelligence Unit, Kolkata***

Bandyopadhyay, S.:

(1) University of Ljubljana, April 14, 2017; (2) University of Magdeburg, May 10, 2017; (3) Congress on Evolutionary Computation (CEC), San Sebastian, Spain, June 06, 2017.

De, R.K.:

(1) Department of Medicine, University of California, San Diego, USA, since February 06-May 05, 2017 and February 01-April 30, 2018.

Ghosh, A.:

(1) University of Porto, Porto, April 22-May 06, 2017; (2) Yonsei University, South Korea, July, 09-14, 2017; (3) Hongkong Polytechnique University, Hongkong, July, 15-16, 2017; (4) Tribhuvan University, Nepal, December 10-11, 2017; (5) University of Peradeniya, Sri Lanka, December, 12-13, 2017.

Ghosh, K.:

(1) 2<sup>nd</sup> Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI 2018), Rabat-Kenitra, Morocco, March 27-28, 2018; (2) The 10<sup>th</sup> International Conference on Advanced Computational Intelligence (ICACI 2018), Xiamen, China, March 29-31, 2018.

Maji, P.:

(1) International Joint Conference on Rough Sets (IJCRS2017), Olsztyn, Poland, July 2017; (2) 9<sup>th</sup> Asian Conference on Intelligent Information and Database Systems (ACIIDS2017), Kanazawa, Japan, April 03-05, 2017.

### ***Documentation Research and Training Centre, Bangalore***

Dutta, B.:

(1) Tallinn University, Tallinn, Estonia, November 02 –December 01, 2017.

Madalli, D.P.:

(1) OECD Global Science Forum Workshop, Brussels, Belgium, April 01–10, 2017; (2) Research Data Alliance Plenary Meeting, Barcelona, Spain, April 01–10, 2017; (3) Expert's Group Discussion on Agrisemantics, Crete, Greece, May 29-June 04, 2017; (4) UNESCO Workshop on Open Institutional Repositories for Libya, Hammamet, Tunisia, August, 18-25, and November 14-20, 2017; (6) University of Gottingen, Germany, March 18-20 2018; (7) Plenary Meeting of the RDA Technical Advisory Board, Berlin, March 19-23, 2018.

Prasad A.R.D.:

(1) Workshop on Open Harvest, Crete, Greece, May 29-June 04, 2017; (2) UNESCO Workshop on Open Institutional Repositories for Libya, Hammamet, Tunisia, August 18-25, and November 14 – 20,

## Editorial and other Assignments

2017; (3) International UDC Seminar on Faceted Classification Today :Theory, Technology and End Users, London, UK, September 12-17 2017; (4) Asian Regional Meeting, Kathmandu, Nepal, December 01-07, 2017.

### ***Systems Science and Informatics Unit, Bangalore***

Sagar, B.S.D.:

(1) University of Trento, Italy, May 02-07, 2017; (2) China University of Geosciences, Beijing, China, November 12-17, 2017. (3) Reviewer, PhD Thesis, Multimedia University, Malaysia, 2017; (4) International Workshop on Frontiers in Mathematical Geosciences, Beijing, China, November 13-16, 2017.

Mazumdar, K.:

(1) Department of Epileptology, University of Bonn, Germany, May 29-June 13, 2017.

### ***Computer Science Unit, Chennai***

Ghosh, S.:

(1) University of Groningen, Groningen, Netherlands, June 10-July 16, 2017; (2) Member, E.W. Beth Dissertation Prize Committee, 2017; (3) Member, Membership Committee, Association for Symbolic Logic, 2015-2017.

Venkateswarlu, A.:

(1) 10<sup>th</sup> International Workshop on Coding and Cryptography 2017 (WCC 2017), Saint Petersburg, September 18-22, 2017.

### ***Cryptology and Security Research Unit, Kolkata***

Ruj, S.:

(1) NTU, Singapore, April 17-May 16, 2017; (2) University of Ottawa, Canada, September 24-October 05, 2017.

## **Physics and Earth Sciences Division**

### ***Geological Studies Unit, Kolkata***

Chakraborty, T.:

(1) Dept. of Archaeology, Jahangirnagar University, Savar, Dhaka, Bangladesh, April 20-May 04, 2017; (2) DGRN, IG, University of Campinas, São Paulo, Brazil, September 03-October 04, 2017; (3) Qingdao National Laboratory for Marine Science and Technology, Qingdao, China, October 28-November 04, 2017.

Ghosh, P.:

(1) 33<sup>rd</sup> International Meeting of Sedimentology 2017, Toulouse, France and Fieldwork, Zaragoza, Spain, October 10-12, 2017.

Patranobis Deb S.:

(1) Gondwana 16<sup>th</sup> International Conference, Bangkok, Thailand, November 07-21, 2017.

***Physics and Applied Mathematics Unit, Kolkata***

Chatterjee, A.:

(1) Workshop on Collider Physics and the Cosmos, Galileo Galilei Institute for Theoretical Physics, Florence, Italy, August 28-September 08, 2017.

Maiti, S.K.:

(1) Department of Chemistry, Tel Aviv University, Israel, August 01-16, 2017; (2) Department of Nanotechnology for Sustainable Energy, School of Science and Technology, Kwansei Gakuin University, Japan, September 05-19, 2017.

Pal, S.:

(1) University of KwaZulu-Natal, Durban, South Africa, November 9-25, 2017.

Roy, B.:

(1) Department of Mathematics, National University of Singapore, Singapore, April 12-18, 2017.

Roy, P.:

(1) Ton Duc Thang University, Ho Chi Minh City, Vietnam, July 09- 22, 2017; (2) Istituto Nazionale Di Fisica Nucleare Sezione Di Perugia, Italy, November 19-December 16, 2017

**Biological Sciences Division**

***Human Genetics Unit, Kolkata***

Ghosh, S.:

(1) European Mathematical Genetics Meeting, Tartu, Estonia, April 05-08, 2017; (2) Joint Conference in Biometrics and Biopharmaceutical Statistics, Vienna, Austria, August 27-31, 2017; (3) International Conference in Statistics, Colombo, Sri Lanka, December 27-30, 2017; (4) 7th Pan Arab Human Genetics Conference, Dubai, January 17-20, 2018.

Mukhopadhyay, I.:

(1) Quantitative Methods for Drug Discovery and Development, Singapore, June 02-14, 2017.

**Social Sciences Division**

***Economic Research Unit, Kolkata***

Das, S.:

(1) Johann Wolfgang Goethe-Universität Frankfurt am Main, Faculty of Educational Science, Germany, May 25-26, 2017; (2) PEGNet Conference 2017, ETH Zürich, Switzerland, September 11-12, 2017.

Majumder, A.:

(1) 61<sup>st</sup> ISI World Statistics Congress (WSC) (the biennial flagship conference of the International Statistical Institute (ISI) and its seven associations), Marrakech, Morocco, July 16-21, 2017.

Mitra, M.:

(1) Cardiff Business School, Cardiff University, Cardiff, Wales, UK, July 05-10, 2017; (2) Seoul National University, Seoul, South Korea, February 23-March 03, 2018.

## Editorial and other Assignments

Pal, M.:

(1) Central Bank of Sri Lanka, March 31, 2017.

### ***Linguistic Research Unit, Kolkata***

Dasgupta, P.:

(1) World Congress of Esperanto, Seoul University of Foreign Studies, Republic of Korea, July 24-31, 2017.

Dash, N.S.:

(1) Dept. of Information and Communication Technology, Bangladesh Computer Council, Govt. of Bangladesh, 2017-2020; (2) External PhD Thesis Examiner, Institute of Uzbek Language, Literature and Folklore: Tashkent State University of Uzbek Language and Literature, Uzbekistan, June, 2017; (3) School of Psychology and Clinical Language Sciences: Centre for Literacy and Multilingualism (CeLM), University of Reading, UK, September 10-23 2017; (4) Dept. of Bangla, Jahangirnagar University, Savar, Dhaka, Bangladesh, December 04-06, 2017; (5) Digital World 2017, Bangladesh Computer Council, Dept. of Information and Communication Technology (ICT), Bangladesh, December 07-08, 2017; (6) System Engineers, Sullivan Hall, Poly Vacher Building, School of Science and Technology, University of Reading, UK, September 20, 2017; (7) Digital World 2017, Bangabandhu International Conference Centre (BICC), Dhaka, Bangladesh, December 07, 2017.

### ***Psychology Research Unit, Kolkata***

Chatterjee, G.:

(1) University of Liberal Arts, Dhaka, Bangladesh, February 14-16, 2018.

### ***Sampling and Official Statistics Unit, Kolkata***

Kar, A.:

(1) UN-ESCAP, Bangkok, Thailand, April 10-13, 2017.

### ***Sociological Research Unit, Giridih***

Behera, H.C.:

(1) Member, Coproduction of Sustainable Land System, Global Land Programme, Universitat Bern, Centre for Development and Environment, From 2017.

### ***Economics and Planning Unit, Delhi***

Afridi, F.:

(1) Australian Development Economics Workshop, Sydney, June 05–09, 2017; (2) Centre for Global Development Conference, Washington D.C., USA, June 13-16, 2017; (3) University of Pennsylvania and University of Texas, UT-Dallas, September 14-23, 2017.

Bishnu M.:

(1) Australian National University, Canberra, Australia, April 24-May 05, 2017.

Ghate, C.:

(1) Deakin University, Melbourne, Australia, November 14-28, 2017; (2) Royal Institute of International Affairs (Chatham House), Waddesdon Manor, UK, February 02-03, 2018.

Mukhopadhyay, A.:

(1) Department of Economics, University of Connecticut, USA, October 05-17, 2017; (2) Amsterdam Institute for Global Health and Development, Netherlands, November 15-18, 2017.

Mishra, D.:

(1) Brown University and Department of Economics, USA, April 07-14, 2017; (2) Instituto Tecnológico Autónomo de México (ITAM), Mexico, April 15-21, 2017.

Ramaswami, B.:

(1) 11<sup>th</sup> Annual Meeting, Environment for Development Initiative (EfD), Addis Ababa, Ethiopia, October 26-30, 2017.

Ray, T.:

(1) 18<sup>th</sup> World Congress of the International Economic Association (IEA) and Centro de Investigacion y Docencia Economicas (CIDE), Mexico, June 19-23, 2017.

Roy Chowdhury, P.:

(1) National University of Singapore, Singapore, November 13-24, 2017.

Sen, A.:

(1) Higher School of Economics, National Research University, Moscow, Russia, April 10-23, 2017; (2) Singapore Management University, Singapore, April 29-May 06, 2017; (3) University of Padua, Department of Economics and Management, Italy, June 03-16, 2017; (4) University of Lausanne, Switzerland, September 14-17, 2017.

Somanathan, E.:

(1) Tufts University, USA, July 17-22 2017; (2) 11<sup>th</sup> Annual Meeting, Environment for Development Initiative (EfD), Addis Ababa, Ethiopia, October 26-30, 2017; (3) REDD+ SANDEE Workshop, Kathmandu, Nepal, December 06-12, 2017; (4) SANDEE Steering Committee Meeting and 34<sup>th</sup> Biannual Research and Training Workshop, Kathmandu Nepal, December 13-15, 2017.

### ***Economics Analysis Unit, Bangalore***

Rajashekara, H.M.:

(1) IEEE International Geoscience and Remote Sensing Symposium 2017, Fort Worth, Texas, USA, July 23-28, 2017.

Swaminathan, M.:

(1) Agriculture, Nutrition and Health Scientific Symposium and Academy Week, Kathmandu, Nepal, July 8, 2017; (2) University of Pretoria, Pretoria, South Africa, July 17-21, 2017; (3) Global Youth Institute, Borlaug Dialogues USA, October 17–25, 2017; (4) University of Wageningen, Wageningen, Netherlands, March 06-08, 2018.

## **Statistical Quality Control and Operations Research Division**

### ***SQC & OR Unit, Delhi***

Neogy, S.K.:

(1) 28<sup>th</sup> International Conference on Game Theory, Stony Brook, USA, July 17-21, 2017.

Editorial and other Assignments

***SQC & OR Unit, Bangalore***

Perumallu, P.K.:

(1) ST Microelectronics Company, Italy, May 10-17, 2017; (2) Samara Cable company, Russia, June 01-02, 2017; (3) ST Microelectronics Company, Malaysia, June 13-15, 2017; (4) HP Pelzer Company, USA, September 20-27, 2017.

Ray, S.:

(1) Du, Dubai, April 03-07, 2017; May 22-26, 2017; July 31-August 04, 2017 and October 03-06, 2017.

***SQC & OR Unit, Mumbai***

Sarkar, A.:

(1) M/s Tanfeeth, Dubai, July 30-August 04, 2017.

**Center for Soft Computing Research, Kolkata**

Ghosh, K.:

(1) 24<sup>th</sup> International Conference on Neural Information Processing (ICONIP 2017), Guangzhou, China. November 14-18, 2017.

Pal S.K.:

(1) Hong Kong Baptist University, Hong Kong and Guangdong University of Technology, China, May 13-21, 2017; (2) University of Warmia and Mazury, Olsztyn, Poland, June 30-July 07, 2017; (3) University of Naples, Parthenope, Naples, and University of Genoa, Italy, November 19-27, 2017.

**SCIENTIFIC ASSIGNMENTS/ ACADEMIC VISITS IN INDIA**

**Theoretical Statistics and Mathematics Division**

***Stat-Math Unit, Kolkata***

Biswas, K.:

(1) IISER, Pune, July 24-29, 2017; (2) ICTS, Bangalore, November 27-30, 2017.

Bandyopadhyay, P.:

(1) RIE, Mysore, May 18-21, 2017; (2) Visvesvaraya Technological University, Belagavi. June 22-26, 2017; (3) IIT, Bombay, October 11-15, 2017.

Dutta, A.K.:

(1) Ramakrishna Mission Institute of Culture, April 08, 22, 25, 29, and May 06, 11-13, 16, 20, 23-24, 26, 2017; (2) Jadavpur University, Kolkata, July 10, 2017; (3) Dept. of Statistics and Informatics, Aliah University, Kolkata October 16, 2017; (4) IIT Gandhinagar, December 04-05, 2017; (5) Indian Association for the Cultivation of Science, Kolkata, February 28, 2018; (6) IGNCA, New Delhi, March 06, 2018.

Datta, M.:

(1) NISER, Bhubaneswar, July 10-22, 2017; (2) ICTS, Bengaluru, December 25, 2017-January 04, 2018; (3) IISER, Kolkata, March 15, 2018.

Gupta, N.:

(1) DEFRA, Birla Institute of Technology, Pilani, February 22; (2) 2018DMS symposium, Kolkata, March 05, 2018.

Ray, S K.:

(1) IIT, Patna, May 14-15, 2017; (2) IISc, Bangalore, December 11-13, 2017; (3) NISER, Bhubaneswar, March 05 -08, 2018; (4) IIT, Bombay, March 18 -23, 2018.

### ***Stat-Math Unit, Delhi***

Bhatt, A G:

(1) IGIDR, Mumbai, September 01-03, 2017; (2) IISA International Conference on Statistics, Hyderabad, December 28 – 29, 2017.

Dewan, I:

(1) Annual Conference of International Indian Statistical Association, Hyderabad, December 27-30, 2017; (2) IITRAM, Ahmedabad, February 01-05, 2018.

Jain, T:

(1) Department of Mathematics, University of Delhi, May 01- 02, 2017; (2) Indian Academy of Science, Bangalore, September 06, 2017; (3) Dr. B.R. Ambedkar National Institute of Technology, Jalandhar, November 30-December 02, 2017.

Laishram, S:

(1) Ramjas College, Delhi University, April 26-28, 2017; (2) North-Eastern Hill University, Shillong, June 30-July 07, 2017; (3) University of Hyderabad, July 28-August 01, 2017; (4) Harish-Chandra Research Institute, Allahabad, September 04-07, 2017; (5) IIT, Delhi, December 11-16, 2017; (6) IIT Ropar, December 22-25, 2017; (7) NISER, Bhubaneswar, February 08-09, 2018; (8) Kerala School of Mathematics, Manipal University, Imphal, February 26-March 03, 2018; (9) University of Hyderabad, March 19-20, 2018.

Nandi, S:

(1) IISA International Conference on Statistics, Hyderabad, December 27-30, 2017; (3) IIT, Kanpur, February 18-20, 2018.

Sarkar, A:

(1) IISc, Bangalore, January 08-12, 2018.

Sarkar, D:

(1) IGIDR, Mumbai, September 01-03, 2017.

Thakur, M:

(1) IISER, Mohali, December 18- 23, 2017.

### ***Stat-Math Unit, Bangalore***

Rajarama Bhat, B.V.:

(1) Indian Women and Mathematics Conference, IISc, Bangalore, July 13-15, 2017; (2) Conference on Functional Analysis, IIT, Bombay, October 12-15, 2017; (3) Nominee of UGC (for FIST funding

## Editorial and other Assignments

evaluation), Alagappa University, Karaikudi, Tamil Nadu, November 21, 2017; (4) Conference on Matrix and Functional analysis, NIT, Jalandhar, November 30-December 02, 2017; (5) Linear Algebra Conference (ICLAA 2017), Manipal Academy of Higher Education, Manipal, December 11-15, 2017; (6) St. Aloysius College, Mangalore, December 13, 2017; (7) Delhi University, Delhi, December 18-21, 2017; (8) INSPIRE Selection Committee Meeting (Mathematics), INSA, New Delhi, December 21, 2017; (9) 83<sup>rd</sup> Anniversary General Meeting of the Indian National Science Academy, IISER, Pune, December 27-29, 2017; (10) Conference on Quantum Groups and Noncommutative Geometry, NISER, Bhubaneswar, January 15-19, 2018; (11) National Conference on 'Advances in Applied Mathematics', Department of Mathematics, University College of Science, Tumkur University, Tumakuru, Karnataka, February 08, 2018; (12) National Seminar on Recent Advances in Complex Analysis and Operator Theory, Jammu University, Jammu, February 15-17, 2018; (13) Star College Scheme Mentoring Meeting of PSG College of Arts and Science, Coimbatore, February 21, 2018.

Raja, C.R.E:

(1) TIFR, Mumbai, April 10-14, 2017; (2) Topological Dynamics in Advanced Instructional School (AIS) on Ergodic Theory and Dynamical Systems (ETDS), IIT, Delhi, December 06-09, 2017.

Rajeev, B.:

(1) Annual Conference of Kerala Statistical Association, Department of Statistics, St. Thomas' College, Thrissur, February 14-17, 2018.

Sarkar, J:

(1) Department of Mathematical Sciences, BHU, Varanasi, May 13-14, 2017; (2) North-East Summer Workshop in Analysis and Probability (NE-SWAP), Manipur University, July 05-11, 2017; (3) Conference on Functional Analysis, IIT, Bombay, October 10-15, 2017; (4) Department of Mathematical Sciences, IISER, Kolkata, November 16-18, 2017; (5) Conference on Matrix and Functional Analysis, NIT, Jalandhar, November 28-December 03, 2017; (6) Conference on Recent Advances in Operator Semigroups, University of Delhi, Delhi, December 18-22, 2017; (7) Conference on Quantum Groups and Noncommutative Geometry, National Institute of Science Education and Research (NISER), Bhubaneswar, January 14-20, 2018; (8) Conference on Recent Advances in Complex Analysis and Operator Theory, Jammu Mathematical Society and University of Jammu, Jammu, February 14-18, 2018; (9) Himachal Pradesh University, Shimla, February 27-March 01, 2018; (10) IIT, Bombay, Mumbai, March 21-23, 2018.

Yogeshwaran, D.:

(1) Annual Meeting, Indian Academy of Sciences, Shillong, November 03-05, 2017.

## **Applied Statistics Division**

### ***Applied Statistics Unit, Kolkata***

Dewanji, A.:

(1) IISA International Conference on Statistics 2017, Hyderabad, December 27-30, 2017; (2) International Conference on New Paradigms in Statistics for Scientific & Industrial Research organized jointly by IAPQR and CSIR-CGCRI, Kolkata, January 04-06, 2018.

### ***Interdisciplinary Statistical Research Unit, Kolkata***

Basu, A.:

(1) 3<sup>rd</sup> International Conference on Statistics for 21<sup>st</sup> Century, University of Kerala, Trivandrum, December 13-16, 2017; (2) International Indian Statistical Association (IISA) 2017 Annual Conference on Statistics, India International Centre, Hyderabad, December 26-31, 2017.



Ghosh, A.:

(1) Indraprastha Institute of Information Technology, Delhi, October 09-16, 2017; (2) 83<sup>rd</sup> Annual Conference of Indian Mathematical Society (IMS), Sri Venkateswara University, Tirupati, December 10-17, 2017; (3) International Indian Statistical Association (IISA) International Conference on Statistics, Hyderabad, December 27-31, 2017.

Pal, A.:

(1) National Conference for Women in Statistics and Analytics, Department of Statistics, Savitribai Phule Pune University, Pune, February 14-16, 2018.

### ***Applied Statistics Unit, Chennai***

Sudheesh, K.K.:

(1) Velammal College of Engineering and Technology, Madurai, April 04, 2017; (2) Anna Institute of Management, Chennai, Tamil Nadu, India, April 24-25 and 28, 2017; (3) 32<sup>nd</sup> Annual Conference of the RMS, Belagavi, Karnataka, June 24, 2017; (4) CUSAT, Kochi, Kerala, August 30, 2017; (5) University of Hyderabad, October 16, 2017; (6) Maharajas College, Ernakulam, December 08, 2017; (7) Workshop Statistical Methods in Finance 2017, Chennai Mathematical Institute, Chennai, December 16-19, 2017; (8) IISA Conference, Hyderabad, December 28-30, 2017.

### ***Applied and Official Statistics Unit, Tezpur***

Chungkham, H.S.:

(1) 2017 IISA International Conference on Statistics, Hyderabad, December 28-30, 2017.

Jyethi, D.S.:

(1) NASA Applied Remote Sensing Training, IITM, MoES, Pune, May 23-26, 2017; (2) 2<sup>nd</sup> International Workshop on Biodiversity and Climate Change, IIT Kharagpur, February 24-27, 2018; (3) Contributor of self-learning materials, Centre for Open and Distance Learning, Tezpur University, 2018.

Maitra, S.:

(1) Faculty Development Program, KIIT University, Bhubaneswar, June 28-29, 2017; (2) Faculty Development Program, Department of Computer Science and Engineering, Tezpur University, Tezpur, December 27-28, 2017; (3) Training and Placement Cell, School of Engineering, Tezpur University, Tezpur, February 14-March 07, 2018.

Ramesh, A.:

(1) 35<sup>th</sup> Annual National Conference of Indian Society for Medical Statistics, Lucknow, Uttar Pradesh, November 02-04, 2017.

## **Computer and Communication Sciences Division**

### ***Advanced Computing and Microelectronics Unit, Kolkata***

Das, N:

(1) 29<sup>th</sup> GISFI Standardization Series Meeting and IEEE 5G Summit, Bhubaneswar, August 17 -18, 2017; (2) 19<sup>th</sup> International Conference on Distributed Computing and Networking (ICDCN '18), IIT, BHU, January 04-07, 2018; (3) 5<sup>th</sup> International Doctoral Symposium on Applied Computation and Security Systems (ACSS-2018), Kolkata, February 09-10, 2018.

## Editorial and other Assignments

Sur-Kolay, S.:

(1) 9<sup>th</sup> International Conference on Reversible Computation, Kolkata, July 06-07, 2017; (2) 31<sup>st</sup> International Conference on VLSI Design, Pune, January 09-11, 2018; (3) Conference on Algorithms and Applications (ALAP2018), B.P. Poddar Institute of Management & Technology, Kolkata, January 10-12, 2018; (4) IEEE International Symposium on Devices, Circuits and Systems (ISDCS 2018), IIST, Shibpur, India, March 30-31, 2018.

### ***Computer Vision and Pattern Recognition Unit, Kolkata***

Bhattacharya, U.:

(1) Invited talk, Master of Human Resource Department (MHRM), Indian Institute of Social Welfare and Business Management, Kolkata, February 09, 2018; (2) Workshop on Deep Learning and Application, NIT, Manipur, March 12-16, 2018.

Majumdar, D.:

(1) Visiting Professor, Ashoka University, Rajiv Gandhi Education City, Sonapat, Haryana, September 22–December 19, 2017 & January 04–March 09, 2018.

Mitra, M.:

(1) Invited talk, Department of Computer Science, Calcutta University, July 04, 2017; (2) Doctoral Committee Meeting, Department of Information Technology, IIST, Shibpur, July 31, & September 05, 2017; (3) Department of Statistics, Calcutta University, March 17, 2018.

### ***Electronics and Communication Sciences Unit, Kolkata***

Chanda, B.:

(1) Faculty Development Programme on Big Data Analytics and Machine Learning, Techno India, Salt Lake, July 06, 2017; (2) AICTE-QIP Short Term Course on Biomedical Data Analytics (BioMedicS-2017), IIT, Kharagpur, September 11-17, 2017; (3) AICTE sponsored Faculty Development Programme on Recent Developments in Artificial Intelligence and Robotics, 2017; (4) Narula Institute of Technology, Agarpara, January 03-13, 2018; (6) 3<sup>rd</sup> Workshop on Computing: Theory and Applications, NIT, Meghalaya, February 19-24, 2018; (7) IIIT, Allahabad, March 21-22, 2018.

Das, S.:

(1) Workshop on Intelligent Signal processing and Control system Design using Bio inspired Algorithms, NIT, Warangal, May 22–31, 2017; (2) 7<sup>th</sup> International Conference Soft Computing for Problem Solving-SocProS 2017, IIT, Bhubaneswar, December 23-24, 2017; (3) IEEE CIS Winter School, Department of Electrical Engineering, IIT, Delhi, December 27–31, 2017; (4) Workshop on Swarm and Evolutionary Computation, Department of Mathematics, IIT, Roorkee, March 17–19, 2018.

Mohanta, P.P.:

(1) 3<sup>rd</sup> Workshop on Computing: Theory and Applications, NIT, Meghalaya, Shillong, February 19–24, 2018.

Mukherjee, D.P.:

(1) Medical Image Processing, Department of Computer Science and Engineering, Tripura University, May 05, 2017; (2) Machine Learning, Capital One, Bangalore, June 20-21, 2017; (3) Machine Learning, UGC Workshop on Big Data Analytics, Bir Bikram Memorial College, Tripura, July 16, 2017; (4) Emotion Recognition and Synthesis, Short term course on Biometrics, NIT, Durgapur, August 07, 2017; (5) Tutorial on Image Processing, SIAM Workshop, VIT Vellore September 09, 2017; (6) Shape Synthesis, IIIT Sri City, Chittor, September 11, 2017; (7) Machine Learning for Computer Vision,

Ahmedabad University, September 20, 2017; (8) Machine Learning, Department of Computer Science and Engineering, Tripura University, November 04-05, 2017; (9) Introduction to Machine Learning, Narula Institute of Technology, January 03, 2018; (10) Tutorial on Machine Learning, CSI-2017, University of Calcutta, January 18, 2018; (11) ICICA-2018, Velammal Engineering College, Chennai, February 03, 2018; (12) Department of Statistics, University of Calcutta, March 16, 2018; (13) CSI-B.P. Poddar College of Engineering Workshop, March 20, 2018.

Pal, N.R:

(1) International Conference on Computational Intelligence: Theories, Applications and Future Directions, Indian Institute of Technology Kanpur, December 06-08, 2017.

### ***Machine Intelligence Unit, Kolkata***

Bandyopadhyay, S.:

(1) Welcome Trust/DBT-India Alliance Early Career Fellowships Selection Committee, 2013-2014 and 2015-2017; (2) Board of Governors, NIT Agartala, 2017-19; (3) Council of Management, NIAS, Bangalore, 2017-18; (4) National Panel for the Formulation of the Technology-led Innovation Policy, 2017-18; (5) Committee to review Policy Research Programme of DST for its Continuation Beyond the 12th Plan Period Chairperson, 2017-18; (6) Program Advisory Committee (PAC) of Electrical, Electronics and Computer Science, SERB, 2015-18; (7) Program Advisory Committee (PAC) of Women Scientist Scheme (A), DST, 2016-19; (8) Selection Committee of Swarnajayanti Fellowship, DST, 2015-18.

Ghosh, A:

(1) 5<sup>th</sup> IIMA International Conference on Advanced Data Analysis, Business Analytics and Intelligence, Ahmedabad, April 08-09, 2017; (2) National Workshop On Remote Sensing And Signal Processing, Guwahati, Assam, May 15-16, 2017; (3) International Conference On Communication, Devices and Networking, Sikkim, June 03-05, 2017; (4) B.P Poddar College, Kolkata, August 09, 2017; (5) Workshop on Big Data Analytics, Bangalore, August, 24, 2017; (6) Coimbatore University, Coimbatore, August 27-28, 2017; (7) DST Meeting, New Delhi, September 25, 2017 (8) IISc Bangalore, October 03, 2017; (9) IISF, Ministry of Arts and Sciences, Delhi, October 16, 2017; (10) Latest Advances in Machine Learning and Data Science, October 25-26, 2017; (11) DST meeting, IIT, Kharagpur, November 04, 2017; (12) RCCIIT, Kolkata, November 08, 2017; (13) Kalinga Institute Of Industrial Technology, Bhubaneswar, November 16, 2017; (14) Chandaben Mohanbhai Patel Institute of Computer Applications, December 01, 2017; (15) DEITY Meeting, New Delhi, December 08, 2017 and January 18, 2018; (16) NIT, Silchar, Silchar, January 22, 2018; (17) Pune University, Pune, February 05, 2018; (18) NIT, Bhopal, February 06-07, 2018; (19) 4<sup>th</sup> International Conference on Harmony Search, Soft Computing And Applications, Gurgaon, Harayana, February 08, 2018.

Ghosh, K.:

(1) MCA Major Project Viva-Voce, Department of Computer Applications, NEHU, Meghalaya, July 11-12, 2017; (2) ISEA Sponsored Short Term Course on Biometrics, NIT, Durgapur, August 07-11, 2017; (3) Symposium on 150<sup>th</sup> Birth Anniversary of Madam Curie, Vivekananda College, Kolkata, November 01, 2017; (4) 3<sup>rd</sup> Workshop on Computing: Theory and Applications, NIT, Meghalaya, February 19-24, 2018.

Maji, P.:

(1) Workshop on Machine Learning and Pattern Analysis, St. Thomas College of Engineering and Technology, Kolkata, June 2017; (2) Short Term Course on Machine Learning in Computer Vision and Pattern Recognition, NIT, Durgapur, February 2018; (3) International Conference on the Networked Digital Earth, Kharagpur, March 2018.

## Editorial and other Assignments

Mitra, S.:

(1) Member, Board of Studies, Dept. of Computer Science & Engineering, Tezpur University, 2017-18; (2) Member, Board of Studies, Dept. of Information Technology, Govt. College of Engineering and Ceramic Technology, Kolkata, 2017-18; (3) Member, PG Board of Studies, Surendranath College, 2018; (4) Chair, IEEE CIS Kolkata Chapter, 2017-18; (5) Short Term Training Program, Nirma University, Ahmedabad, July 01, 2017; (6) Faculty Development Program, RCCIIT, Kolkata, July 20, 2017; (7) INAE Youth Conclave, Jaipur, August 12, 2017; (8) 2<sup>nd</sup> International Conference on Applied Soft Computing and Communication Networks (ACN'17), Manipal, September 13, 2017; (9) 1<sup>st</sup> International Symposium on Signal and Image Processing (ISSIP 2017), CII Suresh Neotia Centre of Excellence for Leadership, Kolkata, November 01, 2017; (10) Expert in Brain Storming Session on NPIS, MeitY, New Delhi, December 08, 2017; (11) Expert in Brain Storming Session for AI meeting, MeitY, New Delhi January 18, 2018.

### ***Systems Science and Informatics Unit, Bangalore***

Meher, S.K:

(1) Faculty Development Program, School of Computer Science, Kalinga Institute of Industrial Technology, Bhubaneswar, Odisha, June-28-30, 2017; (2) Amrita School of Engineering, Bangalore Campus, July 06-09, 2017; (3) International Conference on Computing, Analytics and Networking (ICCAN-2017), School of Computer Science, Kalinga Institute of Industrial Technology, Bhubaneswar, Odisha, December 15-16, 2017; (4) International conference on current trends in advanced computing (ICCTAC), Kristu Jayanti College, Bangalore, India, February 01-02, 2018.

Sagar, B.S.D:

(1) IIT, Bombay, 2017-18; (2) University of Hyderabad, 2017-18; (3) Indian Institute of Space Science and Technology, Trivandrum, 2017-18; (4) Nirma University, Ahmadabad, June 28, 2017; (5) IEEE Bombay GRSS Chapter, IIT, Bombay, July 19, 2017; (6) Centre for Artificial Intelligence and Robotics (CAIR) Defense Research and Development Organisation, Bangalore, November 22, 2017.

### ***Computer Science Unit, Chennai***

Francis, M.C.:

(1) ADMA Pre-conference Workshop on Graph Algorithms, SSN College of Engineering, Chennai, June 05, 2017; (2) IIT, Palakkad, January-April, 2018; (3) Department of Computer Science & Engineering, IIT, Kharagpur, February 04-11, 2018; (4) SRM Institute of Science and Technology, Chennai, February 14, 2018; (5) National Workshop on Graph Coloring and Algebraic Graph Theory, Pondicherry University, March 06, 2018.

Karthick, T.:

(2) 13<sup>th</sup> Pre-conference school on Graph Algorithms, SSN College of Engineering, Chennai, June 05–07, 2017; (1) Department of Mathematics, VIT University, Chennai, October 11, 2017; (3) International Conference in Discrete Mathematics (ICDM-2018), Periyar University, Salem, January 04-07, 2018; (4) International Conference in Discrete Mathematics and its Applications, Manonmaniam Sundaranar University, Tirunelveli, January 18-20, 2018; (5) State Level Intercollegiate Student Seminar, PG and Research Department of Mathematics, Thiagarajar College, Madurai, February 23, 2018; (6) National Workshop on Graph Coloring and Algebraic Graph Theory, Pondicherry University, Pondicherry, March 06-10, 2018.

## **Physics and Earth Sciences Division**

### ***Geological Studies Unit, Kolkata***

Das, S.S.:

(1) National Seminar on Deccan Volcanism and biotic events across K/T boundary, Department of Applied Geology Dr. H.S. Gour Vishwavidyalaya, Sagar, Madhya Pradesh, October 26-28, 2017.

Sengupta, D.P.:

(1) Presidency University, Kolkata, October 25, 2017; (2) Joint Technical Session of Association of Petroleum Geologists (APG) and Society of Petroleum Geophysicist (SPG), Kolkata Chapter, ONGC, March 19, 2018.

### ***Physics and Applied Mathematics Unit, Kolkata***

Kar, G.:

(1) Department of Physics, NIT, Patna, January 23-27 and November 02-09, 2017; (2) International Conference an invited speaker on Quantum Foundations 2017 (ICQF17), NIT, Patna, December 04-09, 2017; (3) International Symposium an invited speaker on New frontiers in quantum correlations (ISNFQC18), S.N. Bose National Centre for Basic Sciences, Kolkata, January 29-February 02, 2018.

Maiti, S.K.:

(1) National Conference on Recent Trends in Condensed Matter Physics, Bose Institute, Kolkata, October 31-November 03, 2017; (2) National Conference on Frontiers of Statistical Physics, Presidency University, Kolkata, February 28, 2018.

Pal, S.:

1) National Workshop on Celebrating the Centenary of Einstein's General Relativity, Burdwan University, July 26-Aug 01, 2017; (2) International Conference on Post-Planck Cosmology: Enigma, Challenges and Vision, IUCAA Pune, October 09-11, 2017; (3) Invited Member of Judges Panel for Scientific Creativity Test, Jagadis Bose National Science Talent Search (JBNSTS), October 13-15, 2017; (4) External Examiner, Indian Association for the Cultivation of Science, January 30, 2018; (5) Moderator, St. Xavier's College, Kolkata, 2017-18; (6) Viva-voce Examiner, S.N. Bose National Centre for Basic Sciences, Kolkata, 2017.

Parashar, P.:

(1) International Symposium on New Frontiers of Quantum Correlations, S.N. Bose National Centre for Basic Sciences, Kolkata, January 29-February 02, 2018.

Roy, B.:

(1) Department of Physics, Punjab University, Chandigarh, December 05-13, 2017.

## **Biological Sciences Division**

### ***Human Genetics Unit, Kolkata***

Chatterjee, R.:

(1) National Workshop on Microbial Genomics, Department of Biotechnology, Mizoram University, Aizwal, October 29-November 02, 2017; (2) International Conference Advances in Biological Techniques, Raja Peary Mohan College, Uttarpara, Hoogly, November 02-04, 2017; (3) 37<sup>th</sup> Annual Conference of the Indian Association for Cancer Research (IACR), Bose Institute, Kolkata,

## Editorial and other Assignments

February 23 -25, 2018; (4) 43<sup>rd</sup> Annual Meeting of the Indian Society of Human Genetics (ISHG), CSIR-Centre for Cellular and Molecular Biology, Hyderabad, March 12-15, 2018.

Ghosh, S.:

(1) Workshop on Consortium on Vulnerability to Externalizing Disorders and Addictions (cVEDA) National Institute of Mental Health and Neurosciences, Bangalore, January 22-24, 2018.

Mukhopadhyay, I.:

(1) East Asia Regional Conference of International Biometric Society, Puducherry, February 16-17, 2018; (2) National Conference on Mathematical and Theoretical Biology (NCMTB 2018), March 22-23, 2018.

## **Social Sciences Division**

### ***Economic Research Unit, Kolkata***

Chakravarty, S.R.:

(1) Indira Gandhi Institute of Development Research, Mumbai, March 25-31, 2018.

Kabiraj, T.:

(1) Guest Professor, Economics Department, Calcutta University, April-May 2017 and February-March 2018; (2) External Expert, IIT, Kharagpur, May 04-05, 2017; (3) Research Methodology Workshop on Economic Theory, Visva-Bharati University, November 12-13, 2017; (4) International Conference on Issues in Economic Theory and Policy, Presidency University, Kolkata, December 14, 2017.

Majumder, A.:

(1) Board of Studies, Department of Economics, Presidency University, Since 2016; (2) IIT, Kharagpur, May 04-05, 2017; (3) NIT, Durgapur, Department of Humanities & Social Sciences, June 28, 2017.

Pal, M.:

(1) North Eastern Hill University, Shillong, Meghalaya, July 13, and 20 September 20, 2017; (2) Nabagram Hiralal Paul College, November 24, 2017; (3) Xavier University Bhubaneswar, August 02, September 11-14, October 08-18, November 01-09, 2017; (4) Research Advisory Committee of National Tea Research Foundation, 2018-19.

Sarkar, N.:

(1) The WB National University of Juridical Sciences, Kolkata, April 02, 2017 and March 05, 2018; (2) Assam University, Silchar, Assam, January 11-12, 2018; (3) West Bengal State University, Barasat, West Bengal, March 05, 2018; (4) The Bhawanipur Education Society College, Kolkata, March 19, 2018.

### ***Linguistic Research Unit, Kolkata***

Dasgupta, P.:

(1) National Seminar on Multilingualism in India: Issues and Challenges, Department of Linguistics, University of Mumbai, Mumbai, March 06-07, 2018.

