भारतीय प्रौद्योगिकी संस्थान कानपुर
Indian Institute of Technology Kanpur

STATISTICS AND DATA SCIENCE

POST GRADUATE PROGRAMMES

M.Sc. Statistics | Ph.D. Statistics

Website: www.iitk.ac.in/sds

STATISTICS AND DATA SCIENCE

STATISTICS IN ACTION: Theory | Computation | Design | Decision | Inference

The Department of Statistics and Data Science offers comprehensive postgraduate programs with the objective of preparing motivated researchers and professionals who can work in frontline areas of statistical methodology and data science. The vibrant academic environment of the department is nurtured by strongly motivated faculty.

Our academic legacy is built upon decades of statistical scholarship. The Ph.D. Statistics program began in 1960, followed by the M.Sc. Statistics program in 1971, and the BS/BS-MS in Statistics and Data Science in 2021. This rich history culminated in the establishment of the dedicated Department of Statistics and Data Science in 2026. The department faculty takes research initiatives to work in recent and emerging areas, and encourages interdisciplinary trends.

Today, our thriving research community includes over 25 current Ph.D. scholars, supported by a network of more than 45 Ph.D. alumni who have successfully graduated from the program and are serving in various institutes, universities, and industries.



POSTGRADUATE PROGRAMMES OFFERED

- **M.Sc. in Statistics**

  A two-year postgraduate programme balancing mathematical foundations, statistical methodology, and computational practice.

  Admission Route: Joint Admission Test for Masters (JAM)

- **Ph.D. in Statistics**

  Develop the depth, independence, and computational capability to pursue original research in Statistics and Data Science.

  Admission Route: IIT Kanpur PG Admissions

Lab Facilities

In addition to the Computer Centre (CC) of the institute, which caters to specialized computational needs of the academic community, the new SDS department is building its own computing facilities for faculty, staff, and students.

Computational Facilities for Research Scholars

Ph.D. students will be provided with designated workspaces and computational facilities as required and indicated by their thesis advisors. Students can access various licensed software available from the Computer Centre. They also have access to e-books, reputable journals, Overleaf, and other resources through ONOS and Institute subscriptions.

GPU and Workstations for Data Science

For common use, the SDS department will maintain a consortium of workstations for moderate computational tasks and provide assistance with using the central Institute HPC facilities for more involved computational tasks.

High-Performance Computing (HPC)

The Departments of Statistics and Data Science and Mathematics will jointly share a high-end HPC system for tasks particularly suited to simulations, in addition to the workstations available for moderate computational tasks. The HPC facility will allow students to run multi-core and high-memory experiments, particularly those involving big data.

Power Backup and Networking

All laboratories and computational systems will be equipped with power backup and remote-access infrastructure.

Computer Labs

One large computer laboratory is shared by the Departments of Mathematics and Statistics and Data Science for running various courses. The facility will also be available to students during non-course hours. The room is centrally air-conditioned and offers comfortable seating.

Infrastructure for Seminars

SDS currently shares seminar room facilities with Mathematics. A dedicated SDS seminar room is being prepared and will be equipped with state-of-the-art facilities for audio and video conferences.

Printing Facility

Printing and scanning facilities are provided to Ph.D. students for their research.

FACULTY LIST

- **BHAR, SUPRIO** (PhD, Indian Statistical Institute, Bangalore), Research Interests: Stochastic PDEs, Applications of Probability, Mathematical Finance.
- **DHAR, SUBHRA SANKAR** (PhD, Indian Statistical Institute, Calcutta), Research Interests: Nonparametric Methods, Robust Statistics, Topological Data Analysis and Infinite Dimensional Data Analysis.
- **HAZRA, ARNAB** (PhD, North Carolina State University), Research Interests: Spatial Statistics, Bayesian modeling, Extreme value analysis, Environmental Statistics.
- **KUNDU, DEBASIS** (PhD, Pennsylvania State University), Research Interests: Survival Analysis, Non-Linear Regression, Statistical Computing, Statistical Signal Processing.
- **MISRA, NEERAJ** (PhD, IIT Kanpur), Research Interests: Statistical Inference, Reliability Theory, Ranking and Selection problems.
- **MITRA, AMIT** (PhD, IIT Kanpur), Research Interests: Statistical Signal Processing, Data mining in Finance and Econometrics.
- **MITRA, SHARMISTHA** (PhD, IIT Kanpur), Research Interests: Order statistics and its applications, Order estimation of nested non-linear models, Econometrics.
- **SADHUKHAN, SOUMYARUP** (PhD, Indian Statistical Institute, Kolkata), Research Interests: Game Theory, Combinatorial Games, Choice Theory, and Mechanism Design.
- **SHALABH** (PhD, University of Lucknow), Research Interests: Econometrics, Regression Analysis, Linear Models, Measurement Error Models, Sampling Theory.
- **SINGH, SATYA PRAKASH** (PhD, IIT Bombay), Research Interests: Optimal design of experiments related to cross-over trials, cluster randomised trials, and longitudinal studies.
- **VATS, DOOTIKA** (PhD, University of Minnesota), Research Interests: Markov chain Monte Carlo, Monte Carlo, Bayesian computation, Bayesian statistics.

