



Module PMRF-ISSS038/2023

## Integrative Cancer Biology: Theory, Mathematical Modeling and High-Throughput Technologies

### Name of the PMRF student

Sarthak Sahoo

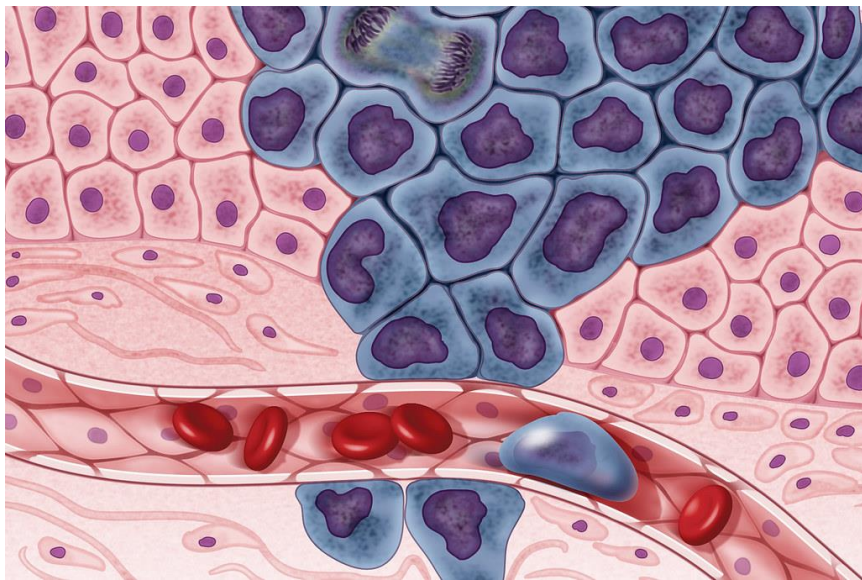
### Required background of the students taught

Bachelors and Masters students of any field, interested in learning basics of Cancer Biology and Mathematical modeling of Cancer Systems.

Prerequisites: None

### Online session coordinator

Will be chosen from the list of registrants



### Details of the content of the module

This course offers an introductory exploration of the intricate interplay between cancer biology, mathematical modeling, and high-throughput technologies. Through a blend of theoretical concepts, advances in recent technologies, and real-world case studies, the course aims to provide a foundational understanding of how mathematical models and advanced technologies are leveraged to unravel the complexities of cancer biology.

Key topics covered in lectures:

- Understanding the hallmarks of cancer
- Signaling pathways and Phenotypic Plasticity
- Differential equations in cancer dynamics
- Population modeling of cancer progression
- Overview of high-throughput techniques with key focus on single cell technologies
- Integrative approaches for translational and clinical applications

### Schedule of the module

Course dates:

October 10<sup>th</sup> onwards

Lectures on Tuesdays and Thursdays (6pm-7:30pm)

Live discussion sessions / Special topics would be covered on weekends based on interest

Meeting link : Will be shared later

[Link](#)

Contact email ID: [issf.forum@gmail.com](mailto:issf.forum@gmail.com)

Registration link:

<https://forms.gle/iPvGUQ4vSa8QczoD8>