Dash, N.S.:

(1) Finalization of consolidated report on mother tongue Amarani and Konda, Office of the Registrar General-India, Language Division, Ministry of Home Affairs, Govt. of India, Kolkata, April & July, 2017; (2) Dept. of English and Foreign Languages, Tezpur University, Assam, May 19, 2017; (3) English and Foreign Languages University, Hyderabad, May 24, 2017; (4) School of Languages and Linguistics, Jadavpur University, Kolkata, May 28, June 25 & 29, 2017; (5) 23<sup>rd</sup> Himalayan Languages Symposium, Dept. of English and Foreign Languages, School of Humanities & Social Sciences, Tezpur University, Assam, July 05-07, 2017; (6) Dept. of Linguistics, Faculty of Arts, Banaras Hindu University, Varanasi, July 31, & November, 2017; (7) Translation Today: An International Journal on Translation, Paper Reviewer, August 2017; (8) Workshop on Language-Mind-Brain: Interface Studies, Humanities and Social Sciences Department, IIT, Patna, August 19-20, 2017; (9) Training Programme on Mother Tongue Survey of India (MTSI), Office of the Registrar General, Ministry of Home Affairs, Govt. of India, Kolkata, August 22-31, 2017; (10) MTIL-2017, Amrita Vishwa Vidyapeetham, Coimbatore, September 07-08, 2017; (12) Machine Translation in Indian Languages (MTIL), Amrita Vishwa Vidyapeetham, Coimbatore, September 07-08, 2017; (12) Department of Linguistics and Phonetics, School of Language Sciences, English and Foreign Languages University, Hyderabad, October, 2017; (13) Workshop on Describing and Analyzing Languages and Hands-on Training in Linguistic Tools, Dept. of English, Jadavpur University, Kolkata, November 15-16, 2017; (14) National Seminar on Applied Linguistics, Dept. of Linguistics, Osmania University, Hyderabad, November 28, 2017; (15) Workshop on Current Trends in Field Linguistics, Dept. of Linguistics, Osmania University, Hyderabad, November 29, 2017; (16) 39<sup>th</sup> International Conference of the Linguistic Society of India, Department of Humanities and Social Sciences, IIT, Patna, India, December 08-11, 2017; (17) 39<sup>th</sup> International Conference of Linguistic Society of India (ICOLSI-39), Dept. of Humanities and Social Sciences, IIT, Patna, December 10, 2017; (18) Translation Today: An International Journal on Translation, Paper Reviewer, December 2017; (19) International Workshop on Methodological Approach to Research in Humanities, Dept. of Bangla, Aliah University, Kolkata, January 01, 2018; (20) 13<sup>th</sup> International Conference of South Asian Languages and Literatures, Central Institute of Indian Languages, Mysore, January 08-10, 2018; (21) Lipi and Literature 2018 Festival, Dept. of Odia, Ravenshaw University, Cuttack, February 03, 2018; (22) Pre-Submission Seminar for PhD, Dept. of Computer Science and Engineering, Jadavpur University, Kolkata, February 05, 2018; (23) Collection of sentences from Kurdmali and Birhor speech communities in the districts of Purulia, West Bengal, February 20-23, 2018; (24) 6<sup>th</sup> International Conference on Endangered and Lesser Known Languages, Central Institute of Indian Languages, Mysore, February 21-23, 2018; (25) Seminar cum workshop on Endangered Languages and Language Documentation in India, Dept. of Linguistics, University of Calcutta, February 28, 2018; (26) Central Institute of Indian Languages, Mysore, March 07-09, 2018; (27) Translation and Knowledge Society - A Conference, Workshop and Translation, NTM, CIIL, Mysore, March 07-09, 2018; (28) 8<sup>th</sup> National Conference on Indian Language Computing, Department of Computer Applications, CUSAT, Kochi, March 16-17, 2018.

### ***Psychology Research Unit, Kolkata***

Bhattacharya, H.:

(1) 7<sup>th</sup> InSPA International Conference, Mysore, November 09-11, 2017.

Chatterjee, G.:

(1) Panjabi University, Patiala, Punjab, December 04-06, 2017; (2) Indian Institute of Science, Bangalore, December 27-29, 2017; (3) HBCSE, TIFR, Maharashtra, February 26-28, 2018.

Dutta Roy, D.:

(1) Centre for Science of Student Learning, Delhi, August 01-September 31, 2017; (2) University of Calcutta, Kolkata, August 04, & 07-08, 2017; (3) Indian Institute of Psychometry, Kolkata, August 24, 2017; (4) Ali Yavar Jung National Institute of Speech and Hearing Disabilities, Kolkata, August 29-September 06, 2017; (5) Department of Psychology, University of Calcutta, Kolkata, September 08-09, 2017; (6), IAHP, Lucknow, November 11, 2017; (7) Centre for Health Psychology, School of

## Editorial and other Assignments

Medical Sciences, University of Hyderabad, November 27, 2017; (8) NAOP, IIT, Kharagpur, December 21-24, 2017; (9) P.G. College, Chandigarh, January 12-14, 2018; (12) NIEPID, Kolkata, January 30, 2018.

### ***Sampling and Official Statistics Unit, Kolkata***

Chakraborty, A.B.:

(1) Advisory Committee, National Accounts Statistics, Govt. of India, Ministry of Statistics and Programme Implementation (MOSPI), Since June 2016; (2) Working Group on Producer Price Index, Govt. of India, Ministry of Commerce and Industry, 2014-17.

Chattopadhyay, N.:

(1) Working group for the 73<sup>rd</sup> Round of National Sample Survey, NSSO, Since 2014.

Chaudhury, P.:

(1) Working Group for the 75<sup>th</sup> Round of the National Sample Survey, NSSO, MoS&PI. During 2017-18.

Dihidar, K:

(1) Assessor, Kalyani University, 2017.

Kar, A:

(1) Technical consultancy for the NABARD All India Rural Financial Inclusion Survey (NAFIS), June 2016-July 2018; (2) Member of the Committee on Real Sector Statistics constituted by the National Statistical Commission April 2016-July 2018; (3) Member of the Working Group on NSS 73<sup>rd</sup> Round of Ministry of Statistics and Programme Implementation, Govt. of India August 2014-March 2018; (4) Member of the Working Group on NSS 74<sup>th</sup> Round Ministry of Statistics and Programme Implementation, Govt. of India, Since October 2015.

Mitra, S.:

(1) International Conference on Public Policy and Management, Centre for Public Policy, Indian Institute of Management, Bangalore, August 07-08, 2017; (2) IFMR-Tamil Nadu Government Conference, September 07, 2017.

Mukherjee, D.:

(1) Working Group for the 74<sup>th</sup> round of NSS, NSSO, since 2015; (2) Studies in Microeconomics, India, Since 2015; (3) Expert Committee on Disclosure Control, NSSO, Since 2015.

### ***Sociological Research Unit, Kolkata***

Bharati, S:

(1) 105<sup>th</sup> Indian Science Congress, Manipur University, Imphal, March 16-20, 2018.

Jana, R.:

(1) Faculty Centre for Integrated Rural Development and Management (IRDM), Ramakrishna Mission Vivekananda University (RKMVU), Narendrapur, West Bengal, Since 2012.

### ***Economics and Planning Unit, Delhi***

Afridi, F.:

(1) IGC Conference, Delhi, July 13, 2017; (2) Indian School of Business, Human Capital Workshop, Hyderabad, August 10-11, 2017; (3) Mumbai School of Economics, December 16, 2017; (4) Australia-India Workshop, Delhi, December 21, 2017; (5) IIM Kolkata, CSSSC, Kolkata, January 10-12, 2018.



Bishnu M.:

(1) CECFEE Annual Workshop, Udaipur, Rajasthan, November 16-17, 2017.

Ghate, C:

(1) Board of Studies, Department of Economics, Shiv Nadar University, Dadri, Uttar Pradesh, March 2018 onwards; (2) RBI, Mumbai, April 05-06, June 05-07, 23, July 17-18, July 31- August 02, 31, September 08, October 03-04, December 05-06, 2017; (4) 11<sup>th</sup> Statistics Day Conference, Reserve Bank of India, July 04, 2017; (5) CAFRAL, RBI, Mumbai, Seminars presentation, December 07, 2017; (6) Training programme on Macroeconomics, RBI Mumbai, December 08-14, 2017; (7) International Conference on Economics and Finance, BITS – Pilani, Goa Campus, February 16-17, 2018; (8) Economic Theory and Policy Conference Centre for Development Studies, Thiruvananthapuram, February 22-23, 2018; (9) International Conference on Globalization and Development, Department of Economics & Politics, Visva-Bharati Santiniketan, February 24, 2018; (10) Presidency University, Calcutta, February 27, 2018; (11) IIM, Kolkata, February 26, 2018.

Mishra, D.:

(1) IIM Bangalore, January 12, 2017.

Ramaswami, B.:

(1) Symposium, IGIDR, December 08, 2017.

Ray, T.:

(1) Ashoka University, Sonapat, Haryana, July 28-29, 2017; (2) IEA-IGIDR Conference on Social Sector Development in India: Emerging Issues and Policy Perspectives, Indira Gandhi Institute of Development Research, Mumbai, October 06-07, 2017; (3) St. Stephen's College, University of Delhi, September 15, 2017; (4) National University of Educational Planning and Administration (NUEPA), New Delhi, March 05, 2018.

Roy Chowdhury, P.:

(1) International Conference on 'Globalization and Development', Visva-Bharati, Santiniketan, February 23-25, 2018.

Somanathan, E.:

(1) Ashoka University, SERI conference, July 28-29, 2017; (2) Madhya Pradesh, August 03-04, 2017; (3) IISER, Bhopal, August 05, 2017; (4) Eastern UP, October 12-13, 2017; (5) InSEE Conference, Thrissur, Kerala, November 07-08, 2017; (6) Amrita University, Coimbatore, Tamil Nadu, November 09, 2017; (7) CECFEE Workshop, Udaipur, Rajasthan, November 17-18, 2017.

### ***Economic Analysis Unit, Bangalore***

Swaminathan, M.:

(1) Selection of Agricultural Commodities for Karnataka, Fiscal Policy Institute, Govt. of Karnataka, May, 2017; (2) A.P. Rythu Sangham (AIKS), Kakinada, July 10-12, 2017; (3) 77<sup>th</sup> Annual Conference of the Indian Society of Agricultural Economics, Guwahati, October 12-14, 2017; (4) National Consultation on Political Economy of Gender and Energy, Indian International Centre, New Delhi, November 01, 2017; (5) Workshop on Contemporary Rural Issues in India, Cherthala, Kerala, December 04-05, 2017; (6) NITI Aayog, Consultation on Leveraging Agriculture for Nutrition, January 30, 2018.

## **Statistical Quality Control and Operations Research Division**

### ***SQC & OR Unit, Kolkata***

Bandyopadhyay, A:

(1) Presentation, Secretariat, Chennai, July 03, 2017; (2) Additional Chief Secretary, Government of Tamil Nadu, November 03, 2017; (3) Principal Secretary to the Honourable Prime Minister, Prime Minister's Office, New Delhi, January 22, 2018..

## Editorial and other Assignments

Chakraborty, A.K.:

(1) International conference on Advancing Frontiers in Operational Research: Towards a Sustainable World (AFOR2017), Heritage Institute of Technology, Kolkata, December 21-23, 2017.

Das A.K.:

(1) International Conference on Mathematical Analysis and its Applications (ICMAA-2017), Dayanand Science College, Latur, Maharashtra, 2017.

Mukhopadhyay, A.R.:

(1) Post-Graduate Management Program, Indian Maritime University, Indian Institute of Social Welfare and Business Management, Kolkata.

Manna, D.K.:

(1) Presentation, Secretariat, Chennai, July 03, 2017.

Sett, R:

(1) Presentation, Secretariat, Chennai, July 03, 2017.

### ***SQC & OR Unit, Delhi***

Chakravorty, R.:

(1) TQM and Six Sigma, National Institute for Training and Standardization, BIS, NOIDA, U.P., November 09, 2017.

Neogy, S.K.:

(1) International Conference on Linear Algebra and its Applications, Manipal Academy of Higher Education, Manipal, December 11-15, 2017; (2) 2<sup>nd</sup> International Conference on Recent Advances in Mathematical Sciences and its Applications (RAMSA-2017), Department of Mathematics, IIIT Noida, December 12-14, 2017.

### ***SQC & OR Unit, Bangalore***

Gijo, E.V.:

(1) 3<sup>rd</sup> International Conference on Statistics for Twenty-first Century-2017, Kerala University, Trivandrum, December 14-16, 2017; (2) Role of Statistics in Scientific Research, Karnataka Science and Technology Academy, Bangalore, January 04, 2018; (3) Application of Statistics in Engineering and Research, Sri Venkateshwara College of Engineering, Bangalore, February 20, 2018; (4) National Seminar on Innovative Approaches in Statistics & Annual Conference of Kerala Statistical Association, St. Thomas College, Thrissur, February 15-17, 2018.

John, B.:

(1) Workshop on Research Methodology, KST Academy, Bangalore, July 06, 2017; (2) Faculty Development Program on Rapid Miner, Avinashilingam University, Coimbatore, July 25, 2017; (3) Workshop on Data Mining using R, PSNA College of Engineering and Technology, Dindigul, Tamil Nadu, August 10-11, 2017; (4) Faculty Development Program on Predictive Modeling using Python, Sri Ramakrishna Engineering College, Coimbatore, September 14, 2017; (5) Faculty Development Program on Predictive Modeling using Python, RMK College of Engineering and Technology, Chennai, December 06-07, 2017.

Perumallu, P.K.:

(1) 3<sup>rd</sup> International Conference on Statistics for Twenty-first Century-2017, Kerala University, Trivandrum, December 14-16, 2017.

**SQC & OR Unit, Chennai**

Biswas, A:

(1) Presentation, Secretariat, Chennai, July 03, 2017.

**SQC & OR Unit, Coimbatore**

Rajagopal, A:

(1) Venkateswara Springs and Springs Ltd, Kannampalayam, Sulur, Coimbatore, Tamil Nadu, May 31 and August 07, 2017; (2) KGiSL College of Arts & Science, Coimbatore, June 29, 2017; (3) Karpagam University, Coimbatore, July 01, 2017; (4) PSG College of Arts & Science, Coimbatore, September 14, 2017; (5) TIPS Global Business School, Masagoundenchettipalayam, Tamil Nadu, September 25, 2017; (6) Dr. NGP Institute of Technology at Coimbatore, September 26, 2017; (7) Bharathiyar University, Coimbatore, October 20, 2017; (8) HCL organization occasion, HCL Sholingnallur Campus, Chennai, December 13, 2017; (9) DFSS program with projects on New Product Development(NPD), TVS Brakes India, Padi, Tamil Nadu, January 08, 2018; (10) Kumaraguru College of Technology, January 17, 2018; (11) SAVIO, Coimbatore, January 18, 2018; (12) Design Development and sustainable methodologies, M/s. Maria Lousia, February 20, 2018; (13) KG Hospital, March 03, 2018; (14) Periyar University, Salem, March 12, 2018; (15) TIPS Global Business School, March 23, 2018.

**SQC & OR Unit, Hyderabad**

Subhani, S.M.:

(1) M/s. Center for Electronics and Test Engineering, October 27, 2017.

**Center for Soft Computing Research: A National Facility, Kolkata**

Ghosh, K.:

(1) Faculty Development Programme, KIIT, University, Bhubaneswar, June 26-30, 2017; (2) 6<sup>th</sup> International Conference on Advances in Computing, Communications and Informatics (ICACCI 2017), Manipal University, September 13-16, 2017; (3) 3<sup>rd</sup> International Conference on Computational Intelligence and Networks (CINE 2017), Bhubaneswar, October 28, 2017; (4) Conference on Facets of Basic Sciences and Applications, Bijoy Krishna Girls' College, Howrah, February 05-07, 2018.

Pal, S.K.:

(1) 1<sup>st</sup> International Conference on Smart Systems, Innovation and Computing (SSIC 2017), Jaipur, April 15 -16, 2017; (2) NASI Council Meeting, NIPGR, New Delhi, April 21-22, 2018; (3) BOG Meeting, PDPM-IIITDM, Jabalpur, Madhya Pradesh, May 27-29, 2017; (4) NIT, Patna, May 31-June 02, 2017; (5) Promotion and Assessment Committee (PAC) Meeting, IISc, Bangalore, June 23-24, 2017; (6) 2017 INSA Jawaharlal Nehru Birth Centenary Lecture, SavitribaiPhule, Pune University, July 12, 2017; (7) NTU-India Connect program International Symposium on Computational Mathematics, Optimization and Computational Intelligence (CMOCI 2017), IIT, Indore, July 17-19, 2017; (8) National Conference on Recent Trends in Biomedical Engineering 2017 (NCRTBME'17), SRM University, Chennai, August 22-23, 2017; (9) Promotion and Assessment Committee (PAC) Meeting, IISc, Bangalore, September 22-23, 2017; (10) 1<sup>st</sup> International Conference on Data, Engineering and Applications (IDEA-2k17), Rajiv Gandhi Technical University, Bhopal, October 28-29, 2017; (11) International Conference on Information Technology and Applied Mathematics, Haldia Institute of Technology, Haldia, October 30, 2017; (12) Prof. Lotfi A. Zadeh Memorial Seminar on Fuzzy Set Theory and its Applications, National Institute of Technology, Durgapur, December 01, 2017; (13)

## Editorial and other Assignments

Promotion and Assessment Committee (PAC) Meeting, IISc, Bangalore, December 07-08, 2017; (14) NASI Council Meeting, Pune, December 09-10, 2017; (15) 5<sup>th</sup> International Conference on Mining Intelligence and Knowledge Exploration (MIKE 2017), IDRBT, Hyderabad, December 13-15, 2017; (16) INAE Annual Convention, TCS Tiruseri, Chennai, December 15-16, 2017; (17) NASI Council Meeting, NASI, Allahabad, February 04-06, 2018; (18) Vishleswan 2018, Dept. of Industrial and System Engineering, IIT, Kharagpur, February 16-18, 2018; (19) INAE Kolkata Chapter, Center for Research in Nano-Science and Nano-Technology at the University of Calcutta, Salt lake Campus, Kolkata, February 28, 2018; (20) Faculty Selection Committee Meeting, IIT, Roorkee, March 04-06, 2018; (21) ABV - Indian Institute of Information Technology and Management, Gwalior, March 25-28, 2018; (22) 1<sup>st</sup> International Conference on Data Analytics & Learning (DAL-2018), Mysore University, March 30, 2018.

## **9. REGIONAL MATHEMATICAL OLYMPIAD 2017 AND INDIAN NATIONAL MATHEMATICAL OLYMPIAD 2018**

### ***Mathematical Olympiad Programme in India and Indian Statistical Institute, Kolkata***

Regional Mathematical Olympiad 2017-18 in West Bengal was organized by Indian Statistical Institute, Kolkata, and Homi Bhabha Centre for Science Education (HBCSE), on behalf of the National Board for Higher Mathematics (NBHM) of the Dept. of Atomic Energy (DAE), Govt. of India. Prior to RMO 2017, West Bengal held a Pre-RMO examination to select students to appear for RMO. This has been organized by IAPT. Based on their performance, HBCSE prepared a list of 519 candidates. The exam was held at the Hindu School on 8<sup>th</sup> October 2017. The number of candidates appeared for the RMO examination is 471.

The RMO Committee at the Institute graded the papers for RMO 2017, scrutinized and re-graded upon requests for re-evaluation, and selected top 30 plus 5 girl candidates to appear for INMO 2018 from West Bengal. This decision was communicated to HBCSE, and the final results were declared centrally. The highest score from West Bengal in RMO 2017 was 102 (out of 102), and the top 30 candidates got greater than or equal to 55.

These 35 selected candidates were invited to take part in a week-long INMO-TC at Indian Statistical Institute, Kolkata, held during 6<sup>th</sup>, 7<sup>th</sup>, 13<sup>th</sup> and 14<sup>th</sup> January 2018, where the students were exposed to advanced problem solving skills by ISI Kolkata faculty members and eminent IMO-TC instructors. Finally, these candidates from West Bengal participated in INMO 2018, including former INMO awardees. The INMO examination was held on 21<sup>st</sup> January at the Indian Statistical Institute, Kolkata.

### ***Regional Mathematical Olympiad (RMO) 2017: Karnataka Region***

The mathematical Olympiad activity in Karnataka has been coordinated by the Bangalore Centre of ISI for several years with Dr. Manish Kumar as the regional coordinator for Karnataka. In 2017, the number of students who were selected after PRMO were 623 to take up the Regional Mathematical Olympiad (RMO) for Karnataka region. The exam was held on 8<sup>th</sup> October, 2017, in 2 centres across the state. With the help of some faculty members at ISI Bangalore, some post-doctoral fellows and research scholars, 520 answer scripts of RMO were evaluated at ISI Bangalore. Thirty-five students qualified to write the national level test Indian National Mathematical Olympiad (INMO). A week long training camp was organized at ISI Bangalore for a total of 55 students, to make them familiar with advanced problem solving techniques before they appear for the INMO. Several distinguished speakers were invited for this purpose. Participants were provided with food and accommodation at ISI Bangalore. The INMO was held on 17-20 January, 2018 at the Bangalore centre. Prof. B. Sury is the National Co-ordinator for the Mathematics Olympiad programme in India from July 1, 2016.

The Madhava mathematics competition for undergraduate students is held in various parts of India. This year also, ISI Bangalore coordinated the activities. Dr. Jaydeb Sarkar was the coordinator. The exam was held on 7<sup>th</sup> of January, 2018 in ISI, Bangalore. 203 college students from Bangalore registered for the exam. Again, with the assistance of postdoctoral fellows and research scholars, the scripts were evaluated and sent to the national coordinator.

## PART III. ADMINISTRATION AND OFFICE BEARERS

### 10. GENERAL ADMINISTRATION

#### *Administrative Services Division*

1. The Administrative Services Division at the Headquarters caters to the various needs of the Scientific Workers in all the Scientific Units of the Institute engaged in various scientific, research and academic activities and provides them with necessary infrastructural facilities in their pursuit of excellence. The centres at Delhi, Bangalore, Chennai and Tezpur, each having a number of scientific units, by and large are getting administrative support from the administrative units/sections there. The Administrative Services Divisions of the Institute has the following units at the Headquarters in Kolkata:

Sl. No.	Name of the Unit	Sl. No.	Name of the Unit
1.	Accounts Section	17.	Import & Travel Cell
2.	Audio-Visual Unit	18.	Internal Audit Cell
3.	Binding Unit	19.	Legal Cell
4.	Canteen	20.	Medical Expenses Reimbursement Unit
5.	Cash	21.	Medical Welfare Unit
6.	C E (A & F)'s Office	22.	Personnel Unit
7.	Central Office & Despatch Unit	23.	Provident Fund Unit
8.	Central Stores & Tailoring Unit	24.	Public Relations Unit
9.	Council Section	25.	Printing and Publication Unit
10.	Director's Office	26.	Official Language Cell
11.	Electrical Maintenance Unit	27.	Retirement Benefit Cell
12.	Engineering Unit	28.	Sankhya Office
13.	Estate Office	29.	Security Unit
14.	Guest House	30.	Telephone Unit
15.	Hostels	31.	Transport Unit
16.	House Building Advance Cell	32.	SC / ST / OBC Cell

2. Apart from the above mentioned Units, there are few cells dealing with Budget, and other issues to take care of the specific needs of the Institute. The Administrative Services Division also looks after the running of Hostels for Students, Research Scholars and International Statistical Education Centre (ISEC) Trainees and also the running of Canteens for the workers and students of the Institute. The other outlying Units are controlled directly by the Headquarters at Kolkata. The Administrative Services Division takes the responsibility for all new constructional activities of the Institute at its Headquarters and also at outlying centres/ branches. A brief report on the construction and other activities during the year is narrated in the subsequent paragraphs.

The Administrative activities in the four Centres, namely Delhi, Bangalore, Chennai and North East Centre at Tezpur and in other outlying branches of the Institute and Giridih Office, are more or less similar to the Headquarters but on a much smaller scale.

#### 3. Office bearers of the Institute Administration during the year:

<i>Director</i>	:	Prof. Sanghamitra Bandyopadhyay
<i>Professors-in-Charge of Scientific Divisions</i>	:	Prof. Arup Bose (Theoretical Statistics & Mathematics)
		Prof. Ayanendranath Basu (Applied Statistics)

Prof. Arunava Sen (Social Sciences)

Prof. Tapan Chakraborty (Physics &amp; Earth Sciences)

Prof. Pabitra Banik (Biological Sciences)

Prof. Susmita Sur-Kolay (Computer &amp; Communication Sciences)

*Head, SQC & OR* : Shri Somnath Ray*Head, Delhi Centre* : Prof. Abhay G. Bhatt*Head, Bangalore Centre* : Prof. T.S.S.R.K. Rao*Acting Head, Chennai Centre* : Prof. D. Sampangi Raman*Chairman, Committee for ISI North-East Centre, Tezpur* : Prof. Nityananda Sarkar*Dean of Studies* : Dr. Amita Pal*Chief Executive (A & F)* : Prof. Barun Mukhopadhyay**4. List of workers joined/ retired/ voluntarily retired/ resigned/ terminated/ died during the year****A. Appointments****(i) Scientific / Technical Workers**

Srl. No.	Name
1.	Kingshook Biswas
2.	Mathew Joseph
3.	Sankar Sarkar
4.	Mridu Prabal Goswami
5.	Kishor Chandra Satpathy
6.	Kingshook Biswas

**(ii) Non-Scientific Workers**

Srl. No.	Name
1.	T. Santosh
2.	Rahul Kumar Banerjee

## Administration

### B. Retirement/Voluntary Retirement:

#### (i) Scientific & Technical Workers

Srl. No.	Name	Srl. No.	Name
1.	Bhabani Prasad Sinha	12.	Khoka Oraon
2.	Tapas Kumar Chandra	13.	Ratan Dasgupta
3.	Rajendra Bhatia	14.	Tirthankar Ghosh
4.	Sutapa Saha	15.	Sadhana Majumder
5.	Partha Pratim Majumder	16.	Phul Kumari Devi
6.	Anil Kumar Choudhuri	17.	Amiya Kr. Das
7.	Krishna Ch. Banerjee	18.	V.K. Ramachandran
8.	K Ramamurthy	19.	Nibedita Ganguly
9.	Rana Barua	20.	Sujita Dasgupta
10.	Soumendra Nath Sarkar	21.	S.M. Srivastava
11.	Pujarimal Yadav	22.	Vishwambhar Pati

#### (ii) Non-Scientific Workers

Srl. No.	Name	Srl. No.	Name
1.	Kumud Rn. Naskar	18.	Nanda Deb Roy
2.	Tapan Kr. Banerjee	19.	Mahender Singh
3.	K.B. Aiyappa	20.	Bablu Roy
4.	Anjan Kr. Saha	21.	Netai Kumar Ghosh
5.	Pannalal Bhattacharya	22.	Joydev Chatterjee
6.	A. Aswatha Reddy	23.	Panchu Gopal Rajbhar
7.	Bhupal Mondal	24.	Santosh Mondal
8.	Sangal Roy	25.	D. Dharmappa
9.	Arun Kumar	26.	Sm. Maya Ghosh
10.	Prabir Kr. Chakraborty	27.	Balchand Mallick
11.	Ranjit Kumar	28.	Timal Mahato
12.	Jaya Krishna Kahal	29.	Baidya Nath Ghosh
13.	Bimalangshu Chakraborty	30.	Subhas Kumar Ghosh
14.	Nikhil Kumar Chatterjee	31.	Dulal Mazumder
15.	Giridhari Sinha	32.	Tika Ram Tiwari
16.	Baij Nath Singh	33.	Swapan Kr. Aich
17.	Swapan De	34.	Lalmoni Dobriyal

### C. Resignation/Discontinuation of Deputation

#### (i) Non - Scientific Worker

Srl. No.	Name
1.	Col Soumyabrata Chakraborty



**D. Death**

## (i) Scientific Worker

Srl. No.	Name
1.	Arun Kumar Adhikary
2.	C.A. Murthy

## (ii) Non - Scientific Worker

Srl. No.	Name
1.	Kabiraj Mallick
2.	Subir Kr. Acharya
3.	Debasish De
4.	Raju Marandi

**5. Number of workers in the Institute as on 31<sup>st</sup> March 2018**

Number of workers in the Institute as on 31<sup>st</sup> March 2018:

(i) Scientific and Technical Workers	-	373
(ii) Non-Scientific Workers	-	434
Total	:	<u>807</u>

**6. Breakup of manpower by Gender, Social Category and Disability group as on 31<sup>st</sup> March 2018**

Total Strength		Persons with Disabilities (PWD)	Scheduled Caste (SC)	Scheduled Tribe (ST)	Other Backward Classes (OBC)	Minorities
Male	686	04	91	21	62	21
Female	121	Nil	11	01	03	02
Total	807	04	102	22	65	23

**7. Annual Return on Cases of Sexual Harassment**

1.	Number of complaints of sexual harassment received in the year	Headquarters - 1 Bangalore Centre - 1
2.	Number of complaints disposed off during the year 2017-18.	Headquarters - Nil Bangalore Centre - 1
3.	Number of cases pending for more than 90 days.	Nil
4.	Number of workshops on awareness programmes against sexual harassment conducted during the year.	Nil
5.	Nature of action.	Bangalore Centre - Situation resolved through counseling and barring the concerned party from the Hostel.

**8. Applications received and action taken by the Institute under RTI Act, 2005**

Name of the Appellate Authority : Prof. Sanghamitra Bandyopadhyay, Director, ISI Kolkata

Name of Central Public Information Officer: Shri A.K. Biswas, Dy. Chief Executive (Admn.), ISI Kolkata

The summary statement in this regard for the year 2017-18 is given below: -

No. of Applications received	No. of cases accepted	Decisions where requests were fully or partially rejected		No. of decisions from Appellate Authority	C I C decision			Amount collected (Rs.)		
		Fully rejected	Partially rejected		No. of decisions received	Penalty imposed	Disciplinary action, if any	Fee	Other Charges	Penalty amount
114	114	Nil	Nil	5	3	NIL	NIL	720	250	NIL

**9. Budget and Finance**

For the year 2017-2018, Section 8(1) Committee recommended Rs.25284.98 lakhs under salary head Rs.18182.74 lakhs under 'Creation of Assets' head and Rs.6336.35 lakhs under General Head (BE). The Government approved a sum of Rs.20398.00 lakhs, Rs.4867.00 lakhs and Rs.2950.00 lakhs for salary, capital and general expenditure respectively. At the revised estimate stage, the Institute sought for a grant of Rs.23067.00 lakhs, Rs.6667.00 lakhs and Rs.4095.00 lakhs under salary, capital and general respectively, which was also recommended by the Section 8(1) Committee. The Government sanctioned a grant equal to that of the BE level under salary, capital & general heads. The revenue expenditure was more by Rs.954.75 lakhs from the fund allotted by the Ministry and Miscellaneous receipt. Capital Expenditure was Rs.1303.69 Lakhs less than the fund allotted. The Audited Annual Accounts of the Institute for the year 2017-2018 has been furnished in Part III of this report.

**10. Major Construction / Repair works taken up by the Institute during 2017-2018****A. Kolkata****R C Bose Centre for Cryptology and Security**

The centre is located at Gupta Niwas campus of the Institute. Planning, Design-Engineering, Execution and overall Project Management for construction of buildings and other infrastructure of the campus was awarded to M/s NBCC as deposit work. Construction activity started in May, 2015. Construction of the Cryptology Centre (G+7), Hostel Building (G+7) and two Residential Blocks (G+10 & G+4) is in progress. Building superstructures are complete; interior & exterior finishing works and building-services like sanitary & plumbing, electrical, HVAC, Fire-Fighting and suppression system are in progress. Estimated project cost is about Rs. 80 crore. The project is expected to complete by September, 2018.

- Construction of New Academic Building - Construction of a new Academic Building (G+5) has been taken up at main campus as deposit work. M/s Bridge & Roof Co (India) Ltd is the project implementing agency. Planning, Geotechnical Investigation, Detailed Design Engineering and cost estimation have been completed. Total sanctioned cost of the building is Rs. 37.70 crore. Selection of contractor has been initiated.
- Repair, Renovation work of R. A. Fisher Bhavan & S.N. Bose Bhavan - Major repair and renovation of these two buildings at the main campus were in progress during 2017-18. M/s Bridge & Roof is the implementing agency. Repair renovation of building external surface, structural repair, toilets including sanitary & plumbing system renovation, renovation of offices of some of the Units etc. are the scope of work. Work is expected to be complete by December 2018.

## B. Delhi

- Land and construction:
- Major civil and electrical works during the period April 01, 2017 to March 31, 2018 are :-

S.No	Description of Work	Total Amount
<b>(CIVIL WORKS)</b>		
1.	Renovation, water proofing and fencing work	Rs.13,56,700
2.	Providing disabled friendly infrastructure work in progress	Rs. 19,84,000
3.	WAC Meeting held at ISI Delhi Centre dated 15/05/2017 to discuss and finalise the revised proposal/estimates submitted by CPWD.	-
<b>(Electrical Works )</b>		
1.	New Air cooled package A/C at Library buildings	2,26,000
2.	New Earth bit work	1,49,130
3.	New Street light pole with fittings	1,92,634
4.	SITC of 6 KVA UPS at admin block	1,35,446
5.	PPRU cable and DB fitting work	62,530
6.	SITC of 2 ton split AC at conference room	91,500
7.	SITC of 1.5 ton window AC at faculty block	1,01,400

## C. Bangalore

Major construction / renovation works completed / undertaken by the Bangalore Centre during 2017 - 2018.

- Construction of Second Floor of Guest House: The structural work has been completed. The finishing works are under progress.
- Construction of New Academic Building: The preliminary drawing and estimate have been submitted by NPCC Ltd. Paper notification for selection of the contractor has been completed and the selection of contractor is under process. NPCC Ltd. is in the process to obtain necessary sanctions/ approvals from various departments/authorities.

## Administration

- (iii) Extension of Canteen Building: The necessary ground work such as identification of location, preparation of preliminary plan and estimate etc have been completed. The selection of contractor is being completed.
- (iv) Construction of Vehicle Parking near Research Scholars' Hostel: The work has been successfully completed.
- (v) Modernization of Fire Extinguishers: The work has been completed.
- (vi) Installation of 8 passenger New Lift at Main Building: The work has been awarded to M/s Kone Elevator India Pvt. Ltd
- (vii) Galvanized Steel Roof for Outdoor D G Sets, Feeder Boxes and Sump Tank: The selection process for a contractor has been completed. The work is expected to be started shortly in the next financial year.

## D. Chennai

### **Construction:**

- (a) **Boundary Wall:** Boundary construction was successfully completed by NBCC. The final settlement and site handing over was done during November, 2017. The total length of the Boundary wall is 711.88 meters and has 479 piles.
- (b) **Earth Filling:** Earth filling of the low lying area of our site at Karapakkam is being carried over by CPWD. The earth filling work was estimated for Rs. 6,16,80,000/- (Rupees six crores, sixteen lakhs eighty thousand only). About 50% of the work is over.

## E. Tezpur

Construction of campus over 25- acre of land located at Punioni, Tezpur, started in full swing from the last quarter of 2017. Out of a total of 13 buildings, the construction activities are underway for 7 types of structures currently, namely, Administration Building, Academic Building, Boys' Hostel, Canteen, Guest House, Amenities Building, Transit Quarters (quarters for the workers). The sub-structure works of these buildings are under progress up to the plinth level, whereas for the Administration Building, further progress has been made with plinth beams and column expansion. The amount of expenditure incurred so far is Rs. 8.41 crores for the financial year 2017-18. NBCC INDIA LIMITED is the PMC of this project.

## 11. Society Type Activities

### **A. Membership: April 2017 – March 2018**

During the period 50 persons became Ordinary Members of the Institute and 12 Ordinary Members became Life Members of the Institute.

The membership position as on 31 March, 2018 is as follows:

Ordinary Members	-	303
Life Members	-	1038
Institutional Members	-	05
Total	-	<u>1346</u>

- B. Finance Committee Meeting: The Finance Committee met on 16<sup>th</sup> October, 2017. Besides the decisions taken on various financial matters, the Finance Committee recommended RE 2017-18 and BE 2018-19 (both Plan and Non-Plan) in this meeting held on 16<sup>th</sup> October, 2017. The Annual Report including Audited Statement of Accounts for the year 2016-2017 was considered and also recommended in this meeting.
- C. Council Meetings: During the period under report (2017-18), the Council met four times on 25<sup>th</sup> May, 2017, 16<sup>th</sup> September, 2017, 15<sup>th</sup> November, 2017 and 9<sup>th</sup> March, 2018 to take decisions on various academic and administrative matters of the Institute. The Budget Proposals of the Institute both for Plan and Non-Plan (RE 2017-18 and BE 2018-19) were considered in the meeting of the Council held on 15<sup>th</sup> November, 2017, as recommended by the Finance Committee in its meeting held on 16<sup>th</sup> October, 2017. The Annual Report including the Audited Statement of Accounts for the year 2016 – 2017 was considered and approved by the Council in its meeting held on 15<sup>th</sup> November, 2017.
- Please refer to the Back Cover Page and Chapter 12 for details regarding composition of the Council and different committees constituted by the Council.
- D. Annual General Meeting: During the period under report (2017-18), the Annual General Meeting was held on 29<sup>th</sup> November, 2017. The Annual Report of the Institute for the year 2016-2017 and Audited Statement of Accounts for the year 2016-2017 together with the Auditor's comments and replies of the Administration thereto were adopted in the meeting of the General Body held on 29<sup>th</sup> November, 2017.

## **12. Awareness programmes conducted by Medical Welfare Unit**

Medical Welfare Unit caters to the Health Care need of the students, faculty, workers and their family members of Indian Statistical Institute.

- Two full time Resident Medical Officers perform regular OPD services as well as Emergency Medical Services as and when necessary.
- Specialist clinic of Eye and Psychiatry are held twice a week .
- Specialist clinic of ENT is held three days a week.
- Regular Counselling sessions by two Psychological Counsellors are held two days a week, which is availed by students and all workers and their family members.
- Retired staff and their spouses are also provided with Medical care on OPD basis.
- Some essential medicines are supplied by the Pharmacy of MWU.

Medical Welfare Unit organises various awareness programmes for the benefit of workers and students. A large number of workers and students participated in the following seminars and sensitization programmes last year.

### **(i) Sensitization program on Mental Health in collaboration with Dean's office on 08/08/2017**

Speaker: Mr Mohit Ranadip

### **(ii) Depression : Let's Talk on 06/03/2018**

Speakers: Dr Jyotirmoy Samajder  
Ms Swati Mitra  
Mr Mohit Ranadip

**(iii) Oral Health : An Untold Story on 26/03/2018 in association with K K Chatterjee Memorial Association (NGO)**

Speaker: Dr Ramdas Chatterjee

**13. Training Programme on Hindi Implementation**

Shri Manoj Kr. Pandey, Sr. Administrative Officer, Official Language Cell of the Institute participated in the training programme on Hindi Implementation and received 'Rajbhasa Abhusan' Award by Bhartiya Bhasa Evam Sanskriti Kendra, New Delhi, on behalf of the Institute.

