



Indian Statistical Institute

Directors Report

3rd Meeting of the Council (2016-2018)
February 8, 2017



Brief History of the Institute

“A physicist by training,
a statistician by instinct, and
an economist by conviction”

– Prof. C.R. Rao

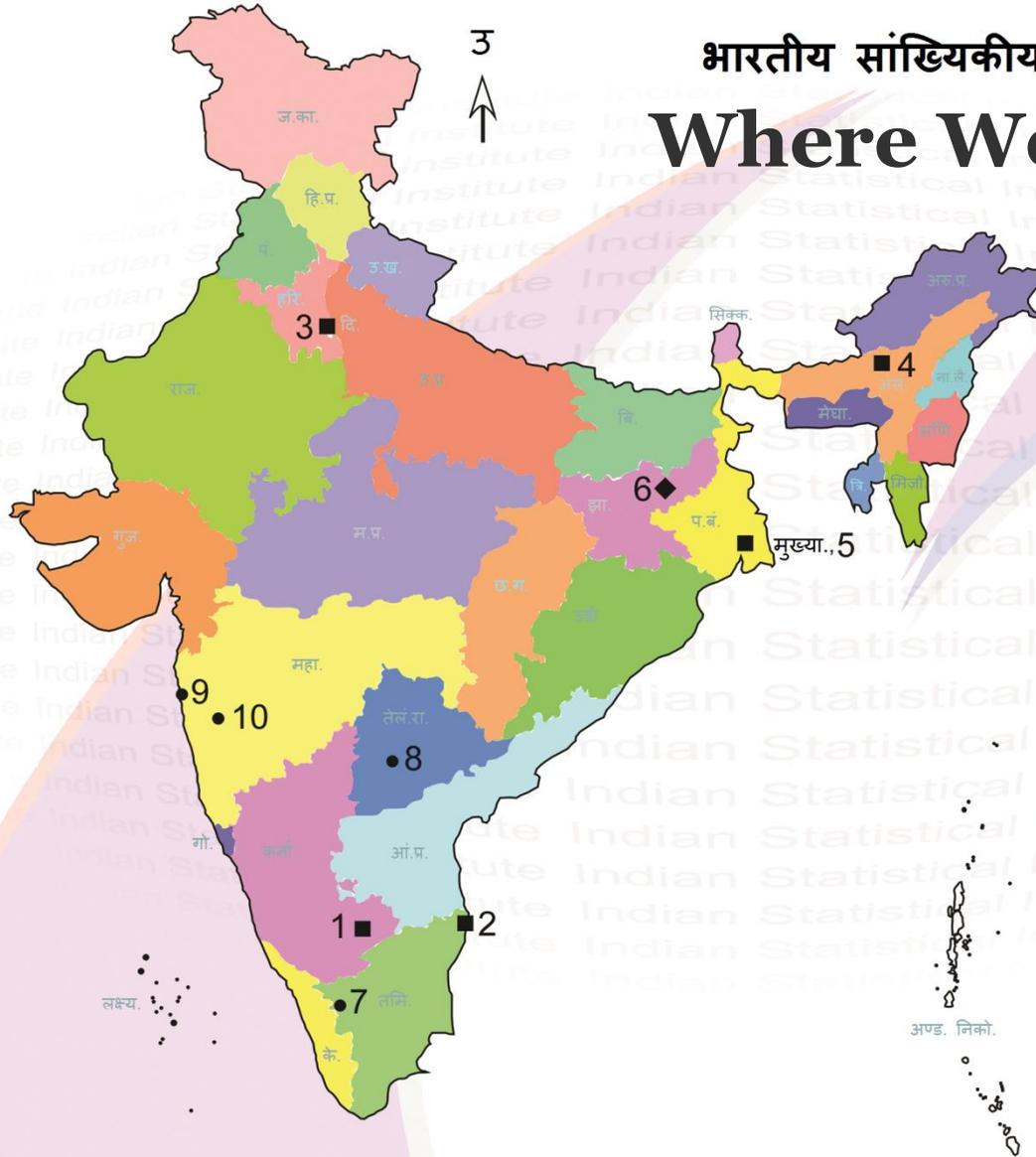


1893-1972

- ▶ Established ISI on 17th December, 1931
 - ▶ Small laboratory in Presidency College with an annual budget of INR 250
- ▶ Study and dissemination of knowledge in statistics
- ▶ Development of statistical theory and methods
- ▶ To undertake research in various fields of natural and social sciences (
 - ▶ mutual development of statistics and these sciences (interdisciplinary research other than statistics)
- ▶ Planning, social development and improving efficiency of management and production
- ▶ Field work, surveys, and preparing reports on statistical and other subjects

