



Manipal Centre for Natural Science (MCNS)

Centre of Excellence

Organizes

Manipal Astrostatistics School 2024

10th to 15th December 2024

For Ph.D. scholars, PDFs and young faculties.

Final year M.Sc. Physics students are also encouraged to apply.

Collaborative Institutions:

- σ Pennsylvania State University
- σ Harvard Smithsonian Center for Astrophysics (CfA)
- σ Inter-Univ. Centre for Astronomy & Astrophysics (IUCAA)
- σ Saha Institute of Nuclear Physics (SINP)
- σ Bhabha Atomic Research Centre (BARC)

Topics Covered

- σ Introduction to R programming
- σ Descriptive statistics
- σ Probability, Bayes theorem, CLT
- σ Correlation & linear regression
- σ Non-parametric statistics, Statistical inference
- σ Likelihood computation
- σ Intro to Bayesian inference
- σ Model fitting and Bootstrap
- σ MCMC
- σ Time series analysis
- σ Case studies in Astronomy
- σ ML, AI

A significant component of today's astrophysics research involves processing data, fitting models to data and interpreting the results. With large databases and more and more complex models becoming the norm, the role of statistics in estimating uncertainties and in the interpretation of results is increasing exponentially. There are also new analysis tools involving neural nets and machine learning that demand greater familiarisation for students, PDFs and faculties.

This Astrostatistics school is expected to prepare PhD students, Postdoctoral fellows and young faculty researchers with a strong foundation supplemented with clear example applications (as a hands-on training program) by expert statisticians from India and abroad.

Information for Participants

- Accommodation and local hospitality will be provided to the participants.
- Limited support for travel may be provided.

Register on or before **1st November 2024.**

For Further Queries: +91820-2923571, +91820-2923599

Or email: office.mcns@manipal.edu



For Registration and more info visit www.tiny.cc/mas2024 or scan the QR code

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