

IEEE Miami Section, EPS Packaging Webinar

“Nanopackaging for FutureG and THz System Solutions”

Wednesday, January 10, 2024 | 11:00 Hrs. to 12:00 Hrs (EST)

Moderator: Dr. Atom Watanabe (IBM)

Theme of session: Foundations for advancing wireless networks rely on the exploration of high-frequency bands ranging from 30 GHz to 300 GHz. FutureG and THz communication technologies enable access to these bands with improved spectral efficiency and bandwidth. However, these trends also present significant challenges for future electronic systems. These are associated with design for higher gain and bandwidth to address higher pathlosses, interconnect losses between the transceiver and the antenna array, higher power consumption because of hardware complexity, thermal management for higher power dissipation, limited manufacturability because of the new set of required materials, high functional density in multilayered substrates, and high production costs. Nanopackaging enables key solutions to many of these challenges by bringing advanced packaging and device materials, interfaces and package architectures to manage the complex system requirements for THz communications.

Speaker bios:



Dr. Nezhil Pala is currently a Professor at the Electrical & Computer Engineering Department of Florida International University. His research interests include design, fabrication and characterization of nanoscale materials, devices and systems for electronic, photonic and plasmonic applications in bio/chemical sensing, imaging, communication, energy harvesting, terahertz technologies as well as visible light communication. He is a recipient of NSF CAREER award. He has authored/coauthored more than 250 articles published in peer reviewed scientific journals and conferences, 6 book chapters, 11 US patents.



Dr. Prem Chahal joined Michigan State University, East Lansing, MI, USA, in 2009, as a Faculty Member, where he has been an Associate Professor since 2015. His current research interests include blockchain, terahertz technology, millimeter-wave electronics, RF-based sensors, RF MEMS, RF-optical devices, and microwave and millimeter-wave systems packaging. Dr. Chahal was a recipient of the 2012 DARPA Young Faculty Award and the 2016 Withrow Teaching Excellence Award. His interests are in Terahertz (THz) and Millimeter-wave Electronics, IR Sensors, Microsystems Packaging, RF-MEMS, BioMEMS, and Flex Electronics.

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