भारतीय सांख्यिकीय संस्थान : अवस्थिति

Where We Stand Today



Delhi



Bengaluru



Our Centers



Tezpur



Chennai

Scientific Divisions & Units

- ▶ **Theoretical Statistics and Mathematics Division**
 - ▶ Kolkata, Delhi, Bengaluru, Chennai
- ▶ **Applied Statistics Division**
 - ▶ Kolkata (2), Tezpur, Chennai
- ▶ **Computer and Communication Sciences Division**
 - ▶ Kolkata (6), Bengaluru (2), Chennai
- ▶ **Social Sciences Division**
 - ▶ Kolkata (6), Bengaluru, Delhi, Giridih
- ▶ **Biological Sciences Division**
 - ▶ Kolkata (3)
- ▶ **Physics and Earth Sciences Division**
 - ▶ Kolkata (2)
- ▶ **Statistical Quality Control and Operations Research Division**
 - ▶ Kolkata, Bengaluru, Hyderabad, Chennai, Delhi, Coimbatore, Mumbai, Pune

Besides these ...

- ▶ **R C Bose Centre for Cryptology and Security**
- ▶ **Computer and Statistical Service Centre**
- ▶ **Associate Institutions**
 - ▶ **International Statistical Education Centre (ISEC)**
 - ▶ Serving beyond the Nation
Provides training /short-term courses in Statistics to students from the developing countries of
the Middle East,
South and South East Asia,
the Far East and
Commonwealth Countries of Africa.
 - ▶ **Center for Soft Computing Research (CSCR)**
 - ▶ Basic research and applications of soft computing
 - ▶ Training/certificate programs
 - ▶ Joint programs with less endowed institutes
- ▶ **Administrative Divisions**

Academic Activities: Courses

- ▶ B. Stat, B. Math
- ▶ M. Stat, M. Math, MS(QE), MS(LIS), MS(QMS)
- ▶ M. Tech (CS), M. Tech (QROR)
- ▶ PGDCA and PGDSMA (Diploma in Statistical Methods and Analytics)
- ▶ PGDBA,- a tri-institute program on business analytics
- ▶ PhD:
 - ▶ Statistics, Mathematics, Computer Science, Quantitative Economics and QR&OR
- ▶ Large number of short term training and certificate courses and training programs
 - ▶ In general, and
 - ▶ In the North Eastern Regions of India

Contributions of ISI: Notable Recent Research Results

- ▶ Solution of the Zariski Cancellation Conjecture for Affine Spaces
 - ▶ Open problem for seven decades
- ▶ Quantum of counterfeit currencies in circulation in India
- ▶ Pilot project to develop Quantitative Index of Cleanliness: for Tamil Nadu Government
- ▶ Medical, satellite and document image processing
- ▶ Optical character recognition of Indian languages
- ▶ Population migration using genetic data
- ▶ Bio-informatics: Statistical methods in molecular biology and genetics research
- ▶ Environmental Science: Statistical modelling of Arsenic poisoning data (reported in Nature)
- ▶ Cryptology: Germination of Cryptology in India – An active research group at ISI
- ▶ Cosmology and Astrophysics: Square Kilometre Array
- ▶ Nano-electronics and Biochips
- ▶ Support provided to ISRO, DRDO, IMD, NHAI and other Govt. agencies on a regular basis

Projects of the GoI

- ▶ International Passenger Survey (Ministry of Tourism)
- ▶ Changes in the pattern of irrigation, cultivation and livelihood of rural Bengal
 - ▶ The experience of Jamalpur block of Bardhaman (DST, Govt. of West Bengal)
- ▶ Indian Languages Corpora Initiative-2 (DeitY, MCIT. Govt. Of India)
- ▶ Collaboration with RBI
 - ▶ Estimation of demand for bank notes
- ▶ Metro Railway
 - ▶ Traffic survey on fare structure
- ▶ NABARD
 - ▶ Rural financial inclusion survey
- ▶ NHAI
 - ▶ Socio economic impact of national highways
- ▶ Planning Commission
 - ▶ MGNREGA coordination report
- ▶ ICSSR
 - ▶ Gender violence
- ▶ Department of Posts
 - ▶ Socio economic profile of Gramin Dak Sewaks

Projects of the State Governments

- ▶ West Bengal
 - ▶ Directorate of Textiles
 - ▶ State Finance Commission
- ▶ Govt. of Jharkhand
 - ▶ Deputy Development Commissioner, Deoghar District
- ▶ Govt. of Madhya Pradesh
- ▶ Govt. of Sikkim
- ▶ Govt. of Karnataka
- ▶ Govt. of Tamil Nadu

