

## PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems



Module PMRF-ISSS165/2024

# Genomic Data Analysis: Hands On

Name of the PMRF student

#### Details of the content of the module

### Sauma Suvra Majumdar

### Required background of the students taught

Understanding of basic Molecular Biology, and basics of Programming, Statistics and Mathematics.

This course will describe the step-by-step process to analyze the data generated by NGS platforms along with relevant handson experience. It's a 4 hour crash course on how to handle large genomic datasets and apply relevant pipelines to it.

Lecture1: 2 hrs

Topics: Sequencing technologies overview including Sanger, Illumina, ONT, PacBio etc

Quality Control, Sequence Alignment and Data Formats

Lecture2: 2 hrs

Topics: Basics of Linux commands

Variant Calling algorithms and pipelines for Single Nucleotide Polymorphisms and Structural Variants

### Schedule of the module

Course starts on: 23rd October, 2024

Course ends on: 24th October, 2024

Classes on: Wednesday, Thursday

Timings: 17:30 – 19:00 hrs

Meeting link: Will be shared later

Link:

Contact email ID: <a href="mailto:isss.forum@gmail.com">isss.forum@gmail.com</a>

Registration link:

https://forms.gle/oSPNWPHhRvTOci4F9