**14. A brief description of specific achievements and functions on implementation of the Official Language Policy by the Institute during the year 2017-18**

During the year 2017-18 the Official Language Cell of the Institute organized four Hindi workshops respectively in the month of June, September, December and March. Almost 128 employees of the Institute participated in these workshops. Issues like 'Noting and Drafting and Hindi Grammar', 'Official Language Policy', 'Usefulness of Official Language in the office', 'Use of Indian Languages on Computer' and 'The importance of Hindi in today's context' were mainly discussed in these workshops.

During the financial year 2017-18, the Hindi Pakhwara was inaugurated by the Director of the Institute Prof. Sanghamitra Bandyopadhyay on 1<sup>st</sup> September, 2017. During the fortnight, (1<sup>st</sup> September, 2017 to 15<sup>th</sup> September, 2017) Hindi Day was celebrated on 14.09.2017 at the Institute. Indian Statistical Institute is also an active member of the Town Official Language Implementation Committee, Kolkata (Office 2).

Like the Headquarters, the Delhi Centre of the Institute also arranged workshops throughout the year and celebrated Hindi Pakhwada as well. A small Hindi library was established in the year 2016 in which daily Hindi Newspaper, few magazines and 29 Hindi Books were purchased in the first lot.

## **11. LIST OF MEMBERS OF THE ACADEMIC COUNCIL AND OTHER COMMITTEES OF THE INSTITUTE AS ON 31 MARCH 2018**

### **1. Academic Council**

Sanghamitra Bandyopadhyay, Director (Chairman)

Amita Pal, Dean of Studies (Convener)

#### **A. Theoretical Statistics and Mathematics Division**

T.S.S.R.K. Rao, B.V. Rajarama Bhat, Bhaskar Bagchi, Mohana Delampady, Sunanda Bagchi, B. Rajeev, B. Sury, V.R. Padmawar, Siva Athreya, C. Robinson Edward Raja, Probal Chaudhuri, Alok Goswami, Arup Bose, Goutam Mukherjee, Gopal Krishna Basak, Pradipta Bandyopadhyay, Amartya Kumar Dutta, Debashish Goswami, Rudra Pada Sarkar, Mahuya Datta, S. Pannusamy, Rahul Roy, R.B. Bapat, Abhay Gopal Bhatt, Arup Kumar Pal, Isha (Bagai) Dewan, Anish Sarkar, Swagato Kumar Ray, Ritabrata Munshi, Ramesh Sreekantan, Rajat Subhra Hazra.

#### **B. Applied Statistics Division**

Sushama M. Bendre, Bimal Kr. Roy, Debasis Sengupta, Anup Dewanji, Mausumi Bose, Palash Sarkar, Ashis SenGupta, Debapriya Sengupta, Tapas Samanta, Atanu Biswas, Subhamoy Maitra, Pabitra Pal Choudhury, Ayanendranath Basu, Subir Kumar Bhandari, Smarajit Bose, Rita Saha Ray, Sumitra Purkayastha, Mridul Nandi, Kiranmoy Das.

#### **C. Social Sciences Division**

Madhura Swaminathan, Satya Ranjan Chakravarty, Amita Majumder, Abhirup Sarkar, Nityananda Sarkar, Manash Ranjan Gupta, Tarun Kabiraj, Monoranjan Pal, Manipushpak Mitra, Indraneel Dasgupta, Arunava Sen, Bharat Ramaswami, E. Somanathan, Prabal Roy Chowdhury, Probal Dasgupta, Tridip Ray, Chetan Ghate. Abhiroop Mukhopadhyay, Souvik Roy, Debasis Mishra.

#### **D. Biological Sciences Division**

Joydev Chattopadhyay, Anjana Dewanji, Arunava Goswami, Barun Mukhopadhyay, Subrata Kr. Roy, Parasmani Dasgupta, Bidyut Roy, Saurabh Ghosh, Sabyasachi Bhattacharya, Indranil Mukhopadhyay, Pabitra Banik, Susmita Mukhopadhyay.

#### **E. Physics and Earth Sciences Division**

Dilip Saha, Chandan Chakraborty, Dhurjati Prasad Sengupta, Saswati Bandyopadhyay, Pinaki Roy, Subir Ghosh, Barnana Roy, Banasri Basu, Guruprasad Kar, Parthasarathi Ghosh, Preeti Parashar, Supratik Pal, Amlan Banerjee.

#### **F. Computer and Communication Sciences Division**

Bhargab Bikram Bhattacharya, Subhas Chandra Nandy, Nabanita Das, Susmita Sur-Kolay, Krishnendu Mukhopadhyay, Sandip Das, Swapan Kr. Parui, Umapada Pal, A.R.D. Prasas, Bhabatosh Chanda, Nikhil Ranjan Pal, Kumar Sankar Roy, Dipti Prasad Mukherjee, Srimanta Pal, Sushmita Mitra, Ashish Ghosh, Sanghamitra Bandyopadhyay, Rajat Kumar De, Devika P. Madalli, B.S. Daya Sagar. Deba Prasad Mandal, Sarbani Palit, Utpal Garain.

Administration

**G. Statistical Quality Control and Operations Research Division**

Kalyan Kumar Chowdhury, P.K. Perumallu, Ashim Roy Chowdhury, U. Haridas Acharya, Surajit Pal, A. Rajagopal, Samir Kr. Neogy, G.S.R. Murthy, A.L.N. Murthy, Amitava Bandyopadhyay, Dipak Kr. Manna, Arup Kumar Das, Ranjan Sett, Arup Ranjan Mukhopadhyay, Abhijit Gupta, Prasun Das, Ashis Kr. Chakraborty, Nandini Das, Susanta Kumar Gauri, Md. Zafar Anis, Ashok Sarkar, Amit Kr. Biswas, Biswabrata Pradhan, Sanjit Ray, E. V. Gijo

**H. Library, Documentation and Information Sciences Division**

Kishor Chandra Satpathy

**I. Computer and Statistical Service Centre (CSSC)**

Debashis Roy, Amitava Datta,

**J. Member-Secretary, ISEC**

Ayanendranath Basu

**2. Other Committees of the Institute**

**A. Finance Committee**

Director (Chairman), Government Representative (MOS & PI), Government Representative (Ministry of Finance), Professor Abhirup Sarkar, ISI Kolkata, Professor Pabitra Banik, ISI Kolkata, Professor S.M. Srivastava, ISI Kolkata, Professor Dilip Saha, ISI Kolkata, Professor Chetan Ghate, ISI Delhi, Head, Delhi Centre, Head, Bangalore Centre, Head, Chennai Centre, Sh. Somnath Ray, ISI Bangalore, Shri Samar Ray (Former PS, Finance Dept., Govt. of WB; Former Dy. Comptroller and Auditor General, Govt. of India), External Expert, External Expert (to be decided soon), Chief Executive (A&F), Sudip Chakraborty (Convener), DCE (Finance).

**B. Sankhyā Editorial Committee**

(i) Editor-in-chief, *Sankhyā*, Series A and Series B:

Prof. Dipak K. Dey (University of Connecticut, Storrs, CT, U.S.A.)

(ii) Editors, *Sankhyā*, Series A:

Prof. Krishna B. Athreya (Iowa State University, U.S.A.), Prof. Gopal K. Basak, (Indian Statistical Institute, Kolkata), Prof. Francisco Louzada (Universidade De Sao Paulo, Brazil),

(iii) Editors, *Sankhyā*, Series B:

Prof. Sudipto Banerjee (University of California, Los Angeles, U.S.A.), Prof. Bertrand Clarke (University of Nebraska-Lincoln, U.S.A.), Prof. Bani Mallick (Texas A & M University, U.S.A.), Prof. Sumitra Purakayastha, (Indian Statistical Institute, Kolkata),



**C. Works Advisory Committees****(i) Kolkata**

Anandapran Gupta (Chairman), Former Head, Civil Department, IIT Kharagpur, Smarajit Bose (Vice-Chairman), Rajkumar Roychowdhury, Susmita Mukhopadhyay, Indranil Dasgupta, Ashis K. Chakraborty, External Expert (Civil), External Expert (Architecture), External Expert (Electrical), Chief Executive (A&F), Amal K. Biswas, Partha P. Mohanty, Amitava Mukherjee, In-Charge, EMU, In-Charge, Engg. Unit (Convener), External Expert (Environment/Pollution Control to be co-opted/invited by the Chairman when required).

**(ii) Delhi**

Prof. B. Bhattacharjee, Civil Engineering department, IIT Delhi (Chairman), Head ISI Delhi – Member, Mr. G. K. Taneja, Institute Engineer, IIT Delhi– Expert (Electrical), Mr. R. Upadhyay, Executive Engineer (Civil), Shri Lal Bahadur Sanskrit Vidyapeeth - Expert (Civil), Expert Architecture (to be co-opted later), Prof. Arup Pal, ISI Delhi, Prof. S. K. Neogy, ISI Delhi, Prof. Chetan Ghate, ISI Delhi, Mr. Sujan Dutta, ISI Delhi, Mr. Kaisar Alam, OSD, ISI Delhi (Convener).

**(iii) Bangalore**

Professor K. S. Nanjunda Rao (Chairperson); Dr K. Keshavan, External expert (Electrical Engineering); Dr S. V. Venkatesh, External expert (Civil Engineering); Head, ISI, Bangalore Centre; Head, Stat-Math Unit, ISI, Bangalore or his/her nominee; Head, DRTC, ISI, Bangalore or his/her nominee; Head, SQC & OR Unit, ISI, Bangalore or his/her nominee; Head, E.A.U., ISI, Bangalore or his/her nominee; Dr. Kaushik Majumder, ISI, Bangalore; Accounts Officer, Bangalore Centre; Shri P.C. Karan, Administrative Officer, ISI, Bangalore (Convener).

**D. Ph.D. / D.Sc. Committees****(i) Statistics**

Director (Chairperson), Dean of Studies, Mausumi Bose, Gopal K. Basak, Mohan Delampady, V. Padmawar, Isha Dewan, Abhay G. Bhatt, Ayanendranath Basu, C.A. Murthy, Atanu Biswas, Tapas Samanta (Convener).

**(ii) Mathematics**

Director (Chairperson), Dean of Studies, B. Sury, Siva Athreya, Anish Sarkar, Arup K. Pal, Mahuya Datta, Swagata K. Ray, Banasri Basu, Debashish Goswami (Convener).

**(iii) Computer Science**

Director (Chairperson), Dean of Studies, Palash Sarkar, Subhas C. Nandy, Susmita Sur-Kolay, Mandar Mitra, Bhabatosh Chanda, Nikhil R. Pal, Sushmita Mitra, C.A. Murthy, Utpal Garain (Convener).

**(iv) Quantitative Economics**

Director (Chairperson), Dean of Studies, Nityananda Sarkar, Manipushpak Mitra, Prabal Roy Chowdhury, Bharat Ramaswami, Debasis Mishra, Anup Dewanji, Tarun Kabiraj (Convener).

## Administration

### (v) SQC & OR

Director (Chairperson), Dean of Studies, C.A. Murthy, Anup Dewanji, Mohan Delampady, E.V. Gijo, Ashis K. Chakraborty, S. K. Neogy, D. K. Manna, Arup K. Das (Convener).

## **E. Policy Planning and Evaluation Committee (PPEC)**

Chairman of ISI Council (Chairman); Director (Vice-Chairman); Director General, CSO; Financial Advisor, MOS & PI; Professor Kalyan B. Sinha, Former Director, ISI; Professor B.L.S. Prakasa Rao, Former Director, ISI; Professor Partha P. Majumder, ISI; Professor Partha P. Chakraborty, Director, IIT Kharagpur; Professor T.S.S.R.K. Rao, Head ISI Bangalore; Professor Bharat Ramaswami, ISI Delhi; Professor Dhrubojyoti Chattopadhyay, Former Pro-VC (Acad), Calcutta University; VC Amity University; Professor Dipti P. Mukherjee, ISI (Convener).

## **F. Technical Advisory Committees of different Divisions**

### (i) Theoretical Statistics and Mathematics Division

Director, ISI (Chairperson), Professor V. Balaji, Professor Ravi Rao, Professor Indranil Biswas, Professor Tathagata Bandyopadhyay, Professor B.L.S. Prakasa Rao, Professor V.S. Borkar, Professor-in-Charge, Statistics & Mathematics Division (Convener).

### (ii) Applied Statistics Division

Director, ISI (Chairperson), Professor S.P. Mukherjee, Professor Rahul Mukherjee, Professor Debasis Kundu, Professor Swadheenanda Pattanayak, Professor-in-Charge, Applied Statistics Division, (Convener).

### (iii) Computer and Communication Sciences Division

Director, ISI (Chairperson); Professor Partha P. Chakrabarti, Professor Naveen Garg, Dr. Satyanarayana V. Lokam, Prof. Subhasis Chaudhuri, Dr. Ramesh Hariharan, Professor Pushpak Bhattacharya, Professor K.S. Raghavan, Professor-in-Charge, Computer & Communication Sciences Division (Convener).

### (iv) Physics and Earth Sciences Division

Director, ISI (Chairperson), Professor Ashok Sahni, Professor S.K. Tandon, Professor Sudipta Sengupta, Prof. M. Lakshmanan, Professor Indrani Bose, Prof. C.S.P. Ojha, Professor-in-Charge, Physics & Earth Sciences Division (Convener).

### (v) Biological Sciences Division

Director, (ISI) Chairperson, Professor Nitai P. Bhattacharyya, Professor Himanshu Pathak, Dr. Giriraj Chandak, Dr. A.R. Sharma, Professor S.P. Singh, Professor Aditya Chatterjee, Professor-in-Charge, Biological Sciences Division (Convener).

### (vi) Social Sciences Division

Director, ISI (Chairperson), Professor Achla Raina, Professor Rajni Palriwala, Professor Saikat Sinha, Professor Arvind Pandey, Dr. Subrata Lahiri, Professor Manoj Panda, Professor-in-Charge Social Sciences Division (Convener).

(vii) Statistical Quality Control and Operations Research Division

Director, ISI (Chairperson), Professor Ramanuj Majumdar, Professor Debasis Kundu, Mr. Vadiraj Kulkarni, Dr. Richard Lobo, Shri. S. Krishnan, Dr. Gautam Chatterjee, Head, SQC & OR Division (Convener).

(viii) Library, Documentation and Information Sciences Division

Director, ISI (Chairperson), Dr. M. Paul Pandian, Dr. G. Mahesh, Dr. P.R. Goswami, Professor Sachindra Nath Bhattacharya, Kishor Chandra Satpathy, Chief Librarian (Convener).



# INDIAN STATISTICAL INSTITUTE

## EIGHTY SIXTH ANNUAL REPORT

STATEMENT OF ACCOUNTS AND AUDITOR'S REPORT FOR THE YEAR 2017-2018

### CONTENTS

	PAGE
1. AUDITORS' REPORT	1 - 5
2. BALANCE SHEET	6
3. INCOME & EXPENDITURE ACCOUNT	7
4. SCHEDULES FORMING PART OF BALANCE SHEET	8 - 130
5. SCHEDULES FORMING PART OF INCOME & EXPENDITURE ACCOUNT	131 - 134
6. RECEIPTS & PAYMENT ACCOUNTS	135
7. SIGNIFICANT ACCOUNTING POLICIES	136 - 138
8. NOTES ON ACCOUNTS	139 - 142
9. AUDITORS' REPORT, BALANCE SHEET AND INCOME AND EXPENDITURE ACCOUNT - PLAN AND POLICY RESEARCH FUND	143 - 146
10. OBSERVATION OF AUDITOR'S WITH OUR REPLIES	147 - 150
11. AUDITORS' REPORT, BALANCE SHEET OF ISICPF, INCOME & EXPENDITURE A/C OF ISICPF, BALANCE SHEET OF ISIGPF AND INCOME & EXPENDITURE A/C OF ISIGPF, NOTES ON ACCOUNTS OF ISICPF & ISIGPF, REPLIES TO THE AUDITORS' COMMENTS	151 - 159





## **INDIAN STATISTICAL INSTITUTE**

### **Independent Auditors' Report**

#### **Report on the Financial Statements**

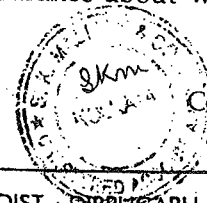
We have audited the accompanying financial statements of INDIAN STATISTICAL INSTITUTE, which comprise the Balance Sheet as at 31<sup>st</sup> March 2018, the Income and Expenditure Account for the year then ended and a summary of the significant accounting policies and other explanatory information.

#### **Management's Responsibility for the Financial Statements**

The Institute's management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance of the Institute in accordance with the accounting principles generally accepted in India, including the Accounting Standards as specified by The Institute of Chartered Accountants of India, to the extent applicable. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the relevant Act for safeguarding the assets of the Institute and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the accuracy and completeness of the accounting records relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

#### **Auditor's Responsibility**

1. Our responsibility is to express an opinion on these financial statements based on our audit.
2. We have taken into account the accounting and auditing standards and matters which are required to be included in the audit report.
3. We conducted our audit in accordance with the Standards on Auditing generally accepted in India. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements.



Continued ..2

Branch : C/O. S.R. PAUL, NEAR STUDIO ORIENT, P.O. : MORAN HAT, A.T. ROAD, DIST. : DIBRUGARH, ASSAM - 785 670  
MOBILE NO. : 9051749770, E-mail : sujitpaul.ca@gmail.com

C/O. D. SENGUPTA, AKSHAY APARTMENT, R.G. STREET, P.O. : THARPAKHANA, DIST. : RANCHI, JHARKHAND - 834001  
MOBILE NO. : 9830054681, E-mail : srijitmukherji@yahoo.co.in

4. An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Institutes' preparation of the financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the Institute has in place an adequate internal financial control system over financial reporting and operating effectiveness of such controls. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Institute's management, as well as evaluating the overall presentation of the financial statements.
5. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified audit opinion.

**Basis for Qualified Opinion**

The Institute's management has not complied with the Accounting Standards as prescribed by Institute of Chartered Accountants of India as referred to in Annexure - A.

**Qualified Opinion**

In our opinion and to the best of our information and according to the explanations given to us, except for the possible effects of the matters described in the Basis for Qualified Opinion paragraph, read with Annexure A, the aforesaid financial statements give the information required, in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India of the State of Affairs of the Institute as at 31<sup>st</sup> March 2018 and its Income and Expenditure Account for the year ended on that date.

**Emphasis of Matters**

We draw attention to the matters that has been referred to in Annexure - B of the financial statements. *However, our opinion is not qualified in respect of these matters.*

**Other Matters**

We did not visit TWO branches included in the financial statements of the Institute, the financial statements / financial information of which reflect addition of assets to the tune of ₹ 5,06,071.86/- as at 31<sup>st</sup> March, 2018 and total revenues ( excluding recoveries ) for ₹ 61,82,587.68/- for the year ended on that date, as considered in the financial statements. The financial statements / information of these branches have been audited at the Head Office; hence our opinion in so far as it relates to the amounts and disclosures included in respect of these branches, are based solely on the information furnished at Head Office.

Our opinion is not qualified in respect of this matter.





Report on Other Legal and Regulatory Requirements

Subject to the qualifications mentioned in the Opinion paragraph, we report that:

- a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.
- b) In our opinion, proper books of account as required by law have been kept by the Institute so far as it appears from our examination of those books.
- c) The Balance Sheet, the Income and Expenditure Statement dealt with by this reports are in agreement with the books of account.

Place: Kolkata

Dated: 27<sup>th</sup> September, 2018.

For S. K. Mallick & Co.  
Chartered Accountants  
(Firm Registration No. 324892E)



[ R. S. MALICK ]  
Partner  
Membership No. 059545

## Annexure A

1. Depreciation on fixed assets acquired up to accounting year 1985-86 have not been charged in the accounts from the financial year 1986-87 onwards which is not in compliance with AS-6. [Refer Sr. No. 2.1 of Schedule 24]
2. Certain employee benefits including retirement benefits are accounted for on cash basis and accordingly compliance with AS 15 *Employee Benefits* cannot be ensured. [Refer Sr. No. 1.2(b) and 4 of Schedule 24]
3. All transactions pertaining to earlier periods are accounted for as year's transactions under the regular heads of account in the absence of the Head "prior period adjustment account" and accordingly compliance with AS 5, *Net profit or loss for the period, Prior period items and changes in accounting policies* cannot be ensured. [Refer Sr. No. 1.3 of Schedule 24]
4. Transactions in foreign currencies are recorded at exchange rate prevailing at the time of settlement which is not in compliance with AS 11 *Effect of changes in foreign exchanges rates*. [Refer Sr. No. 6 of Schedule 24]
5. Accounting of interest on house building loans and expenditure on disbursement of share of faculty members respectively has been done on cash basis. [Refer Sr. No. 1.2(a) and 1.2(c) of Schedule 24]
6. Pursuant to completion of physical verification of fixed assets other than Land & Building and Books & Journals as on 31/03/2014 by M/s Sarkar Gurumurthy & Associates, Chartered Accountants, they have been appointed to complete the physical verification of Land & Buildings along with other Assets (except Books & Journals) vide CE(Admin. & Finance) Letter No. No. CAF/21/057 dated 10.05.2018. They will be provided the list of Books & Journals along with their price and depreciation. [Refer Note 1.4 of Schedule 25]



## Annexure B

1. There are old advances that may not be ultimately realizable against which no provisions have been made in the accounts.[Refer Note 2.2 on schedule 25]
2. Computer systems having book value of Rs. 7,00,000.00/- were stolen in year 1992-1993 and no adjustment has been made regarding such loss in financial statements.[Refer Note 1.6 on Schedule 25]
3. No adjustment of Rs. 20,99,858.10/- have been done which is included under current liabilities, being sale proceeds of assets disposed off including Rs 20,06,618/- for disposals in an earlier year. [Refer Note 1.7 on Schedule 25]
4. There have been projects which has excess of expenditure incurred over and above revenue during the year 2017-18. [Refer Schedule 3 of Balance Sheet]
5. Out of the above there have been a few projects which has opening debit balance for the past two financial years.[Refer Schedule 3 of Balance Sheet]



INDIAN STATISTICAL INSTITUTE  
BALANCE SHEET AS AT 31/03/2018

(Amount in Rupees)

PARTICULARS	SCHEDULE	CURRENT YEAR	PREVIOUS YEAR
<b>LIABILITIES</b>			
CORPUS/CAPITAL FUND	1	1,26,08,59,734	1,29,55,07,167
EARMARKED/ENDOWMENT FUNDS	3	85,60,94,955	74,76,59,917
CURRENT LIABILITIES AND PROVISIONS	7	27,66,71,378	20,68,08,466
LIABILITIES FOR FIXED ASSETS OF EXT. AIDED FUND		16,37,14,017	15,19,04,068
LIABILITIES FOR FIXED ASSETS OF ISEC FUND		7,32,894	7,32,894
LIABILITIES FOR FIXED ASSETS OF IGP PROJECT		71,13,633	71,13,633
<b>TOTAL</b>		<b>2,56,51,86,611</b>	<b>2,40,97,26,145</b>
<b>ASSETS</b>			
EARMARKED/ENDOWMENT FUNDS	3	27,84,181	41,01,745
FIXED ASSETS	8	1,22,65,22,820	1,31,55,41,644
INVESTMENTS / ASSETS - FROM EARMARKED/ EARMARKED/ENDOWMENT FUNDS	9	58,89,25,269	55,31,57,587
CURRENT ASSETS, LOANS AND ADVANCES	11	57,53,93,797	37,71,74,574
FIXED ASSETS OF EXT. AIDED FUND		16,37,14,017	15,19,04,068
FIXED ASSETS OF ISEC FUND		7,32,894	7,32,894
FIXED ASSETS OF IGP PROJECT		71,13,633	71,13,633
<b>TOTAL</b>		<b>2,56,51,86,611</b>	<b>2,40,97,26,145</b>
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive (F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

In terms of our Report of even date.

For S. K. Mallick & Co  
Chartered Accountants  
(Firm Registration No. 324892E)

R. S. Mallick  
Partner  
Membership No. 059545  
Kolkata, September 27, 2018

INDIAN STATISTICAL INSTITUTE  
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31/03/2018 (Amount in Rupees)

PARTICULARS	SCHEDULE	CURRENT YEAR		PREVIOUS YEAR	
		GRANT SALARY	GRANT GENERAL	GRANT SALARY	GRANT GENERAL
INCOME					
Miscellaneous Receipts	12		6,59,70,763		6,34,65,876
Grant-in-Aid From Govt. of India	13	191,62,56,000	11,91,89,444	162,82,46,634	17,69,81,000
TOTAL (A)		191,62,56,000	18,51,60,207	162,82,46,634	24,04,46,876
EXPENDITURE					
Establishment Expenses	20	189,31,40,464		170,67,64,543	
Other Administrative Expenses	21		30,37,50,455		35,74,98,523
TOTAL (B)		189,31,40,464	30,37,50,455	170,67,64,543	35,74,98,523
BALANCE BEING SURPLUS /(DEFICIT) (A - B)		2,31,15,536	-11,85,90,248	-7,85,17,909	-11,70,51,647
CARRIED TO CORPUS/CAPITAL			-9,54,74,712	-19,55,69,556	
SIGNIFICANT ACCOUNTING POLICIES	24				
CONTINGENT LIABILITIES					
AND NOTES ON ACCOUNTS	25				

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

In terms of our Report of even date.

For S. K. Mallick & Co  
Chartered Accountants  
(Firm Registration No. 324892E)

R. S. Mallick  
Partner  
Membership No. 059545  
Kolkata, September 27, 2018

INDIAN STATISTICAL INSTITUTE  
SCHEDULE I FORMING PART OF BALANCE SHEET AS AT 31 March, 2018  
CORPUS / CAPITAL FUND

(Amount in Rupees)

PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
SCHEDULE I - CORPUS / CAPITAL FUND				
Opening Balance		129,55,07,167		99,87,30,614
Less: Recovered during the year 2016-17 on account of Excess Income over Expenditure for the Previous Year	-19,55,69,556		-24,24,22,366	
		-19,55,69,556		-24,24,22,366
Add: Contribution towards Capital Fund received during the year 2017-18	54,31,91,000		48,20,66,456	
Less: Recovered during the year	17,60,92,000		13,20,66,456	
		36,70,99,000		35,00,00,000
Add: Transfer of Assets of Dev. Fund		6,78,651		3,77,782
Add: 95% Cost of Books & Journals acquired during the year	10,57,79,296		10,76,61,175	
Less: Depreciation on Assets during the year- Schl 8A	60,65,55,519		20,57,24,887	
Dep. on Assets acquired out of Dev. Fund- Schl 8B	17,43,224		23,89,846	
		60,82,98,743		20,81,14,733
Less: Amount written off on Fixed Assets during the year - Schl		481		481
Add: Excess of Expenditure over Income for the year 2017-18, transferred from Income and Expenditure Account	-9,54,74,712		-19,55,69,556	
Add: Excess of Income over Expenditure for the year 2017-18, transferred from Income and Expenditure Account	0		0	
		-9,54,74,712		-19,55,69,556
		126,08,59,734		129,55,07,167

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	CHANGE IN PATR IRRIGATION PROJECT 201K DST, W.B	AN INVESTIGATIN ANTIMICROBIAL PROJECT 203 DST, GOI	INFLUENCE OF BED FORMS PROJECT 204 DST GOI	MSR INDIA RX SUMER INTERSHIP PROJECT 205A MICRO RESH LAB	BIOMEDICAL IMG MACHIN LERNING PROJECT 206 UNIV OF MASTRIH
FUNDING AGENCY					
a) Opening Balance of The Funds	-53,395	15,547	4,944	4,91,335	1,52,837
b) Additions To The Funds :	6,95,677				
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	6,95,677				
TOTAL (a+b)	6,42,282	15,547	4,944	4,91,335	1,52,837
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	1,64,123				
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.	4,130				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev.Fund/Int.Receipt					
TOTAL	1,68,253	15,547	4,944	4,91,335	
d) Unsp. Amt/Trnf. Othr Fund					
TOTAL (c)	1,68,253	15,547	4,944	4,91,335	
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	4,74,029				1,52,837

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	EVIDENCE THEORY BASED UNCERTND PROJECT 207A ANALYSIS	3,755	EVALUATION STUDY Y BORDER CLU-C PROJECT 208 PLANING COMMIS	DESIGNING AND STUDYING MODE PROJECT 209 . ICAR, NAIP,	67,958	UNDERSTANDING MOLECULAR BASIS PROJECT 209A D B T, G O I	6,65,298	LIBRARY BOOK GRANT 2011-2012 PROJECT 212 NBHM, MUMBAI	1,44,886
FUNDING AGENCY									
a) Opening Balance of The Funds									
b) Additions To The Funds :									
1. Donation/Grants/Othr. Fund									
2. Income From Investment made on account of Funds									
3. Serv. Chrg/SQCOR Receipt									
4. OHAdj/Other Income									
5. Service Tax Recd/Receivable									
TOTAL									
TOTAL (a+b)		3,755	1,11,514		67,958		6,65,298		1,44,886
c) Utilisation / Expenditure									
i. Capital Expenditure									
- Fixed Assets									
- Books & Journal									
- Other									
TOTAL									
ii. Current Asset									
- Bills Receivable									
TOTAL									
iii. Revenue Expenditure									
- Site Prep. & allied work									
- Remuneration & Allowances									
- Travelling & Conveyance									
- Admn. expenses/Prof/Benv.									
- Tax Deducted at Source									
- Service Tax Paid/Payable									
- Contingencies									
- Share Of Overhead									
- Trmf.To Dev.Fund/Int.Receipt									
TOTAL			99,273		67,958		6,65,298		
d) Unsp. Amt/Trf. Othr Fund									
TOTAL (c)			99,273		67,958		6,65,298		
e) Assets Trmf. to Corpus Fund									
NET BALANCE AS AT									
THE YEAR END (a+b-c-e)		3,755	12,241						1,44,886



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	QUANTIFICATION NEURAL INFORM PROJECT 216	DEVELOPMENT OF UNIVERSAL KNOW PROJECT 217	agINFRA FELLOWSHIP GRAT PROJECT 219	IBM SHARED UNI RES AWARDS PROJECT 221A	INT. PASSENGER SURVEY-ASU PROJECT 222
FUNDING AGENCY	DST, GOI	DST, B'LORE	INFRA	IBM, NUYORK	DEPT. OF TOURISM
a) Opening Balance of The Funds	91,372	66,694	19,417	9,31,876	11,66,659
b) Additions To The Funds :	3,20,000				
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	3,20,000				
TOTAL (a+b)	4,11,372	66,694	19,417	9,31,876	11,66,659
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure	0				
- Site Prep. & allied work					
- Remuneration & Allowances	2,76,120			40,890	
- Travelling & Conveyance				1,330	
- Admn. expenses/Prof/Benv.				9,230	
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev. Fund/Int. Receipt	20,000				
TOTAL	2,96,120			51,450	
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	2,96,120			51,450	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT	1,15,252	66,694	19,417	8,80,426	11,66,659
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ADVANCE STAT. TECH RELIABILIT PROJECT 222A IBM, KOLKATA	NBHM BOOKGRANT LIBRARY PROJECT 223 NBHM,DAE G.O.I.	INTERNATIONAL PASSENGER PROJECT 223A DEPT. OF TOURISM	MGNREGA -CONS ALL INDIA EVAL PROJECT 226A PLANIG COMM	UNIVERSAL ONE WAY HASH FAMILY PROJECT 228 MINS.OF DEFENCE
FUNDING AGENCY	4,312	-80,478	-30,10,721	1,49,944	15,012
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund		37,00,000			
2. Income From Investment made on account of Funds			37,79,467		
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income		37,00,000			
5. Service Tax Recd/Receivable		36,19,522			
TOTAL			37,79,467		15,012
TOTAL (a+b)	4,312		7,68,746	1,49,944	
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances				91,515	
- Travelling & Conveyance			13,387	8,211	
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies			6,843		
- Share Of Overhead					
- Trmf To Dev Fund/Int Receipt	4,312		20,230	99,726	15,012
TOTAL	4,312				
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	4,312		20,230	99,726	15,012
e) Assets Trmf to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		36,19,522	7,48,516	50,218	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SENTIMENT ANALS DEV. OF PROTYPE PROJECT 229A TECH.MAHININDER	INDO MEXICAN PROJECT DR SHANT PROJECT 231F A LAISHRAM	J C BOSE FELLOW PROF. R B BAPAT PROJECT 232 DST,N,DELHI	INSA SR.SCIENTIST PROJECT 235A NASI	J.C. BOSE FELLOW PROF. R. BHATIA PROJECT 236 DST, N,DELHI
FUNDING AGENCY	1,09,102	35,920	12,00,000	6,26,043	10,91,980
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					20,000
3. Serv. Chrg/SQCOR Receipt			12,00,000		20,000
4. OHAdj/Other Income			20,62,954		11,11,980
5. Service Tax Recd/Receivable					
TOTAL	1,09,102	35,920		6,26,043	
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure			69,000		
- Fixed Assets					
- Books & Journal			69,000		
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work			3,79,200	2,70,000	25,000
- Remuneration & Allowances			2,24,703		
- Travelling & Conveyance			5,300		
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source			44,199	22,445	
- Service Tax Paid/Payable			60,000		
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt			7,13,402		25,000
TOTAL	2,340			2,92,445	10,86,980
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	2,340				
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,06,762	35,920		2,71,298	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ECONOMICS MACH ANISM TO CREAT PROJECT 237 U. MELBOURN	NBHM TEST RESH AWARD, PHD SCHO PROJECT 238C NBHM, D A E	NBHM GRANT WORK-II DR. A PA PROJECT 239B I.M.C.E	INSPIRE FELLOW SHIP ASS. OPPR. PROJECT 240A DST, GOI	ISI & L S E COLLABORATION PROJECT 241 LONDON SCHOLEO
FUNDING AGENCY					
a) Opening Balance of The Funds	7,282	50,851	1,76,116	3,77,817	49,156
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	7,282	50,851	1,76,116	3,77,817	49,156
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					3,105
- Remuneration & Allowances					12,590
- Travelling & Conveyance					1,166
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					1,800
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev. Fund/Int. Receipt	7,282				
TOTAL	7,282				18,661
d) Unsp. Am/Trf. Ohr. Fund					18,661
TOTAL (c)					
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT		50,851	1,76,116	3,77,817	30,495
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INDO - MAX PLANK CENTRE PROJECT 242 SERB, G O I	STATISTICAL METHODS DECTECT PROJECT 243 SERB, GOI	GOOGLY RESEARCH AWARD-DR MAN PROJECT 245 GOOGLY INC.MOT	VERTIBRATE MICO FOSILS FROM TAKI PROJECT 245A DST	DEV. OF DEPEN. PARSER OF BANGL PROJECT 246 SNLTR
FUNDING AGENCY	3,20,897	5,22,748	13,281	42,169	-1,130
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	3,20,897	5,22,748	13,281	42,169	-1,130
TOTAL (a+b)	3,20,897	5,22,748	13,281	42,169	-1,130
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf To Dev.Fund/Int.Receipt					
TOTAL				42,169	
d) Unsp. Am/Trf. Othr Fund				42,169	
TOTAL (c)				42,169	
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT			13,281		-1,130
THE YEAR END (a+b-c-e)	3,20,897	5,22,748	13,281		-1,130

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ESTIMATION OF TECH. MAN POWER PROJECT 250A	J.C.BOSE FELLOW B.B.CHOUHDHURY PROJECT 251 DST	IBM FACULTY AWARD-S.S.KOLAY PROJECT 251A IBM, USA NUYORK	CENTRE OF EXCELLENCE CRYP PROJECT 252 MIN. OF DEFENCE	DELAY FAULT MODELING & TEST PROJECT 253 INTEL.CORP.USA
FUNDING AGENCY	WBSCTE				
a) Opening Balance of The Funds	1,02,546		1,70,803	23,90,952	57,188
b) Additions To The Funds :		14,00,000			
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL		14,00,000			
TOTAL (a+b)	1,02,546	14,00,000	1,70,803	23,90,952	57,188
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances		1,50,041	26,576		57,342
- Travelling & Conveyance		14,948	1,869		2,150
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies		809			
- Share Of Overhead		60,000			
- Trmf To Dev.Fund/Int.Receipt					
TOTAL		2,25,798	28,445		59,492
d) Unsp. Amu/Trf. Othr Fund					
TOTAL (c)		2,25,798	28,445		59,492
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,02,546		1,42,358	23,90,952	-2,304

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	LITHOGRAPHYY AWARE PHYSICAL PROJECT 253A		A COMPREHENSIV GENOMICS GENET PROJECT 254A		TEOCO-ISI ENTER NEURESHIP ENDEV PROJECT 255 TEOCO CORP		RESEARCH GRANT FROM IGC PROJECT 255A LONDON SCHOOL		DESIGN AND DEVP DATABASE ANALYT PROJECT 256 DBT, GOI	
	CII, DST		DBT							
FUNDING AGENCY		1,48,551		2,11,590		1,79,900		4,467		1,136
a) Opening Balance of The Funds										
b) Additions To The Funds :										
1. Donation/Grants/Othr. Fund			16,10,000				1,27,865			
2. Income From Investment										
3. Serv. Chrg/SQCOR Receipt										
4. OHADJ/Other Income				16,10,000						
5. Service Tax Recd/Receivable				18,21,590		1,79,900		1,32,332		1,136
TOTAL		1,48,551								
TOTAL (a+b)										
c) Utilisation / Expenditure										
i. Capital Expenditure										
- Fixed Assets										
- Books & Journal										
- Other										
TOTAL										
ii. Current Asset										
- Bills Receivable										
TOTAL										
iii. Revenue Expenditure										
- Site Prep. & allied work										
- Remuneration & Allowances			11,10,000				1,25,660			
- Travelling & Conveyance			1,53,087							
- Admn. expenses/Prof/Benv.			4,12,784							
- Tax Deducted at Source										
- Service Tax Paid/Payable										
- Contingencies			2,000							
- Share Of Overhead										
- Trmf. To Dev. Fund/Int. Receipt				16,77,871		1,79,900		1,25,660		
TOTAL										
d) Unsp. Amt/Trf. Othr Fund				16,77,871		1,79,900		1,25,660		
TOTAL (c)										
e) Assets Trmf. to Corpus Fund										
NET BALANCE AS AT										
THE YEAR END (a+b-c-e)		1,48,551		1,43,719				6,672		1,136

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	JURASSIC GONDWA VERTEBRATES IND PROJECT 257A	PROCESSING AND ANALYSIS AIRCFT PROJECT 258 US ARMY	INSEAD RESEARCH GRANT(FOREIGN) PROJECT 259 CEDEX, FRANCE	ANALYSIS & MODE LING ATMOSPHERC PROJECT 259A CSIR	AUTOMATIC PREPARATION PROJECT 260A INDIA-TIWAN
FUNDING AGENCY	DST		17,615	84,973	3,50,213
a) Opening Balance of The Funds	1,34,004			25,352	
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL			17,615	25,352	3,50,213
TOTAL (a+b)	1,34,004		17,615	25,352	3,50,213
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance		485			
- Admn. expenses/Prof/Benv.		3,927			
- Tax Deducted at Source					
- Service Tax Paid/Payable	93,801				
- Contingencies					
- Share Of Overhead					
- Trnf To Dev.Fund/Int.Receipt					
TOTAL	93,801		4,412		2,026
d) Unsp. Amt/Trf. Ohr Fund					
TOTAL (c)	93,801		4,412		3,48,187
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	40,203		13,203	84,973	3,50,213