Government Funded Projects

- ▶ **Healthcare**
 - ▶ Biochemical Assays on a microfluidic Lab-on-a-chip
 - ▶ Cancer Studies
 - ▶ Brain Tumor detection
 - ▶ Microseizure detection
- ▶ **Language Technologies and Image Processing**
 - ▶ Recognition of printed Indian script
 - ▶ Handwriting recognition
 - ▶ Digital Image Reconstruction of Indian Cultural Heritage
 - ▶ focus on Hampi Ruins
- ▶ **Agricultural Sciences**
 - ▶ Information on Agricultural and Horticultural Production
 - ▶ Fertilizers
- ▶ **Study of Rocks of Petrologic Significance**
 - ▶ Quantitative Characterization of Components
- ▶ **Software security**
- ▶ **Brain Computation**

Awards and Recognitions (2016)

- ▶ Member, Monetary Policy Committee, RBI: Prof. C. Ghate
- ▶ Fellow, TWAS: Prof. NR Pal
- ▶ Fellow, IASc: Prof. R. Munshi
- ▶ JC Bose Fellowship: Prof. R. Bhat, Prof. D. Goswami and Prof. S. Bandyopadhyay
- ▶ INAE Chair Professor: Prof. BB Bhattacharyya
- ▶ IAPR Fellow: Dr. S. Mitra
- ▶ Economic Theory Fellowship (Soc. Adv. Economic Theory): Prof. A Sen
- ▶ ICSSR National Fellowship: Prof. P. Roy Chaudhury
- ▶ BM Birla Science Prize: Dr. N. Gupta
- ▶ Humboldt Fellowship: Dr. S. Pal
- ▶ INSA Young Scientist: Dr. RS Hazra
- ▶ NASI Scopus Young Scientist Award: Dr. J. Sarkar
- ▶ IASc Associate: Dr. Y. Dandapani
- ▶ IISA Young Scientist Award: Dr. A. Bandyopadhyay
- ▶ ISCA: Young Scientist: A. Banerjee

Awards and Honors (Overall)

- ▶ Padma Vibhushan: 2
- ▶ Padma Shri: 3
- ▶ Bhatnagar Awards: 19
 - ▶ Currently affiliated to ISI: 09 (2 more superannuated recently)
- ▶ Fellows of INSA, IASc, NASI, INAE, IEEE: More than 30
- ▶ Infosys Prize: 1
- ▶ Mahalanobis Medal: 3
- ▶ CR Rao Award: 4
- ▶ JC Bose and SJF Fellowship: 15+
- ▶ Young Scientist/Engineer/Associate Awards: 20+



Academic/Research Collaborations

- ▶ Cell for Collaboration with Academia, Industry and R&D Labs (C-CAIR)
 - ▶ Chairman: Prof. BB Bhattacharyya
- ▶ MoUs with
 - ▶ Airport authority of India
 - ▶ NHAI
 - ▶ Ericsson India
 - ▶ Tata Consultancy Services
 - ▶ University of Gothenberg
 - ▶ Dauphine University
- ▶ Numerous externally funded project
 - ▶ DST, DBT, Govt. of West Bengal, DGCIS, DAE, RBI, NITI Aayog, Metro Rail (Kolkata), Ministry of Tourism, US Army, London School of Economics, International Growth Center, European Union.
- ▶ Systems Medicine Biocluster - targeted towards Cancer studies at systems level
 - ▶ NIBMG, ISI, IISER, Bose Institute, IICB and Tata Medical Center
 - ▶ Funded by DBT – worth 140+ crore
 - ▶ Upto 2020
 - ▶ ISI to act as the data centre and computing hub – about 14 crores

PCM 125th Year Birthday Celebrations

- ▶ June 29, 2017 to June 28, 2018
- ▶ President of India has given in-principle approval for inaugurating the program
- ▶ Steering Committee
- ▶ Coordination Committee
- ▶ Division Level Committees

Challenges Faced by the Institute

- ▶ Faculty/equivalent strength capped to 273
 - ▶ Earlier there was no cap
 - ▶ Stringent quality requirements have always restricted this number
- ▶ Non faculty strength reduced to 757 from 852
- ▶ Ministry has been requested to reconsider the ceilings to
 - ▶ Faculty – 332
 - ▶ 296 (faculty strength in 2003-2004) + 36 (Asst. Prof. reserved category was advertised)
 - ▶ Non-Faculty - 757 to 852
- ▶ Severe budget cuts, and irregular flow of funds
- ▶ Internal Revenue Generation
 - ▶ Committee is looking into it
 - ▶ Action plan is getting ready

ISI looks forward to suggestions, guidance and leadership from all of you to help us continue to excel



Thank You!

The text 'Thank You!' is rendered in a large, 3D, blocky font. The letters are dark green with a metallic sheen. The background of the letters is a grayscale image of a person's face, looking slightly to the side. The overall effect is a professional and appreciative message.