

# Speakers of CODEC 2023

14<sup>th</sup> December, 2023

## Keynote: Dec14: 10:10-10:50 AM (Hall-1)

**Next generation of wireless communication and a vision for our mobile future**

- Dr. Anirban Bandyopadhyay

*IEEE Fellow, Senior Director of Strategic Applications,  
Mobility & Wireless Infrastructure, GLOBALFOUNDRIES, USA*

(**Acronym: LTP:** Lightwave Technologies and Photonics, **NMD:** Nanomaterials and Semiconductor Devices, **VLSI:** Very Large Scale Integrated Circuits, **QCT:** Quantum Computing and Techniques, **WCOM:** Wireless communications, **MWRT:** Microwave and Radar Technologies, **AEP:** Antennas and Electromagnetic Propagations, **CAS:** Computer Applications and Signal Processing, **SSC:** Space Science and Communications), Hall 1: Vivekananda Hall (1<sup>st</sup> Floor), Hall 2 : Shivananda Hall (1<sup>st</sup> Floor), Hall 3: Premananda Hall (1<sup>st</sup> Floor), Hall 4: Turiananda Hall ( 2<sup>nd</sup> Floor)

## Invited Speakers for Different Tracks:

### Hall1: Lightwave Technologies and Photonics, Nanomaterials and Semiconductor Devices

**Dec14: 11:40AM-12:10PM (LTP) - Microwave Photonics: where RF meets Optics:**

*-Dr. Deepa Venkitesh, Professor IIT Madras*

**Dec14: 2:00 -2:30 PM (LTP)- Optical signal processing for fiber communication:**

*-Dr. Shiva Kumar, Professor McMaster University, Ontario, Canada*

**Dec14: 2:40-3:10 PM (LTP) - Erbium-Doped Fiber Amplifiers For Mode Division Multiplexing Optical Fiber Communication System:**

*-Dr. Vipul Rastogi, Professor, HOD, Department of Physics, IIT Roorkee*

**Dec14: 4:30-5:00 PM (LTP)- Nitride-based visible- and UV-LEDs: An overview of design, fabrication and reliability of Devices:**

*-Dr. Suchandan Pal, Chief Scientist · CSIR-CEERI, Pilani India*

### (Hall-2) Wireless Communication (WCOM)

**Dec14: 11:40AM-12:10 PM (WCOM) -Shaping the Next-Generation Wireless Communication:**

*-Dr. Saptarshi Chaudhuri*

*Networking and Communication Research Lab, International Institute of Information  
Technology, Electronics City, Bangalore, India*

**Dec14: 2:00 -2:30 PM (WCOM) - On Enhancing Efficiency of Wireless Energy Transfer:**  
*-Dr. Swadesh De, Professor IIT Delhi*

**Dec14: 2:40-3:10 PM (WCOM) - Multi-User MIMO NOMA using varied Power, Diversity, Precoding and Clustering for Improved Performance:**  
*-Dr. Iti Saha Mishra, Professor Jadavpur University*

**Dec14: 4:30-5:00 PM (WCOM)- Millimeterwave Communication in 5G and Beyond: Challenges and Opportunities**  
*-Dr. Sasthi C. Ghosh, Professor, Advanced Computing and Microelectronics Unit, Indian Statistical Institute, Kolkata, India*

**Dec14: 5:05-5:35 PM (WCOM) -Near Field Communication – a Contradiction in Terms?**  
*-Dr. Somnath Mukherjee, Sandhurst, CA, USA*

### **(Hall-3) VLSI, Quantum Computing and Techniques (VLSI/QCT)**

**Dec14: 11:40AM-12:10PM (VLSI/QCT)- Engineering Defects for Quantum Technology:**  
*-Dr. Tanmoy Basu, Research Scientist, Centre for Quantum Engineering, Research and Education TCG-CREST, Kolkata*

**Dec14: 12:15:-12:45PM (VLSI/QCT)- Experimental Realization of Diverse Photonic Quantum Walks: A Primitive for Quantum Simulation and Computation**  
*-Dr. Syamsundar De, IIT Kharagpur*

