

Distinguished Lecture, EDS, IEEE

9:45-10:30, May 24th on Friday, 2019
Room 501, Building G2, Suzukakedai-campus,
Tokyo Institute of Technology
<https://www.titech.ac.jp/english/maps/>

Title: Silicon Technologies for 5G Enhanced Mobile Broadband Radio interface on mmWave

Speaker: Dr. Anirban Bandyopadhyay, Director, RF Strategic Applications & Business Development, GLOBALFOUNDRIES, Inc., USA

Abstract: 5G, the next generation cellular standard will cover different usage scenarios covering enhanced mobile broadband (eMBB), ultra-reliable, low latency communication (uRLLC) and low power massive machine-to-machine communication (mMTC). In this talk, I'll focus on eMBB aspect of 5G - particularly the mmWave based eMBB. The talk will highlight the need for mmWave based mobile communication, different hardware architecture options and key figures of merits for the radio interface of mmWave 5G eMBB. The focus of the talk will be discussing different chip partitioning options and how different silicon technologies like partially and fully depleted SOI, Silicon-Germanium BiCMOS can address the requirements and challenges for different mmWave 5G radio architectures for both User Equipments (UE) and Infrastructure (small cell, backhaul).

Speaker's Bio: Dr. Anirban Bandyopadhyay is the Director, RF Strategic Applications & Business Development within GLOBALFOUNDRIES, USA and is located at Hopewell Junction, New York. His work is currently focused on hardware architecture & technology evaluations and business development for different RF and mmWave applications. Prior to joining GLOBALFOUNDRIES, he was with IBM Microelectronics for 8 years where he used to manage design enablement group for wireless applications and also led RF strategic applications and marketing. During 2000-2007, Dr. Bandyopadhyay was with Intel, California where he worked on different areas like Silicon Photonics, signal integrity in RF & Mixed signal SOC's. Dr. Bandyopadhyay did his PhD in Electrical Engineering from Tata Institute of Fundamental Research, India and Post-Doctoral research at Nortel, Canada and at Oregon State University, USA. He has many publications in international journals and conferences, wrote a book chapter on Optical Photodetectors and holds several US patents. He represents Global Foundries in different industry consortia on RF/mmWave applications and is a Distinguished Lecturer of IEEE Electron Devices Society.