PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS121/II/2024

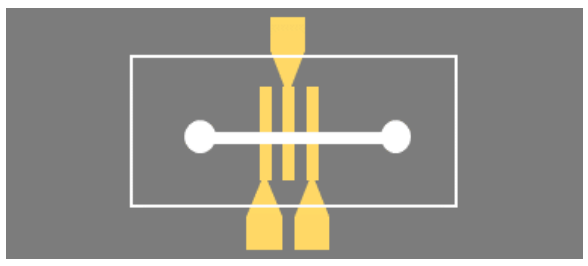
Microfluidics: Theory, Design and Fabrication

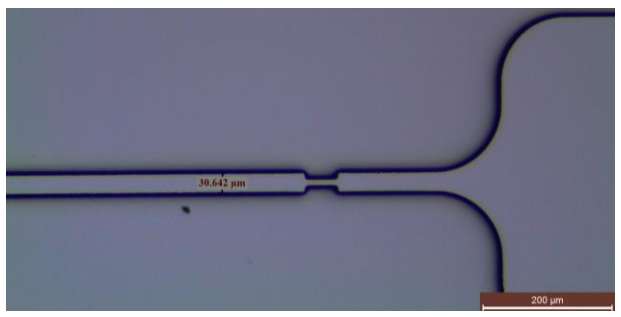
Name of the PMRF student

Ishita Bansal

Required background of the students taught

- B.Tech/BE/M.Tech/ME in Biomedical Engineering, Biotechnology, Mechanical Engineering or Electronics Engineering
- Basic knowledge of differential calculus is necessary.





Details of the content of the module

Week 1: Fundamentals of Microfluidics

- Introduction to the field of Microfluidics
- Types of flows, materials, substrates, etc.
- Flow characteristics, theorems and equations

Week 2: Microfabrication

- Detailed fabrication techniques used for building microfluidic devices

Week 3: Design & Simulation

- Introduction to CleWin
- Introduction to COMSOL

Week 4: Applications

- Detection and sensing
- Microfluidic cytometry

Problem solving & assignments additionally.

Schedule of the module

Timing: Saturdays and Sundays, 9AM-12PM

Duration: 17 Aug 2024- 8 September 2024 (tentatively)

Lectures and Problem solving.

Total hours: 24 (6 hours/week)

Meeting link : Will be shared later

Contact email ID: isss.forum@gmail.com

Registration link: https://forms.gle/R2V6VMKX8DxG51mE8