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INDIAN LANGUAG CORPORAT PH-II PROJECT 262A	BUSINESS ANALYTICS PROJECT 263	NANOPESTICIDES & NANOFUNCTIONICIDS PROJECT 263A	J C BOSE FELLOS ARUP BOSE PROJECT 264 D S T, G O I	ERASMUS MUNDUS PROJECT 264A MUNDUS, ITALY
FUNDING AGENCY	ILCI	T C S	DBT, GOI		
a) Opening Balance of The Funds	66,649		24,04,827	5,77,342	87,051
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	66,649		24,04,827	5,77,342	87,051
TOTAL (a+b)			2,40,305		
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal	650				
- Other					
TOTAL	650				
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances				3,00,000	31,952
- Travelling & Conveyance	22,289			2,29,412	5,017
- Admn. expenses/Prof/Benv.	42,709			27,353	
- Tax Deducted at Source					
- Service Tax Paid/Payable				70,202	
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	64,998		24,04,827	6,26,967	36,969
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	65,648		24,04,827	6,26,967	36,969
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,001		2,40,305	-49,625	50,082

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	COMVERTING MESG TEXT INTO ENGLH PROJECT 265 TECH MAHINDER	INTT. SYMPOSIUM RECENT TRENDS PROJECT 265A ISSCS-07-GSU	ROTA VIRUS DETECTION PROJECT 266A DBT	STAT. METHODS FOR MAPN. MULTIV PROJECT 267 NIH. U.S.A	FICO RESH & DEV ELOPMNT-B KROY PROJECT 268 FICO
FUNDING AGENCY					
a) Opening Balance of The Funds	1,96,127	12,500		49,07,666	62,925
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt			50,000		
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	1,96,127	12,500	50,000	49,07,666	62,925
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance	5,270		50,000	2,272	
- Admn. expenses/Prof/Benv.	275				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev. Fund/Int. Receipt		12,500			62,925
TOTAL	5,545	12,500	50,000	2,272	62,925
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	5,545	12,500	50,000	49,00,712	62,925
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,90,582			6,954	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	DEV. OF ROBUST DOCUMENT II PHS PROJECT 268A DIT, GOI	EVALUATION STUDY BORDER CLU-B PROJECT 269 PLANING COMMIS	MAHATMA GANDHI NATIO RURAL EMP PROJECT 269A PLANING COMM	TRAINING PROG MICRO & MACRO PROJECT 272 ECO TH. N. DELHI	RANDOM GEOMET GRAPHS (R. ROY) PROJECT 274 D S T N DELHI
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :	-300	1,84,950	3,37,099	2,36,900	9,258
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	300				
5. Service Tax Recd/Receivable				2,36,900	
TOTAL	300			2,36,900	9,258
TOTAL (a+b)		1,84,950	3,37,099		
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work				1,60,500	
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL		1,22,007 10,836 1,106	2,46,953 97,983 1,040	19,520 25,980 30,900	9,258
d) Unsp. Amu/Trf. Othr Fund					
TOTAL (c)		1,33,949	3,45,976	2,36,900	9,258
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		51,001	-8,877		

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	AIRPORT AUTHORITY OF INDIA DR.A.B PROJECT 274D AIRPORT OF INDIA	WORKSHOP ON AIRSPACE SAFETY PROJECT 274E AIRPORT AUTHO	INTERNATIONAL GROWTH PROJECT 275	EXPLORATORY RESEARCH PROJECT 275A	CMMC ITALY DR. E SOMANATHA PROJECT 275D
FUNDING AGENCY	14,645	2,915	1,43,01,768	28,421	3,14,208
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund			2,92,804		
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt			17,64,722		
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable			20,57,526		
TOTAL			1,63,59,294	28,421	3,14,208
TOTAL (a+b)	14,645	2,915			
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance			3,97,273		
- Admn. expenses/Prof/Benv.			1,08,566		
- Tax Deducted at Source			2,69,196		
- Service Tax Paid/Payable			3,00,582		
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev.Fund/Int. Receipt					
TOTAL	14,645	2,915	10,75,617	19,466	3,14,208
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	14,645	2,915	10,75,617	19,466	3,14,208
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)			1,52,83,677	8,955	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INSPIRE FACULTY AWARD - DR A CH PROJECT 275E	WOMEN EXCELLEN DR.T JAIN PROJECT 276 SERB	CENTRAL SECTOR SCHOLARSHIP PROJECT 277 FOR SC	NBHM BOOK GRANT LIBRARY (DEL) PROJECT 278 DEPT ATOMIC EGY	LANGUAGE & BRAN ORG. NORRATIVE PROJECT 280 PH.I,D ST, GO
FUNDING AGENCY	DST				
a) Opening Balance of The Funds	53,196	1,87,729	7,725	18,71,087	5,41,576
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable				34,72,307	
TOTAL			7,725	53,43,394	5,41,576
TOTAL (a+b)	53,196	1,87,729	7,725		
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expensess/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int. Receipt					
TOTAL					5,41,576
d) Unsp. Amt/Trf. Othr Fund					5,41,576
TOTAL (c)					
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	53,196	1,87,729	7,725	53,43,394	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INSPIRE FACULTY AWARDS N GUPTA PROJECT 280A DST,GOI	PETROZAVODSK IMIL CONF. PROJECT 281C RUSSIS, A S KAJ	IBM UNIVERSITY RELAT. DR. BANJ PROJECT 282A IBM	DEVELOPMENT VALIDATION COGN PROJECT 283 DST	INSPIRE FACULTY AWARD G CHATTER PROJECT 283A DST,GOI
FUNDING AGENCY					
a) Opening Balance of The Funds	13,68,163	20,011	871	42,934	-15,287
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL					
TOTAL (a+b)	13,68,163	20,011	871	42,934	-15,287
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets	9,221				
- Books & Journal					
- Other					
TOTAL	9,221				
iii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.	21,296				300 1,935
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf.To Dev.Fund/Int.Receipt			32		
TOTAL	21,296		32		2,235
d) Unsp. Amv/Trf. Othr. Fund					
TOTAL (c)	30,517		32	42,934	2,235
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	13,37,646	20,011	839		-17,522

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	MICROSOFT RESEARCH LAB PROJECT 284	INSPIRE FACULTY AWARD TO R HAZR PROJECT 285A	DEV OF SUCROSE SENSOR PHENOTY PROJECT 286A	METHOD STUDY COMPILATION PROJECT 287A	LANGUAGE & BRAN ORG.INNORMATIVE PROJECT 288
FUNDING AGENCY	MICROSOFT R LAB	DST	NBSFARA	MIN. COMMRC IND	DST, GOI/NIMHAS
a) Opening Balance of The Funds	38,990	5,01,680	9,45,448	6,17,609	2,47,200
b) Additions To The Funds :				3,88,501	
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds				99,993	
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income				4,88,494	
5. Service Tax Recd/Receivable				11,06,103	2,47,200
TOTAL	38,990	5,01,680	9,45,448		
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work				3,55,620	
- Remuneration & Allowances				56,203	
- Travelling & Conveyance				3,129	
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf To Dev.Fund/Int.Receipt					
TOTAL	35,926		9,45,448	4,16,462	
d) Unsp. Amt/Trnf. Othr Fund			9,45,448		
TOTAL (c)	35,926				
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT		5,01,680		6,89,641	2,47,200
THE YEAR END (a+b-c-e)	3,064				

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	UNDERSTANDING ROLE OF SYM.IN PROJECT 289 D S T. G O I	CROSS LINGUAL INF.ACCESS CLIA PROJECT 291 DIT, CLIA	SPM FELLOWSHIP MR MUTHUKUMAR PROJECT 292C ISI CHENNAI	INSPIRE FACULTY DR G.P.BALAKUMA PROJECT 293C R ISI CHENNAI	INSPIRE FACULTY MATHEW C.FRANCI PROJECT 294C DST,GOI
FUNDING AGENCY					
a) Opening Balance of The Funds	1,53,260	-27,976	-2,12,028	2,98,253	11,28,502
b) Additions To The Funds :			14,79,654		
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable			14,79,654		
TOTAL			14,79,654		
TOTAL (a+b)	1,53,260	-27,976	12,67,626	2,98,253	11,28,502
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets			7,573		
- Books & Journal			950		
- Other			8,523		
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work				2,58,670	1,07,221
- Remuneration & Allowances					
- Travelling & Conveyance			9,701		
- Admn. expenses/Prof/Benv.			16,758	11,423	
- Tax Deducted at Source		4,956			
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL		4,956	26,459	2,70,093	1,07,221
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		4,956	34,982	2,70,093	1,07,221
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,53,260	-32,932	12,32,644	28,160	10,21,281



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	DIGITAL IMAGE TRVONT INDIAN PROJECT 295	SPL. HONORARIUM SSB-AWARDEES PROJECT 297	RFDR PROJECT HARMONIC QUASI PROJECT 298C	FISCAL BUSY EXN EXPRESSION QUA PROJECT 299A	J.C. BOSE FELLOW DR S. K. PAL PROJECT 340 DST - GOI
FUNDING AGENCY	D ST GOI	CSIR, GOI	DST	QUALCOM USA	
a) Opening Balance of The Funds					
b) Additions To The Funds :	3,37,191	14,70,000	1,12,157	-5,248	2,93,337
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL		14,70,000	1,12,157	-5,248	2,93,338
TOTAL (a+b)	3,37,191				
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev Fund/Int. Receipt					
TOTAL		14,70,000			0
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		14,70,000			2,93,338
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT			1,12,157	-5,248	0
THE YEAR END (a+b-c-e)					

**INDIAN STATISTICAL INSTITUTE**  
**SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)**

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	MULTILINGUAL PROMOTION IFCPR PROJECT 342 IFCPR	ROUGH FUZY INSA YOUNG SCIE PROJECT 342A INSA	PREDICT THE METEOROLOGICAL PROJECT 343 DEPT. OF SPACE	ANALYSIS RECOGN & SYNTHESIS OF PROJECT 343A DST GOI	ISI INTELLECTUA VENTURE INVENTI PROJECT 344 GATEWAY SINGAP
FUNDING AGENCY					
a) Opening Balance of The Funds	-46,848	251	38,300	11,487	29,75,328
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL					
TOTAL (a+b)	-46,848	251	38,300	11,487	29,75,328
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance			36,159		
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf. To Dev. Fund/Int. Receipt		251		11,487	
TOTAL		251	36,159	11,487	
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		251	36,159	11,487	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT THE YEAR END (a+b-c-e)	-46,848		2,141		29,75,328

**INDIAN STATISTICAL INSTITUTE**  
**SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)**

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TCS RESEARCH PROJECT J MONDL PROJECT 344A	EVALUATION OF DIFFERENT RCFL PROJECT 345 RVFL JHARKHAND	ISI-RBI RESEARCH COLLABORATION PROJECT 346A RBI,MUMBAI	STUDY IN THE FD QUANTUM INFOR PROJECT 347 DST,GOI	CENTRE FOR COMA ADVANTAGE PROJECT 348 WARWICK,CAGE
FUNDING AGENCY					
a) Opening Balance of The Funds	85,400	64	1,32,618	34,834	2,26,273
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	3,84,000				
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	3,84,000				
TOTAL (a+b)	4,68,400	64	1,32,618	34,834	2,26,273
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	3,84,000				
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.			9,300		40,110
- Tax Deducted at Source			21,336		81,009
- Service Tax Paid/Payable					9,901
- Contingencies			10,255		2,271
- Share Of Overhead					
- Trnf. To Dev.Fund/Int.Receipt		64		34,834	
TOTAL	3,84,000	64	40,891	34,834	1,33,291
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	3,84,000	64	40,891	34,834	1,33,291
e)Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	85,400		91,727		92,982

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SURVEY ON HAND LOOM WORK PROJECT 348A	CSIR FELLOWSHIP SRF/JRF PROJECT 5301 CSIR	POST DOCTORAL FELLO-R.P.SINGH PROJECT 5302 CSIR	NBHM FELLOWSHIP S.CHATTERJEE PROJECT 5304 NBHM	NBHM SCHOLARSHIP ANIMESH LAHARI PROJECT 5305 NBHM
FUNDING AGENCY	DIRE. OF TEXTIL				
a) Opening Balance of The Funds	1,27,132	28,79,505	30,222	40,152	20,000
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund		25,25,783			
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income		25,25,783			
5. Service Tax Recd/Receivable		54,05,288	30,222	40,152	20,000
TOTAL					
TOTAL (a+b)	1,27,132		30,222	40,152	20,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances		18,18,658			
- Travelling & Conveyance	2,046				
- Admn. expenses/Prof/Benv.	36,816	320			
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL	1,20,462	18,18,978			
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	1,20,462	18,18,978			
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	6,670	35,86,310	30,222	40,152	20,000

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ICMR FELLOWSHIP -SUJATA KAR PROJECT 5308	U G C GRANT ANKITA CHAKRABY PROJECT 5309	NBHM GRANT MS R. GAYEN CHU PROJECT 5311	NBHM FELLOWSHIP MR.SOUVIK GOSWI PROJECT 5313	NATIONAL TALENT SEARCH AWARD PROJECT 5317
FUNDING AGENCY	ICMR	U G C	NBHM	NBHM	NBHM
a) Opening Balance of The Funds	25,625	1,89,507	50,661	39,000	3,22,760
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	25,625	1,89,507	50,661	39,000	3,22,760
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL		1,89,507			
d) Unsp. Amt/Trf. Othr Fund		1,89,507			
TOTAL (c)					
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT				39,000	
THE YEAR END (a+b-c-e)	25,625		50,661		3,22,760

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	NBHM POST DOC FELLOW- S.SARKR PROJECT 5318 NBHM	NBHM MA/MSC SCHOLARSHIP PROJECT 5320 NBHM/DAE	MICROSOFT TRAVL GRANT AWARD PROJECT 5321 M R LAB INDIA L	NBHM POST DOC. ANUPAMA PANIGRA PROJECT 5324 HI NBHM	NBHM POST DOC. S.S. RAY PROJECT 5325 NBHM
FUNDING AGENCY	-1,49,500	1,32,660	10,17,185	15,000	-67,332
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	-1,49,500	1,32,660	10,17,185	15,000	-67,332
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL					
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)					
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT		1,32,660	10,17,185	15,000	-67,332
THE YEAR END (a+b-c-e)	-1,49,500				

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ICMR FELLOWSHIP GRANT B M DAS PROJECT 5329 ICMR	NBHM TRAVEL ARUP CHATTO PROJECT 5333 DAE, NBHM	NBHM TRAVEL C JAYANARAYANAN PROJECT 5335 NBHM DAE	POST DOC FELLOW SHARAN GOPAL PROJECT 5337 NBHM,DAE	INSPIRE FELLOW SUSHIL GARAI PROJECT 5340 DST, B'LORE
FUNDING AGENCY					
a) Opening Balance of The Funds	-26,000		16,073	3,000	52,252
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	-26,000	6,235	16,073	3,000	52,252
TOTAL (a+b)	-26,000	6,235	16,073	3,000	52,252
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL					
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)					
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT	-26,000	6,235	16,073	3,000	52,252
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	WORKSHOP ON MORPHO GEOSC PROJECT 534I	TRAVEL GRANT LINGARAJ SAHU PROJECT 5343	CSIR RESEARCH FELLOW SH D C M PROJECT 5352	KARNATAKA REGIL MATH OLYMPIAD PROJECT 5353	CSIR RESH FELLW MS TANVI JAIN PROJECT 5357
FUNDING AGENCY	SERB, DST	NBHM, B'LORE	CSIR N DEL	KRMO, B; LORE	CSIR, DEL
a) Opening Balance of The Funds	-2,206	12,000	1,20,483	3,88,023	1,20,289
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHIAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	-2,206	12,000	1,20,483	3,88,023	1,20,289
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL					
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)					
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	-2,206	12,000	1,20,483	3,88,023	1,20,289



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	MSR INDIA CATAL YST. DR.B.ROY PROJECT 5361	WORKSHOP ON AIS ALGEBERIC PROF. PROJECT 5374	POST DOC FELLO JITENDER SINGH PROJECT 5376	POST DOCTORAL FELLOW S PARUI PROJECT 5378	NBHM FELLOW G SANKAR RAJU PROJECT 5379
FUNDING AGENCY	MSR INDIA LTD	NBHM,DAE	NBHM, DAE	NBHM,DAE	NBHM,DAE
a) Opening Balance of The Funds	5,00,000	1,41,782	95,000	1,60,919	2,012
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	5,00,000	1,41,782	95,000	1,60,919	2,012
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
iii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL					
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)					
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT	5,00,000	1,41,782	95,000	1,60,919	2,012
THE YEAR END (a+b-c-e)					

## INDIAN STATISTICAL INSTITUTE

36

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	L&T IGP MUMBAI PROJECT 7804	MAHINDRA AND MAHINDRA SWARAJ PROJECT 7814 DIVN IGP MUMBAI	JINDAL STEEL & POWER LTD RAIGR PROJECT 7819 IGP MUMBAI	DIAT PUNE PROJECT 7912	DESIGN & CONDUCT Q & R FOR DRDO PROJECT 7919 IGP HYD
FUNDING AGENCY					
a) Opening Balance of The Funds	21,757	2,504	10,902	3,000	2,14,069
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	21,757	2,504	10,902	3,000	2,14,069
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf To Dev Fund/Int Receipt					
TOTAL					
d) Unsp. Amt/Trnf. Othr Fund					
TOTAL (c)					
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT	21,757	2,504	10,902	3,000	2,14,069
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TATA STEEL LTD I PHASE PROJECT 7979	FLOOD ADVANCE PROJECT 802	CONVEYANCE ADVANCE PROJECT 804	ESTIMA OF QUAAN INVEST AGENCY PROJECT E001 FICN (NIA)	STAT MODEL PREDICT ANOMALY PROJECT E002 AIRCRAFTGE INDI
FUNDING AGENCY	TATA STEEL, IGP				
a) Opening Balance of The Funds	99,896	7,20,000	47,50,000	4,10,781	1,44,290
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL					
TOTAL (a+b)	99,896	7,20,000	47,50,000	4,10,781	1,44,290
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev Fund/Int. Receipt					
TOTAL					
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)					
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	99,896	7,20,000	47,50,000	4,10,781	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	RECOGNITION OF ANTINUCLEAR PROJECT E003 DST	MICRONUTRIENT NANOPARTICLES PROJECT E005 SIMLA C R P	NON INVASIVE IDENTIFICATION PROJECT E006 C S IR	SURFACE FUNCTIONAL PROJECT E007 DBT		FUNCTIONAL ANNOTATION OF PROJECT E011 DST
FUNDING AGENCY						
a) Opening Balance of The Funds						
b) Additions To The Funds :						
1. Donation/Grants/Othr. Fund	6,00,000			4,97,000		
2. Income From Investment made on account of Funds						
3. Serv. Chrg/SQCOR Receipt	6,798					
4. OHAdj/Other Income						
5. Service Tax Recd/Receiveable						
TOTAL				4,97,000		
TOTAL (a+b)		5,092	37,022	4,99,520		9,24,329
c) Utilisation / Expenditure						
i. Capital Expenditure						
- Fixed Assets	7,380					
- Books & Journal						
- Other						
TOTAL	7,380					
ii. Current Asset						
- Bills Receivable						
TOTAL						
iii. Revenue Expenditure						
- Site Prep. & allied work	0					
- Remuneration & Allowances	2,55,804					
- Travelling & Conveyance	14,754					
- Admn. expenses/Prof/Benv.	61,509					
- Tax Deducted at Source						
- Service Tax Paid/Payable						
- Contingencies	10,466					
- Share Of Overhead	1,19,360					
- Trnf.To Dev.Fund/Int.Receipt						
TOTAL						
d) Unsp. Amt/Trf. Othr Fund						
TOTAL (c)		5,092	37,022	20,000		
e)Assets Trnf. to Corpus Fund						
NET BALANCE AS AT						
THE YEAR END (a+b-c-e)				4,79,520		9,24,329

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	BIG DATA PERSPECTIVE PROJECT E013 CEFIPRA	PLANOGRAM IMAGE MATCHING PROJECT E014 T C S	ESTIMATION OF DEMAND FOR BANK PROJECT E015 R B I, GOI	TALENT ENABLMENT & CONSULTING PROJECT E016 INFOSYS LTD	NEW STAT TECH TO IDENTIFY MOD PROJECT E017 SERB, GOI
FUNDING AGENCY					
a) Opening Balance of The Funds		41,848	4,55,419	2,89,068	3,27,863
b) Additions To The Funds :	4,66,760				
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL		4,66,760			
TOTAL (a+b)		5,08,608	4,55,419	2,89,068	3,27,863
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal	1,419				
- Other					
TOTAL		1,419			
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance	1,71,037				
- Admn. expenses/Prof/Benv.	38,594				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	20,000				
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL		2,29,631	2,20,607	7,158	6,60,000
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)		2,31,050	2,20,607	7,158	6,60,000
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		2,77,558	2,34,812	2,88,196	-3,32,137

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INSPIRE FACULTY AWARD S DAS PROJECT E018 DST,GOI	AWARDED TO POLYMORPHISMS PROJECT E019 IN MHC CLS I GN	INSPIRE FACULTY ARD J CHAKRABRO PROJECT E020 DST, GOI	INSPIRE FELLOWP TO SANDIP PAUL PROJECT E021 DST,GOI	INSPIRE FELLOWSHIP 2015 PROJECT E022 P. DAS
FUNDING AGENCY					
a) Opening Balance of The Funds	25,328	1,18,985			1,10,000
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	16,99,076		4,10,000	4,56,800	3,00,000
5. Service Tax Recd/Receivable					
TOTAL	16,99,076		4,10,000	4,56,800	3,00,000
TOTAL (a+b)	17,24,404	1,18,985			4,10,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	12,64,640	98,985	3,90,000	4,56,800	3,00,000
- Travelling & Conveyance	175	20,000			
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable			20,000		
- Contingencies					
- Share Of Overhead	35,000				
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	12,99,815	1,18,985	4,10,000	4,56,800	3,00,000
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	12,99,815	1,18,985	4,10,000	4,56,800	3,00,000
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	4,24,589				1,10,000

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	FUNDING AGENCY	GENDER VIOLENC INDIA ITS ROOTS PROJECT E023 JCSSR,GOI		INAE DISTINGUIS HED PROF. BBC PROJECT E024 INAE		INSPIRE FACULTY AWARD PROJECT E025 A. CHATTERJEE		INSPIRE FELLOWS P PANDEY PROJECT E026 DST, GOI		CRYPTOGRAPHY & CRYPT PROJECT E027 ANALYSIS	
a) Opening Balance of The Funds			-17,194				1,02,972		1,30,484		7,36,247
b) Additions To The Funds :											
1. Donation/Grants/Othr. Fund		7,20,000		6,00,000		8,96,215		4,10,000		8,38,803	
2. Income From Investment made on account of Funds											
3. Serv. Chrg/SQCOR Receipt					6,00,000						
4. OHAd/Other Income											
5. Service Tax Recd/Receivable					6,00,000						
TOTAL			7,20,000		6,00,000		8,96,215		4,10,000		8,38,803
TOTAL (a+b)			7,02,806		6,00,000		9,99,187		5,40,484		15,75,050
c) Utilisation / Expenditure											
i. Capital Expenditure											
- Fixed Assets											
- Books & Journal											
- Other											
TOTAL											
ii. Current Asset											
- Bills Receivable											
TOTAL											
iii. Revenue Expenditure											
- Site Prep. & allied work		0									
- Remuneration & Allowances		3,90,600								4,40,440	
- Travelling & Conveyance		1,81,672		6,00,000		6,18,480		4,74,355		1,61,370	
- Admn. expenses/Prof/Benv.		22,847				49,056				30,276	
- Tax Deducted at Source											
- Service Tax Paid/Payable											
- Contingencies		5,695								5,530	
- Share Of Overhead		54,000				35,000				61,050	
- Trnf.To Dev.Fund/Int.Receipt											
TOTAL			6,54,814		6,00,000		7,19,512		4,74,355		6,98,666
d) Unsp. Amt/Trf. Othr Fund											
TOTAL (c)			6,54,814		6,00,000		7,19,512		4,74,355		6,98,666
e) Assets Trnf. to Corpus Fund											
NET BALANCE AS AT											
THE YEAR END (a+b-c-e)			47,992				2,79,675		66,129		8,76,384



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- FARMARKED/ ENDOWMENT FUNDS	VISVESVARAYA PHD SCHEME PROJECT E028	SWARNAJAYANTI FELLOWSHIP PROJECT E029 TO DR. N. GUPTA	RAMANUJAM FELLOWSHIP AWD PROJECT E030 SERB, COI	INSPIRE FELLOWSHIP PROJECT E031 S. ROY	INSPIRE FELLOWSHIP PROJECT E032 A. BHATTACHARYY
FUNDING AGENCY	MEDIA LAB ASIA				
a) Opening Balance of The Funds	38,305	75,000	61,570	1,09,917	30,333
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	28,04,750	4,00,000	17,80,000	4,10,000	3,79,667
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt		6,250	17,296		
4. OH/Adj/Other Income					
5. Service Tax Recd/Receivable		4,06,250	17,97,296	4,10,000	3,79,667
TOTAL	28,04,750	4,81,250	18,58,866	5,19,917	4,10,000
TOTAL (a+b)	28,43,055				
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal			1,34,662		
- Other					
TOTAL			1,34,662		
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	24,79,750	3,00,000	10,53,630	4,10,804	4,10,000
- Travelling & Conveyance	50,000		15,902		
- Admn. expenses/Prof/Benv.	5,884	1,848	1,48,475		
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies	1,29,845				
- Share Of Overhead	1,25,000	70,000	60,000		
- Trmf To Dev.Fund/Int.Receipt		3,71,848	12,78,007	4,10,804	4,10,000
TOTAL	27,90,479				
d) Unsp. Am/Trf. Othr Fund					
TOTAL (c)	27,90,479	3,71,848	14,12,669	4,10,804	4,10,000
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	52,576	1,09,402	4,46,197	1,09,113	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INCRISING POWER THRU GENETIC PROJECT E033	EQUIV. CHECKING FRAMEWORK FOR PROJECT E034	INAE CHARI PROF . B B BHATTACHAR PROJECT E035	VIVESVARYA YOUN FACULTY RESH PROJECT E036	NATIONAL POST DOC FELLOWSHIP PROJECT E037
FUNDING AGENCY	DST, GOI	VUL. ASSES	INAE	MIDIA LAB ASIA	SERB/ DST
a) Opening Balance of The Funds	10,719	1,42,911	3,00,000	2,28,411	9,10,000
b) Additions To The Funds :	4,45,000				
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income				1,087	
5. Service Tax Recd/Receivable			3,00,000	2,29,498	9,10,000
TOTAL	4,45,000		3,00,000	2,29,498	9,10,000
TOTAL (a+b)	4,55,719	1,42,911	3,00,000	5,35,256	9,10,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets		4,863			
- Books & Journal					
- Other					
TOTAL		4,863			
iii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	3,60,000	90,968	3,00,000	2,00,000	6,84,850
- Travelling & Conveyance	33,844	42,856		2,80,743	200
- Admn. expenses/Prof/Benv.		3,038		38,928	1,90,536
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies		200		3,810	
- Share Of Overhead	40,000				
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	4,33,844	1,37,062	3,00,000	5,23,481	8,75,586
d) Unsp. Amr/Trf. Ohr Fund		986			
TOTAL (c)	4,33,844	1,42,911	3,00,000	5,23,481	8,75,586
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	21,875			11,775	34,414

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	BINARY ANALYSIS SOFTWARE SECUR PROJECT E039	R C BOSE CENTRE CRYPTOLOGY PROJECT E040	INSPIRE FACULTY AWARDS BAGCHI PROJECT E041	UNRAVELLING ARCHITECTURE PROJECT E042	J C BOSE FELLOWSHIP PROJECT E043
FUNDING AGENCY	DRDO	MICROSOFT RESH	SERB/DST	DBT, GOI	SERB/DST
a) Opening Balance of The Funds	1,47,174	24,319	13,75,509	2,10,000	6,84,967
b) Additions To The Funds :	1,63,136				13,00,000
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	14,110				13,00,000
5. Service Tax Recd/Receivable					19,84,967
TOTAL	1,77,246	24,319	13,75,509	2,10,000	
TOTAL (a+b)	3,24,420				
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets			1,42,700		
- Books & Journal	549		37,294		
- Other					
TOTAL	549		1,79,994		
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				3,15,000
- Remuneration & Allowances	1,84,151				2,12,206
- Travelling & Conveyance	76,224			4,500	8,814
- Admn. expenses/Prof/Benv.	7,006				
- Tax Deducted at Source					
- Service Tax Paid/Payable	14,110				1,328
- Contingencies					60,000
- Share Of Overhead	43,642				
- Trmf. To Dev.Fund/Int.Receipt				4,500	
TOTAL	3,25,133		10,69,977		5,97,348
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	3,25,682		12,49,971	4,500	5,97,348
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	-1,262	24,319	1,25,538	2,05,500	13,87,619

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	IDENTIFICATION GENETIC AND EPG PROJECT E044 SERB/DST	STUDY ON SOCIO ECO-IMPACT NH PROJECT E045 N H A OF INDIA	WOMEN SCIENTIST SCHEME WOS-A PROJECT E046 DST, GOI	INSPIRE FACULTY AWARD D SENGUPT PROJECT E047 DST, GOI	IDENTIFICATION CONTRIB HLA PROJECT E048 DBT, GOI
FUNDING AGENCY					
a) Opening Balance of The Funds	2,79,483	5,40,653	3,25,373	13,32,260	1,11,692
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	23,00,000	6,95,653	7,50,000		9,51,932
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt			4,071		
4. OHAdj/Other Income	26,334	1,05,170			
5. Service Tax Recd/Receivable					
TOTAL	23,26,334	8,00,823	7,54,071		9,51,932
TOTAL (a+b)	26,05,817	13,41,476	10,79,444	13,32,260	10,63,624
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					90,954
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	1,68,000	11,55,507	6,60,000		
- Travelling & Conveyance		46,770			
- Admn. expenses/Prof/Benv.	21,53,345	16,010	22,020		10,170
- Tax Deducted at Source					
- Service Tax Paid/Payable		1,05,170			
- Contingencies		28,706	1,503		
- Share Of Overhead		1,04,348	70,000		
- Trnf To Dev Fund/Int Receipt	2,00,000				87,500
TOTAL	25,21,345	14,56,511	7,53,523	13,32,260	97,670
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	25,21,345	14,56,511	7,53,523	13,32,260	1,88,624
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT THE YEAR END (a+b-c-e)	84,472	-1,15,035	3,25,921		8,75,000

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SURVEY FOR STUD EFFICACY NATS PROJECT E049	DESIGN CONCUREN EVALUTION PROJECT E050	RAMANUJAN FELOW DR. S DATTA PROJECT E051	MODULATION DEMULATION PROJECT E052	CRYPTANALYSIS SYMMETRIC PROJECT E053
FUNDING AGENCY	BOPT MIN OF HRD	MIN. OF COMM &	SERB	DST, GOI	NBHM./ DAE
a) Opening Balance of The Funds	33,250	2,26,346			11,08,988
b) Additions To The Funds :			6,00,000		
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt				2,997	
4. OHAdj/Other Income			6,00,000		
5. Service Tax Recd/Receivable				2,997	
TOTAL			6,00,000		
TOTAL (a+b)	33,250	2,26,346	18,67,551	7,99,249	11,08,988
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					4,16,960
- Books & Journal					12,223
- Other					
TOTAL					4,29,183
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances			9,55,680	4,75,168	4,32,000
- Travelling & Conveyance			1,235	52,886	35,191
- Admn. expenses/Prof/Benv.			8,39,584	2,54,979	25,012
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies			5,888	12,690	2,570
- Share Of Overhead			60,000		
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	11,772		18,62,407	7,95,723	4,94,773
d) Unsp. Amf/Trf. Othr Fund					
TOTAL (c)	11,772	1,00,000	18,62,407	7,95,723	9,23,956
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	11,772	1,26,346	5,144	3,526	1,85,032

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INSPIRE FACULTY ABHIK GHOSH PROJECT E054 DST, GOI	INSPIRE FACULTY AWARD TO ANISUR PROJECT E055 DST, GOI	KVPY INTERVIEW 24-25, JAN 2017 PROJECT E056 I I S, B'LORE	J C BOSE FELLOW PROF S BANDYOP PROJECT E057 SERB/DST	RETRIEVAL OF ATMOSPHERIC PROJECT E058 SAC
FUNDING AGENCY					
a) Opening Balance of The Funds		14,42,885	15,07,290	64,320	10,96,366
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds				17,00,000	6,00,000
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL		14,42,885	15,07,290	17,00,000	6,00,000
TOTAL (a+b)		14,42,885	15,07,290	20,46,125	16,96,366
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets	1,84,305				
- Books & Journal	45,551				
- Other					
TOTAL	2,29,856				5,32,364
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	8,90,560			3,25,000	3,92,000
- Travelling & Conveyance	91,743			90,067	62,399
- Admn. expenses/Prof/Benv.	97,441			2,89,422	83,903
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies	410			6,499	5,000
- Share Of Overhead				1,00,000	
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL	10,80,154		64,320	8,10,988	5,43,302
d) Unsp. Amt/Trf. Othr. Fund					
TOTAL (c)	13,10,010		64,320	8,10,988	10,75,666
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,32,875			12,35,137	6,20,700

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INSPIRE FELLOW GOURAB SAHA PROJECT E059	NATIONAL POST FELLOW S GHOSH PROJECT E061 SERB	MACROSCOPIC DYNAMICS IN ENS PROJECT E062 SERB, GOI	A FRAME WORK FO R RESPONSE TIME PROJECT E063 DRDO, HYD	NATIONAL POST FELLOW TO J MUK PROJECT E064 SERB, GOI
FUNDING AGENCY	DST, GOI				
a) Opening Balance of The Funds			52,809		2,15,000
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund		9,99,333	2,260		4,70,000
2. Income From Investment	4,10,000				
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					3,270
5. Service Tax Recd/Receivable	4,10,000	9,99,333	2,260		4,73,270
TOTAL	4,10,000	10,52,142	6,02,260	3,77,954	6,88,270
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure		13,440			94,054
- Fixed Assets					
- Books & Journal				2,686	
- Other					94,054
TOTAL		13,440		2,686	
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	4,10,000	6,44,000	84,333	2,93,000	4,20,000
- Travelling & Conveyance		23,395	8,614	1,26,493	5,567
- Admn. expenses/Prof/Benv.		9,727		30,271	
- Tax Deducted at Source					
- Service Tax Paid/Payable			1,975	10,285	
- Contingencies					
- Share Of Overhead					1,00,000
- Trnf. To Dev. Fund/Int Receipt					
TOTAL	4,10,000	6,77,122	94,922	4,60,049	5,25,567
d) Unsp. Amv/Trf. Othr Fund	4,10,000	6,90,562	94,922		6,19,621
TOTAL (c)					
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		3,61,580	5,07,338	-84,781	68,649

## INDIAN STATISTICAL INSTITUTE

05



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	WOMEN SCIENTIST SCHEME-WOS-A PROJECT E070	INSPIRE FELLOWS HIP TO S GHOSH PROJECT E071	NATIONAL POST DOC TO K ADHIKA PROJECT E072	INSPIRE FELLOW SANDIP SAHA PROJECT E073	PROM AND ENHAN INTEREST BIOTEC PROJECT E074
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	6,25,000	4,10,000	10,70,000	4,10,000	75,000
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	8,076				
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable	6,33,076		10,70,000	4,10,000	75,000
TOTAL	6,33,076	4,10,000	10,70,000	4,10,000	75,000
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets	43,070		61,200		
- Books & Journal					
- Other					
TOTAL	43,070		61,200		
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	2,98,065	3,90,000	6,52,667	3,90,000	74,989
- Travelling & Conveyance			49,819		
- Admn. expenses/Prof/Benv.	3,799		10,880		
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies	21,660	20,000	7,218	19,483	11
- Share Of Overhead	50,000		1,00,000		
- Trmf To Dev.Fund/Int.Receipt					
- TOTAL	3,73,524	4,10,000	8,20,584	4,09,483	75,000
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	4,16,594	4,10,000	8,81,784	4,09,483	75,000
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	2,16,482		1,88,216	517	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	PROM AND ENHAN INTEREST BIOTEC PROJECT E075	PROM AND ENHAN INTEREST BIOTEC PROJECT E076	UPDATATION DISTRICT HUMAN PROJECT E077	WISEKEY & RCBCCS PROJECT E078	NATIONAL POST DOC TO J DASGUP PROJECT E079
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	2,25,000	1,50,000	8,25,000	15,00,000	7,20,000
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	2,25,000	1,50,000	8,25,000	15,00,000	7,20,000
TOTAL (a+b)	2,25,000	1,50,000	8,25,000	15,00,000	7,20,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance	1,395		1,90,000	5,77,864	2,69,838
- Admn. expenses/Prof/Benv.	2,18,635	1,50,200	9,355	20,690	10,200
- Tax Deducted at Source			12,534		
- Service Tax Paid/Payable					
- Contingencies	41		35,216		1,673
- Share Of Overhead			1,46,025		1,00,000
- Trmf.To Dev.Fund/Int.Receipt			4,31,870		
TOTAL	2,20,071	1,50,200	8,25,000	5,98,554	3,81,711
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	2,20,071	1,50,200	8,25,000	5,98,554	3,81,711
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	4,929	-200		9,01,446	3,38,289

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	UNDERSTANDING VISION FILLING PROJECT E080	WOMEN SCIENT SCHEME S NEOGI PROJECT E081	WOMEN SCIENT SCHEME S ROY PROJECT E082	INFORM ACCESS INDIAN LANGUAGE PROJECT E083	INSPIRE FELLOW TO RITAJIT MAJU PROJECT E084
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	8,84,000	9,05,000	6,35,500	26,49,940	3,92,000
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	8,646	8,851	6,154	20,693	284
5. Service Tax Recd/Receivable					
TOTAL	8,92,646	9,13,851	6,41,654	26,70,633	3,92,284
TOTAL (a+b)	8,92,646	9,13,851	6,41,654	26,70,633	3,92,284
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL				5,369	
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	1,30,693	1,78,667	1,60,000	4,830	2,52,661
- Travelling & Conveyance	1,520			19,847	
- Admn. expenses/Prof/Benv.	2,379	5,922	400		
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int. Receipt	68,000	35,000	11,500	3,97,495	
TOTAL	2,02,592	2,19,589	1,71,900	4,22,172	2,52,661
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	2,02,592	2,19,589	1,71,900	4,27,541	2,52,661
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	6,90,054	6,94,262	4,69,754	22,43,092	1,39,623

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	DEVELOPING APPRO STRUCTU PROJECT E085	DEVELOPING APPRO METHODGY PROJECT E086	IDENTIFICATION BLADDER CANCER PROJECT E087	INSPIRE FACULTY DEEPAN BASU PROJECT E089	INSPIRE FACULTY S BHATTACHARYAY PROJECT E090
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund			9,64,480		
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable			9,64,480		
TOTAL			9,64,480		
TOTAL (a+b)			9,64,480		
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	30,000	30,000		5,09,333	4,72,258
- Travelling & Conveyance					8,907
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead			87,680		
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	30,000	30,000	87,680	5,09,333	4,81,165
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	30,000	30,000	87,680	5,09,333	4,81,165
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	-30,000	-30,000	8,76,800	-5,09,333	-4,81,165

