



THE IEEE NORTH JERSEY SECTION NEWSLETTER

Vol. 65, No. 11

DECEMBER 2019

Calendar of Events

IEEE North Jersey Section EXCOM December meeting - Hanover, NJ

Date: 3 December 2019 **Time:** 06:00 PM to 10:00 PM

Location: 16 Eagle Rock Ave, East Hanover, NJ 07936

Contact: Yu-dong Yao - yyao@stevens.edu, Hong Zhao (201)-692-2350, zhao@fdu.edu

Direct-Write of Carbon-Based Nanoscale Materials –MTT/AP, ED/CAS

Date: 3 December 2019 **Time:** 06:00 PM to 10:00 PM

Location: 16 Eagle Rock Ave, East Hanover, NJ 07936

Contact: Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu

Speaker: **Dr. Katherine Duncan**, U.S. Military Academy West Point, USA, IEEE USA President Elect 2020

Semiconductor technology and devices for the benefit of humanity –MTT/AP, ED/CAS

Date: 4 December 2019 **Time:** 09:15 AM to 09:45 AM

Location: ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)

Contact: Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu

Speaker: **Dr. Fernando Guarin**, President, IEEE Electron Device Society, Globalfoundries, USA

Interface Physics, Reliability and Analysis Challenges in Si Nanodevices –MTT/AP, ED/CAS

Date: 4 December 2019 **Time:** 09:45 AM to 10:30 AM

Location: ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)

Contact: Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu

Speaker: **Dr. M. K. Radhakrishnan**, Founder Director, NanoRel LLP -Technical Consultants, Singapore

High Performance Gas Sensors using 2D Nanomaterials –MTT/AP, ED/CAS

Date: 4 December 2019 **Time:** 10:45 AM to 11:30 AM

Location: ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)

Contact: Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu

Speaker: **Prof. Navakanta Bhat**, IISc, Bangalore, India

Nanoplasmonic TeraFETs for Terahertz Applications –MTT/AP, ED/CAS

Date: 4 December 2019 **Time:** 11:30 AM to 12:15 PM

Location: ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)

Contact: Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu

Speaker: **Prof. Michael Shur**, RPI, USA

Power Management Solutions Enabled by Mixed-Signal Technologies and Intelligence –MTT/AP, ED/CAS**Date:** 4 December 2019 **Time:** 01:30 PM to 02:15 PM**Location:** ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)**Contact:** Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu**Speaker:** Dr. Bin Zhao, Iotelligent Semiconductor, USA**Emerging Trends in 5G, IoT and SDR –MTT/AP, ED/CAS****Date:** 4 December 2019 **Time:** 02:15 PM to 03:30 PM**Location:** ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)**Contact:** Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu**Speaker:** Prof. Dr. Ulrich Rohde, President, Synergy Microwave Corp., NJ, USA**Designing Learning Systems based on Nanoscale Devices –MTT/AP, ED/CAS****Date:** 4 December 2019 **Time:** 03:45 PM to 04:30 PM**Location:** ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)**Contact:** Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu**Speaker:** Prof. Bipin Rajendran, ECE Dept. NJIT, USA**MEMS fabrication processes utilized for non-MEMS applications – SP/CS****Date:** 5 December 2019 **Time:** 04:00 PM to 05:00 PM**Location:** Auditorium, M105, Muscarelle Center, 1000 River Road, Fairleigh Dickinson University, Teaneck, NJ 07666**Contact:** Hong Zhao (201)-692-2350, zhao@fdu.edu; Alfredo Tan, tan@fdu.edu, Howard Leach h.leach@ieee.org**Speaker:** Dr. Wonjae Choi of Fairleigh Dickinson University**Sparse Source Separation Algorithms for Spectrum Sharing, Maritime Sensors, and Micro-Doppler Feature Extraction –MTT/AP, ED/CAS****Date:** 5 December 2019 **Time:** 05:00 PM to 06:00 PM**Location:** ECE 202, NJIT, 154 Summit Street, Newark, NJ 07102 (Free parking available to attendees at NJIT parking garage on Colden Street, across street from the ECE Building)**Contact:** Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu**Speaker:** Masoud Farshchian, BAE Systems, NJ**Nonlinear Microwave Circuits-Emerging Trends in Mixer Design for the Application in Modern Communication Systems –MTT/AP, ED/CAS****Date:** 6 December 2019 **Time:** 05:00 PM to 06:30 PM**Location:** 201, McLean Boulevard, Paterson, NJ 07407**Contact:** Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu**Speaker:** Prof. Dr. Ulrich Rohde, President, Synergy Microwave Corp., NJ, USA**North Jersey Senior Member Drive****Date:** 11 December 2019 **Time:** 05:00 PM to 07:00 PM**Location:** Auditorium, M105, Muscarelle Center, 1000 River Road, Fairleigh Dickinson University, Teaneck, NJ 07666**Contact:** Michael Newell: msnewell2000@yahoo.com**IEEE North Jersey Section PACE meeting - Clifton, NJ – PACE****Date:** 11 December 2019 **Time:** 06:30 PM to 8:30 PM**Location:** Clifton Memorial Library, 292, Piaget Avenue, Clifton, NJ 07011**Contact:** Russell Pepe - rcpepe@ieee.org**Speaker:** Richard Tax - rtax@verizon.net

