

SUN PHARMA SCIENCE FOUNDATION Training Workshop

Understanding Complex Human Diseases: Epidemiological & Genomic Approaches and Methods

January 26 to 30, 2026 (Five days)

Venue: Gitam University, Visakhapatnam

Organized by: ***Gitam University and Sun Pharma Science Foundation***

This Workshop is being organized in recognition of the need to expand research in India on human diseases enabling the identification of important risk factors and interactions among them, and to estimate risks attributable to these factors. The training workshop aims to help the participant acquire skills to design a study using appropriate statistical considerations and methods; and to perform statistical analyses and draw inferences from relevant data, with special emphasis on estimating genomic risks and associations including their interactions with environmental risks. Classroom format – primarily lectures and computer exercises – will be followed. Each selected participant is expected to bring her/his own laptop.

Topics

- What is a complex disease? Why are complex diseases common?
- Framework for the dissection of aetiology of a complex disease.
- Retrospective and Prospective study designs.
- Basic probability and statistics: Probability distributions, Measures of central tendency and dispersion with or without outlier observations, Correlation and Regression, Concepts and methods of estimation of parameters, Concepts and methods of hypothesis-testing, Multiple-testing and false-discovery rate
- Risks: Genetic and Environmental, and their interactions.
- Methods of generation of genomic data: DNA microarrays, Whole-Exome Sequencing, Whole-Genome Sequencing. Summarization and quality control of genomic data.
- Tests of association of putative risk factors associated with a complex disease and estimation of sizes of risk-effects.
- Microbiome and its role in human disease, Experimental and statistical methods of detection of microbiome.
- Ethical considerations in human disease research.

Who can apply?

An applicant must be engaged in research on human disease. An applicant may be a junior employee of an industry holding a PhD degree or a young medical professional in a medical college or a junior faculty-member with a PhD degree of an academic institution, or a research fellow formally associated with a PhD programme of an academic institution.

Other relevant information

There is no course fee. The total number of participants is restricted to 40. Selection will be made on the basis of academic attainments and interests. Selected participants must make their own travel arrangement. Board and lodging will be provided by the organizers. Participants are expected to attend all five days of the Workshop.

How to apply?

Applicants may apply by sending a MS-Word document listing the following information: Name of Applicant, Age (in completed years), Sex, Present position and institutional affiliation, Brief description of engagement with human disease research, Motivation to participate, List of key research publications (if any). The document should not exceed two pages. It must be sent as an attachment to spsfworkshop@gmail.com

- The last date for submitting applications is: December 15, 2025.
- Applicants will be notified of selection by: December 31, 2025.