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	PCM 125 CELEBRATION PROJECT E093	AUTOMATIC DET OF MICRO PROJECT E501 CIZ BANGLORE	GRANULAR COMP. METHODOLOGIES PROJECT E502 BNGLORE	DST PROJECT OF PROF. B.S. DAYA PROJECT E503 SAGAR	KARNATAKA AGRI. PRICES COMMISSI PROJECT E504 ON BANGALORE
FUNDING AGENCY					
a) Opening Balance of The Funds					24,595
b) Additions To The Funds :	10,00,000	4,81,659	5,50,000	4,45,387	
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	10,00,000	4,81,659	5,50,000		
TOTAL (a+b)	10,00,000	6,58,620	7,84,089	4,45,387	24,595
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances		3,25,000	3,90,000	12,268	13,375
- Travelling & Conveyance		2,60,677	3,000		11,220
- Admn. expenses/Prof/Benv.		26,101			
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies		0			
- Share Of Overhead		46,842	57,000	73,333	
- Trmf.To Dev.Fund/Int Receipt					
TOTAL		6,58,620	4,50,000	85,601	24,595
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		6,58,620	4,50,000	85,601	24,595
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	10,00,000	0	3,34,089	3,59,786	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	CHANDRAYAN PROJECT PROF PROJECT E505 B. S. DAYASAGAR	QUALITY OF INVEST PROJECT E701 INTERNET	DRDO TRAINING PROGRAMME PROJECT E703	DRUG SURVEY STAT DESIGN PROJECT E901 ANALYSIS, HYD	ITC LTD PSPD PROJECT E902 BHADRACHALAM
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :	8,78,972	27,552	21,91,420	1,59,180	22,348
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL			21,91,420		
TOTAL (a+b)	8,78,972	27,552	21,91,420	1,59,180	22,348
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets	2,89,017				
- Books & Journal					
- Other					
TOTAL	2,89,017				
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	3,90,000		14,07,532		
- Travelling & Conveyance	15,068		99,255		
- Admn. expenses/Prof/Benv.	17,189		24,679		
- Tax Deducted at Source					
- Service Tax Paid/Payable			32,220		
- Contingencies			3,84,958		
- Share Of Overhead			26,850		
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL	4,22,257		19,75,494		
d) Unsp. Amt/Trf. Othr Fund			2,15,926		
TOTAL (c)	7,11,274		21,91,420		
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,67,698	27,552		1,59,180	22,348

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	STRENGTHENING LIVELIHOOD PROJECT E951	STUDY SECURITY AND PRIVACY ISU PROJECT F002 INTERNET	EFFICIENT AUDITING PROJECT F003 SILICA VALLY	GRANT ASSOCIAT SILICON VALLY PROJECT F004 CISCO UNIVERSI	CHILDREN WORLD INTERNATIONAL PROJECT F005 GOETHE UNIVSTY
FUNDING AGENCY		1,84,034	11,19,995	49,74,703	1,21,961
a) Opening Balance of The Funds					
b) Additions To The Funds :	2,82,626				
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds			27,847	1,95,991	4,799
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	2,82,626		27,847	1,95,991	4,799
TOTAL (a+b)	2,82,626	1,84,034	11,47,842	51,70,694	1,26,760
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL		71,005	2,87,352	15,46,847	45,107
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		71,005	2,87,352	15,46,847	45,107
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	2,82,626	1,13,029	8,60,490	36,23,847	81,653

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	KEYSIGHT TECHNOLOGIES PROJECT F006	CONTRACTUAL EFF & PREF PROJECT F701 GROUNDWATER	WOMEN & WORK RURAL INDIA PROJECT F702	TERMS OF TRADE SHOCKS PROJECT F703	WORKSHOP JOBLESS PROJECT F704
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :	15,89,217	1,41,38,218	1,89,627	2,86,058	6,02,659
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds		2,03,650	-13,875	-7,218	
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	15,89,217	1,41,38,218	1,89,627	2,86,058	6,02,659
TOTAL (a+b)	15,89,217	1,43,41,867	1,75,752	2,78,840	6,02,659
c) Utilisation / Expenditure					
i. Capital Expenditure		1,04,700			
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL		1,04,700			
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances				1,60,732	
- Travelling & Conveyance		7,74,690			
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable		9,000	34,283	51,777	91,932
- Contingencies		53,92,996			3,69,435
- Share Of Overhead		7,11,158	1,41,469	66,331	21,954
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL		68,87,844	1,75,752	2,78,840	4,83,321
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		69,92,544	1,75,752	2,78,840	4,83,321
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	15,89,217	73,49,323	0		1,19,338



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	IDENTIFICATION PROJECT 1001 AND BAINITIC II	COMMISSIONERATE OF TECH EDUCN PROJECT 1003 GUJRAT STATE	SIX SIGMA CONCEPT & PROJECT 1005 METHD. ITC	CONSULTENCY TCS R.C. BOSE PROJECT 1007 FOR CRYPTOLOGY	RESEARCH ADVISE TCS IGP PROJECT 1008 A. BANERJEE
FUNDING AGENCY			35,84,603		
a) Opening Balance of The Funds	3,13,845				
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt			3,45,000	60,00,000	10,00,000
4. OHAdj/Other Income				2,25,000	
5. Service Tax Recd/Receiveable			3,45,000	62,25,000	10,00,000
TOTAL			39,29,603	62,25,000	10,00,000
TOTAL (a+b)	3,13,845				
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal			18,209		
- Other					
TOTAL			18,209		
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances				60,00,000	3,26,088
- Travelling & Conveyance		709	540		
- Admin. expenses/Prof/Benv.				2,25,000	
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf. To Dev. Fund/Int Receipt					
TOTAL	3,13,845	709	19,55,427	62,25,000	8,91,304
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	3,13,845	709	19,74,176	62,25,000	8,91,304
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		-709	19,55,427		1,08,696

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TCS INNOVATION LAB ADVICE PROJECT 1009 U. GARAIN	FORMAL VERIFICATION REAL TIME SAFETY PROJECT 1011 Y LOGICS	TALENT DEV. FOR L & T INFOT PROJECT 1012 ECHO OF ICP	NORMALIZATION BOARD MARKS PROJECT 1013 STATE OF GUJRAT	TRAFFIC SURVEY FARE STRUCTURE PROJECT 1014 METRO RAIL
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	4,50,000		14,23,750	6,76,049	2,66,783
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	13,50,000	1			
5. Service Tax Recd/Receivable					
TOTAL	18,00,000	1			
TOTAL (a+b)	18,00,000	313	14,23,750	6,76,049	2,66,783
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	5,21,736		14,23,750	6,77,409	25,000
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source	2,242				
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	2,34,780				
- Trnf To Dev.Fund/Int Receipt	7,82,616				
TOTAL	15,41,374	313	14,23,750	6,77,409	25,000
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	15,41,374	313	14,23,750	6,77,409	25,000
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	2,58,626			-1,360	2,41,783

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TRAINING PROGM OF AJ COMPREHN PROJECT I015		CONSULTENCY WORK PRICE EDU PROJECT I016		TRAINING PROGM GUIDENCE SIX SI PROJECT I017		CONSULTENCY FOR NAFIS PROJECT I018		EVALUTING FRAME VARIOUS TEST PROJECT I019	
	ORDANCE FACTOR		COAL INDIA		KJ PAPER ODISA		NAFIS		TCS	
FUNDING AGENCY										
a) Opening Balance of The Funds		8,21,487		1,49,016		62,529		79,624		75,144
b) Additions To The Funds :										
1. Donation/Grants/Othr. Fund	10,00,000		3,55,000						5,00,000	
2. Income From Investment										
3. Serv. Chrg/SQCOR Receipt										
4. OHAdj/Other Income			53,434	4,08,434					75,000	5,75,000
5. Service Tax Recd/Receivable	75,000	10,75,000		5,57,450		62,529		79,624		6,50,144
TOTAL		18,96,487								
TOTAL (a+b)										
c) Utilisation / Expenditure										
i. Capital Expenditure										
- Fixed Assets										
- Books & Journal										
- Other										
TOTAL										
ii. Current Asset										
- Bills Receivable										
TOTAL										
iii. Revenue Expenditure										
- Site Prep. & allied work									2,63,374	
- Remuneration & Allowances										
- Travelling & Conveyance	64,392		809						5,547	
- Admn. expenses/Prof/Benv.	51,932		2,99,891							
- Tax Deducted at Source										
- Service Tax Paid/Payable	75,000		53,434						77,848	
- Contingencies	11,742								600	
- Share Of Overhead			53,250						75,000	
- Trnf.To Dev.Fund/Int.Receipt			1,50,875						2,28,375	
TOTAL		2,03,066		5,58,259						6,50,744
d) Unsp. Amv/Trf. Othr Fund										
TOTAL (c)		2,03,066		5,58,259						6,50,744
e) Assets Trnf. to Corpus Fund										
NET BALANCE AS AT										
THE YEAR END (a+b-c-e)		16,93,421		-809		62,529		79,624		-600

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	GE INDIA TECHNOLOGY CENT PROJECT I020 GE INDIA	TRAINING PROGM TCS PROJECT I021 TCS	COLLABORATION B ETWEEN ISI-DES PROJECT I022	STUDY IN PM 1 CIGARETTE PAPER PROJECT I023	TWO DAY IN HOUS E TRAINING DATE PROJECT I024 GE INDIA
FUNDING AGENCY					
a) Opening Balance of The Funds					2,95,394
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds		7,50,000	6,08,696	2,50,000	
3. Serv. Chrg/SQCOR Receipt					
4. OHADJ/Other Income		9,09,677	91,304	37,500	
5. Service Tax Recd/Receiveable		67,500			
TOTAL		17,27,177	7,00,000	2,87,500	
TOTAL (a+b)	1,99,052	17,27,177	7,00,000	2,87,500	2,95,394
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	1,99,052	5,75,647		1,06,250	25,000
- Travelling & Conveyance					1,03,544
- Admn. expenses/Prof/Benv.					575
- Tax Deducted at Source					
- Service Tax Paid/Payable		68,631	91,304	37,500	
- Contingencies					
- Share Of Overhead		2,48,952	91,304	37,500	
- Trmf.To Dev.Fund/Int.Receipt		7,05,363		1,06,250	
TOTAL	1,99,052	15,98,593	1,82,608	2,87,500	1,29,119
d) Unsp. Amt/Trf. Othr Fund					1,66,275
TOTAL (c)	1,99,052	15,98,593	1,82,608	2,87,500	2,95,394
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		1,28,584	5,17,392		

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	NORMALIZATION BOARD MARKS PROJECT 1026	BUSINESS ANALY CERTIFICATION PROJECT 1027	SIX SIGMA GREEN BELT CERTIFICAT PROJECT 1028	WORKSHOP DESIG ANALYSIS EXPRER PROJECT 1030	TRAINING RESH PERSONEL DD PROJECT 1031
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	5,75,000	13,20,000	1,25,000	39,000	4,20,000
2. Income From Investment made on account of Funds		60,000	50,000	2,40,232	
3. Serv. Chrg/SQCOR Receipt	5,75,000				
4. OHAdj/Other Income	1,89,750				
5. Service Tax Recd/Receivable		13,80,000	1,75,000		4,20,000
TOTAL	13,39,750	13,80,000	1,75,000	2,79,232	4,20,000
TOTAL (a+b)	13,39,750	13,80,000	1,75,000	2,79,232	4,20,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets		15,637			
- Books & Journal					
- Other					
TOTAL		15,637			
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				1,66,200
- Remuneration & Allowances	1,58,097				
- Travelling & Conveyance	5,833				
- Admn. expenses/Prof/Benv.	18,235	55,376	25,014	46,706	17,696
- Tax Deducted at Source	1,89,750				
- Service Tax Paid/Payable	2,945				
- Contingencies	1,50,000	1,69,235	28,230	71,542	20,032
- Share Of Overhead	4,07,822	2,07,000		41,400	63,000
- Trmf.To Dev.Fund/Int.Receipt		4,70,083		60,007	1,55,199
TOTAL	9,32,682	9,01,694	53,244	2,19,655	4,22,127
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	9,32,682	9,17,331	53,244	2,19,655	4,22,127
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	4,07,068	4,62,669	1,21,756	59,577	-2,127

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	CONSULTANCY SERVICE TO TCS PROJECT 1032	WORKSHOP SIX SIGMA GREEN BEL PROJECT 1034	QUALITY SYSTEM DEVELOP OF'S PROJECT 1035	CRITICAL APPRO METHODOLOGICAL PROJECT 1036	BSLINE SURVEY DEVELOPMENT PROJECT 1038
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt		1,00,000			3,993
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL		1,00,000			3,993
TOTAL (a+b)		1,00,000			3,993
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal			18,936		
- Other				18,936	
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances				6,500	
- Travelling & Conveyance				4,190	
- Admn. expenses/Prof/Benv.					350
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt		17,595			1,06,000
TOTAL		17,595		10,690	1,06,350
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		17,595		10,690	1,06,350
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		82,405		-18,936	-1,02,357

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	PCDA PROJECT PROJECT 1039	SIX SIGMA GREEN BELT PROJECT 1040	IMPLEMENTATION ISO 9001 PROJECT 1041	MINDTREE LTD BANGALORE PROJECT 1153 MINDTREE LTD	SIX SIGMA TRG GUIDENCE PROJECT 1158 TVS MOTORS
FUNDING AGENCY					23,873
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment			2,00,000		
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	7,62,712	1,25,000			
5. Service Tax Recd/Receivable			2,00,000		
TOTAL	7,62,712	1,25,000	2,00,000	38,909	23,873
TOTAL (a+b)	7,62,712	1,25,000	2,00,000	38,909	23,873
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	3,31,613				
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.		6,400			
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies	1				
- Share Of Overhead	99,485				
- Trnf. To Dev.Fund/Int.Receipt	3,31,613				
TOTAL	7,62,712	6,400	30,000 85,000		
d) Unsp. Amr/Trf. Othr Fund					
TOTAL (c)	7,62,712	6,400	1,15,000		
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		1,18,600	85,000	38,909	23,873

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	MASTER BLACK BELT BLORE PROJECT 1175 SIX SIGMA BB	SIX SIGMA BLACK BELT BLORE PROJECT 1176 SIX SIGMA BB	HITACHI INDIA PVT LTD BLORE PROJECT 1180 HITACHI PVT LTD	HINDUJA GLOBAL SOLUTIONS LTD PROJECT 1182 BLORE	TVS MOTOR CO HOSUR PROJECT 1187
FUNDING AGENCY					
a) Opening Balance of The Funds	-168	26,583	-700	2,33,075	3,96,624
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	-168	26,583	-700	2,33,075	3,96,624
TOTAL (a+b)	-168	26,583	-700	2,33,075	3,96,624
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev.Fund/Int.Receipt					
TOTAL					3,96,624
d) Unsp. Am/Trf. Othr Fund					
TOTAL (c)					3,96,624
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	-168	26,583	-700	2,33,075	



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	HEWLETT PACKARD PROJECT 1192 PERFORMANCE	MOTHER DAIRY VEGETABLE PROJECT 1193 NCE FOR M.DAIRY	SIX SIGMA BLACK BELT PROGRAM PROJECT 1195	CENTUM ELECTRONICS LTD PROJECT 1196 IGP	SIXTH SIGMA GREEN BELT PROJECT 1198 BANGALORE
FUNDING AGENCY					
a) Opening Balance of The Funds		1,36,584	10,000	65,875	2,57,925
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL			10,000	65,875	2,57,925
TOTAL (a+b)		1,36,584	10,000		
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	1,36,584	2,93,899	10,000		2,57,925
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Payable					
- Contingencie					
- Share Of Overhead					
- Trmf. To Dev. Fund/Int. Receipt					
TOTAL		1,36,584	10,000		2,57,925
d) Unsp. Amt/Trf. Othr Fund		1,36,584	10,000		2,57,925
TOTAL (c)				65,875	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ADITYA BIRLA FASHION PROJECT 1199 SIX SIGMA	BLACK BELT PROGRAMME PROJECT 1200 SIX SIGMA BB	SIXTH SIGMA GREEN BELT PROJECT 1201 BANGALORE	STAT TECHNICS FOR BUSINESS PROJECT 1203 ANALYTICS	SIX SIGMA MASTER BLACK BE PROJECT 1204 MASTER BB
FUNDING AGENCY		80,321	2,62,158	2,55,991	4,00,849
a) Opening Balance of The Funds	2,77,334				
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	2,77,334	80,321	2,62,158	2,55,991	4,00,849
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	2,77,334	80,321	2,62,158	2,55,991	4,00,849
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	2,77,334	80,321	2,62,158	2,55,991	4,00,849
d) Unsp. Am/Trf. Othr Fund					
TOTAL (c)	2,77,334	80,321	2,62,158	2,55,991	4,00,849
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	HITACHI INDIA PVT. LTD PROJECT I206 HITACHI LTD	ONTOLOGY & METABASE YOURIB PROJECT I207 OT LTD	SIXTH SIGMA GREEN BELT PROJECT I208 BANGALORE	BLACK BELT PROGRAMME PROJECT I209 BANGALORE	STAT TECHNICS FOR BUSINESS PROJECT I210 FORCASTING
FUNDING AGENCY					
a) Opening Balance of The Funds	10,73,775	2,75,482	2,94,274	2,54,831	1,45,532
b) Additions To The Funds :		39,518			
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	7,20,000				
5. Service Tax Recd/Receivable		39,518			
TOTAL	7,20,000	3,15,000		2,54,831	1,45,532
TOTAL (a+b)	17,93,775				
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	7,12,027				
- Travelling & Conveyance	66,850				
- Admn. expenses/Prof/Benv.	49,870				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	2,70,000				
- Trmf. To Dev. Fund/Int. Receipt	6,95,028				
TOTAL	17,93,775		2,94,274	2,54,831	1,39,157
d) Unsp. Amr/Trf. Othr Fund					
TOTAL (c)	17,93,775		2,94,274	2,54,831	1,39,157
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		3,15,000			6,375

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SIX SIGMA GREEN BELT PROJECT I211 BANGALORE	SIX SIGMA TRNG PROGRAM PROJECT I213 BANGALORE	RELIABILITY ENG & LIFE PROJECT I215	SIX SIGMA GREEN BELT IGP PROJECT I216	STATISTICAL TECHNIQUES PROJECT I217
FUNDING AGENCY					
a) Opening Balance of The Funds	1,76,378	1,98,000			
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income			1,60,000	8,75,000	10,26,000
5. Service Tax Recd/Receivable					
TOTAL			1,60,000	8,75,000	10,26,000
TOTAL (a+b)	1,76,378	1,98,000			
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	1,76,378				
- Travelling & Conveyance			51,840	2,88,740	3,26,735
- Admn. expenses/Prof/Benv.			3,730	72,977	1,19,568
- Tax Deducted at Source			28,589	93,293	99,061
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead			24,000	1,31,250	1,53,900
- Tmf.To Dev.Fund/Int.Receipt		29,700	51,841	2,88,740	3,26,736
TOTAL	1,76,378	1,13,850	1,60,000	8,75,000	10,26,000
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	1,76,378	1,13,850	1,60,000	8,75,000	10,26,000
e)Assets Tmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		84,150			

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3-EARMARKED/ ENDOWMENT FUNDS	MOTHER DIARY NOIDA PROJECT I218	SUNDARAM CLAYTON LTD PROJECT I222	SIX SIGMA BLACK BELT PROJECT I223	HARITA SEATINGS SYSTEMS PROJECT I224	SIX SIGMA GREEN BELT PROJECT I225
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt made on account of Funds					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	12,30,000	1,02,500	16,80,000	4,35,000	9,75,000
TOTAL (a-b)	12,30,000	1,02,500	16,80,000	4,35,000	9,75,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL	1,84,500	15,375	2,52,000	65,250	1,46,250
d) Unsp. Amt/Trf. Othr Fund	4,95,039	39,203	5,75,974	1,79,286	3,17,078
TOTAL (c)	7,34,960	63,296	16,80,000	2,55,714	9,75,000
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	4,95,040	39,204		1,79,286	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TVS MOTOR COMPANY PROJECT 1227	OREDECTIVE MODELING PROJECT 1228	FOUNDATION COU ON BUS PROJECT 1231	FOUNDATION COURSE PROJECT 1233	TESCO BANGALORE PROJECT 1234
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	3,45,000	5,40,000	4,20,000	7,41,000	1,00,000
4. OHADj/Other Income					
5. Service Tax Recd/Receivable	3,45,000	5,40,000	4,20,000	7,41,000	1,00,000
TOTAL	3,45,000	5,40,000	4,20,000	7,41,000	1,00,000
TOTAL (a+b)	3,45,000	5,40,000	4,20,000	7,41,000	1,00,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
iii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	2,03,195	3,93,613	3,05,572	5,11,665	
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	2,03,195	3,93,613	3,05,572	5,11,665	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,41,805	1,46,387	1,14,428	2,29,335	1,00,000

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SIX SIGMA MASTER BLACK BE PROJECT I236	WELDING RESH INSTITUTE PROJECT I237	SIX SIGMA GREEN BELT PROJECT I238	BIOCON LTD PROJECT I239	ULTRA TECH CEMENT LTD PROJECT I240
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	11,20,000	1,75,000	7,50,000	6,00,000	6,04,801
5. Service Tax Recd/Receipts					
TOTAL	11,20,000	1,75,000	7,50,000	6,00,000	6,04,801
TOTAL (a+b)	11,20,000	1,75,000	7,50,000	6,00,000	6,04,801
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	3,79,603	74,375	14,000		9,200
- Travelling & Conveyance			49,050		2,829
- Admn. expenses/Prof/Benv.	1,92,795		9,313	1,848	
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	1,68,000	26,250	1,16,250	90,000	
- Trmf. To Dev. Fund/Int. Receipt	3,79,602	74,375	2,80,693	2,54,076	
TOTAL	11,20,000	1,75,000	4,69,306	3,45,924	12,029
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	11,20,000	1,75,000	4,69,306	3,45,924	12,029
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)			2,80,694	2,54,076	5,92,772

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TATA STEEL LIMITED PROJECT 1241	FIAT INDIA LTD OUNE PROJECT 1242	PRODUCTIVE MODELLING PROJECT 1243	MULTIVARIATE ANALYSIS PROJECT 1244	SIX SIGMA BB PROJECT 1245
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	2,00,000	1,28,509	5,40,000	3,00,000	12,00,000
4. OHADJ/Other Income					
5. Service Tax Recd/Receivable	2,00,000	1,28,509	5,40,000	3,00,000	12,00,000
TOTAL	2,00,000	1,28,509	5,40,000	3,00,000	12,00,000
TOTAL (a+b)	2,00,000	1,28,509	5,40,000	3,00,000	12,00,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	5,375	8,509	1,32,560	42,827	46,000 94,930 43,044
d) Unsp. Amt/Trf. Othr Fund					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	5,375	19,276 50,362	81,000 1,63,219	45,000 1,06,087	1,80,000 4,18,013
TOTAL (c)	5,375	78,147	3,76,779	1,93,914	7,81,987
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,94,625	50,362	1,63,221	1,06,086	4,18,013



**INDIAN STATISTICAL INSTITUTE**  
**SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)**

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SIX SIGMA GREEN BELT PROJECT I246	EYGBS, BANGALORE PROJECT I247	PROJECT AIR PORT AUTHORITY PROJECT I402 AIRPORT AUTHORITY	CARS PROJECT ON ECDLP PROJECT I403 SANT. DELHI	COGNIZANT TECHNOLOGY PROJECT I501 SOLUTIONS
FUNDING AGENCY			6,53,438		10,00,000
a) Opening Balance of The Funds					
b) Additions To The Funds :			7,87,500		
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt		2,01,375			
4. OHA dj/Other Income	4,25,000				
5. Service Tax Recd/Receivable		2,01,375			
TOTAL	4,25,000	2,01,375	7,87,500		
TOTAL (a+b)	4,25,000	2,01,375	14,40,938	7,16,093	10,00,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	20,000		6,69,376	6,57,488	4,25,000
- Travelling & Conveyance	7,361			1,16,912	
- Admn. expenses/Prof/Benv.	59,649				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	63,750		1,18,125	39,042	1,50,000
- Trnf. To Dev. Fund/Int. Receipt	1,37,120		6,53,437	1,75,500	4,25,000
TOTAL	2,87,880		14,40,938	9,88,942	10,00,000
d) Unsp. Amt/Trnf. Othr Fund			14,40,938	9,88,942	10,00,000
TOTAL (c)	2,87,880				
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,37,120	2,01,375		-2,72,849	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SIX SIGMA BLACK BELT PROJECT I502	PROF. FEES SAILIFE SC LTD PROJECT I655 IGP, HYDERABAD	ASSOCIATE BANKS OF SBI IGP PROJECT I656 HYDERABAD	MBB TRAINING PR OGRAMME PROJECT I657 HYDERABAD	ITC LTD. BHADRACHALAM PROJECT I661
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	14,31,000				
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	14,31,000				
TOTAL (a+b)	14,31,000	9,41,176	7,99,370	11,79,716	12,56,142
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances		3,92,326	3,39,684	5,02,534	13,15,548
- Travelling & Conveyance	4,83,228	6,522		2,336	69,920
- Admn. expenses/Prof/Benv.					54,857
- Tax Deducted at Source					
- Service Tax Paid/Payable					3,15,000
- Contingencies	1,00,480	1,50,000	1,20,000	60	6,00,000
- Share Of Overhead		3,92,328	3,39,686	2,12,250	13,15,683
- Trmf To Dev Fund/Int Receipt				4,62,536	
TOTAL	5,83,708	9,41,176	7,99,370	11,79,716	36,71,008
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	5,83,708	9,41,176	7,99,370	11,79,716	36,71,008
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	8,47,292				134

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SSGB PROGRAMME PROJECT I662	MBB TRAINING PROJECT I663	SIX SIGMA BLACK BELT PROJECT I664	DIAT PUNE PROJECT I665	BUSINESS ANALYTICS PROJECT I666
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	5,20,000	10,85,000	13,20,000	7,00,000	9,00,000
4. OHA dj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	5,20,000	10,85,000	13,20,000	7,00,000	9,00,000
TOTAL (a+b)	5,20,000	10,85,000	13,20,000	7,00,000	9,00,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal		7,204			
- Other			7,204		
TOTAL		7,204	7,204		
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	1,71,476	49,000	4,75,946	17,964	
- Travelling & Conveyance	28,111	20,754	30,053	2,850	28,451
- Admn. expenses/Prof/Benv.	74,487	85,475	1,39,414		
- Tax Deducted at Source					
- Service Tax Paid/Payable	19,465	6,930	50,416	49,569	2,380
- Contingencies	81,000				
- Share Of Overhead	1,44,593		6,24,310		
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL	5,19,132		1,62,159	13,20,138	70,383
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	5,19,132		1,69,363	70,383	30,831
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	868		9,15,637	-138	6,29,617
					8,69,169

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	MERITUS INTELYTICS PROJECT I667	SIX SIGMA GREEN BELT PROJECT I668	DA PROGRAM HYDERABAD PROJECT I669	CARESOFI CLIENT S COIMBATORE PROJECT I751	MYK. SHIPPING SPINNING MILL PROJECT I752 CLIENTS COIMBTR
FUNDING AGENCY					55,104
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income		2,00,000	1,76,000		
5. Service Tax Recd/Receiveable	1,66,000	2,00,000	1,76,000		
TOTAL	1,66,000	2,00,000	1,76,000	4,25,659	55,104
TOTAL (a+b)	1,66,000	2,00,000	1,76,000	4,25,659	55,104
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.	6,749				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies	42				
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	6,791			4,25,659	55,104
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	6,791			4,25,659	55,104
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,59,209	2,00,000	1,76,000		

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TCTP CLIENTS COIMBATORE PROJECT I753	M/S GCAS QUALITY CERTF PROJECT I754 UAE COIMBATORE	LAXMI MACHINE WORKS COIMBATO PROJECT I755	SHIVA TEXTYARN SPINNING MILLS PROJECT I756 COIMBATORE	BREAKS INDIA CLIENTS PROJECT I757 COIMBATORE
FUNDING AGENCY					
a) Opening Balance of The Funds		13,295	64,896	20,319	64,630
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					3,51,750
5. Service Tax Recd/Receivable					
TOTAL	48,714	13,295	64,896	20,319	4,16,380
TOTAL (a+b)	48,714	13,295	64,896	20,319	
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					31,932
- Remuneration & Allowances					1,17,749
- Travelling & Conveyance					9,229
- Admn. expenses/Prof/Benv.					57,272
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int. Receipt					
TOTAL	48,714	13,295	64,896	20,319	2,00,198
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	48,714	13,295	64,896	20,319	4,16,380
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SRC CLIENTS COIMBATORE PROJECT 1758	FCRI CLIENTS COIMBATORE PROJECT 1759	SRI RAMCHANDRAN TEXTILES CONN. PROJECT 1760 SERV. COIMBATOR	MS BANNARI AMMAN SPG MILLS PROJECT 1761 CONS. SER. COMB	IGP PROJECT COIMB PROJECT 1763
FUNDING AGENCY					
a) Opening Balance of The Funds	45,380	94,260	80,000	54,764	
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income				75,000	22,500
5. Service Tax Recd/Receivable					
TOTAL				75,000	22,500
TOTAL. (a+b)	45,380	94,260	80,000	1,29,764	22,500
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances				13,600	
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					4,839
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf To Dev.Fund/Int Receipt					17,661
TOTAL	45,380	94,260	80,000	1,16,164	22,500
d) Unsp. Amt/Trf. Othr Fund					
TOTAL. (c)	45,380	94,260	80,000	1,29,764	22,500
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SHIVA MILLS LTD PROJECT 1764	PROJECT FSS AT TECHNOVA IGP PROJECT 1801 TECHNOVA	SIX SIGMA PROJECT 1802 SIX SIGMA	SIX SIGMA BALASORE ALLOYS PROJECT 1803	SSB TRAINING PROGRSM PROJECT 1805
FUNDING AGENCY					
a) Opening Balance of The Funds			68,789		1,83,245
b) Additions To The Funds :				5,233	
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	75,000				
5. Service Tax Recd/Receivable					
TOTAL	75,000				
TOTAL (a+b)	75,000	1,18,998	68,789	5,233	1,83,245
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure				5,233	
- Site Prep. & allied work	0				
- Remuneration & Allowances	5,440	1,08,900 10,098			
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf. To Dev. Fund/Int. Receipt	69,560			5,233	
TOTAL	75,000	1,18,998			
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	75,000	1,18,998		5,233	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT THE YEAR END (a+b-c-e)			68,789		1,83,245

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SIXTH SIGMA CHAMPION TRAINING PROJECT 1806	SIX SIGMA BALCK BELT PROJECT 1808	SIX SIGMA TACO PROJECT 1811	SSBB PROGRAMME OUNE PROJECT 1812	MBB TRAINING PROGRAMME PROJECT 1813
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :	3,66,512				
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	90,000	6,60,000	3,00,000	3,00,000	6,00,000
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable	90,000	6,60,000	3,00,000	3,00,000	6,00,000
TOTAL	4,56,512	6,60,000	3,00,000	3,00,000	6,00,000
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				9,600
- Remuneration & Allowances	1,40,254	1,11,231		500	57,786
- Travelling & Conveyance	6,982	28,500	23,492	12,080	1,33,577
- Admn. expenses/Prof/Benv.		88,536		50,093	
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies		73,593			
- Share Of Overhead	74,022	99,000	45,000	45,000	90,000
- Trnf.To Dev.Fund/Int.Receipt	1,87,754	1,72,886		96,164	1,54,519
TOTAL	4,09,012	5,73,746	68,492	2,03,837	4,45,482
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	4,09,012	5,73,746	68,492	2,03,837	4,45,482
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT THE YEAR END (a+b-c-e)	47,500	86,254	2,31,508	96,163	1,54,518



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	DATA ANALYSIS PROJECT 1814	GREEN BELT TRAINING PROGRA PROJECT 1858	GB TRAINING PROGRAMME PROJECT 1861 SIX SIGMA	GB TRAINING PROGRAMME PROJECT 1862 SIX SIGMA LTD	SSGB TRAINING PROGRAMME PROJECT 1863
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	1,69,660	1,840	1,36,700 14,176	1,545	1,051
5. Service Tax Recd/Receivable		1,840			
TOTAL	1,69,660		1,50,876	1,545	1,051
TOTAL (a+b)	1,69,660		14,60,876		
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	19,800		6,03,400		
- Travelling & Conveyance	53,446		6,700		
- Admn. expenses/Prof/Benv.	66,769				
- Tax Deducted at Source					
- Service Tax Paid/Payable			14,176		
- Contingencies					
- Share Of Overhead			2,33,200		
- Trnf. To Dev. Fund/Int. Receipt	25,449		6,08,400		
TOTAL	1,65,464		14,65,876		
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	1,65,464		14,65,876		
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	4,196		-5,000		

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	STAT TECHNIC DADA MINING & PROJECT 1864 ANALYTICS	SSGB TRAINING PROGRAM L&T LTD PROJECT 1865	SSBB PROGRAMME NAVAL ARMAMENT PROJECT 1866	SSGB TRAINING PROJECT 1868	SSGB PROGRAMME PROJECT 1871
FUNDING AGENCY					
a) Opening Balance of The Funds		96,000		4,43,478	
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	96,000			4,25,000	2,75,000
4. OHAdj/Other Income				41,250	
5. Service Tax Recd/Receivable					
TOTAL		96,000		4,66,250	2,75,000
TOTAL (a+b)		1,92,000		4,66,250	2,75,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				73,130
- Remuneration & Allowances	77,210	1,25,268	1,61,892	1,25,794	26,580
- Travelling & Conveyance	8,779		53,171	1,07,592	11,397
- Admn. expenses/Prof/Benv.				18,581	
- Tax Deducted at Source				41,250	
- Service Tax Paid/Payable					65,830
- Contingencies					98,721
- Share Of Overhead	28,800	49,466	66,522	1,10,039	
- Trmf To Dev.Fund/Int.Receipt	77,211	1,25,267		63,750	
TOTAL		1,92,000		4,67,006	2,75,658
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		1,92,000		4,67,006	2,75,658
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)				-756	-658

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	GREEN BELT TRAINING PROJECT 1872	BUSINESS ANALYTICS PROJECT 1873	MASTER BLACK BLACK PROJECT 1875	GREEN BELT MAY 18 PROJECT 1876	PREDICTIVE MODELING PROJECT 1878
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income	3,75,000	9,65,000	2,10,000	50,000	20,000
5. Service Tax Recd/Receivable	3,75,000	9,65,000	2,10,000	50,000	20,000
TOTAL	3,75,000	9,65,000	2,10,000	50,000	20,000
TOTAL (a+b)	3,75,000	9,65,000	2,10,000	50,000	20,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	15,000	15,000			
- Travelling & Conveyance	28,900	49,463			
- Admn. expenses/Prof/Benv.	11,708	13,000			
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies	70,548	15,855			
- Share Of Overhead					
- Trmf. To Dev.Fund/Int Receipt	56,250				
TOTAL	1,82,406	93,318			
d) Unsp. Amt/Trf. Ohr Fund					
TOTAL (c)	1,82,406	93,318			
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,92,594	8,71,682	2,10,000	50,000	20,000

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INDIA-KOREA RESH PROG PROJECT N003 DST, GOI	INDO RUSSIA WORKSHOP PROJECT N004 NBHM	UGC FELLOWSHIP TO M PATRA JRF PROJECT N005 UGC	KVPY AUTHORISED INTERVIEW PROCS PROJECT N006 KVPY	RESEARCH ASSOCIATE K MUR PROJECT N008 CSIR
FUNDING AGENCY					
a) Opening Balance of The Funds	-1,234	5,90,846	2,891	98,651	5,867
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					7,80,000
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL					7,80,000
TOTAL (a+b)	-1,234	5,90,846	2,891	98,651	7,85,867
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance				10,285	7,80,000
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf. To Dev. Fund/Int. Receipt				10,285	
TOTAL					7,80,000
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)					7,80,000
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	-1,234	5,90,846	2,891	88,366	5,867

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SENIOR RESH FELLOW M DAS PROJECT N009 CSIR, N DELHI	NBHM SCHOLARSH MAHBUB ALAM PROJECT N010	INDO-RUSIAN DR. D GHOSH PROJECT N011 DST	TRAVEL GRANT PAMPA PAL PROJECT N013 DAE	POST DOCTOR FELLOW PANPA PL PROJECT N014 DAE, NBHM
FUNDING AGENCY					
a) Opening Balance of The Funds	-2,79,908	72,000		84,000	1,71,761
b) Additions To The Funds :	8,52,427				
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt			1,409		
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	8,52,427				
TOTAL (a+b)	5,72,519	72,000		84,000	1,71,761
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	5,61,600				
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL	5,61,600				
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	5,61,600				
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	10,919	72,000		84,000	1,71,761

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	POST DOC FELLOW P K TIWARI PROJECT N015 NBHM/ DAE	RAJA RAMANNA FELLOWSHIP PROJECT N017 NBHM/DAE	TRAVEL GRANT ROMI BANERJEE PROJECT N018 COG. SC. SOCIET	POST DOC FELLOW S. SAMANTA PROJECT N022 NBHM/ DAE	PHD SCHOLARSHIP S. SANYAL PROJECT N023 NBHM/DAE
FUNDING AGENCY					
a) Opening Balance of The Funds	78,935	3,37,833	514	96,580	1,66,193
b) Additions To The Funds :	4,48,516	18,86,931			
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHA dj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	4,48,516	18,86,931			
TOTAL (a+b)	5,27,451	22,24,784	514	96,580	1,66,193
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal	506				
- Other					
TOTAL	506				
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	4,99,200	13,80,000		46,800	
- Travelling & Conveyance	5,000	1,24,407			
- Admn. expenses/Prof/Benv.	20,587	55,468			
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies		9,784			
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	5,24,787	15,69,659		46,800	
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	5,25,293	15,69,659		46,800	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	2,158	6,55,125	514	49,780	1,66,193

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	POST DOC FELLOW DR. S PAL PROJECT N024 NBHM/DAE	POST DOC FELLOW S. K. SASMAL PROJECT N025 NBHM	POST DOC FELLOW S.A. LOKHANDE PROJECT N027 NBHM/DAE	POST DOC FELLOW DR. K. MAJUMDAR PROJECT N029 NBHM/DAE	POST DOC FELLOW TRIDIP SARDAR PROJECT N030 NBHM
FUNDING AGENCY	1,13,226	-23,563	4,06,400	2,22,084	1,26,738
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund		5,93,600		6,00,316	
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt		17,300			
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable		6,10,900		6,00,316	
TOTAL	1,13,226	5,87,337	4,06,400	8,22,400	1,26,738
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal		4,248			
- Other					
TOTAL		4,248			
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances		6,55,200		5,92,800	
- Travelling & Conveyance		15,579			
- Admn. expenses/Prof/Benv.		6,936			
- Tax Deducted at Source					
- Service Tax Paid/Payable				2,486	
- Contingencies					
- Share Of Overhead					
- Trmf To Dev. Fund/Int. Receipt		6,77,715		5,95,286	
TOTAL		6,77,715			
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		6,81,963		5,95,286	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT THE YEAR END (a+b-c-e)	1,13,226	-94,626	4,06,400	2,27,114	1,26,738