IEEE Photonics Society Chapter leadership meeting**Date:** 13-14 December 2019 **Time:** 04:30 PM to 07:00 PM**Location:** IIT, Guwahati, Assam, India**Contact:** Naresh Chand: chandnaresh@gmail.com (Associate Vice President, Chapter Relations, IEEE Photonics Society)There will be an IEEE Workshop on Recent Advances in Photonics (WRAP) 2019 at IIT, Guwahati on December 13 - 14, 2019: <http://www.wrap2019.com/>**A Power Quality Primer – PES/IAS/LM****Date:** 13 December 2019 **Time:** 09:00 AM to 02:00 PM**Location:** PSE&G - Hadley Road Facility, Auditorium, 4000 Hadley Road, South Plainfield, NJ 07080**Contact:** Mike Miller - millerm@ieee.org, Ken Oexle k.oexle@ieee.org**Speaker:** **Richard P. Bingham** of Dranetz**IEEE NORTH JERSEY SECTION – Short Courses****Introduction to Embedded Systems Using ARM Microcontrollers – IEEE North Jersey/ComSoc****Date:** 22 February 2020 **Time:** 10:00 AM to 4:00 PM**Location:** ECE 202, New Jersey Institute Technology, Newark, NJ**COST:** Early-Bird [12/1 to 1/11] IEEE Members \$295, Non-IEEE Members \$395. Late-Bird [1/11 to 2/8] IEEE Members \$395, Non-IEEE Members \$495**Contact:** David Haessig - davidhaessig@ieee.org, Yang - yangl@ieee.org, Amit Patel - a.j.patel@ieee.org**Big Data Market Research in Seven Saturdays** (Instructor: Donald Hsu) - **Education Committee/ MTT/AP, ED/CAS****Date:** 07 March 2020 **Time:** 09:00 AM to 12:00 PM (7 Saturdays, March 7, 14, 28, April 4, 11, 18, 25, 2020)**Location:** ECE 202, New Jersey Institute Technology, Newark, NJ**COST:** IEEE (& affiliate) members \$500; Non-IEEE members \$550.**Contact:** Donald Hsu - yanyou@hotmail.com**Project Risk Management in Seven Saturdays** (Instructor: Donald Hsu) - **Education Committee/ MTT/AP, ED/CAS****Date:** 07 March 2020 **Time:** 12:00 PM to 3:00 PM (7 Saturdays, March 7, 14, 28, April 4, 11, 18, 25, 2020)**Location:** ECE 202, New Jersey Institute Technology, Newark, NJ**COST:** IEEE (& affiliate) members \$500; Non-IEEE members \$550.**Contact:** Donald Hsu: yanyou@hotmail.com**IEEE – IMPORTANT EVENTS, ARTICLES, ANNOUNCEMENTS AND REMINDERS:**

- **This Month's Communications Society News from Around the World**
- **“My First Big Project” - An article by Harry Roman**
- **ED/CAS, AP/MTT Co-Sponsors:**

Mini-Colloquium (MQ) on Nanotechnology and Nanoelectronics - “IEEE Electron Device Society Mini-Colloquium and Distinguished Lecture Program”**Date:** 04 December 2019 **Time:** 8:30 AM to 5:00**Location:** ECE 202, New Jersey Institute Technology, Newark, NJ**Contact:** Ajay K. Poddar: +1 201-560-3806, akpoddar@ieee.org, Durga Misra: +1-973-596-5739, dmisra@ieee.org,
Anisha Apte: anisha_apte@ieee.org, Edip Niver: edip.niver@njit.edu

Introduction to Embedded Systems Using ARM Microcontrollers

Come join us for an intensive and practical workshop in embedded systems, designed for electronics engineers, software engineers, and other technical professionals.

The workshop includes a commercial-grade embedded systems development board (*Microchip SAM E70 Xplained Ultra*) with a 32-bit ARM microcontroller (*ATSAME70Q21*) plus a peripheral board (*Microchip I/O1 Xplained Pro*)*. **This \$145 value + handbook is yours to keep!**

You will learn how to use the companion Integrated Development Environment (IDE) and the 32-bit C compiler to create your firmware. You will also learn basic methods of debugging.

We will be reviewing the overall concepts of microcontrollers, interfaces, and electronic components.

We will go over software vs. firmware, program structure, peripheral interfacing, and basic real-time considerations.

This one-day workshop is structured with a few hours of interactive lectures, and a few hours of hands-on experience with the hardware and software. **Lunch is included!**

The student must provide their own computer with the IDE and C compiler pre-installed; both are available for free from the manufacturer.

The IDE and the C compiler work on updated versions of Windows, macOS, and several Linux variants, allowing you a choice in platforms.

Your instructors are Jim Julian and Jay Morreale, both with degrees in electrical engineering and decades of diverse commercial experience.

Get introduced to a new skill in just one day!

Presented in association with the IEEE North Jersey Section. 

What You Will Learn

- What embedded systems are, and what they are used for.
- The basic end-to-end process of designing an embedded system, from components to working firmware.
- Skills to troubleshoot an embedded system.

Prerequisites

- Know** A general understanding of electronics and components, computer concepts, interfaces, as well as basic experience in the C programming language.
- Bring** Portable computer, with the IDE and C compiler software pre-installed.

Interactive Lecture • Lunch Break • Hands-on Experience

Find out more: workshops.jimjulian.com

	On or Before	After
Discount Cutoff Date	January 11, 2020	
Non-IEEE Member	\$395	\$495
IEEE Member	\$295	\$395
Last Day to Register**	Saturday, February 8, 2020	
Course Date	Saturday, February 22, 2020	

*Included hardware is based on availability and is subject to substitution with similar items. **Last day for refunds. TR-MK-101-02 ©2019

For up to date information, visit our website: [IEEE North Jersey Section](http://www.ieee.org/northjersey) . You do not have to be an IEEE member to attend any event. The Section Executive Committee roster is at: <http://sites.ieee.org/northjersey/org/> Prior registration is encouraged and appreciated.