**Dec14: 2 -2:30 PM (VLSI/QCT)- Light Matter Interaction In Two Dimensional Semiconductors**  
*-Dr Sajal Dhara, IIT Kharagpur*

**Dec14: 2:40-3:10 PM (VLSI/QCT)-Single Electron Transistors for realizing Donor Based Spin Qubits in Silicon:**  
*-Dr. Ranjit Kashid, Centre for Materials for Electronics Technology (C-MET), Pashan, Pune*

### **(Hall-4) Computer Applications And Signal Processing (CAS)**

**Dec14: 11:40AM-12:10PM (CAS) - A Scalable Privacy-Preserving and Verifiable Collaborative Learning for Fog-based Industrial IoT:**  
*Dr. Sipra Das Bit, Professor, Dept. of Computer Science and Technology, IEST, Shibpur*

**Dec14: 2:00 -2:30 PM (CAS) - Looking Beyond The Haze: Image Dehazing, Principles And Some Applications:**  
*-Dr. Sarbani Palit, Indian Statistical Institute, Kolkata*

**15<sup>th</sup> December, 2023**

**Plenary; Dec15: 9:30-10-10 AM (Hall-1)**

**From Smart Sensing to Smart Living: The Era of IoT, AI/ML and Data Science**

**-Dr. Sajal K. Das**

*IEEE Fellow, Distinguished Professor, Department of Computer Science  
Missouri University of Science and Technology, USA*

**Invited Speakers for Different Tracks:**

**(Hall-1) Nanomaterials and Semiconductor Devices, VLSI, Quantum Computing and Techniques (NMD/VLSI)**

**Dec15: 10:45-11:15 AM (NMD/VLSI) - Unlocking the Quantum Frontier: Exploring the Fascinating World of Quantum Machine Learning**

*-Dr. Amlan Chakraborty, Professor, Dept. of Information Technology, Calcutta University*

**Dec15: 11: 20-11:50 AM(NMD/VLSI - Fabrication Of Large Area Photonic Device: A Self-Assembly Approach:-Dr. Tapajyoti Dasgupta, IISc. Bangalore**

**Dec15: 1:45 -2:15 PM (NMD/VLSI) - Field Effect Transistor-Based Sensors For Amplified Detection of Vocs For Non-Invasive Detection Of Diseases**

*-Dr. Tarun Kanta Bhattacharya, Professor, IIT Kharagpur*

**(Hall-2) Microwave and Radar Technologies, Antennas and Electromagnetic Propagations, Wireless Communication (MWRT/AEP)**

**Dec15: 10:45-11:15 AM (MWRT/AEP) - Antenna Design Using Substrate Integrated Waveguide Technology:**

*-Dr. Susanta Parui, Professor, HOD, IEST Shibpur*

**Dec15: 11: 20-11:50 AM (MWRT/AEP) - Recent Advancements of Metasurfaces for Applications in High Frequencies:**

*-Dr. Somak Bhattacharyya, IIT BHU*

**Dec15: 1:45 -2:15 PM (MWRT/AEP)- ISRO's Radar Eye In The Sky And Related Technologies**

*-Dr. Jolly Dhar, Group Director-MSRG, SAC, ISRO Ahmedabad*

**Dec15: 4:10 -4:40 PM (MWRT/AEP) - A New Approach to Wind Profiling with Radars:**

*-Dr. V. K. Anandan, Deputy Director, Radar Development Area, ISTRAC, ISRO Bangalore*

### **(Hall-3) Wireless Communication**

**Dec15: 10:45-11:15 AM (WCOM/SSC) - Next Generation Wireless 5G and 6G:**

*Dr. P. H. Rao, Director General, SAMEER, MeitY, Govt. of India*

**Dec15: 11: 20-11:50 AM (WCOM/SSC) - Vision for 6G:**

*Mohmedsaeed Mombasawala, CTO, Keysight Technologies*

**Dec15: 11: 55 AM-12:25 PM (WCOM/SSC) - Millimeter Wave and Sub-Terahertz Band  
Wireless Communication: Challenges And Some Emerging Trends –**