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TRAVEL GRANT DWAIPAYAN ROY PROJECT N031 NBHM	SR. RESH FELLOW RAJA RAMAN FELO PROJECT N032 NBHM/DAE	POST DOC FELLOW S K SINGH PROJECT N033 NBHM	POST DOC FELLOW SAGNIK CHAKRABR PROJECT N034 NBHM	POST DOC FELLOW AMIT KR SHARMA PROJECT N035 NBHM
FUNDING AGENCY					
a) Opening Balance of The Funds	77,756	7,572	1,72,400	1,44,018	1,23,600
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund		4,68,800			
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable		4,68,800			
TOTAL		4,68,800			
TOTAL (a+b)	77,756	4,76,372	1,72,400	1,44,018	1,23,600
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets			23,320		
- Books & Journal		4,500	23,320		
- Other					
TOTAL		4,500	23,320		
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances		4,36,800	1,40,400	1,40,400	93,600
- Travelling & Conveyance	77,756	7,040			
- Admn. expenses/Prof/Benv.		20,362		3,324	
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int Receipt					
TOTAL	77,756	4,64,202	1,40,400	1,43,724	93,600
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	77,756	4,68,702	1,63,720	1,43,724	93,600
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)		7,670	8,680	294	30,000



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TRAVEL GRANT NBHM P GHOSH PROJECT N037 NBHM	RX LAB INTERSHI P. PROGM. 2016 PROJECT N038 MICROSOFT LAB	PH.D SCHOLARSHI SUSMITA DAS PROJECT N039	TRAVEL GRANT HEMANT KULKARNI PROJECT N040	TRAVEL GRANT RICHIA SINGH PROJECT N041
FUNDING AGENCY		4,00,000			
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL			3,32,000	60,896	1,22,035
TOTAL (a+b)		4,00,000	3,32,000	60,896	1,22,035
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf To Dev.Fund/Int.Receipt					
TOTAL	55,175		3,32,000	60,896	1,22,035
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	55,175		3,32,000	60,896	1,22,035
e)Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	-55,175	4,00,000			

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	POST DOCTORAL DR. KAZEEM ADES PROJECT N042	TRAVEL GRANT MEETING 2017 PROJECT N043	INTT. TRAVEL DR K MAULIK PROJECT N044	TRAVEL GRANT TO ANKITA MONDA PROJECT N045	NBHM TRAVEL GRANT S SARKAR PROJECT N046
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	2,85,000	87,404	73,300	1,18,208	60,460
2. Income From Investment made on account of Funds				1,201	
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable	2,85,000	87,404	73,300	1,19,409	60,460
TOTAL	2,85,000	87,404	73,300	1,19,409	60,460
TOTAL (a+b)	2,85,000	87,404	73,300	1,19,409	60,460
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	2,40,000	87,404	73,300	1,18,208	60,460
- Travelling & Conveyance	11,739				
- Admn. expenses/Prof/Benv.	20,404				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	12,837				
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	2,84,980	87,404	73,300	1,18,208	60,460
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	2,84,980	87,404	73,300	1,18,208	60,460
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	20			1,201	

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TRAVEL GRANT TO DWAIPAYAN ROY PROJECT N047	GOOGLE TRAVEL GRANT A CHAKRAB PROJECT N048	TCS AWARD TO AKSHAY BANSAL PROJECT N049	KVPY INTERVIEW 2018, S GHOSH PROJECT N050	UGC PROJECT ON ETALE FUNDA PROJECT N501 UGC, BLORE
FUNDING AGENCY					16,62,180
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds	49,000	1,60,000	10,000	4,00,000	
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	49,000	1,60,000	10,000	4,00,000	16,62,180
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					20,191
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev Fund/Int Receipt					
TOTAL	37,541	1,60,000		1,70,000 27,491 3,675	2,35,666 24,371 8,394
d) Unsp. Amu/Trf. Othr Fund					
TOTAL (c)	37,541	1,60,000		2,01,166	7,21,373
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	11,459		10,000	1,98,834	9,20,616

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	U G C FELLOW SHIP SIVA ATHEA PROJECT N503	U G C FELLOW B V RAJARAM BH PROJECT N504	INSPIRE FACULTY DR. Y DHANDAPAI PROJECT N505	NBHM FELLOW R MOHAN PROJECT N506	INSPIRE FACULTY DR K. HARIA PROJECT N510
FUNDING AGENCY	U G C	U G C	DST	NBHM	DST
a) Opening Balance of The Funds	24,65,567	7,71,882	2,30,346	1,44,000	6,84,480
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL			3,07,653	3,67,982	14,11,669
TOTAL (a+b)	24,65,567	7,71,882	5,38,199	5,11,982	20,96,149
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL		33,775			
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	5,44,336	3,22,228	88,548	3,36,000	2,12,109
- Travelling & Conveyance	1,55,443		96,951		
- Admn. expenses/Prof/Benv.	6,462		42,960	31,982	1,24,636
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	5,05,000	2,09,100	35,000		
- Trmf To Dev.Fund/Int Receipt					
TOTAL	12,11,241	5,31,328	2,63,459	3,67,982	3,36,745
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	12,11,241	5,65,103	2,63,459	3,67,982	3,36,745
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	12,54,326	2,06,779	2,74,740	1,44,000	17,59,404

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	TIFR-HBSRC MADHAV PROJECT N512 COMPETITION	INSPIRE FACULTY R. KASILINGAM PROJECT N513 DST	POST DR FELLOWS AMIT MAJHI PROJECT N516 NBHM	INSPIRE FACULTY E. VAIBHAV VAIS PROJECT N517 H DST	NBHM ALGEBRA GEOMETRIC TOPOL PROJECT N518
FUNDING AGENCY					
a) Opening Balance of The Funds		22,894	9,61,740	2,94,511	13,214
b) Additions To The Funds :	29,000			9,24,381	
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable		29,000		9,24,381	
TOTAL		51,894	9,61,740	15,26,046	13,214
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	26,900	4,76,557	2,34,000	8,31,425	
- Travelling & Conveyance		1,02,436		41,324	
- Admn. expenses/Prof/Benv.	2,100	91,739	13,711	2,27,050	
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead		35,000		35,000	
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL	29,000	7,05,732	2,47,711	11,34,799	
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	29,000	7,05,732	2,47,711	11,34,799	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	22,894	2,56,008	46,800	3,91,247	13,214

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	NBHM SCHOLAR ABHRA A. KUN PROJECT N519 NBHM	NBHM SCHOLARS SOVANLAL MONDAL PROJECT N520 NBHM, B'LORE	INSPIRE FACULTY AWARD DHANYA PROJECT N523 RAJENDRAN	NATIONAL POST DOCTORAL FELLO PROJECT N526	INSPIRE FACULTY AWARD S SARKAR PROJECT N527 DST, GOI
FUNDING AGENCY					
a) Opening Balance of The Funds					14,97,419
b) Additions To The Funds :	72,000	72,000	10,33,742		
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable	72,000	72,000	10,33,742		
TOTAL	72,000	72,000	20,08,577	8,50,000	14,97,419
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other			3,42,614		1,79,240
TOTAL			3,42,614		1,79,240
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	72,000	72,000	9,83,760		8,00,000
- Travelling & Conveyance			4,272		1,19,916
- Admn. expenses/Prof/Benv.			32,316		
- Tax Deducted at Source					
- Service Tax Paid/Payable			35,000		35,000
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	72,000	72,000	10,55,348		9,54,916
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	72,000	72,000	13,97,962		11,34,156
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)			6,10,615	8,50,000	3,63,263

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	J. C. BOSE FELL OWSHIP PROF B.V PROJECT N528	NBHM TRAVEL GRANT PROJECT N529	NBHM POST DOC FELLOWSHIP PROJECT N530	NBHM POST DOC FELLOW PROJECT N531	NBHM POST DOC FELLOW PROJECT N532
FUNDING AGENCY	RAJARAM BHATT		IUSSTF-BANG		
a) Opening Balance of The Funds	75,000	6,285	5,93,600	5,93,600	5,93,600
b) Additions To The Funds :	19,00,000				
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	19,00,000		5,93,600	5,93,600	5,93,600
TOTAL (a+b)	19,75,000	6,285	5,93,600	5,93,600	5,93,600
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets	94,977			29,726	
- Books & Journal					
- Other					
TOTAL	94,977		5,995	29,726	
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	13,89,714			5,61,600	
- Travelling & Conveyance	1,39,078				
- Admn. expenses/Prof/Benv.	1,09,615				
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead	1,00,000				
- Trmf To Dev.Fund/Int.Receipt					
TOTAL	17,38,407		5,84,275	5,61,600	5,93,367
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)	18,33,384		5,90,270	5,91,326	5,93,367
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,41,616	6,285	3,330	2,274	233

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	NBHM POST DOCT FELLOWSHIP PROJECT N533		NATIONAL POST DOC FELLOW PROJECT N534		NBHM TRAVEL GRANT PROJECT N535		CSIR TRAVEL GRANT PROJECT N536		DST INSPIRE FACULTY AWARD PROJECT N537	
	FUNDING AGENCY									
a) Opening Balance of The Funds										
b) Additions To The Funds :		5,93,600	5,59,246		93,500		27,642		19,00,000	
1. Donation/Grants/Othr. Fund										
2. Income From Investment made on account of Funds										
3. Serv. Chrg/SQCOR Receipt										
4. OHAdj/Other Income										
5. Service Tax Recd/Receivable		5,93,600	5,59,246		93,500		27,642		19,00,000	
TOTAL		5,93,600	5,59,246		93,500		27,642		19,00,000	
c) Utilisation / Expenditure										
i. Capital Expenditure										
- Fixed Assets										
- Books & Journal										
- Other										
TOTAL										
ii. Current Asset										
- Bills Receivable										
TOTAL										
iii. Revenue Expenditure										
- Site Prep. & allied work	0									
- Remuneration & Allowances	2,80,800		3,85,000		93,500		27,642		5,60,000	
- Travelling & Conveyance			39,540						15,034	
- Admn. expenses/Prof/Benv.									6,184	
- Tax Deducted at Source										
- Service Tax Paid/Payable										
- Contingencies										
- Share Of Overhead			58,333							
- Trmf.To Dev.Fund/Int.Receipt		2,80,800	4,82,873		93,500		27,642		5,81,218	
TOTAL		2,80,800	4,82,873		93,500		27,642		5,81,218	
d) Unsp. Amt/Trf. Othr Fund										
TOTAL (c)		2,80,800	4,82,873		93,500		27,642		7,50,693	
e) Assets Trmf. to Corpus Fund										
NET BALANCE AS AT										
THE YEAR END (a+b-c-e)		3,12,800	76,373							11,49,307



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	NATIONAL POST DOC FELLOW PROJECT N539	NBHM GRANT TO A CHANDA PROJECT N540	DST FACULTY AWARD PROJECT N541	NBHM POST DOC FELLOW D DUBEY PROJECT N702 NBHM	ENTRANCE TEST J M A BHUBANESW PROJECT N703 DAE, MUMBAI
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :	5,59,246	72,000	15,36,000	2,11,347	6,000
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	5,59,246	72,000	15,36,000	2,11,347	6,000
TOTAL (a+b)	5,59,246	72,000	15,36,000	2,11,347	6,000
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	3,85,000				
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf To Dev.Fund/Int.Receipt	58,333				5,092
TOTAL	4,43,333			2,11,347	5,092
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	4,43,333			2,11,347	5,092
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,15,913	72,000	15,36,000		908

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	NBHM FELLOWSHIP R. SENGUPTA PROJECT N704 NBHM/DAE	CHENNAI MATHEMATICAL PROJECT N705 CHENNAI MATH	NBHM M.A M S C SCHOLARSH PROJECT N706	NBHM EXAM JAN 2016 PROJECT N707	CEFIPRA RESEARC H PROJECT TRAVE PROJECT N708 L SUPPORT
FUNDING AGENCY					
a) Opening Balance of The Funds	2,83,306				2,04,577
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund		77,892	18,754	35,162	
2. Income From Investment					
made on account of Funds					
3. Serv. Charg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL		77,892	18,754	35,162	
TOTAL (a+b)	2,83,306	77,892	18,754	37,798	2,04,577
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf. To Dev. Fund/Int. Receipt					
TOTAL					
d) Unsp. Amt/Trf. Ohr Fund	2,83,306				
TOTAL (c)	2,83,306	77,892	18,754	35,162 2,636	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)					2,04,577

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	SERB FELLOWSHIP DIPTY DUBEY PROJECT N710	TRAVEL REIM. NBHM MEETING PROJECT N711 NBHM	NBHM TRAVEL GRANT T JAIN DL PROJECT N712	DST MEETING VIGYAN YOTI PROJECT N713	SERB FELLOW CHANDAN MAITY PROJECT N714
FUNDING AGENCY					
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund	4,82,244	3,50,000	1,70,000	6,00,000	6,38,904
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt	96,631				
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable	5,78,875	3,50,000	1,70,000	6,00,000	6,38,904
TOTAL	11,07,041	4,25,653			
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets	1,48,000				
- Books & Journal					
- Other					
TOTAL	1,48,000				
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work	0				
- Remuneration & Allowances	6,60,000				
- Travelling & Conveyance	96,631		1,55,386		3,85,000
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable	26,733	2,45,915		3,02,538	550
- Contingencies	1,00,000				1,00,000
- Share Of Overhead					
- Trnf. To Dev Fund/Int. Receipt		2,45,915	1,55,386	3,02,538	4,85,550
TOTAL	8,83,364	2,45,915	1,55,386	3,02,538	
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	10,31,364	2,45,915	1,55,386	3,02,538	4,85,550
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	75,677	1,79,738	14,614	2,97,462	1,53,354

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	VISIT OF DR. ANTHI RASIA PROJECT N801	FELLOWSHIP RAJESH PROJECT N803	FELLOWSHIP SAIRAM KALIRAJ PROJECT N804	POST DOCTORAL FELLOWSHIP DR PROJECT N805 SREE LAKSHMIN	FELLOWSHIP DR NAVNEET LAL PROJECT N806 SHARMA
FUNDING AGENCY					
a) Opening Balance of The Funds	98,000		4,06,400		4,92,594
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					7,19,384
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					7,19,384
TOTAL	98,000		4,06,400	2,26,775	12,11,978
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal			26,650	42,997	49,088
- Other					3,403
TOTAL			26,650	42,997	52,491
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL			3,45,800	3,85,000 18,932 1,697	7,15,000 56,986 9,809
d) Unsp. Amv/Trf. Othr Fund			4,06,400		
TOTAL (c)			4,06,400	4,05,629	7,81,795
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	98,000			-2,21,851	3,77,692

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	INSA JRD TATA TRAINING PROJECT N807	NBHM TRAVEL GRANT-L SAHU PROJECT O231 NBHM, DELHI	LONG TERM ECO. IMPORT OF HIV A PROJECT O234 DELHI	EMERITUS SCIENS DR. R K ROOUDHY PROJECT O241 CSIR	HANDWRITING ANALYSIS PROJECT O246 DIT
FUNDING AGENCY					6,747
a) Opening Balance of The Funds					
b) Additions To The Funds :	10,70,000				
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	10,70,000				6,747
TOTAL (a+b)	10,70,000				6,747
c) Utilisation / Expenditure					
i. Capital Expenditure	25,547				
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL	25,547				
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure	0				
- Site Prep. & allied work	6,58,226				
- Remuneration & Allowances	18,932				
- Travelling & Conveyance	3,000				
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf. To Dev.Fund/Int.Receipt					
TOTAL	6,80,158				
d) Unsp. Amt/Trf. Othr. Fund					
TOTAL (c)	7,05,705				
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					6,747
THE YEAR END (a+b-c-e)		3,64,295			

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	REPORT ON STATE DEVELOPMENT PROJECT 0258 GOVT. W.B	DEV. OF AN ANN BASED PREDICT PROJECT 0293 I J I R A	DEV OF EXP PARADIGMS VISUL PROJECT 0295 MINS. OF DEFN.	STUDY ON ASSESS THE IMPACT JUTE PROJECT 0341 CHEM & PET.ASO	DEV DESIGN AID TOOLS PROJECT 0344 CAIR(B'LORE)
FUNDING AGENCY			4,27,321		
a) Opening Balance of The Funds					
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					
made on account of Funds					
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL			4,27,321		
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf. To Dev. Fund/Int. Receipt					
TOTAL					
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)					
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT			4,27,321		
THE YEAR END (a+b-c-e)					

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ENDOWMENT FUND - S. H. ARAVIND	ENDOWMENT FUND MS. SUNITI PAL	ENDOWMENT FUND J.M. SENGUPTA	ENDOWMENT FUND SABYASACHI ROY	ENDOWMENT FUND MUKUL CHOWDHURY
FUNDING AGENCY	650A - 650H	651A - 651H	652A - 652H	653A - 653H	654A - 654H
a) Opening Balance of The Funds	1,38,605	2,07,004	1,63,810	2,29,971	8,83,416
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund		8,562			
2. Income From Investment made on account of Funds	11,869	18,313	12,602	15,502	60,309
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income			12,602		
5. Service Tax Recd/Receivable	11,869	26,875	1,76,412	15,502	60,309
TOTAL	1,50,474	2,33,879	1,76,412	2,45,473	9,43,725
TOTAL (a+b)					
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trnf.To Dev.Fund/Int.Receipt					
TOTAL	12,896	12,896		25,792	18,000
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	12,896	12,896		25,792	18,000
e) Assets Trnf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	1,37,578	2,20,983	1,76,412	2,19,681	9,25,725

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ENDOWMENT FUND USRI GANGOPADHY		ENDOWMENT FUND. NIKHILESH BHATT		ENDOWMENT FUND B K CHAKRABORTY		ENDOWMENT FUND. LT SK BANERJEE		ENDOWMENT FUND. D. BASU MEMORL	
	655A - 655H		656A - 656H		657A - 657H		658A - 658H		659A - 659H	
a) Opening Balance of The Funds		2,48,567		1,87,668		4,92,527		5,98,504		3,99,289
b) Additions To The Funds :										
1. Donation/Grants/Othr. Fund										
2. Income From Investment made on account of Funds	18,863		13,193		41,689		51,195		30,240	
3. Serv. Chrg/SQCOR Receipt										
4. OHAdj/Other Income										
5. Service Tax Recd/Receivable		18,863		13,193		41,689		51,195		30,240
TOTAL		2,67,430		2,00,861		5,34,216		6,49,699		4,29,529
TOTAL (a+b)										
c) Utilisation / Expenditure										
i. Capital Expenditure										
- Fixed Assets										
- Books & Journal										
- Other										
TOTAL										
ii. Current Asset										
- Bills Receivable										
TOTAL										
iii. Revenue Expenditure										
- Site Prep. & allied work										
- Remuneration & Allowances										
- Travelling & Conveyance										
- Admn. expenses/Prof/Benv.										
- Tax Deducted at Source										
- Service Tax Paid/Payable										
- Contingencies										
- Share Of Overhead										
- Trmf To Dev.Fund/Int.Receipt										
TOTAL			12,896				20,600		51,584	
d) Unsp. Amt/Trf. Othr Fund										
TOTAL (c)				12,896				20,600		51,584
e) Assets Trmf. to Corpus Fund										
NET BALANCE AS AT										
THE YEAR END (a+b-c-e)		2,67,430		1,87,965		5,34,216		6,29,099		3,77,945



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	GOLDEN JUBILEE ALUM.-INT INV	ENDOWMENT FUND. N.S. IYENGAR	ENDOWMENT FUND. S. P. DAS	ISI DEVELOPEMENT FUND	MAHALANOBIS INT SYMPOSIUM
FUNDING AGENCY	660A - 660H	661A - 661H	662A - 662H	660 - 669	670 - 679
a) Opening Balance of The Funds	9,54,794	3,01,602		54,72,54,351	1,94,520
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund			3,13,000		
2. Income From Investment made on account of Funds	66,989	26,369	1,410	4,21,89,436 3,85,55,443 81,36,695	14,704
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	66,989	26,369	3,14,410	8,88,81,574	14,704
TOTAL (a+b)	10,21,783	3,27,971	3,14,410	63,61,35,925	2,09,224
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL		20,000		1,18,01,275 22,31,990	
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)		20,000		1,40,33,265	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT THE YEAR END (a+b-c-e)	10,21,783	3,07,971	3,14,410	62,14,24,009	2,09,224

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	R C BOSE CENTRE DEV. FUND	ISI GENERAL FUND	ENDOWMENT FUND (LECT. IN ECON)	STAFF BENEVOLE NT FUND	ISI ALUMNI ASSO PRIZE FUND
FUNDING AGENCY	680 - 689	690 - 699	870A - 870H	871A - 871H	872A - 872H
a) Opening Balance of The Funds			2,46,00,135		1,04,549
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment					64,466
made on account of Funds		19,00,146	9,913	17,419	8,003
3. Serv. Chrg/SQCOR Receipt	39,28,879				
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable					
TOTAL	39,28,879	19,00,146	9,913	17,419	
TOTAL (a+b)	52,82,007	2,46,00,135	1,30,356	2,23,648	1,04,549
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf.To Dev.Fund/Int.Receipt					
TOTAL					
d) Unsp. Amv/Trf. Othr Fund					
TOTAL (c)					
e)Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	92,10,886	2,65,00,281	1,40,269	2,41,067	1,77,018

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	HALDANE PRIZE FUND	RAJA RAO MEMORIAL FUND	MAHALANOBIS CHAIR/FELLOW FD	M.N. MURTHY MEMORIAL FUND	A.S. GHOSH ENDOWMENT FUND
FUNDING AGENCY	873A - 873H	874A - 874H	875A - 875H	876A - 876H	877A - 877H
a) Opening Balance of The Funds	3,56,398	2,84,403	28,80,578	4,67,863	10,27,083
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund					
2. Income From Investment made on account of Funds	27,505	21,583	2,25,247	35,955	73,630
3. Serv. Chrg/SQCOR Receipt					
4. OHAdj/Other Income					
5. Service Tax Recd/Receivable	27,505	21,583	2,25,247	35,955	73,630
TOTAL	3,83,903	3,05,986	31,05,825	5,03,818	11,00,713
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets					
- Books & Journal					
- Other					
TOTAL					
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work					
- Remuneration & Allowances					
- Travelling & Conveyance					
- Admn. expenses/Prof/Benv.					
- Tax Deducted at Source					
- Service Tax Paid/Payable					
- Contingencies					
- Share Of Overhead					
- Trmf. To Dev.Fund/Int.Receipt					
TOTAL	25,000	20,000	12,896	35,000	
d) Unsp. Amt/Trf. Othr Fund					
TOTAL (c)	25,000	20,000	12,896	35,000	
e) Assets Trmf. to Corpus Fund					
NET BALANCE AS AT					
THE YEAR END (a+b-c-e)	3,58,903	2,85,986	30,92,929	4,68,818	11,00,713

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 3 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

SCHEDULE 3- EARMARKED/ ENDOWMENT FUNDS	ASIAN CONGRESS ON QUALITY	DR. P. K. MENON MEMORIAL FUND	HOUSE BUILDING ADVANCE	CURRENT YEAR TOTAL	PREVIOUS YEAR TOTAL
FUNDING AGENCY	878A - 878H	879A - 879H			
a) Opening Balance of The Funds	15,86,676	1,53,294	3,08,97,319	74,81,22,688	67,62,65,889
b) Additions To The Funds :					
1. Donation/Grants/Othr. Fund				15,20,12,522	14,08,76,153
2. Income From Investment made on account of Funds	1,25,456	11,479		4,89,57,898	4,38,85,650
3. Serv. Chrg/SQCOR Receipt				3,85,55,443	3,07,03,819
4. OHAJ/Other Income				5,64,98,487	3,67,86,183
5. Service Tax Recd/Receivable				13,04,194	62,56,778
TOTAL	1,25,456	11,479		29,73,28,545	25,85,08,582
TOTAL (a+b)	17,12,132	1,64,773	3,08,97,319	1,04,54,51,233	93,47,74,471
c) Utilisation / Expenditure					
i. Capital Expenditure					
- Fixed Assets				1,18,09,950	32,36,105
- Books & Journal				4,12,398	16,67,323
- Other					6,27,653
TOTAL				1,22,22,348	55,31,081
ii. Current Asset					
- Bills Receivable					
TOTAL					
iii. Revenue Expenditure					
- Site Prep. & allied work				8,13,12,540	8,25,74,607
- Remuneration & Allowances				1,11,67,631	1,28,92,987
- Travelling & Conveyance				2,33,35,191	1,50,86,028
- Admin. expenses/Prof/Benv.				22,31,990	45,64,517
- Tax Deducted at Source				18,18,343	86,93,560
- Service Tax Paid/Payable				88,78,159	1,10,69,214
- Contingencies				1,35,51,914	1,54,64,208
- Share Of Overhead				2,03,56,925	1,84,32,906
- Trnf. To Dev. Fund/Int. Receipt				16,26,52,692	16,87,78,026
TOTAL				1,65,86,768	1,65,29,410
d) Unsp. Amt/Trf. Othr. Fund				19,14,61,808	19,08,38,517
TOTAL (c)				6,78,651	3,77,782
e) Assets Trnf. to Corpus Fund				85,60,94,955(Cr)	
NET BALANCE AS AT		1,64,773	3,08,97,319	27,84,181(Dr)	74,35,58,172
THE YEAR END (a+b-c-e)	17,12,132			85,33,10,774	

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

**INDIAN STATISTICAL INSTITUTE**  
203, B.T. ROAD, KOL-108

STATEMENT OF ASSETS ACQUIRED OUT OF EXTERNALLY FUNDED PROJECT										
SL.NO	ITEM OF ASSETS	1990-1991	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999
1	LABORATORY ITEM	5238.00	22300.00	7725.00	459065.99	-	936811.00	-	1573020.00	-
2	COMPUTER & PERIPHERAL	198144.00	328192.47	986471.80	686659.69	1594046.66	1721969.10	1172530.00	755045.00	3240469.00
3	OFFICE FURNITURE	487142.74	21570.01	218188.13	5810.00	38245.00	161634.00	63144.00	50011.00	35700.00
	TOTAL :	690524.74	372062.48	1212384.93	1151565.68	1532291.66	2820414.10	1235674.00	2378076.00	3276169.00
SL.NO	ITEM OF ASSETS	1999-2000	2000-2001	2001-2002	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
1	LABORATORY ITEM	264083.00	534692.00	12524410.00	2015745.00	-	1432922.00	8541261.00	328336.00	2510803.00
2	COMPUTER & PERIPHERAL	3898650.00	1208462.00	643932.00	1608667.00	1311428.00	3806472.00	9069726.00	2804337.00	4289464.00
3	OFFICE FURNITURE	8800.00	20250.00	45905.00	52784.00	15690.00	814452.00	1478838.00	433955.00	8700.00
	TOTAL :	4171533.00	1763404.00	13214247.00	3677196.00	1327118.00	6053846.00	19089825.00	3566628.00	6808967.00

SL.NO	ITEM OF ASSETS	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	LABORATORY ITEM	9417281.00	1710833.00	3381241.00	11116875.00	3934549.00	5385084.00	4581704.00	169267.00	203588.00
2	COMPUTER & PERIPHERAL	2210514.00	3680288.00	3169355.00	449361.00	6405667.00	5556468.00	4520380.00	1162786.00	2793338.00
3	OFFICE FURNITURE	578650.00	34892.00	815964.00	161574.00	1025824.00	534060.00	271923.00	93916.00	47759.00
	<b>TOTAL :</b>	12206445.00	5426013.00	7366560.00	15776810.00	11366040.00	11475612.00	9374007.00	1425969.00	3044585.00

SL.NO	ITEM OF ASSETS	2017-18	TOTAL UP TO
1	LABORATORY ITEM	8846990.00	31.03.2018
2	COMPUTER & PERIPHERAL	2955579.82	79903823.99
3	OFFICE FURNITURE	7380.00	76277432.54
	<b>TOTAL :</b>	11809948.82	7552760.88

**STATEMENT OF ASSETS ACQUIRED OUT OF ISEC FUND**

SL.NO	ITEM OF ASSETS	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-16	2016-17
1	LABORATORY ITEM	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
2	COMPUTER & PERIPHERAL	250890.00	NIL	482004	NIL	NIL	NIL	NIL	NIL	NIL
3	OFFICE FURNITURE	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
	<b>TOTAL</b>	250890.00	NIL	482004	NIL	NIL	NIL	NIL	NIL	NIL

ITEM OF ASSETS	2017-18	TOTAL UP TO
LABORATORY ITEM	NIL	31.03.2018
COMPUTER & PERIPHERAL	NIL	732894.00
OFFICE FURNITURE	NIL	0.00
<b>TOTAL</b>	NIL	732894.00

**STATEMENT OF ASSETS ACQUIRED OUT OF IGP PROJECT**

SL.NO	ITEM OF ASSETS	2011-12	2012-2013	2013-2014	2014-2015	2015-2016	2016-17	2017-18	TOTAL UP TO
1	LABORATORY ITEM	122355.00	72500.00	151490.00	83300.00	79069.00	149420.00	0	31.03.2018
2	COMPUTER & PERIPHERAL	753369.00	264800.00	1756419.00	3085659.00	42000.00	0	0	658134.00
3	OFFICE FURNITURE	199306.00	-	20000.00	0.00	18431.00	0	0	6217762.00
	<b>TOTAL</b>	1075030.00	337300.00	482975.00	1839719.00	3187189.00	191420.00	0	237737.00

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 7 FORMING PART OF BALANCE SHEET AS AT 31 March, 2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
<b>A. CURRENT LIABILITIES</b>		
1. Acceptances		
2. Sundry Creditors:		
(a) For Goods	0.00	0
(b) Others	0.00	0
3. Advances Received	0.00	0
4. Interest Accrued but not due on:		
(a) Secured Loans/Borrowings	0.00	0
(b) Unsecured Loans/Borrowings	0.00	0
5. Statutory Liabilities:		
(a) Overdue	0.00	0
(b) Others - ST,IT, P.T.Ser.Tax etc	68,86,468.30	60,71,896
6 Other Current Liabilities	26,97,84,909.63	20,07,36,569
<b>TOTAL</b>	<b>27,66,71,378</b>	<b>20,68,08,465</b>

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

INDIAN STATISTICAL INSTITUTE

SUB SCHEDULE OF SCHEDULE 7 FORMING PART OF BALANCE SHEET 31 March, 2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
SUB SCHEDULE OF SCHEDULE 7		
A. CURRENT LIABILITIES		
1. STATUTORY LIABILITIES		
Income Tax Staff/PLP	36,85,052.00	32,33,399
Income Tax Contractor	26,41,131.00	14,95,833
Professional Tax	3,49,736.00	2,76,657
VAT TDS	0.00	1,42,267
Service Tax	77,702.30	8,64,618
Cess on W.B. Cont. Worker Welfare	1,32,847.00	59,122
Sub-Total (1)	68,86,468.00	60,71,896
2. Other Current Liabilities		
Deposit -Library	58,53,954.84	53,49,955
Deposit -Laboratory	1,19,000.00	1,15,000
Deposit-Hostel	9,15,422.00	8,31,337
Deposit-Electric Caution	19,165.00	19,165
Earnest Money Deposit	23,98,826.00	13,69,526
Security Deposit	1,32,46,820.48	1,20,90,454
Amt Payable - RC Bose Center To ISI Kolkata	27,45,926.00	21,30,979
CTD and Annuity Deposit	0.00	2,450
Outstanding Liabilities Goods and Services	7,64,72,238.80	6,53,32,008
ISI Co-operative Credit Society Ltd-Kol+Giridih	94,320.00	2,27,937
ISEC ISI Fund	60,58,404.00	68,57,239
Loan To/From Fund	1,19,85,242.00	40,95,197
Group Insurance - Delhi and Giridih	24,934.00	47,209
Staff Insurance Premium Group Insurance	1,95,485.00	1,75,320
Staff Insurance Premium PPU	60.00	60
ISI Salary Saving - LIC	0.00	0
Staff Insurance Premium - Delhi & Giridih	23,480.00	21,800
GLIC Claim From Insurance Company	9,312.00	9,312
Claim under GSLI Scheme	70,322.00	0
Disposal Of Asset	20,99,858.10	20,06,618
Undisbursed Salary,Stipend and Pension	32,20,291.00	32,17,590
Contribution to NPS Tier-1	16,009.00	37,048
Interest Payable On NPS	0.00	312
Matching Contribution	0.00	17,767
Stale Cheques	29,72,464.00	26,98,613
Accrued Liability -Travel,LTC and Others	94,07,159.46	1,44,19,959
Customer Advance	50,55,782.00	4,45,758
Intl.Conf-Premi (MIU)	11,94,831.77	9,68,941
Indocrypt 2013 14th Intl.Conf. on Cryptology RBI	0.00	1,98,000
INDO JAPAN Research Project-Dr.S.Ruj	1,38,895.00	1,38,895
Workshop Conf. Of Multivariate Stat Method	12,06,548.50	12,71,332
Workshop on Disciplinary Proceedings	0.00	2,00,000
Study to Review the Existing System DGCIS	2,29,677.00	2,29,677
UNDP Project -Kanika Mahajan	1,537.00	1,537

INDIAN STATISTICAL INSTITUTE

SUB SCHEDULE OF SCHEDULE 7 FORMING PART OF BALANCE SHEET 31 March, 2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
International Conference on ICONQR -08 SQC	81,682.00	81,682
Robust Statistics 2015 ICORS 2015 Prof Ayan Basu	3,29,611.43	6,61,828
Indocrypt 2014 Microsoft Research Lab BLR	3,00,000.00	3,00,000
ICAPR Conference of ECSU, ICAPR	0.00	1,27,486
Fire Workshop of CVPR	2,00,000.00	2,00,000
International Workshop on Operator Theory	210.00	210
Planning Unit Conf (Einter School Delhi)	21,909.14	21,909
Data Mining Workshop of S.S. Handa-Delhi	2,73,051.00	2,73,051
SMBI Workshop 08.01.15 To 09.01.15 - Chennai	2,411.00	2,411
Sundry Creditors for Goods & Services.	9,99,91,119.00	6,63,25,040
DST-Workshop in Network Analysis.	275.00	275
Joint International Indo-AMA Meeting	1,343.00	1,343
Workshop on R language ISI AERU	3,124.00	3,124
IEEE Ants 2015	182.00	182
TCS INDO US Bilateral Workshop Dec. 2015	0.00	575
IWCIA 2015	0.00	1,52,398
36Th Batch Of ISS Probationers	0.00	50,592
Pre Regional Maths Olympiad 2015	1,59,107.00	1,59,107
Statistics For Officer of RBI	16,120.00	1,71,804
Compilation Trade INDICESINDGCIS	0.00	1,03,520
Handling UnitLevel Data & Analysis using R	0.00	1,60,841
School On Analysis & Topology NorthEast	56,765.05	1,70,509
37th Batch Of ISS Probationers Of NSSTA	0.00	1,18,507
Integration 2016	1,00,000.00	1,00,000
Raja Rammohan Roy Bangalore	398.00	398
Complex Geometry & Operator Theory	959.00	959
PGDBA Course ISI+IIT+IIM 2017-19	0.00	30,58,438
State Level Workshop on Fin. Incl & Rural	1,61,082.00	1,61,082
Sample Survey Methodology & Estimation	0.00	89,488
Training Prog. On Reliability Engr. at SQC & OR	18,866.00	18,866
Indo USa Collaborative Samsi Savi Workshop	0.00	1,54,409
Maths On Olympiad 2016-17	0.00	84,372
Encryption Workshop R C Bose	2,00,708.00	2,00,708
DST/PAC Meeting 16-09-16	11,195.00	11,195
DST-PAC Meeting SERB	7,42,673.00	7,42,673
Workshop on Machine Learning & Data Mining 2016	22,515.00	22,515
Sponsorship Fees RCBCCS 06.06-11.06.16	1,39,000.00	1,39,000
Annual ISMS Meeting	1,42,413.00	1,66,542
Workshop on species Distr. Model	19,884.00	19,884
Int. Workshop on Pattern Analysis & Appl. 2017	32,735.00	32,735
Univ. of MAnchestor & ISI Reaserch Collaboration	7,867.00	1,69,101
Workshop on ACM Student Chapter on CVPR	90,432.00	91,141
Workshop On High Performance on Comp. ACMU	68,833.00	68,833
Symposium 2018(Countries in Econ Symposium)	3,45,838.00	3,45,838
Training Prog. AURCBCCS For 2017 Japan	49,669.00	49,669



INDIAN STATISTICAL INSTITUTE

SUB SCHEDULE OF SCHEDULE 7 FORMING PART OF BALANCE SHEET 31 March, 2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
Int. Conference on Cryptology- Indocrypt.	18,730.00	18,730
Indocrypt 2016 for Registration	2,57,923.94	62,424
R C Bose Conference	1,29,000.00	1,29,000
ISS Probationers 38th Batch	0.00	28,894
National Symposium on Psychology in Diabetes	451.00	451
Expert Group Meet in MIU	14,915.00	14,915
Advanced Instruct school H Principle	0.00	5,76,000
Workshop on Data Sc & Machine Learning	5,15,449.13	1,35,446
Recent Adv. in Operator Theory -Jaydeb Sarkar	8,531.00	8,531
OTOA Conference 2017	1,818.00	1,818
Electric charger recoverable from NSSO-ISI Giridih	59,822.10	87,488
ISI/HANDS on workshop HGU Prof.Indranil Mukherjee	11,449.00	3,31,636
IEE CIS Summer School	73,720.88	0
Statistical Theory and Application RBI	13,54,759.96	0
Summer School Use and Appl SPSS Aug '2017	33,170.00	0
TRG Program RCBCCS 15-18.05.17	1,48,000.00	0
Workshop and Conf. Set theoretic and Topological met	1,76,244.00	0
Indocrypt 2016-17	4,90,000.00	0
TRG Program Stat Theory and Applications RBI Officers	19,11,660.00	0
9th ICAPR 2017 Conference 125th PCM Birth	4,72,694.66	0
Workshop under ICPS Program	5,48,418.30	0
Workshop on Interactive and Visual Approaches	96,778.66	0
Regional Mathematical Olympiad 2017	1,20,498.00	0
Expert Group Meeting Soft Computing	85,320.00	0
Decentralised Computations Net to Swarms	1,26,858.62	0
Lecture on Parallel Processing for large Network	89,307.65	0
Lectures in Probability/Stochastic Process	20,744.00	0
Winter School on Research Methods in Biology	29,086.64	0
International Conference in Statistics and Probability	3,07,398.00	0
Workshop on Economic and Eco Impacts of Alien	1,137.50	0
ISI Networks Conference in Probability	2,73,147.00	0
Scientific Framework for National Transformation	8,394.00	0
Microsoft Research Lab Pvt. Ltd	1,17,730.00	0
42 Technology Innovations Pvt. Ltd	40,000.00	0
Meeting Expert Committee on Engg. Sciences	5,30,119.00	0
39th Batch Trg. Prog.Sample Survey Methodology NS	13,94,372.00	0
Mid Career Program MCTP MOSPI ans NSSTA	58,52,966.00	0
PAMC Meeting on Cluster roposals under ICPS	5,82,436.00	0
Training Program on Predication Analytics	88,000.00	0
Workshop on Computational Statistics	1,10,169.28	0
Int. Conference on Future of Library	1,75,618.30	0
Regional Mathematical Olympiad 2017 (KRMOU)	28,851.00	0
Algebraic Geometry & Number Theory 14-20.12.17	22,807.00	0
Grant From IIT Mumbai For NCM	4,20,000.00	0
EPU Conference	3,42,740.00	0

