



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.

Webinar by



Dr. Manoj A. G. Namboothiry

School of Physics
Indian Institute of Science Education and
Research, Thiruvananthapuram

*“Flexible electronics: A perspective on
photovoltaics and photodetection”*

Date: 14th January, 2025

Time: 7:30 PM to 8:30 PM

Visit www.iitk.ac.in/scdt/webinars.html
to access the zoom link to join the
webinar.

The event will be chaired by

Dr. Rajneesh Misra

Indian Institute of Technology Indore

Abstract of the Webinar

Solution-processed semiconductors play a crucial role in developing flexible and roll-to-roll processed solar cells and photodetectors. Flexible solar cells based on organic semiconductors and perovskites offer promising solutions for energy harvesting on curved or flexible surfaces. Despite their potential, challenges remain in improving the efficiency and stability for widespread application. Similarly, flexible photodetectors utilizing materials such as 2D semiconductors and organic compounds are paving the way for next-generation optical sensing devices. These systems have possible applications ranging from healthcare monitoring to environmental sensing. However, achieving a balance between mechanical flexibility and high performance remains a challenge. I will discuss on the current state-of-the-art of flexible electronics in photovoltaics and photodetection, highlighting the required material properties, device architectures, and their potential applications. The challenges and future directions in this field will also be discussed..

Information about the speaker

Dr. Manoj A. G. Namboothiry is currently a professor at School of Physics, Indian Institute of Science Education and Research (IISER TVM), Thiruvananthapuram, Kerala. He did his PhD from JNCASR, Bangalore. He has long been associated with research in the area of photovoltaic devices involving organic, organic-inorganic hybrid materials and nanocomposites. His research work is focused on making devices such as solar cells, light emitting diodes, field effect and phototransistors, and memory devices. Incorporation of plasmonic nanostructures, photocurrent spectroscopy, conducting polymer/biomolecular interface for biosensor applications are major areas of focus of his group. His current interests are in studying the photophysical and electrical properties of photovoltaic devices to understand how to improve the efficiency of the devices further.