



Module PMRF-PMRF-ISSS028/III/2025

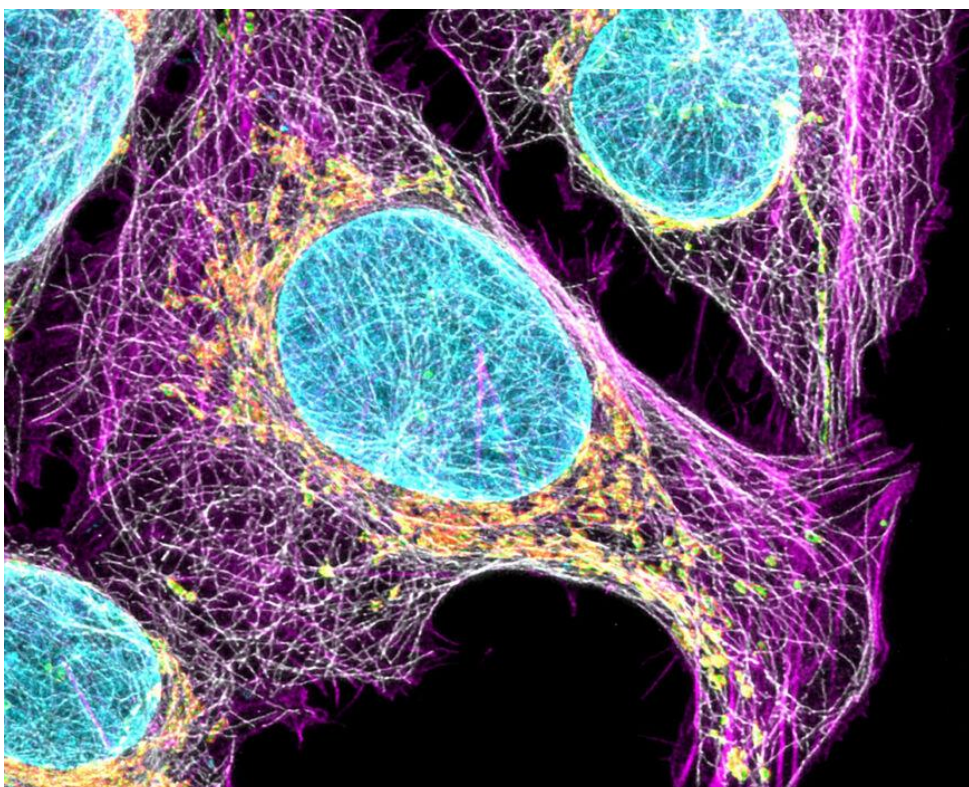
MICROSCOPY FOR BIOLOGY

Name of the PMRF student

S Manasa Veena

Required background of the students taught

Anyone with basic biology background, BTech, BSc, MSc, PhD in Biological sciences/ Bioengineering/ Life sciences/ Biotechnology/ Pharmacy



www.leica-microsystems.com

Details of the content of the module

1. Introduction to Optics
2. Introduction to Light microscopy
3. Introduction to fluorescence Microscope
4. Fluorescent molecules, dyes, labelling strategies
5. Live Imaging, Time lapse imaging
6. Protein dynamics imaging using FRAP, FRET and FLIP
7. Confocal microscopy
8. Types of illumination (Epi, TIRF, HILO, Light sheet, 2 photon microscopy)
9. Introduction to super resolution microscopy
10. SIM, STED, STROM/PALM
11. Immunofluorescence and Immunohistochemistry
12. Fluorescence in situ hybridisation
13. Camera technology for microscopy

Schedule of the module

Tentative dates – 8/Apr/25 – 1/May/25

Recorded lectures will be uploaded – 25 hrs
(lectures+quizzes)

Doubt sessions – Every Monday and Friday 5-6pm
(starting from 11th April 25) – 8 hrs live sessions

Meeting link : Will be shared later

Contact email

ID: veenamanasa@iisc.ac.in

Registration link:

<https://forms.gle/DtDMaxxng6zuheq5A>