



National Centre for Flexible Electronics

## SCDT – FlexE Centre Webinar Series

The webinars aim to bring together researchers in Flexible Electronics and allied areas from across India (and other countries) on a single platform to promote professional interaction.

### Abstract of the Webinar

As the scaling of devices is saturating, further miniaturisation of systems is being pursued using advances in packaging and integration techniques. These techniques are enabling development of 2.5D and 3D systems. In addition to system miniaturisation these approaches also provide better performance and lower energy requirements. Our lab works on development of various fabrication techniques for advanced packaging and integration. In this talk I will talk about our fabrication techniques for integration of ultra-thin devices. We will show how to develop 3D stacks with device layers as thin as 2 $\mu$ m. I will discuss some sensor systems that have been demonstrated using such integration schemes. Then I will discuss our work on development of flexible and wearable sensors. Work in our group has focused on fabrication schemes to incorporate newer materials/mediums for development of wearables.

### Information about the speaker

Prosenjit Sen received the Ph.D. degree in mechanical engineering from the University of California, Los Angeles (UCLA), in 2007, and the B.Tech. degree in manufacturing science and engineering from the Indian Institute of Technology, Kharagpur, India, in 2000. At the Micro and Nano Manufacturing Laboratory, UCLA, his research interests included microfluidic systems, droplet dynamics, liquid-metal-based RF microelectromechanical systems, and reliability of electrowetting-on-dielectric devices. From 2010-2013 he worked at Innovative Micro Technology, Santa Barbara, CA as a process engineer and program manager. Currently he is an Associate Professor in Centre for Nano Science and Engineering at Indian Institute of Science. His group works towards development of microfluidic devices and heterogeneous systems.

### Webinar by



### Dr. Prosenjit Sen

Centre for Nano Science and Engineering  
Indian Institute of Science, Bangalore

### “Heterogeneous Integration of Microscale Devices for System Scaling”

Date: 12<sup>th</sup> November, 2024

Time: 7:30 PM to 8:30 PM

Visit [www.iitk.ac.in/scdt/webinars.html](http://www.iitk.ac.in/scdt/webinars.html)  
to access the zoom link to join the  
webinar.

The event will be chaired by

### Dr. Saurabh Kumar

National Institute of Pharmaceutical  
Education and Research (NIPER) Guwahati