



Module PMRF-ISSS081/2025

Introduction to Genome-Wide Association Studies (GWAS): Genomic Data and Data Science Foundations

Name of the PMRF student

Shreya Chakraborty

Details of the content of the module

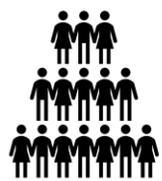
Required background of the students taught

Basics of Molecular Biology, Genetics,
Basics of Statistics/Mathematics,
Basics of programming

Course Outline

This course is designed to provide students with the fundamental concepts and practical knowledge needed to analyse large-scale genomic data. It includes lectures and hands-on tutorial sessions covering the following topics:

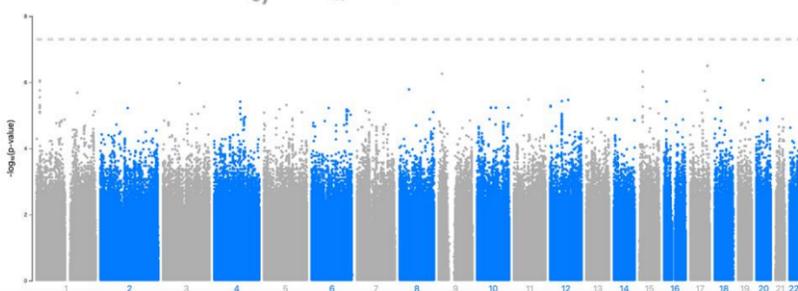
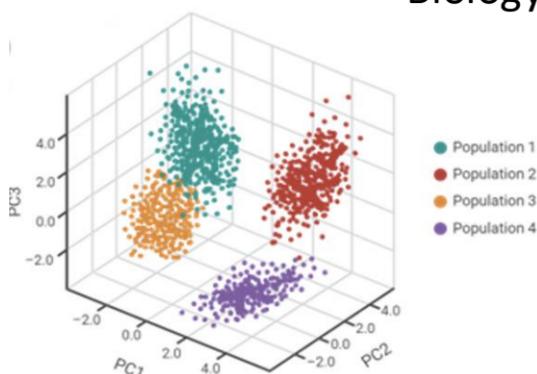
1. Basics of Next-Generation Sequencing
2. Working with file formats, Command-line tools, and programming languages
3. Introduction to GWAS and key concepts
4. Statistics of GWAS
5. Quality Control in genomic data
6. Association Analysis and Visualization
7. Functional Annotation
8. Translating findings to biological functions and clinical relevance



Population



Biology/Traits



Schedule of the module

Start Date: 29 August 2025

End Date: 10 September 2025

Number of Lectures: 9, 2 hours each

Lecture time: To be decided

Meeting link : Will be shared later

[Link](#)

Contact email ID: issforum@gmail.com

Registration link: [Click](#) or
Scan