*Dr. Ratnajit Bhattacharya, Professor, the Department of Electronics and Electrical Engineering IIT  
Guwahati*

**Dec15: 12:30-1:00 PM (WCOM/SSC) - Next Generation Wireless 5G**

*Dr. Arijit Majumder, Scientist E, SAMEER Kolkata*

### **(Hall-3) Space Science (SSC)**

**Dec15: 1:45 -2:15 PM (SSC) - Unravelling the Contrasting Features Of Clouds And  
Precipitation For The Extreme Weather Events Over The Urban Coastal City Of Mumbai:**

*-Dr. Kaustav Chakravarty, Scientist E, Indian Institute of Tropical Meteorology, Government of  
India, Pashan, Pune 411 008*

### **(Hall-4) Computer Applications And Signal Processing**

**Dec15: 1:45 -2:15 PM (CAS) - Quantum Enhanced Pattern Classification: A Case Study for Efficient  
Feature Selection:**

*-Dr. Basabi Chakraborty, Distinguished & Emeritus Professor, Iwate Prefectural University, Japan*

### **(Hall-2) Industry Session:**

**Dec15: 5-5:25 PM - Silicon Photonics: from Fab to Rack:**

*-Dr. Riddhi Nandi, Principal Engineer. GlobalFoundries*

**Dec15: 5:30-5:55 PM- CMOS RF Front-End Design: Overview and Challenges!**

*-Dr. Indrajit Das, Principal Engineer. GlobalFoundries*

**16<sup>th</sup> December, 2023**

**Plenary Talk; Dec16: 9:30-10:10 AM (Hall-1)**

**Energy Constraints In Wireless Technologies - How To Improve Efficiency**

-Dr. Nuno B. Carvalho

*IEEE Fellow, Distinguished Professor, University of Aveiro, Portugal. Director DETI ,  
IEEE – MTT President*

**Plenary Talk; Dec16: 10:20-11:00 AM (Hall-1)**

**Smart Connected Future with Millimeter Waves: Challenges and Technology Directions:**

-Dr. Debabani Choudhury

*IEEE Fellow, Intel Corporation, Santa Clara, CA, USA*

**Invited Speakers for Different Tracks:**

**(Hall-1) Antennas and Electromagnetic Propagations (AEP):**

**Dec16: 11:25-11:55 AM -Recent Advances in Multifunctional Ultrawideband Antennas**

*-Dr. Jawad Y. Siddiqui, IRPE, CU, Visiting Professor Canada*

**(Hall-2) Space Science And Communicatios (SSC)**

**Dec16: 11:25-11:55 AM (SSC)- Chandrayaan-3 Mission in the Context of India's Lunar Quest:**

*-Dr. Tirtha Pratim Das, Director, Science Programme Office, ISRO Headquarters, Bangalore*

**Dec16: 12:00-12:30 AM (SSC) - Characterizing Low Latitude Ionosphere using the GMRT**

*Dr. Abhirup Dutta, Professor and Head, Astrophysics and Space Engineering, IIT Indore*

**(Hall-2) Wireless Communication**

**Dec16: 2:00 -2:30 PM (WCOM/SSC)- NavIC In Atmospheric-Ionospheric Studies**

*-Dr. Saurabh Das, Department of Astronomy, Astrophysics and Space Engineering, IIT Indore*

**(Hall-3) Nanomaterials and Semiconductor Devices (NMD)**

**Dec16: 11:25-11:55 AM (NMD)- Passivation Technology for High-efficiency n-Si Solar Cell:**

*-Dr. Mukul Das, Professor, IIT Dhanbad*

**(Hall-4) Computer Applications And Signal Processing**

**Dec16: 11:25-11:55 AM (CAS)- Wearable Health Monitoring: Challenges and Opportunities:**

*-Dr. Rajarshi Gupta, Professor, Dept of Applied Physics, Calcutta University*