PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement

facilitated by the Institute of Smart Structures and Systems

Introduction to semiconductor devices for microwave applications

PMRF-ISSS082/V/2024

Name of the PMRF student

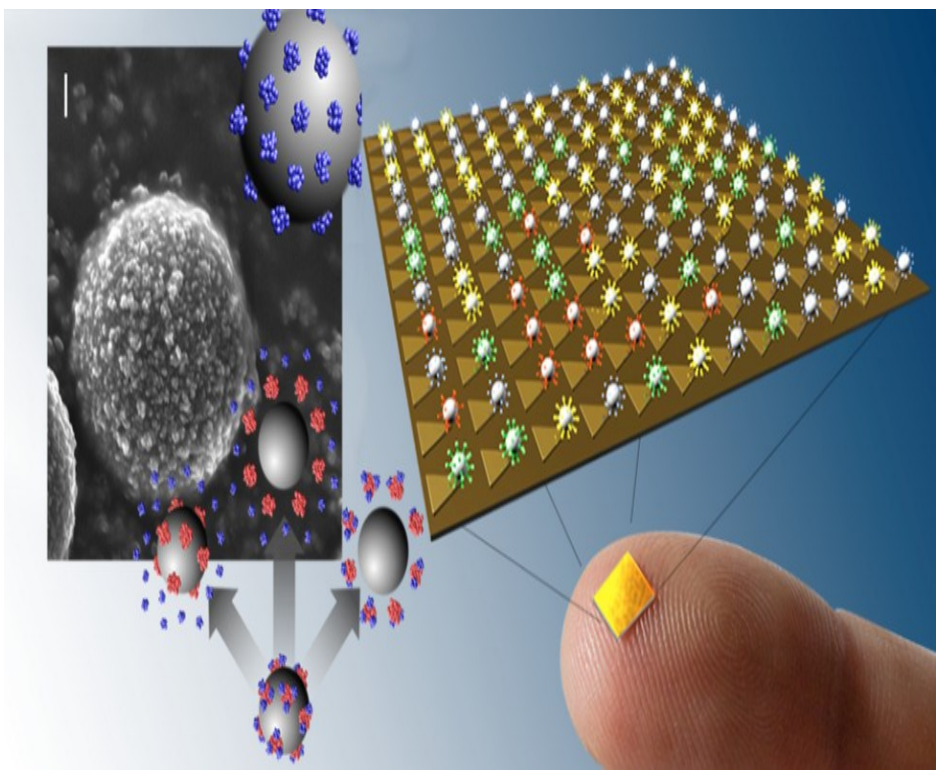
Mohammad Ateeb Munshi

Required background of the students taught

Electronics, Electrical, Physics, Material Sciences

Online session coordinator

Will be chosen from the list of registrants



Details of the content of the module

- **Introduction to the course**

Microwave spectrum, Microwave applications, Semiconductor devices for Microwave applications. Historical overview.

- **Heterojunctions**

Introduction to Gallium Arsenide , Gallium Nitride Devices, Schottky Multipliers, Varactors.

- **Transfer electron Devices**

IMPATT diodes, Gunn diode (working, physics)

- **III-V MESFETs**

Physics, carrier transport, characteristics.

- **III-V HEMTs**

Physics, 2DEG, breakdown, gain, dispersion

- **p-HEMTs**

Recess gate, field plate, multifinger devices, power cell.

Schedule of the module

Lectures will be uploaded on **Saturday** 8pm

Lectures will start from **10th June 2024 (Tentative)**

Course will end on September 10th 2024.

Course Hours: 26 Hours

Link

Contact email ID: isss.forum@gmail.com

Registration link: https://forms.gle/7Ym1ejckHZY1G7tL6