

**Indian Nanoelectronics Users' Programme - Idea to Innovation (INUP-i2i)**  
**16th User Awareness Workshop on Device Fabrication and Characterization**  
**Indian Institute of Technology Delhi**  
**29<sup>th</sup> – 30<sup>th</sup> August, 2024**  
**(Virtual Mode)**



**Workshop Coordinators: Prof. Neeraj Khare & Prof. Prashant Mishra**

**Day 1 (29<sup>th</sup> August 2024, Thursday)**

|                      |                                                                         |                                  |
|----------------------|-------------------------------------------------------------------------|----------------------------------|
| <b>10:00 – 10:45</b> | <b>Inauguration</b>                                                     |                                  |
| <b>10:00 – 10:10</b> | Prof. Neeraj Khare (Department of Physics, IITD)                        | Introduction to INUP-i2i Program |
| <b>10:10 – 10:25</b> | Dr. Sunita Verma (Scientist G, MeitY)                                   | Address to Participants          |
| <b>10:25 – 10:45</b> | Prof. Prashant Mishra (Biochemical Engineering and Biotechnology, IITD) | Introduction about the Workshop  |
| <b>10:45 – 11:30</b> | Prof. Bhaskar Mitra (Electrical Engineering, IITD)                      | Clean Room                       |
| <b>11:30 – 13:00</b> | Prof. Sujeet Chaudhary (Department of Physics, IIT Delhi)               | Vacuum Techniques                |
| <b>Lunch Break</b>   |                                                                         |                                  |
| <b>14:00 – 15:00</b> | Prof. P.K. Muduli (Department of Physics, IIT Delhi)                    | Sputtering                       |
| <b>15:00 – 15:30</b> | Prof. Samaresh Das (CARE, IIT Delhi)                                    | ALD                              |
| <b>15:30 – 16:00</b> | Prof. Neeraj Khare (Department of Physics, IITD)                        | E-Beam Deposition                |
| <b>16:00 – 17:00</b> | Prof. Dhiman Mallick (Electrical Engineering, IITD)                     | Reactive Ion Etching             |

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**Day 2 (30<sup>th</sup> August 2024, Friday)**

|                                                       |                                                                         |                                                                            |
|-------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>10:00 – 10:45</b>                                  | Prof. Prashant Mishra (Biochemical Engineering and Biotechnology, IITD) | Fourier-Transform Infrared Spectroscopy (FTIR)                             |
| <b>10:45 – 11:30</b>                                  | Prof. Sunil Kumar (Department of Physics, IITD)                         | Photoluminescence (PL)/RAMAN Spectroscopy                                  |
| <b>11:30 – 12:15</b>                                  | Prof. Neeraj Khare (Department of Physics, IITD)                        | X-Ray Diffraction (XRD) /<br>Scanning Electron Microscope (SEM)            |
| <b>12:15 – 13:00</b>                                  | Prof. Ankur Goswami (Materials Science and Engineering, IITD)           | Atomic Force Microscope (AFM)                                              |
| <b>Lunch Break</b>                                    |                                                                         |                                                                            |
| <b>14:00 – 14:45</b>                                  | Prof. Anuj Dhawan (Electrical Engineering, IITD)                        | Spectroscopic Ellipsometry for characterization<br>of nanoscale thin films |
| <b>MCQ Based Quiz, Feedback and Concluding Remark</b> |                                                                         |                                                                            |
| <b>14:45 – 15:00</b>                                  | MCQ Based Quiz/Feedback                                                 |                                                                            |
| <b>15:00 – 15:30</b>                                  | Concluding Remark                                                       |                                                                            |