One Week Workshop on

Statistical Methods for Health Research: Integrating R Software
with Genomic and Genetic Data Analysis

27th - 31st December, 2024

Organized by

School of Computational and Integrative Sciences

Jawaharlal Nehru University, New Delhi

Support from

Bioinformatics Centre and National Network Project, JNU
Department of Biotechnology, Government of India

Registration fee and other information: 40 seats only

- **Last Date: 25th December, 2024**
- **Registration Link: https://forms.gle/GeYRJz4oFkB3tj7s8**
- Rs. 3000 + 18% GST (Postgraduate, M. Phil., Ph.D.)
- Rs. 4000 + 18% GST (Faculty/Academic)
- Payment of the registration fee should be made by NEFT or Online payment as per the following details:
- **Account Name: JNU SPONSORED SEMINAR/CONFERENCE**
- Account No.: **35404650496**
- IFSC Code: **SBIN0010441**
- Bank Branch: **SBI, JNU, New Delhi**

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Resource Persons:
- Prof. Shalabh, IIT-Kanpur, Uttar Pradesh.
- Prof. Shandar Ahmad, SCIS-JNU, New Delhi.
- Dr. Dharmendra Yadav, NIHFW, New Delhi.

Prof. Shalabh   Prof. Shandar Ahmad   Dr. Dharmendra Yadav

About the School: The School of Computational and Integrative Sciences (SC&IS) carries out teaching and research in the inter-disciplinary areas of computational genomics, bioinformatics & drug discovery, database management & systems biology, high-performance computing, and artificial intelligence. The school currently provides the M.Sc., PG Diploma in Big Data Analytics, and Ph.D. program focused on the area of computational and systems biology, complex systems, high-density data analysis, AI/ML, Statistical Genomics, and computational neurosciences.

About the Workshop:

This workshop offers an in-depth exploration of statistical techniques tailored for health research, focusing on genomic and genetic data. Designed for researchers, data analysts, and healthcare professionals, the program emphasizes the application of R software for data manipulation, visualization, and complex statistical modeling. Participants will learn to harness R's capabilities to address challenges in genomic studies, including genetic association testing, high-dimensional data analysis, and biomarker discovery. The workshop combines theoretical insights with hands-on sessions, ensuring participants can directly apply concepts to real-world datasets. pitfalls and optimizing data analysis and optimizing data analysis workflows. By the end of the workshop participants will have the skills to leverage statistical methods and R stools to drive meaningful research insights.

Workshop Topics:

- Introduction of Data and its Concepts.,
- Data visualization using R (Histogram, Boxplot, QQ plot, etc.)
- Descriptive and Advance Statistical Analysis and its interpretation using R
- Testing of hypothesis, Concepts of Confidence Interval, and P-value
- Parametric Statistical test with R Software
  i. Testing of Means
  ii. Testing of Proportions
  iii. Correlation and Regression
  iv. Multivariate Analysis
- Non-parametric statistical test with R software
- Bioinformatics tools and packages in R for genomic analysis.
- Concepts and Practical of Statistical Analysis in Genetics/Genomics Data using R software.
- Case studies on integrative genomic and clinical data analysis.

Accommodation at nominal charges can be arranged in JNU-UGG-HRDC Guest House is merely subject to availability.