INDIAN STATISTICAL INSTITUTE

SUB SCHEDULE OF SCHEDULE 7 FORMING PART OF BALANCE SHEET 31 March, 2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
Workshop On Reliability Theory & Survival Analysis	48,216.00	0
R Workshop	3,380.70	0
Workshop on Analytic Number Theory	6,727.00	0
Output CGST Payable Karnataka	4,231.00	0
Output CGST Payable Delhi	1,967.00	0
Output CGST Payable West Bengal	2,92,566.59	0
Output CGST Payable Maharashtra Mumbai	28,350.00	0
Output CGST Payable Maharashtra Pune	43,170.00	0
Output CGST Payable Maharashtra Assam	1,221.00	0
Output IGST Payable Karnataka	53,264.00	0
Output IGST Payable West Bengal	24,60,628.00	0
Output IGST Payable Maharashtra Mumbai	10,373.00	0
Output SGST Payable Karnataka	4,231.00	0
Output SGST Payable Delhi	1,969.00	0
Output SGST Payable West Bengal	2,92,566.59	0
Output SGST Payable Maharashtra Mumbai	28,350.00	0
Output SGST Payable Maharashtra Pune	43,170.00	0
Output SGST Payable Assam	1,221.00	0
Cess On GST West Bengal	130.56	0
Allahabad Bank - Overdraft Account.	0.00	0
Sub-Total (2)	26,97,84,910.00	20,07,36,569
GRAND TOTAL (1+2)	27,66,71,378	20,68,08,465

# INDIAN STATISTICAL INSTITUTE

203, B.T. ROAD, KOL-108

## SCHEDULES FORMING PART OF BALANCE SHEET AS AT March 31, 2018

SCHEDULE 8 - FIXED ASSETS DESCRIPTION ASSETS ACQUIRED UPTO MARCH 1986	GROSS BLOCK				DEPRECIATION				NET BLOCK	
	Cost / Valuation as at beginning of the year	Additions during the year	Deductions during the year/Adjust- ment	Cost / Valuation at the year end	As at the beginning of the year	On Additions during the year	On Deductions during the year	Total upto the year- end	As at the Current year-end	As at the Previous year-end
	A	B	C	D=(A+B)-C	E	F	G	H=(E+F)-G	I=(D-H)	
<b>A. LAND &amp; LAND DEVELOPMENT</b>										
LAND : FREEHOLD	46,80,907.17	0.00		46,80,907.17	0.00	0.00	0.00	0.00	46,80,907.17	46,80,907.17
LAND : LEASE HOLD	2564212.93	0.00	481.42	2563,731.51	0.00	0.00	0.00	0.00	2563,731.51	2564212.83
<b>B. BUILDING</b>										
BUILDING : ON FREEHOLD LAND	1,22,13,650.47	0.00		1,22,13,650.47	0.00	0.00	0.00	0.00	1,22,13,650.47	1,22,13,650.47
BUILDING : ON LEASEHOLD LAND	84,58,563.82	0.00		84,58,563.82	0.00	0.00	0.00	0.00	84,58,563.82	84,58,563.82
SUPERSTRUCTURES ON LAND NOT BELONGING TO THE ENTRY	9,08,495.59	0.00		9,08,495.59	0.00	0.00	0.00	0.00	9,08,495.59	9,08,495.59
<b>D. VEHICLES</b>	2,96,333.16	0.00		2,96,333.16	0.00	0.00	0.00	0.00	2,96,333.16	2,96,333.16
<b>E. FURNITURES, FIXTURES</b>	35,06,756.92	0.00		35,06,756.92	0.00	0.00	0.00	0.00	35,06,756.92	35,06,756.92
<b>F. OFFICE EQUIPMENT</b>	19,74,134.19	0.00		19,74,134.19	0.00	0.00	0.00	0.00	19,74,134.19	19,74,134.19
<b>G. COMPUTER &amp; PERIPHERALS</b>	9,65,312.58	0.00		9,65,312.58	0.00	0.00	0.00	0.00	9,65,312.58	9,65,312.58
<b>H. ELECTRIC INSTALLATIONS</b>	27,77,138.27	0.00		27,77,138.27	0.00	0.00	0.00	0.00	27,77,138.27	27,77,138.27
<b>I. LIBRARY BOOKS</b>	1,68,61,803.75	0.00		1,68,61,803.75	0.00	0.00	0.00	0.00	1,68,61,803.75	1,68,61,803.75
<b>J. TUBEWELLS &amp; WATER SUPPLY SYSTEM</b>	4,37,890.40	0.00		4,37,890.40	0.00	0.00	0.00	0.00	4,37,890.40	4,37,890.40
<b>K. LABORATORY EQUIPMENT</b>	24,15,998.39	0.00		24,15,998.39	0.00	0.00	0.00	0.00	24,15,998.39	24,15,998.39
<b>TOTAL OF CURRENT YEAR</b>	5,80,61,397.64	0.00	481.42	5,80,60,916.22	0.00	0.00	0.00	0.00	5,80,60,916.22	5,80,61,397.54
<b>PREVIOUS YEAR</b>	5,80,61,397.06	0.00	481.42	5,80,61,397.64	0.00	0.00	0.00	0.00	5,80,61,397.64	5,80,61,397.54
<b>TOTAL : SCHL 8</b>										

( A. Mukherjee/S.K.Chakraborty )  
Dy.Chief Executive ( F )

( Brig J N Pandey )  
Chief Executive ( A & F )

(Sanghamitra Bandyopadhyay )  
Director

8B, Bikaner Building  
Lalbazar Street  
Kolkata - 700 001

For S.K. Mallick & Co.  
Chartered Accountants  
(Registration No 324892E)

(R.S. Mallick)  
Partner  
Membership No 059545

**INDIAN STATISTICAL INSTITUTE**  
203, B.T. ROAD, KOL-108

**SCHEDULES FORMING PART OF BALANCE SHEET AS AT MARCH 31, 2018**

GROSS BLOCK				DEPRECIATION				NET BLOCK			
SCHEDULE 8A - FIXED ASSETS: ASSETS ACQUIRED ON OR AFTER APRIL 1986	Cost / Valuation as at beginning of the year	Additions during the year	Deductions / Adjustments during the year	Cost / Valuation at the year end	As at the beginning of the year	On Additions/Adj during the year	Deductions / Adjustments during the year	Total upto the year end	As at the Current year end	As at the previous year-end	
DESCRIPTION	A	B	C	D=(A+B)-C	E	F	G	H=(E+F)-G	I=(D-H)		
FIXED ASSETS:											
A. LAND & LAND DEVELOPMENT											
LAND : FREEHOLD	2,95,92,391.20		0.00	2,95,92,391.20	0.00	0.00	0.00	0.00	2,95,92,391.20	2,95,92,391.20	
LAND : LEASE HOLD	46,29,990.00		0.00	46,29,990.00	0.00	0.00	0.00	0.00	46,29,990.00	46,29,990.00	
B. BUILDING											
BUILDING : ON FREEHOLD LAND	53,31,63,924.24	29,54,98,691.00	0.00	82,86,62,615.24	38,64,91,374.61	44,14,67,054.14	0.00	82,79,38,428.75	7,04,186.49	14,66,72,549.63	
BUILDING : ON LEASEHOLD LAND	14,49,00,521.69	26,61,557.00	0.00	14,75,62,078.69	10,51,98,918.82	94,46,138.15	0.00	11,46,44,056.97	3,29,18,021.72	3,97,01,602.87	
SUPERSTRUCTURES ON LAND NOT BELONGING TO THE ENTRY	53,85,634.92	0.00	0.00	53,85,634.92	53,85,631.92	0.00	0.00	53,85,631.92	3.00	3.00	
D. VEHICLES											
E. FURNITURES, FIXTURES	94,72,239.38			94,72,239.38	94,65,786.68	5,504.70	0.00	94,71,291.38	1,948.00	7,452.70	
F. OFFICE EQUIPMENT	23,13,29,307.91	57,19,128.86	0.00	23,70,48,436.77	14,40,18,379.84	1,59,24,266.41	0.00	15,99,42,646.25	7,71,05,790.52	8,73,10,928.07	
G. COMPUTER & PERIPHERALS	7,82,52,934.35	22,45,485.52	0.00	8,04,98,419.87	6,23,47,711.62	50,99,099.46	0.00	6,74,46,811.08	1,30,51,608.79	1,59,05,222.73	
H. ELECTRIC INSTALLATIONS	52,91,61,789.44	89,75,113.54	0.00	53,81,36,902.98	51,18,56,151.54	2,17,82,179.86	0.00	53,36,38,331.40	44,98,571.58	1,73,05,637.90	
I. LIBRARY BOOKS	6,35,52,056.32	24,27,058.88	0.00	6,59,79,115.20	5,56,00,653.50	36,95,947.52	0.00	5,92,96,601.02	66,82,514.18	79,51,402.82	
J. TUBEWELLS & WATER SUPPLY SYSTEM	1,15,11,42,443.32	10,57,79,296.16	0.00	1,25,69,21,739.48	1,06,69,91,250.00	10,51,51,749.65	0.00	1,17,21,42,999.65	8,47,78,739.83	8,41,51,193.32	
K. LABORATORY EQUIPMENT	1,09,77,672.06	62,752.00	0.00	1,10,40,424.06	1,00,45,547.54	3,63,015.75	0.00	1,04,08,563.29	6,31,860.77	9,32,124.52	
WORK IN PROGRESS	5,47,15,094.07	26,62,644.00	0.00	5,73,77,738.07	4,22,63,453.10	36,21,563.60	0.00	4,58,85,016.70	1,14,92,771.37	1,24,51,640.97	
TOTAL OF CURRENT PREVIOUS YEAR	80,62,43,824.00	38,12,72,928.00	28,87,02,905.00	89,88,13,847.00	0.00				89,88,13,847.00	80,62,43,824.00	
TOTAL OF CURRENT	3,65,25,20,822.90	80,73,04,654.96	28,87,02,905.00	4,17,11,22,572.86	2,39,96,64,899.17	60,65,55,519.24	0.00	3,00,62,20,378.41	1,16,49,02,194.45	1,25,28,55,963.73	
TOTAL : SCH-8A	2,87,89,49,027.90	36,01,12,959.00	88,329.00	3,23,89,73,657.90	1,97,16,90,502.79	22,22,49,469.02	0.00	2,19,39,39,971.81	1,16,49,02,194.45	1,25,28,55,963.73	

( A. Mukherjee/S.K.Chakraborty )  
Dy.Chief Executive ( F )

( Brig J N Pandey )  
Chief Executive ( A & F )

( Sanghamitra Bandyopadhyay )  
Director

88, Bikaner Building  
Latbazar Street  
Kolkata - 700 001

For S.K. Mallick & Co.  
Chartered Accountants  
(Registration No.324892E)

( R S. Mallick )  
Partner  
Membership No.059545

# INDIAN STATISTICAL INSTITUTE

203, B.T. ROAD, KOL-108  
SCHEDULES FORMING PART OF BALANCE SHEET AS AT March 31, 2018

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2020										
<----- GROSS BLOCK ----->					<----- DEPRECIATION ----->			<----- NET BLOCK ----->		
SCHEDULE 8B :- FIXED ASSETS DESCRIPTION: ASSETS ACQUIRED FROM DEVELOPMENT FUND.	Cost / Valuation as at beginning of the year	Additions during the year	Deductions/ Adjustments during the year	Cost / Valuation at the year end	As at the beginning of the year	During the year	Deductions/ Adjustments during the year	Total upto the year-end	As at the Current year-end	As at the previous year end
FIXED ASSETS :	A	B	C	D=(A+B)-C	E	F	G	H=(E+F)-G	I=(D-H)	
A. LAND & LAND DEVELOPMENT										
LAND : LEASE HOLD	40,443.00	0.00	0.00	40,443.00					40,443.00	40,443.00
B.BUILDING										
BUILDING : ON FREEHOLD LAND	11,44,410.00	0.00	0.00	11,44,410.00	5,30,863.00	1,11,554.00		6,42,417.00	5,01,993.00	6,13,547.00
BUILDING : ON LEASEHOLD LAND	1,22,06,291.00	0.00	0.00	1,22,06,291.00	1,22,06,283.00	0.00		1,22,06,283.00	8.00	8.00
D. VEHICLES	89,69,593.00	0.00	0.00	89,69,593.00	82,44,982.05	6,48,150.63		88,93,132.68	76,460.32	7,24,610.96
E. FURNITURES, FIXTURES	48,27,970.00	0.00	0.00	48,27,970.00	28,98,769.15	2,52,180.30		31,50,949.45	16,77,020.55	19,29,200.85
F. OFFICE EQUIPMENT	44,31,432.00	1,19,060.00	0.00	45,50,492.00	33,09,251.60	5,05,438.65		38,14,690.25	7,35,801.75	11,22,180.40
G. COMPUTER & PERIPHERIALS	2,79,40,912.00	3,85,216.00	0.00	2,83,26,128.00	2,78,66,049.50	1,82,422.80		2,80,48,472.30	2,77,655.70	74,862.50
H. ELECTRIC INSTALLATIONS	3,28,638.00	1,74,375.00	0.00	5,03,013.00	2,09,230.45	43,477.73		2,52,708.18	2,50,304.82	1,19,407.55
K. LABORATORY EQUIPMENT	16,53,223.00	0.00	0.00	16,53,223.00	16,53,201.00	0.00		16,53,201.00	22.00	22.00
TOTAL OF CURRENT YEAR	6,15,42,912.00	6,78,651.00	0.00	6,22,21,563.00	5,69,18,629.75	17,43,224.11	0.00	5,86,61,853.86	35,59,709.14	46,24,282.26
PREVIOUS YEAR	6,11,65,130.00	3,77,782.00	0.00	6,15,42,912.00	5,45,28,784.10	23,89,845.65	0.00	5,69,18,629.75	35,59,709.14	46,24,282.26
TOTAL : SCH-8B										
TOTAL : SCH-8 + SCH-8A + SCH-8B										
								1,22,65,22,819.77		1,31,55,41,643.53

(A. Mukherjee/S.K.Chakraborty)  
Dy Chief Executive (F)

(Bijit J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

88, Bikaner Building  
Lalbazar Street  
Kolkata - 700 001

For S.K. Mallick & Co  
Chartered Accountants  
(Registration No 324892E)

(R.S. Mallick)  
Partner  
Membership No 059546

INDIAN STATISTICAL INSTITUTE  
CAPITAL UTILISATION STATEMENT FOR THE YEAR ENDED 31/03/2018 (Amount in Rupees)

PARTICULARS	GRANT CAPITAL	
	CURRENT YEAR	PREVIOUS YEAR
GRANT RECEIVED FOR CREATION OF CAPITAL ASSET (INCL C/F OF PREV. YEAR)	54,31,91,000.00	48,20,66,456
TOTAL (A)	54,31,91,000.00	48,20,66,456
EXPENDITURE ON CREATION OF CAPITAL ASSETS	41,28,22,453.80	30,59,74,319
TOTAL (B)	41,28,22,454.00	30,59,74,319
NET BALANCE	13,03,68,546	17,60,92,137

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 9 FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
SCHEDULE - 9 INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS		
1. In Government Securities	0.00	0
2. Other Approved Securities	0.00	0
3. Shares	0.00	0
4. Debentures and Bonds	0.00	0
5. Subsidiaries and Joint Ventures	0.00	0
6. Fixed Deposit with Banks	58,89,25,269.00	55,31,57,587
TOTAL	58,89,25,269	55,31,57,587

INDIAN STATISTICAL INSTITUTE  
SUB-SCHEDULE OF SCHEDULE 9

(Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
SUB - SCHEDULE OF SCHEDULE 9		
DETAILS OF INVESTMENT IN FIXED DEPOSIT IN BANK		
1. ISI General Fund	2,27,30,498.00	2,27,30,498
2. ISI Development Fund	54,42,64,271.00	51,42,64,268
3. Mahalonobis International Prize Fund	1,79,500.00	1,79,500
4. Endowment Fund For Lecture in Economics	1,20,300.00	1,20,300
5. Staff Benevolent Fund	2,06,000.00	2,06,000
6. ISI Alumni Association Prize Fund	95,900.00	95,900
7. Haldane Prize Fund	3,28,500.00	3,28,500
8. Raja Rao Prize Fund	2,62,000.00	2,62,000
9. P.C. Mahalonobis Fellowship Chair	26,64,500.00	26,64,500
10. M.N. Murthy Memorial Prize Fund	4,31,000.00	4,31,000
11. Ambar Nath & Santi Ghosh Endowment Fund	9,52,500.00	9,52,821
12. Asian Congress on Quality & Reliability Fund	14,60,000.00	14,60,000
13. P.K. Menon Memorial Fund	1,41,000.00	1,41,000
14. Suniti Pal Endowment Fund	2,16,500.00	2,16,500
15. S.Arvind Endowment Fund	1,41,000.00	1,41,000
16. Endowment Fund-Prof. J.M. Sengupta	1,51,000.00	1,51,000
17. Golden Jubilee Alumnus Award Fund	8,80,900.00	8,80,900
18. Sabyasachi Memorial Award Fund	2,14,400.00	2,14,400
19. D. Basu Memorial Gold Medal	3,68,500.00	3,68,500
20. Mukul Choudhury Memorial Fund	8,24,000.00	8,24,000
21. USRI Gangopadhyay Memorial Fund	2,29,000.00	2,29,000
22. Nikhilesh Bhattacharya Memorial Fund	1,84,800.00	1,84,800
23. Bimal Chakraborty Endowment Fund	4,70,800.00	4,70,800
24. Lt. Sushil Banerji Endowment Fund	5,76,000.00	5,76,000
25. Dr. N.S. Iyengar Endowment Fund	3,14,400.00	3,14,400
26. R.C.Bose Centre Development Fund	77,50,000.00	47,50,000
27. S P Das Endowment Fund	3,00,000.00	0
28. General Fund UBI Overseas Branch	24,68,000.00	0
Total	58,89,25,269	55,31,57,587

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director



INDIAN STATISTICAL INSTITUTE  
SCHEDULE II FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
(A) CURRENT ASSETS:		
1. Inventories		
(a) (i) Stores And Spares	0.00	0.00
(ii) Building Materials	0.00	0.00
(b) Loose Tools	0.00	0.00
(c) Stock - in trade		
Finished Goods	0.00	0.00
Work - in - progress	0.00	0.00
2. Sundry Debtors:		
(a) Debts Outstanding Exceeding Six Months	46,01,077.20	8,65,042.20
(b) Debts Outstanding Less Than Six Months	49,41,926.00	1,34,39,235.00

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 11 FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
3. Cash in Hand		
At Kolkata	1,13,460.00	59,371.00
At Delhi	93,982.00	86,980.00
At Giridih	18,728.00	30,904.00
At Bangalore	2,13,245.00	2,12,575.00
At Hyderabad	2,469.19	10,853.19
At Coimbatore	1,15,575.00	41,807.00
At Mumbai	11,860.00	2,943.00
At Chennai	58,146.00	94,340.00
At Pune	8,088.00	3,589.00
At Tezpur	38,158.00	18,920.00
SUB TOTAL OF CASH	6,73,711	5,62,282

INDIAN STATISTICAL INSTITUTE  
SCHEDULE II FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
4. Bank Balances		
(a) With Scheduled Banks:		
On Current Accounts		
Allahabad Bank	29,21,61,122.62	1,37,39,679.22
SBI -Shyambazar Branch	91,96,650.31	5,37,943.31
UBI-Dunlop Bridge Branch	3,21,55,441.80	3,11,99,513.85
Indian Bank New Delhi	1,53,55,389.68	41,54,913.74
Indian Bank (FCRA-A/C) New Delhi	71,90,498.62	3,32,813.00
UBI -Giridih	29,05,815.75	40,82,664.50
UCO Bank-Giridih	5,933.06	5,933.06
UCO Bank- Bangalore	2,12,94,883.38	2,14,28,149.95
Bank of Baroda-Bangalore	33,27,964.62	45,48,436.62
Syndicate Bank- Coimbatore	2,90,459.17	2,36,701.65
SBI -Chennai	53,63,066.66	1,23,27,489.69
Canara Bank -Chennai	6,84,216.99	13,03,063.99
SBI- Mumbai	8,66,747.51	8,23,903.06
Bank of Baroda -Baroda	14,534.27	15,182.52
Syndicate Bank-Hyderabad	9,45,749.75	5,353.25
SBI -Pune	6,75,430.49	12,35,386.99
Allahabad Bank-(PPU)- ISI Extension Counter	19,56,522.00	13,42,461.00
Punjab National Bank-Tezpur	10,34,138.39	52,13,765.50
IDBI Bank - RCB Center For Cryptology & Security	6,21,97,413.94	2,00,31,740.94
SBI - Tezpur Branch	3,23,286.00	1,86,589.00
SBI - Ac No 35514239311	14,04,527.73	35,12,514.75
UBI -Overseas Branch Ac	8,55,626.00	85,11,820.00
Allahabad Bank Savings Account	79,25,864.00	0.00
UCO Bank Savings A/c Bangalore Center	15,36,000.00	0.00
SUB TOTAL OF AMOUNT WITH BANK	46,96,67,283.00	13,47,76,019.59
TOTAL OF CASH AND BANK :-	47,03,40,994	13,53,38,302

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 11 FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
5. On Deposit Accounts (including margin money)	0.00	0.00
TOTAL (A)	47,98,83,997	14,96,42,579

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 11 FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
<b>B. LOANS, ADVANCES AND OTHER ASSETS</b>		
<b>1. Loans:</b>		
<b>(a) Staff</b>		
Travel Advance	24,94,090.00	18,65,599.25
LTC Advance	11,36,641.00	4,89,412.00
Cycle Advance	2,780.00	2,780.00
General Advance	23,20,255.15	13,72,912.00
Festival Advance	88,900.00	23,09,300.00
Medical Advance	41,250.00	1,92,750.00
Scooter Advance	4,93,178.00	8,30,370.00
House Building Advance	23,70,534.00	31,91,434.00
Motor Car Advance	20,840.00	34,880.00
Computer Advance	12,71,622.00	16,61,580.00
Flood & Drought Relief Loan	0.00	1,67,400.00
Medical Insurance Premium Paid for Students	3,29,913.00	0.00
<b>(b) Deptt. Imprest</b>	0.00	0.00
Loan to /from Fund	0.00	0.00

INDIAN STATISTICAL INSTITUTE  
SCHEDULE II FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
2. Advances and other amounts recoverable on cash or in kind		
(a) Prepaid Expenses	2,45,21,323.51	2,73,39,613.00
(b) Others		
Security Deposit	1,73,19,612.00	1,73,42,112.00
Suppliers Advance	1,47,15,120.17	80,25,067.17
Income Tax deducted -Other than Dev.Fund	80,12,221.20	78,05,176.20
Service Tax Receivable-Ober Construction	47,56,336.00	47,56,336.00
Cenvat Credit	142.92	142.92
Amount Receivable By ISI From RC Bose Center For	27,45,926.00	21,30,979.00
3. Income Accrued:		
(a) On Investments form Earmarked/Endowment Funds	40,31,522.00	40,61,690.00
4. Claims Receivable		
5. Conference/Seminar		
NBHM Math Olympiad	1,44,203.00	1,71,203.00
Training Program Demography & Population Studies	0.00	46,487.00
TCS INDO US Bilateral Workshop Dec"2015	1,036.00	0.00
Compilation Trade Indices INDGCIS	5,873.00	0.00
Handling Unit Level Data & Analysis Using R	38,700.00	0.00
37th Batch ISS Probationers Of NSSTA MOSPI	257.00	0.00
ISS Probetooners 38th Batch	5,610.00	0.00
TRG Program on Career Profile Similarity	7,409.00	0.00
Grant From ICCSR For Int Con On Fut Of ICFL 2017	23,507.00	0.00
Conference On Population & Developement North Eastern	10,000.00	0.00
Research Methodology Course ICSSR	69,292.00	0.00
Conference IWPA 2018	2,24,099.59	0.00
Advanced Training In Mathematics 05-03-18 To 09-03-18	4,500.00	0.00
ATMW Modern Aspects Of Function Theory 2018	54,566.00	0.00
Grant From RajaRam Mohan Roy Library Foundation	1,69,979.00	0.00
PGDBA Course 2018-20 ISI + IIT + IIM	5,49,578.00	0.00
IBM Meet 2017-18	8,387.00	0.00
6. Remittance in Transit		
7. Accrued Income	26,06,579.58	14,30,01,877.23
8. ISEC ISI Fund-Capital	7,32,894.00	7,32,894.00
9. GST Input Tax Credit		
Input Tax Credit CGST Tamilnadu - Coimbatore	27,580.06	0.00
Input Tax Credit CGST Karnataka	2,54,454.00	0.00
Input Tax Credit CGST Tamilnadu Chennai	16,069.85	0.00
Input Tax Credit CGST Delhi	15,16,851.50	0.00

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 11 FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
Input Tax Credit CGST Telengana	22,491.98	0.00
Input Tax Credit CGST West Bengal	6,874.30	0.00
Input Tax Credit IGST Karnataka	0.00	0.00
Input Tax Credit IGST Delhi	2,56,617.00	0.00
Input Tax Credit IGST Telengana	1,25,148.66	0.00
Input Tax Credit SGST Tamilnadu Coimbatore	27,580.06	0.00
Input Tax Credit SGST Karnataka	3,48,054.00	0.00
Input Tax Credit SGST Tamilnadu Chennai	16,069.85	0.00
Input Tax Credit SGST Delhi	7,88,243.50	0.00
Input Tax Credit SGST Telengana	10,708.81	0.00
Input Tax Credit SGST West Bengal	6,874.30	0.00
CGST On Advance Receipts	31,770.00	0.00
IGST On Advance Receipts	6,93,965.00	0.00
SGST On Advance Receipts	31,770.00	0.00
TOTAL (B)	9,55,09,800.00	22,75,31,994.77

INDIAN STATISTICAL INSTITUTE  
SCHEDULE II FORMING PART OF BALANCE SHEET AS AT 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR	PREVIOUS YEAR
	57,53,93,797	37,71,74,574

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director



INDIAN STATISTICAL INSTITUTE  
SCHEDULE 12 FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31/03/2018 (Amount in Rupees)

PARTICULARS	GRANT GENERAL		TOTAL	
	CURRENT YEAR	PREVIOUS YEAR	CURRENT YEAR	PREVIOUS YEAR
SCHEDULE - 12 MISC. RECEIPTS.				
1) Share of Income from SQCOR				
Consultancy Services	1,25,05,480.39	1,57,98,536	1,25,05,480.39	1,57,98,536
2 ) Membership Fees	1,22,563.14	1,58,994	1,22,563.14	1,58,994
3) Fees for Training Course and				
Sale of Prospectus, Bye Laws etc.	1,73,61,150.00	1,30,94,370	1,73,61,150.00	1,30,94,370
4) Receipt from Sale of Farm Products				
at Giridih	0.00	0	0.00	0
5) Misc. Receipt, Examination Fees				
and Other Receipts	90,68,415.22	66,60,840	90,68,415.22	66,60,840
6) Interest on Short Term Deposit	1,12,42,150.39	1,10,52,696	1,12,42,150.39	1,10,52,696
7 ) Sale of Sankhya Publication	8,720.00	19,540	8,720.00	19,540
8) Hostel Seat Rent	13,26,993.00	6,16,737	13,26,993.00	6,16,737
9) Rent Realised -Premises	18,83,348.00	19,71,013	18,83,348.00	19,71,013
10) Rent Realised - Guest House	25,38,945.18	42,95,367	25,38,945.18	42,95,367
11) License Fees From Workers -Quarters	5,48,572.00	7,31,561	5,48,572.00	7,31,561
12) Interest on Motor Car Advance	39,462.00	78,559	39,462.00	78,559
13) Interest on Scooter Advance	18,119.00	1,18,363	18,119.00	1,18,363
14) Interest on Computer Advance	67,157.00	34,734	67,157.00	34,734
15) Share of Overhead from Externally				
Funded Project	81,36,693.42	75,05,033	81,36,693.42	75,05,033
16) Interest on Marginal Deposit	0.00	0	0.00	0
17) Interest on House Building Advance	11,02,994.00	13,29,533	11,02,994.00	13,29,533
TOTAL	6,59,70,762.74	6,34,65,876	6,59,70,762.74	6,34,65,876
GRAND TOTAL			6,59,70,763	6,34,65,876

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 13 FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31/03/2018 (Amount in Rupees)

PARTICULARS	CURRENT YEAR		TOTAL	PREVIOUS YEAR		TOTAL
	GRANT SALARY	GRANT GENERAL		GRANT SALARY	GRANT GENERAL	
SCHEDULE - 13 GRANTS/SUBSIDIES						
Grant From Ministry of Statistics & Program Implementation, Govt of India	1,91,62,56,000.00	11,91,89,443.98	2,03,54,45,443.98	1,62,82,46,633.84	17,69,81,000.00	1,80,52,27,633.84
TOTAL	1,91,62,56,000	11,91,89,444.00	2,03,54,45,444	1,62,82,46,634	17,69,81,000	1,80,52,27,634

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

INDIAN STATISTICAL INSTITUTE  
SCHEDULE 20 FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31/03/2018 (Amount in Rupees)

PARTICULARS	GRANT SALARY	
	CURRENT YEAR	PREVIOUS YEAR
SCHEDULE - 20 ESTABLISHMENT EXPENSES		
01. Salary & Allowances (DA, HRA, CCA, Transport allowances, Bonus, Leave Salary, Extra Remuneration, LTC, Medical Reimbursement and Medical Welfare Expenses, Visiting Scientist's Remuneration, Med. Ins. Prm-Emp)	1,31,72,64,995.24	1,16,04,92,901
02. Overtime Allowance	7,44,259.00	9,52,819
03. Employer's Contribution to CPF/NPS	2,82,60,367.00	2,33,42,844
04. Expenses on Employee's Retirement and Terminal benefits (Gratuity, etc)	4,23,59,624.00	3,19,90,790
05. Scholarship / Stipend & Other Assistance to Trainees	12,49,68,615.88	0
06. Pension, Graded Relief & Commuted Value of Pension	37,95,42,603.00	37,46,55,806
<b>TOTAL</b>	<b>1,89,31,40,464</b>	<b>1,70,67,64,543</b>

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

INDIAN STATISTICAL INSTITUTE

SCHEDULE 21 FORMING PART OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31/03/2018 (Amount in Rupees)

PARTICULARS	GRANT GENERAL	
	CURRENT YEAR	PREVIOUS YEAR
SCHEDULE - 21 OTHER ADMIN. EXPENSES		
01. Purchase & Expenses on Giridih Agricultural	1,88,208.00	1,60,451
02. Electricity Expenses	4,66,57,061.23	4,76,69,037
03. Repairs, Replacement and Maintenance of Office Equipment, Computers and Accessories etc	2,76,31,700.20	2,87,14,846
04. Rent, Rates, Taxes and Water Charges	1,49,85,856.00	2,21,20,106
05. Transport Expenses-Vehicles Running and Maintenance.	55,50,764.70	51,84,712
06. Postage, Telephone and Communication	74,70,888.69	84,68,907
07. Stationeries, Liveries and Consumable Stores for Electrical & Building	1,16,06,185.20	1,06,47,423
08. Travelling & Conveyance Expenses	2,45,93,568.11	3,34,87,511
09. Society Type Activities, Seminar and	29,57,371.68	42,52,171
10. Statutory Audit Fees & Expenses	3,12,700.00	3,12,700
11. Freight and Forwarding Expenses, Insurance, Advertisement, Examination Expenses	1,65,10,636.14	5,30,31,587
12. Books & Journals	11,13,46,627.54	11,33,27,553
13. Printing & Publication	5,27,853.00	6,83,259
14. Interest & Bank charges	2,12,155.49	1,18,450
15. Repairs, Maintenance of Building & Petty Constructions	2,00,73,912.91	1,55,97,913
16. Workers & Student's Welfare & Amenities (Excluding Medical Expenses)	56,25,493.34	56,81,772
17. Lab. & Reprography Stores, Consumables, Tools & Minor Accessories	74,99,472.28	80,40,125
TOTAL	30,37,50,455	35,74,98,523

(A. Mukherjee/ S.K. Chakraborty)  
Dy. Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A & F)

(Sanghamitra Bandyopadhyay)  
Director

## RECEIPTS &amp; PAYMENTS ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

(A. Mukherjee / S. K. Chakraborty)  
(Brig. J.N.Pandey)  
(Sanghamitra Bandyopadhyay)  
Chief Executive (A & F)  
Director

**INDIAN STATISTICAL INSTITUTE**  
**203, B.T. Road, Kolkata – 700 108**

**SCHEDULE FORMING PART OF THE ACCOUNTS**  
**FOR THE YEAR ENDED 31<sup>ST</sup> MARCH 2018**

**Schedule 24 – Significant Accounting Policies**

**1. Accounting Convention**

- 1.1. The Indian Statistical Institute is an Institute of National Importance by an Act of Parliament. It is fully funded by Govt. of India. The Financial Statements are prepared on the basis of historical cost convention and on the accrual method of accounting (unless otherwise stated).
- 1.2. All Income / Receipts and Expenditure are maintained on accrual basis excepting in following cases: -
  - (a) Receipts on Interest on HB Loan are accounted on recovery basis.
  - (b) Ad hoc Bonus and portion of D.A. to employees are accounted for in the year government orders are received.
  - (c) Expenditure on disbursement of Share of Faculty members in respect of income sharing externally funded SQCOR consultancy project is accounted for on Cash basis.
  - (d) Prepaid expenses are charged off in the year these are incurred other than subscription of Journals.
- 1.3. In absence of prior period adjustment account, all transactions pertaining to the past year are accounted for in the regular head of accounts.

**2. Depreciation**

- 2.1. Depreciation on assets acquired up to accounting year 1985 – 1986 have been charged up to 1985 – 1986 as per Income Tax Rules and thereafter no depreciation has been charged on those assets and the same have been kept in fixed assets Schedule-8 separately.

2.2 The system of charging depreciation has been reintroduced from the Financial year 2003–2004 on assets acquired from 01.04.1986 and depreciation is charged on opening balances covered under Schedules 8A and 8B as per rates specified in the Income Tax Rules 1962 on Straight Line Method.

2.3 Depreciation on assets acquired after 30<sup>th</sup> September has been charged @50% of applicable rates. Assets which are fully depreciated have been retained at Re.1/-

2.4 Depreciation on fixed assets for the year is deducted / reduced from the Capital Fund.

### **3. Fixed Assets**

3.1. Fixed Assets are stated at cost of acquisition inclusive of inward freight, duties and taxes and incidental and direct expenses related to acquisition.

3.2. All assets which are put to use during the year are capitalized.

3.3. Sale or disposal of fixed assets are recognized on realization basis and credited to Miscellaneous Receipt as Income. The written down value of such asset are deducted from fixed assets as well as from Capital Fund.

### **4. Retirement Benefits**

Provision for the accrued liabilities for Retirement Benefits are not made in the accounts except unpaid liability of retired employee because those expenses are paid out of grant received from Government.

### **5. Earmarked / Endowment Fund**

All externally / internally funded earmarked / endowment fund are accounted for under distinctive heads. Closing Balances of externally / internally funded earmarked / endowment fund are depicted in the Balance Sheet.

### **6. Foreign Currency Transaction**

Transactions in foreign currencies are recorded at exchange rate at the time of settlement.

## **7. Investments**

- 7.1. Investments against General Fund and other Funds stands in the name of Indian Statistical Institute, the disclosure of such investments, in Schedule- 9 forming part of the Balance Sheet as at 31.03.2018, under different fund heads are based on internal records.
- 7.2. Interest received on Investment on General and other Funds are accounted for directly in the fund account itself.

## **8. Books and Journals**

All the cost of books and journals are charged to Income & Expenditure Account. However, 95% of such cost is capitalized by crediting the Capital/Corpus Fund.

## **9. Government Grant:**

Government Grant is given under three heads namely Grant in aid – General, Grant in aid for creation of Assets and Grant in aid for salaries from financial year 2017-18 onwards.

## **10. Inventories:**

In case of laboratory stores, minor accessories, stationary items including computer stationeries, medicine are charged off to Income and Expenditure Account in the year of purchase. Year end stock under these heads not being material, are not taken back to the accounts.

(A. Mukherjee/S. K. Chakraborty)  
Dy. Chief Executive(F)

( Brig. J. N. Pandey )  
Chief Executive ( A & F )

(Sanghamitra Bandyopadhyay)  
Director



**INDIAN STATISTICAL INSTITUTE**  
**203, B. T. Road, Kolkata-700108**

**SCHEDULE FORMING PART OF THE ACCOUNTS**  
**FOR THE YEAR ENDED 31<sup>ST</sup> MARCH 2018**

**Schedule - 25: Notes on Accounts**

**1. Fixed Assets**

- 1.1 Depreciation on fixed assets for the current year has been charged in the accounts on assets acquired on and after 01.04.1986 and depreciation on fixed assets acquired up to 31<sup>st</sup> March 1986 except Lease hold Land and Development could not be charged although process of incorporation of data in the revised software have been made as on date.
- 1.2 Land and Land Development as per Schedule – ‘8’ of this Accounts refers to “Takdah Planters Club, Darjeeling” acquired in 1964 - 1965 for 54 years. A sum of ₹481.42 is being amortized every year.
- 1.3 Work-in-Progress in Schedule ‘8A’ represent E-Governance project in Kolkata, Baruipur Land, Construction of new Academic Building at Kolkata, Construction of new Students’ Hostel at Kolkata, Augmentation & distribution of electrical power, Repair, Renovation & Restoration work of R A Fisher Bhavan & S N Bose Bhavan at Kolkata, Repair/Retrofitting of M.Tech. Hostel (Meghnad Saha Hall), Construction of new campus for R C Bose Centre for Cryptology and Security at Gupta Niwas, Kolkata, SITC of Solar PV System in ISI campus at Delhi Centre, Mess Building at Delhi Centre, Construction of Boundary wall at Chennai, Filling of low lying areas of Karapakkam Road at Chennai, Construction work of first floor of Gymnasium at Bangalore, Construction of rain water harvesting structures at Bangalore, Construction of 2<sup>nd</sup> floor of Guest House, Construction of extension of Canteen building and Construction of new Academic Block at Bangalore and Construction of Tezpur Campus.
- 1.4 Discussion was held with Statutory Auditors and C&AG auditors regarding preparation of fixed assets register and physical verification of fixed assets. Accordingly, a fresh work order (No. CAF/21/057 dated 10.05.2018) has been issued to M/s Sarkar Gurumurthy & Associates, Chartered Accountants for the preparation of fixed assets register as on 31.03.2018 and for physical verification of fixed assets.
- 1.5 Insurance Coverage of Fixed Assets excepting vehicle has not been taken in view of the communication received from Government that there is no provision under rule for insuring Government Building, library books, equipment and computers etc.

1.6 Assets under Schedule 8A include a computer system (fixed value: ₹ 7.00 lakhs approx.) which was stolen in 1992 – 1993. A letter (No. CAF/14-1/13/17 dt.12/12/2011) was written to the officer-in-charge, Baranagar Police Station to provide status of the case but reply is still awaited. As per decision of the Council meeting held on 30/10/2012, approval request was sent to parent Ministry and as per its direction, requisite information for preparation of a loss statement was also forwarded to that end followed by reminder. No adjustment has been made since the requisite approval from the Ministry is still pending.