BROAD RESEARCH AREAS

- Bayesian Statistics & Computation
- Econometrics
- Environmental Statistics
- Extreme Value Analysis
- Game Theory & Mechanism Design
- Mathematical Finance
- Non-Linear Regression
- Nonparametric Methods
- Optimal Design of Experiments
- Reliability Theory
- Robust Statistics
- Spatial Statistics
- Statistical Computing
- Statistical Inference
- Statistical Signal Processing
- Stochastic PDEs
- Survival Analysis
- Topological Data Analysis

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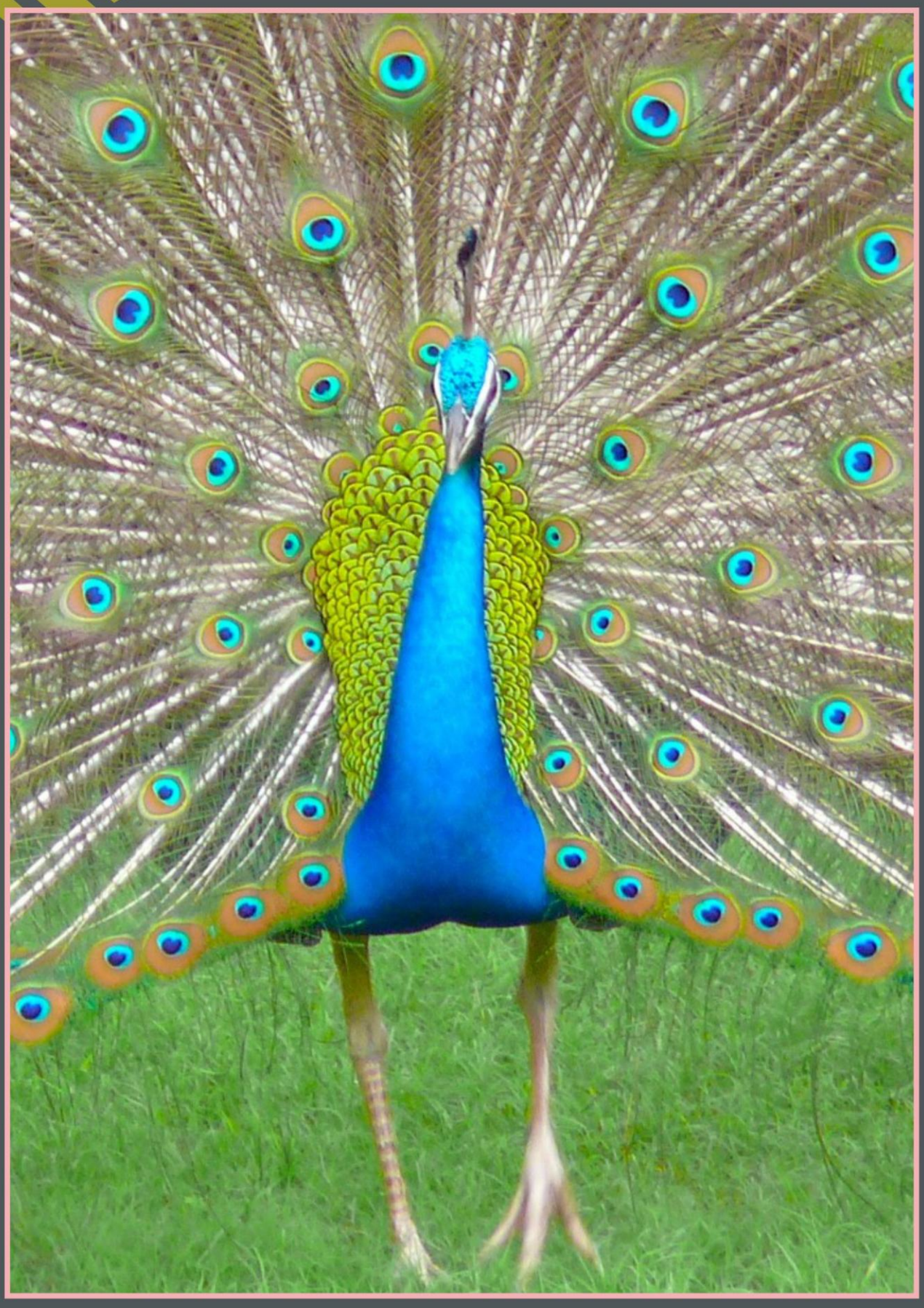
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- **Department Website: www.iitk.ac.in/sds**
- **M.Sc. Program: iitk.ac.in/sds/msc**
- **Ph.D. Program: iitk.ac.in/sds/phd**





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