1.7 Current Liabilities include ₹ 20,99,858.10 (Previous Year ₹ 20,06,618.00) being sale proceeds of fixed assets disposed off and lying unadjusted pending submission of reconciliation report between fixed assets register and physical status by M/s Sarkar Gurumurthy & Associates, Chartered Accountants.

1.8 Contingent Liabilities not provided for in respect of Interest levied on property tax from 2004-2005 to 2012-2013 amounting to ₹ 34,43,388.00 for New Delhi Centre. Appeal for the same has been filed in the High Court of Delhi vide W.P(C) No.4027/2013 Dated.22/04/2014. The High Court of Delhi had given the judgement in favour of Indian Statistical Institute, Delhi Centre clearly stating that we need not to pay any property tax and we need to pay only the service charges. However, the judgement of the High Court has been challenged by South Delhi Municipal Corporation by filing a LPA (Letter Patent Appeal) in the High Court of Delhi. The matter is still pending in the High Court of Delhi.

## **2 Current Assets, Loans & Advances (Schedule – 11)**

2.1 T.A. advance under Loans & Advances for ₹ 24,94,090.00 as on 31.03.2018 includes old balances of ₹ 199807.00 (over one year). Action has been taken to identify and adjust the old Advances.

2.2 There are old balances of ₹ 42,58,539.17 (over 2 years) shown as advance to Suppliers which includes ₹ 29,09,388.58 paid to erstwhile Statistical Publishing Society. Action is being taken to adjust these balances after proper scrutiny.

2.3 Advances to Staff & Others, include ₹ 33,473.00 old / unreconciled debit balances (over two years). Action is being taken to identify and adjust these balances.

2.4 Sundry Debtors from SQC consultancy / other services amounting to ₹ 95,43,003.20 represent value of professional services rendered including ₹ 16,75,524.00 due for more than 2 years .

- 2.5 GST Input balance of ₹ 34,23,617.87 appearing in the accounts is subject to reconciliation with the figures uploaded in the GST Portal by the vendors.

### **3. Income and Expenditure Account:**

- 3.1 Expenditures on account of Visiting Professor Remuneration and Expenditure on Medical Reimbursement & Medical Welfare, LTC have been included under the head of expenditure under Salary and Allowances as recommended by Section 8(1) Committee of the Institute.
- 3.2 Out of net receipts on Statistical Quality Control Services a sum of ₹ 1,25,05,480 (being 25% of net receipts on SQC & OR Services, with effect from F.Y. 2005 - 2006) is shown in the Income Expenditure Account of the Institute and the balance amount has been retained with the Development Fund.

### **4 Development Fund:**

- 4.1 Closing balance of Development fund is net of TDS and Bills receivables.
- 4.2 Assets amounting to ₹ 6,78,651.00 acquired during the year out of Development Fund were taken into the asset Schedule 8B.

### **5. Capital Commitments:**

Contracts remaining to be executed on Capital Account amount to ₹ 12,367.36 lakhs (Previous year ₹ 15,408.72 lakhs).

### **6. Gratuity Liabilities:**

The Gratuity Liability as per Payment of Gratuity Act, 1972 estimated as on 31.03.2018 is ₹ 76.86 Crores (Previous year ₹ 64.80 Crores) and not provided for.

### **7. Current Liabilities:**

- 7.1 Other current liabilities include ₹ 91,58,080.48 on account of Earnest Money/ Security Deposits and ₹ 39,72,624.84 on account of Library / Laboratory/ Hostel Caution Money Deposit which are outstanding for more than three years and five years respectively. Action has been taken to scrutinize and make appropriate adjustment in the accounts for these balances. Current liabilities include stale cheques of ₹ 29,72,464.00 and the same is under scrutiny.

- 7.2 GST Output balance of ₹ 32,67,408.74 (inclusive of cess of ₹ 130.56) appearing in the accounts is subject to confirmation with GST records.

**8. General:**

- 8.1 As per decision of the Council, the Institute recovered overhead charges on fund received from externally funded projects and such recoveries are credited to the Miscellaneous Receipt Account and the Development Fund Account in equal proportion.
- 8.2. Assets acquired out of fund of Externally Funded Projects, during the year under audit, have been shown in the Schedule 3 – Earmarked / Endowment Fund.
- 8.3. The Institute has been approved by the Central Government of India, Ministry of Finance (Department of Revenue) for the purpose of clause (ii) of sub-section (1) of Section 35 of the Income Tax Act, 1961, read with Rule 6 of the Income Tax Rules, 1961 from the Assessment year 2004 onwards.
- 8.4. Uniform format of Account recommended by the Government of India has been implemented to the extent it is applicable and suitable to the Institute. Schedules of Accounts forming part of Balance sheet and Income & Expenditure are drawn which are relevant to the Institute. Schedules No. 2, 4, 5, 6, 10, 14, 15, 16, 17, 18, 19, 22 & 23 are not applicable to the Institute.
- 8.5. House Building Advances are made to the employees out of Specific Fund granted by the Government of India. Interests are recovered after recovery of the principal amounts and credited to Income and Expenditure Account. On recovery, principal amount is credited to the House Building Advance Account and thereby gets funded for payment of fresh House Building Advance.
- 8.6. Break-up of Audit Fees & Expenses – Audit Fee ₹ 2,37,500.00 (Previous Year – ₹ 2,37,500.00), Provident Fund Audit – ₹ 27,500.00 (Previous Year – ₹ 27,500.00).
- 8.7. The Institute has been granted registration by the Income Tax Department as Charitable / Religious Trust / Institution under Section 12AA of the Income Tax Act, 1961. Certificate granted on 10.11.2010 by the Office of the Director of I.T.(Exemption) with effect from 01.04.2010.

**(A. Mukherjee/S. K. Chakraborty)**  
Dy. Chief Executive(F)

**(Brig. J. N. Pandey)**  
Chief Executive ( A & F )

**(Sanghamitra Bandyopadhyay)**  
Director

**Plan And Policy Research Fund (PPRF) of INDIAN STATISTICAL INSTITUTE**

**Independent Auditors' Report**

**Report on the Financial Statements**

We have audited the accompanying financial statements of Plan And Policy Research Fund (PPRF) of INDIAN STATISTICAL INSTITUTE, which comprise the Balance Sheet as at 31<sup>st</sup> March 2018, the Income and Expenditure Account for the year then ended and a summary of the significant accounting policies and other explanatory information.

**Management's Responsibility for the Financial Statements**

The Fund management is responsible for the preparation of these financial statements that give a true and fair view of the financial position and financial performance of the Plan and Policy Research Fund (PPRF) of INDIAN STATISTICAL INSTITUTE in accordance with the accounting principles generally accepted in India, including the Accounting Standards as specified by The Institute of Chartered Accountants of India, to the extent applicable. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the relevant Act for safeguarding the assets of the Plan And Policy Research Fund (PPRF) of INDIAN STATISTICAL INSTITUTE, and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the accuracy and completeness of the accounting records relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

1. Our responsibility is to express an opinion on these financial statements based on our audit.
2. We have taken into account the accounting and auditing standards and matters which are required to be included in the audit report.
3. We conducted our audit in accordance with the Standards on Auditing generally accepted in India. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements.



Continued ...2

4. An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Institute's preparation of the financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the Plan And Policy Research Fund (PPRF) of INDIAN STATISTICAL INSTITUTE has in place an adequate internal financial control system over financial reporting and operating effectiveness of such controls. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the Institutes' management, as well as evaluating the overall presentation of the financial statements.
5. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India, of the state of affairs (Balance sheet) of the Plan And Policy Research Fund (PPRF) of INDIAN STATISTICAL INSTITUTE as at 31<sup>st</sup> March, 2018 and the excess of income over expenditure for the year ended on that date.

### Report on Other Legal and Regulatory Requirements

Further to the above, we report that:

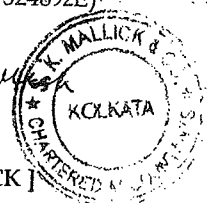
- a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.
- b) In our opinion, proper books of account as required by law have been kept by the Institute so far as it appears from our examination of those books.
- c) The Balance Sheet and the Income and Expenditure Account dealt with by this report are in agreement with the books of account.

Place: Kolkata  
Dated: 27<sup>th</sup> September, 2018.

For S. K. Mallick & Co.  
Chartered Accountants  
(Firm Registration No. 324892E)

[ R. S. MALICK ]  
Partner

Membership No. 059545



BS 2018

**INDIAN STATISTICAL INSTITUTE - DELHI CENTRE**  
**PLAN AND POLICY RESEARCH FUND, FUNDED BY PLANNING COMMISSION**  
**BALANCE SHEET AS AT 31st March 2018**

PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
	Rs.	P.	P.	Rs.
<b>ENDOWMENT FUND :</b>				
As per Last Account	5,05,21,661.19		5,03,04,358.19	
Less : Excess / (Deficit) of Income over Expenditure	(8,30,263.00)		2,17,303.00	
	<b>4,96,91,398.19</b>		<b>5,05,21,661.19</b>	
<b>GENERAL FUND</b>				
Amount Transferred from Endowment Fund	19,83,257.00		19,83,257.00	
ADD : 95 % of Cost of Books & Journals & TDS on Accrued Interest				
<b>CURRENT LIABILITIES</b>				
Outstanding Liabilities	10,67,065.00		10,34,520.00	
<b>LOAN AND ADVANCES</b>				
Loan on FDR				
<b>TOTAL</b>	<b>5,27,41,720.19</b>		<b>5,35,39,438.19</b>	
<b>ASSETS</b>				
Fixed Assets	1,05,56,265.00		1,00,05,828.00	
Investment	3,72,00,000.00		3,82,00,000.00	
Tax Deducted at Source	27,09,888.00		24,00,957.00	
Books & Journals	19,83,257.00		19,83,257.00	
<b>CURRENT ASSETS</b>				
Interest accrued but not due on Fixed Deposit	1,02,685.00		1,03,689.00	
Advance & Prepaid Expenditure	9,489.00		23,970.00	
Cash & Bank Balance With Indian Bank	1,80,136.19		8,21,737.19	
<b>TOTAL</b>	<b>5,27,41,720.19</b>		<b>5,35,39,438.19</b>	

(A. Mukherjee / S.K. Chakraborty)  
Deputy Chief Executive(F)

(Brig J N Pandey)  
Chief Executive (A&F)

Sanghamitra Bandyopadhyay  
Director

In terms of our report of even date  
Kolkata, September 27, 2018

For S.K. Mallick & Co.  
Chartered Accountants  
(Firm Registration No. 324892E)

R.S. Mallick  
Partner  
Membership No. '059545

Date: 27<sup>th</sup> September 2018

I & E 2018

**INDIAN STATISTICAL INSTITUTE - DELHI CENTRE**  
**PLAN AND POLICY RESEARCH FUND, FUNDED BY PLANNING COMMISSION**  
**INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st March 2018**

PARTICULARS	CURRENT YEAR		PREVIOUS YEAR	
	Rs.	P.	Rs.	P.
<b>INCOME</b>				
Interest on Investment	30,89,189.00		32,01,383.00	
Interest on Saving Bank A/c	16,737.00		24,179.00	
<b>TOTAL ( A )</b>	<b>31,05,926.00</b>		<b>32,25,562.00</b>	
<b>EXPENDITURE</b>				
Salary, Honorarium	24,38,575.00		19,43,017.00	
Travelling, conveyance etc.	2,10,745.00		1,21,774.00	
Books & Journals	-		2,076.00	
Repair & Maintenance of Equipment & Computer and Contingencies	89,083.00		1,42,326.00	
Stores & Stationeries and General Charges	1,03,294.00		2,24,410.00	
Postage, Telephone & Electricity Charges	79,339.00		1,14,561.00	
Seminar & Conference	7,15,590.00		2,70,525.00	
Overhead Charges to ISI	2,99,563.00		1,89,570.00	
<b>TOTAL ( B )</b>	<b>39,36,189.00</b>		<b>30,08,259.00</b>	
<b>Excess / (Deficit) of Income over Expenditure</b>	<b>(8,30,263.00)</b>		<b>2,17,303.00</b>	

(A. Mukherjee / S.K. Chakraborty)  
Deputy Chief Executive (F)

(Brig J N Pandey)  
Chief Executive (A&F)

Sanghamitra Bandyopadhyay  
Director

In terms of our report of even date  
Kolkata, September 27, 2018

For S.K. Mallick & Co.  
Chartered Accountants  
(Firm Registration No. 324892E)

R.S. Mallick  
Partner  
Membership No. '059545

Date: 27<sup>th</sup> September 2018



**COMMENTS OF AUDITORS FORMING PART OF THEIR REPORT ON THE ACCOUNTS OF  
THE INDIAN STATISTICAL INSTITUTE FOR THE YEAR ENDED ON 31ST MARCH 2018  
AND REPLIES OF THE ADMINISTRATION**

**Annexure A**

1. Depreciation on fixed assets acquired up to accounting year 1985-86 have not been charged in the accounts from the financial year 1986-87 onwards which is not in compliance with AS 6. [Refer Sr. No. 2.1 of Schedule 24]

**Reply:**

*The process of incorporation of Asset data has been completed. Necessary accounting effect will be given after taking approval of the competent authority of the Institute. Efforts are being made to complete the process in the Financial Year 2018-19. This is disclosed in Schedule 24: Significant Accounting Policies of the Institute under 2.1 and also in Schedule 25: Notes on Accounts under point no. 1.1.*

*Discussion was held with Statutory Auditors and C&AG auditors regarding preparation of fixed assets register and physical verification of fixed assets. Accordingly, a fresh work order (No. CAF/21/057 dated 10.05.2018) has been issued to M/s Sarkar Gurumurthy & Associates, Chartered Accountants for the preparation of fixed assets register as on 31.03.2018 and for physical verification of fixed assets. This is disclosed in Schedule 25: Notes on Accounts under point no. 1.4.*

2. Certain employee benefits including retirement benefits are accounted for on cash basis and accordingly compliance with AS 15 Employee Benefits cannot be ensured. [Refer Sr. No. 1.2(b) and 4 of Schedule 24]

**Reply:**

*Certain employee benefits like Bonus, Gratuity, DA etc. are paid out of the Grant received from Government of India and are accounted for on cash basis from time to time on the basis of sanctions received from the Government to that effect. The amount to the extent of the accrued liability for Gratuity is disclosed in the Schedule 25: Notes on Accounts under point no. 6. This practice is also disclosed in Schedule 24: Significant Accounting Policies of the Institute under point nos. 1.2(b) and 4 respectively.*

3. All transactions pertaining to earlier periods are accounted for as year's transactions under the regular heads of account in the absence of Head "prior period adjustment account" and accordingly compliance with AS 5, Net profit or loss for the period, Prior period items and changes in accounting policies cannot be ensured. [Refer Sr. No. 1.3 of Schedule 24]

**Reply:**

*The transactions pertaining to earlier period are accounted for during the financial year in regular heads of account, as the institute is not maintaining prior period adjustment account. This is followed as per the policies of the Institute and the same is disclosed in Schedule 24: Significant Accounting Policies of the Institute under point no. 1.3.*

4. Transactions in foreign currencies are recorded at exchange rate prevailing at the time of settlement which is not in compliance with AS 11 Effect of changes in foreign exchanges rates". [Refer Sr. No. 6 of Schedule 24]

**Reply:**

*Transactions in foreign currencies are recorded at exchange rate at the time of settlements as per the practice followed in the Institute. The foreign exchange transactions mainly include subscription for Journal which is normally paid in advance for which there is no foreign exchange variation and Per Diem allowance to employees and students on their foreign tour. This practice is disclosed in Schedule 24: Significant Accounting Policies of the Institute under point no.6.*

5. Accounting of interest on house building loans and expenditure on disbursement of share of faculty members respectively has been done on cash basis. [Refer Sr. No. 1.2(a) and 1.2(c) of Schedule 24]

**Reply:**

*Receipts on account of Interest on house building loans are accounted on recovery basis from time to time. The expenditure on disbursement of share of faculty members in respect of income sharing from externally funded consultancy project pertaining to SQC & OR is accounted for on cash basis as per the practice being followed in the Institute. The same is disclosed in Schedule 24: Significant Accounting Policies of the Institute under point nos. 1.2(a) and 1.2(c).*

6. Due to non completion of physical verification of fixed assets and in absence of a comprehensive physical inventory of fixed assets the book balance thereof could not compared with physical balances. [Refer Note 1.4 of Schedule 25]

**Reply:**

*Discussion was held with Statutory Auditors and C&AG auditors regarding preparation of fixed assets register and physical verification of fixed assets. Accordingly, a fresh work order (No. CAF/21/057 dated 10.05.2018) has been issued to M/s Sarkar Gurumurthy & Associates, Chartered Accountants for the preparation of fixed assets register as on 31.03.2018 and for physical verification of fixed assets .. This is disclosed in Schedule 25: Notes on Accounts under point no. 1.4.*

(A.Mukherjee/S.K.Chakraborty)  
Dy. Chief Executive(F)

( Brig. J. N. Pandey)  
Chief Executive(A & F)

(Sanghamitra Bandyopadhyay)  
Director

**COMMENTS OF AUDITORS FORMING PART OF THEIR REPORT ON THE ACCOUNTS OF  
THE INDIAN STATISTICAL INSTITUTE FOR THE YEAR ENDED ON 31ST MARCH 2018  
AND REPLIES OF THE ADMINISTRATION**

**Annexure B**

1. There are old advances that may not be ultimately realizable against which no provisions have been made in the accounts. [Refer Note 2.2 on Schedule 25]

**Reply:**

*There is no practice in the institute to make provision for doubtful advances. However, all old advances are being reviewed on case to case basis and follow up action for adjustment or write off of such advances is in progress.*

2. Computer systems having book value of Rs. 7,00,000.00/- were stolen in year 1992-1993 and no adjustment has been made regarding such loss in financial statements. [Refer Note 1.6 on Schedule 25]

**Reply:**

*Assets under Schedule 8A include a computer system (fixed value: Rs. 7.00 lakhs approx.) which was stolen in 1992 – 1993. A letter (No. CAF/14-1/13/17 dt.12/12/2011) was written to the officer-in-charge, Baranagar Police Station to provide status of the case but reply is still awaited. As per decision of the Council meeting held on 30/10/2012, approval request was sent to parent Ministry and as per its direction, requisite information for preparation of a loss statement was also forwarded to that end followed by reminder. No adjustment has been made since the requisite approval from the Ministry is still pending.*

3. No adjustment of Rs. 20,99,858.10/- have been done which is included under current liabilities, being sale proceeds of assets disposed off including Rs. 20,06,618/- for disposals in an earlier year. [Refer Note 1.7 on Schedule 25]

**Reply:**

*Sale proceeds of fixed assets are accounted for after ascertaining the cost (book value), date of purchase, depreciation etc. from the unit/division/centre to which such assets belong.*

*Appropriate adjustments will be made on submission of Reports by M/s Sarkar Gurumurthy & Associates, Chartered Accountants, as per Work Order No. CAF/21/057 dated 10.05.2018.*

4. There have been projects which has excess of expenditure incurred over and above revenue during the year 2016-17. [Refer Schedule 3 of Balance Sheet]

**Reply:**

*All the externally funded projects, having debit balances, are being reviewed and in few cases, amount has been realised from the funding agency in 2018-19.*

5. Out of the above there have been a few projects which has opening debit balance for the past two financial years. [Refer Schedule 3 of Balance Sheet]

**Reply:**

*The Project Investigators have been issued letters to follow up the same with funding agency to recover the debit balances.*

(A.Mukherjee/S.K.Chakraborty)  
Dy. Chief Executive(F)

( Brig. J. N. Pandey)  
Chief Executive(A & F)

(Sanghamitra Bandyopadhyay)  
Director



## **INDIAN STATISTICAL INSTITUTE**

### **CPF & GPF**

### **Independent Auditors' Report**

#### **Report on the Financial Statements**

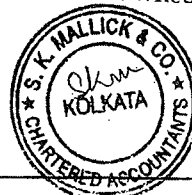
We have audited the accompanying financial statements of CONTRIBUTORY PROVIDENT FUND (CPF) and GENERAL PROVIDENT FUND (GPF) of INDIAN STATISTICAL INSTITUTE, which comprise the Balance Sheet as at 31<sup>st</sup> March 2018, and the Income and Expenditure Account for the year then ended and a summary of the significant accounting policies and other explanatory information.

#### **Management's Responsibility for the Financial Statements**

The CPF and GPF management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance of the CPF and GPF of INDIAN STATISTICAL INSTITUTE in accordance with the accounting principles generally accepted in India, including the Accounting Standards as specified by The Institute of Chartered Accountants of India, to the extent applicable. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the relevant Act for safeguarding the assets of the Institute' CPF and GPF, and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls that were operating effectively for ensuring the accuracy and completeness of the accounting records relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

#### **Auditor's Responsibility**

1. Our responsibility is to express an opinion on these financial statements based on our audit.
2. We have taken into account the accounting and auditing standards and matters which are required to be included in the audit report.
3. We conducted our audit in accordance with the Standards on Auditing generally accepted in India. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements.



Continued ..2

4. An audit involves performing procedures to obtain audit evidence about the amounts and the disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Institute's preparation of the financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the CPF and GPF has in place an adequate internal financial control system over financial reporting and operating effectiveness of such controls. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of the accounting estimates made by the CPF and GPF management, as well as evaluating the overall presentation of the financial statements.
5. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### **Opinion**

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information required in the manner so required and give a true and fair view in conformity with the accounting principles generally accepted in India, of the state of affairs of the Indian Statistical Institute CPF and GPF as at 31<sup>st</sup> March, 2018 and the excess of income over expenditure for the year ended on that date.

#### **Emphasis of Matters**

We draw attention to the following matter of the financial statements. However our opinion is not qualified in respect of these matters.

An amount of ₹ 3,36,81,342.96 is receivable from GPF by CPF.

#### **Report on Other Legal and Regulatory Requirements**

Further to above, we report that::

- a) We have sought and obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.
- b) In our opinion, proper books of account as required by law have been kept by the Institute so far as it appears from our examination of those books.
- c) The Balance Sheet and the Income and Expenditure Account dealt with by this report are in agreement with the books of account.

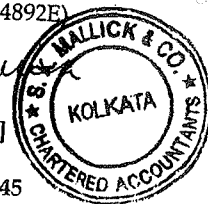
Place: Kolkata  
Dated: 27<sup>th</sup> September, 2018.

152

For S. K. Mallick & Co.  
Chartered Accountants  
(Firm Registration No. 324892E)

[ R. S. MALLICK ]  
Partner

Membership No. 059545



[illegible]

153

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**INDIAN STATISTICAL INSTITUTE**  
**CONTRIBUTORY PROVIDENT FUND**  
**Balance Sheet as at 31st March, 2018**

As at 31st March 2017 Rs. P.	Fund and Liabilities	As at 31st March 2018 Rs. P.	Property & Assets	As at 31st March 2018 Rs. P.
42,20,25,352.85	<b>Brought Forward :</b>	43,52,27,342.26	<b>Brought Forward :</b>	72,11,62,250.92
	<b>Interest :</b>			
7,62,35,124.39	<b>(b) On Employers' Contribution</b>		<b>Cash and Bank Balances</b>	
122.00	As per last account	8,78,43,740.03	In Savings Bank Account with :-	
1,43,86,142.30	Add: Transfer from external sources	101.00	(i) Allahabad Bank,	
27,77,648.66	Add: During the year	1,48,37,512.51	Dunlop Bridge Branch	51,148.10
8,78,43,740.03	Less: Paid during the year	1,27,89,335.08	(ii) Union Bank of India,	
			Ashokgarh Branch	10,665.92
4,65,48,510.67	<b>(c) On Members' Additional Subs.</b>		(iii) United Bank of India,	
1,24,66,900.00	As per last account	5,72,96,909.67	Dunlop Bridge Branch,	33,256.14
17,18,501.00	Add: During the year	1,54,85,381.00	(iv) State Bank of India	
0.00	Less: Paid during the year	66,66,780.00	Dunlop Bridge Branch,	6,413.00
5,72,96,909.67	Less: Withdrawal during the year	2,50,000.00	(v) Bank of Maharashtra	
			Shyambazar Branch	32,796.00
	<b>Amount due to ISI</b>			1,34,279.16
	<b>Amount Due to GPF</b>			
14,40,74,166.37	<b>Income and Expenditure A/c.</b>		<b>Amount Due from GPF</b>	
	As per last Balance Sheet	16,18,05,064.74	<b>Amount due from ISI</b>	3,36,81,342.96
1,77,30,898.37	Add : Undistributed Income during			1,19,85,241.69
16,18,05,064.74	the year	1,41,73,178.60		
<b>72,89,71,067.29</b>				<b>76,69,63,114.73</b>

NOTES ON ACCOUNTS, ANNEXURE - 'A'

In terms of our report of even date.

For S. K. Mallick & Co.  
Chartered Accountants  
(Firm Registration No. 324892E)

(A. Mukherjee)  
Manager/Secretary

(Subrata Kumar Roy)  
Member

(R.S. Mallick)  
Partner

(Saswati Bandyopadhyay)  
Member

Membership No 059545  
Kolkata, September 27, 2018



**INDIAN STATISTICAL INSTITUTE  
CONTRIBUTORY PROVIDENT FUND**

**Income and Expenditure Account for the year ended 31st March, 2018**

Year ended 31st March 2017 Rs. P.	Expenditure	Year ended 31st March 2018 Rs. P.	Income	Year ended 31st March 2018 Rs. P.
1,26,33,568.70	<b>To Interest on :</b> (i) CPF Members' Own Subscription (ii) CPF Employers' Contribution (iii) CPF Additional Subscription	1,33,09,572.33	<b>By Interest on :</b> (a) Allahabad Bank S. B. A/c (b) Allahabad Bank F. D. A/c (c) United Bank of India, S.B. A/c (d) United Bank of India, F.D. A/c (e) Union Bank of India, S.B. A/c (f) Union Bank of India F. D. A/c (g) State Bank of India, S. B. A/c (h) Dunlop Bridge Branch (i) State Bank of India, F. D. A/c (j) Dunlop Bridge Branch (k) Bank of India, S.B. A/c (l) Bank of Baroda, F. D. A/c (m) Bank of Maharashtra, S.B. A/c (n) Bank of Maharashtra, F.D. A/c	46,421.00
1,43,86,142.30		1,48,37,512.51		1,12,09,021.00
1,24,66,900.00		1,54,85,381.00		1,213.00
3,94,86,611.00				9,902.08
		4,36,32,465.84		39,276.00
				3,87,83,456.36
				89,470.00
				33,76,894.00
				0.00
				0.00
				56,639.00
1,77,30,898.37	<b>To excess of income over expenditure carried to Balance Sheet under Income and Expenditure A/C</b>	1,41,73,178.60		41,93,352.00
				5,78,05,644.44
5,72,17,509.37		5,72,17,509.37		5,78,05,644.44

**NOTES ON ACCOUNTS, ANNEXURE - 'A'**

In terms of our report of even date.

For S. K. Mallick & Co.  
Chartered Accountants  
(Firm Registration No.324892E)

(A. Mukherjee)  
Manager/Secretary

(Subrata Kumar Roy)  
Member

(R.S. Mallick)  
Partner

(Saswati Bandyopadhyay)  
Member

Membership No.059545  
Kolkata, September 27, 2018

**INDIAN STATISTICAL INSTITUTE  
GENERAL PROVIDENT FUND  
Balance Sheet as at 31st March, 2018**

As at 31st March 2017 Rs.	As at 31st March 2018 Rs.	As at 31st March 2017 Rs.	As at 31st March 2018 Rs.	Property & Assets	Rs.	P.	As at 31st March 2018 Rs.
<b>Fund and Liabilities</b>		<b>Investments at costs :-</b>		<b>Fixed Deposit with :-</b>		<b>Rs.</b>	
<b>Members' Own Subscription</b>		<b>As per last account</b>		<b>(a) Allahabad Bank, Dunlop Bridge Branch</b>		<b>95,79,84,720.00</b>	
<b>As per last account</b>		<b>Add: Transfer from external sources</b>		<b>(b) United Bank of India, Dunlop Bridge Branch</b>		<b>34,00,000.00</b>	
<b>66,68,16.00</b>		<b>Add: Contribution during the year</b>		<b>(c) Bank of Maharashtra, Shyambazar Branch</b>		<b>10,09,56,511.00</b>	
<b>8,71,48,235.00</b>		<b>Less: Withdrawal during the year</b>		<b>(d) Union Bank of India, Ashokgarh Branch</b>		<b>22,70,00,398.00</b>	
<b>4,22,66,459.70</b>		<b>Other Deposit :-</b>		<b>(e) State Bank of India, Bonhooghly Estate Branch</b>		<b>36,77,200.00</b>	
<b>1,28,39,000.00</b>		<b>Opening Balance</b>		<b>1,25,52,10,820.06</b>		<b>1,29,30,18,830.00</b>	
<b>50,46,54,889.47</b>		<b>Less: Paid during the year</b>		<b>6,12,75,606.00</b>		<b>6,26,03,280.00</b>	
<b>50,535.36</b>		<b>DA to GPF :-</b>		<b>3,41,54,000.00</b>		<b>3,83,48,500.00</b>	
<b>50,535.36</b>		<b>Opening Balance</b>		<b>3,28,26,326.00</b>		<b>3,43,22,932.00</b>	
<b>6,586.92</b>		<b>Less: Paid during the year</b>		<b>6,26,03,280.00</b>		<b>6,26,03,280.00</b>	
<b>43,948.44</b>		<b>Interest :-</b>		<b>2,07,06,368.00</b>		<b>2,07,06,368.00</b>	
<b>12,62,325.95</b>		<b>On Members' Own Subscription</b>		<b>15,87,198.14</b>		<b>15,87,198.14</b>	
<b>97,230.00</b>		<b>As per last account</b>		<b>2,86,13,337.00</b>		<b>2,86,13,337.00</b>	
<b>1,165,095.95</b>		<b>Add: Transfer from external sources</b>		<b>1,37,51,472.00</b>		<b>1,37,51,472.00</b>	
<b>1,165,095.95</b>		<b>Add: During the year</b>		<b>18,28,233.00</b>		<b>18,28,233.00</b>	
<b>21,34,68,940.69</b>		<b>Less: Paid during the year</b>		<b>6,64,86,608.14</b>		<b>6,64,86,608.14</b>	
<b>35,897.00</b>		<b>Amount Due to CPF</b>		<b>40,066.89</b>		<b>40,066.89</b>	
<b>5,35,32,340.67</b>		<b>Income and Expenditure A/c</b>		<b>13,56,050.25</b>		<b>13,56,050.25</b>	
<b>2,46,39,354.38</b>		<b>As per last Balance Sheet</b>		<b>7,729.00</b>		<b>7,729.00</b>	
<b>25,25,000.00</b>		<b>Add : Undistributed Income during the year</b>		<b>13,878.00</b>		<b>13,878.00</b>	
<b>23,96,36,926.88</b>		<b>63,14,03,476.54</b>		<b>22,667.00</b>		<b>22,667.00</b>	
<b>88,00,864.96</b>		<b>4,29,40,189.37</b>		<b>14,40,391.14</b>		<b>14,40,391.14</b>	
<b>57,28,64,954.29</b>		<b>1,49,53,32,431.75</b>		<b>Amount Due from CPF</b>		<b>1,38,57,41,099.34</b>	
<b>5,85,38,522.25</b>		<b>1,49,53,32,431.75</b>		<b>1,38,57,41,099.34</b>		<b>1,49,53,32,431.75</b>	
<b>63,14,03,476.54</b>		<b>1,49,53,32,431.75</b>		<b>1,38,57,41,099.34</b>		<b>1,49,53,32,431.75</b>	

NOTES ON ACCOUNTS, ANNEXURE - A

In terms of our report of even date.

For S. K. Mallick & Co.

Chartered Accountants

(Firm Registration No.324892E)

(R.S. Mallick)

Partner

Membership No.059545

Kolkata, September 27, 2018

(A. Mukherjee)

Manager/Secretary

(Rajati Kanti Chatterjee)

Member

(Mahuya Dutta)

Member

### Income and Expenditure for the year ended 31st March, 2018

NOTES ON ACCOUNTS, ANNEXURE - 'A'

For S. K. Mallick & Co.  
Chartered Accountants  
Firm Registration No.324892E)

(R.S. Mallick)  
Partner  
Membership No 059545  
Kolkata, September 27, 2018

# ANNEXURE – ‘A’ INDIAN STATISTICAL INSTITUTE PROVIDENT FUND

## Notes on Accounts of Indian Statistical Institute Contributory Provident Fund and General Provident Fund

1. The Balance Sheet and Income and Expenditure Account of Indian Statistical Institute Contributory Provident Fund (CPF) and General Provident Fund (GPF) are prepared from the books of account maintained by the Indian Statistical Institute (Institute) wherein transactions and balances relating to CPF and GPF are separately recorded facilitating their identification and extraction for summarization. For the purpose of preparation of financial statements of CPF and GPF, the transactions and balances extracted from the Institute's books are agreed with the records maintained at the Provident Fund Section of the Institute that include separate Investment Ledgers for CPF and GPF and personal ledgers of the member-subscribers containing details of loans, withdrawals and final settlement of provident fund balances.
2. Interest is credited to the subscribers' account for each financial year after the audit of the annual accounts of CPF and GPF for the respective year as per rules of the fund. However, in case of a subscriber quits the service of the Institute or dies, interest, for the period for which the rate of interest is yet to be declared, is allowed up to the date of payment at the rate declared last less 2% per annum or rate as fixed by the Government for its employees whichever is lower as an interim payment and balance of interest, if any due are paid to the member or the member's nominee or legal heir as the case may be after the declaration of interest for that period. Accordingly, interest which have been credited to the accounts of the member-subscribers pertains to the previous financial year i.e. 2016-2017 and these have been booked in the Income and Expenditure Account of CPF and GPF respectively for the year 2017-2018.
3. On the amount of Loan paid to members of both CPF and GPF, interest is not realized. However, interest is credited to the account of member-subscriber of CPF/GPF after deducting any sums withdrawn (including loan) during the current year.
4. D.A to P.F. is being shown in the books of P.F. Accounts since 1990 and Other Deposits both of GPF and CPF respectively represents some arrears arising from the implementation of IVth Central pay commission in the Institute.
5. Interest is not allowed on the balances of erstwhile employees brought forward from earlier years and included as under :  

<u>CPF :</u>	
Members' Own Subscription	: Rs.16,28,894.30
Employers' Contribution	: Rs.13,59,271.09
<u>GPF :</u>	
Members' Own Subscription	: Rs. 9,99,816.50
6. In the event of any shortfall of distributable surplus at the disposal of CPF and GPF to ensure distribution of interest on member-subscriber balances at the Government declared rates, no additional contribution is receivable either from the Government or the Institute. To avoid such situation and with an objective of earning higher investment income, for the benefit of the subscribers, investment of CPF and GPF funds were often made jointly resulting inter-fund balances. Awaiting adjustment on reconciliation as at 31<sup>st</sup> March 2018 Rs.3,36,81,342.96 was due to CPF by GPF (31<sup>st</sup> March 2017 Rs.88,00,864.96 was due to CPF by GPF).
7. GPF Interest income includes a sum of Rs.5,63,878.00 received from Bank of Maharashtra towards differential interest pursuant to the order of the Banking Ombudsman.
8. Previous year figure have been regrouped/rearranged wherever necessary.

(A. Mukherjee)  
Manager/Secretary

(Subrata Kumar Roy)  
Member

(Saswati Bandyopadhyay)  
Member

(Mahuya Dutta)  
Member

(Rajat Kanti Chatterjee)  
Member

Dated , Kolkata  
September 27, 2018

COMMENTS OF AUDITORS (FORMING PART OF THEIR REPORT) ON THE ACCOUNTS OF THE INDIAN STATISTICAL INSTITUTE CONTRIBUTORY PROVIDENT FUND (ISICPF) AND INDIAN STATISTICAL INSTITUTE GENERAL PROVIDENT FUND (ISIGPF) FOR THE YEAR ENDED ON 31<sup>ST</sup> MARCH 2018 AND **REPLIES OF THE BOARD OF TRUSTEES, ISICPF & BOARD OF MANAGEMENT, ISIGPF THEREON.**

**An amount of Rs.3,36,81,342.96 is receivable from GPF by CPF.**

*Reply : ISIPF while making investments, keeping in view the benefit of the subscribers and in order to earn more interest, clubs money available both under CPF & GPF. This creates dues, from and to, each of the funds. This is done for the benefit of the subscribers. However, constant efforts are made to nullify the disbalance by shifting of funds from the debtor fund to the creditor one. Hence, the balance of Rs. 3,36,81,342.96 that was due from GPF to CPF (31<sup>st</sup> March 2017 Rs.88,00,864.96 due from GPF to CPF). Endeavour is on to nullify the same by mid 2018-2019.*

(Amitava Mukherjee)  
Manager/Secretary

(Subrata Kumar Roy)  
Member

(Saswati Bandyopadhyay)  
Member

(Mahuya Dutta)  
Member

(Rajat Kanti Chatterjee)  
Member



## EDITORIAL BOARD

Amita Majumder	----	Chairperson
Goutam Mukherjee	----	Member
Rita Saha Ray	----	Member
Pinakpani Pal	----	Member
Preeti Parashar	----	Member
Susmita Mukhopadhyay	----	Member
Zafar Anis	----	Member
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Rina Chakraborty	----	Member
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D. Sampangi Raman	----	Member
Nityananda Sarkar	----	Member
J.N. Pandey	----	Member
Manoj K. Pandey	----	Member
Sounak Chakraborty	----	Member-Convener

## **Acknowledgements**

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The Editorial Board gratefully acknowledges the assistance rendered by the staff of the CE (A & F)'s Office, Public Relations Unit, Publication & Printing Unit and Reprography & Photography Unit in the preparation of this Annual Report.

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Prof. Stephen Mack Stigler visiting P C Mahalanobis Memorial Museum & Archives at ISI, Kolkata on 11 December 2017



Prof. S. Bandyopadhyay, Director, ISI at "Anti-Ragging Awareness Programme" on 08 August 2017



Inauguration of Women's Day Celebration and Photography Exhibition at ISI, Kolkata on 08 March 2018



Shri Ramachandra Guha, Indian Historian, visiting ISI, Kolkata on 07 February 2018



Felicitation of Dr. Ramdas Chatterjee by Prof. Amita Pal, Dean of Studies, ISI on the occasion of "Oral Health - An Untold Story" on 26 March 2018



Celebration of "126th Birth Anniversary of Dr. B. R. Ambedkar" organized by ISI SC/ST/BC Employees' Co-ordination Council on 12 October 2017





Prof. David Jonathan Gross, Nobel Laureate, at the 52<sup>nd</sup> ISI Convocation, Kolkata on 09 January 2018



52<sup>nd</sup> Annual Convocation at ISI, Kolkata on 09 January 2018



"Hindi Pakwara" organized by ISI, Kolkata on 14 September 2017



70<sup>th</sup> ISEC Convocation at ISI Kolkata on 30 May 2017



Prof. M. Vellasco delivering lecture on 2017 IEEE CIS Summer School on "Recent Advance in Computational Intelligence (RACI)" at ISI, Kolkata during 18-22 September 2017



Condolence in memory of Prof. J K Ghosh, former Director, ISI on 11 October 2017