PUBLICATION OF THE NORTH JERSEY SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

THE IEEE NORTH JERSEY SECTION NEWSLETTER

Message from the IEEE North Jersey Section Chair Dr. Ajay Poddar

The Covid-19 pandemic is one of the biggest challenges in 100 years our society has encountered. It has deeply affected people's health, employment, industries, and institutions. There is a need for reexamining and restructuring our actions and priorities in order for us to prepare for handling future pandemics. In this effort, we depend on the continuing human spirit to struggle, adapt and conquer.

Our next-generation engineers have an inordinate role to contribute in the field of humanitarian technology by employing AI (artificial intelligence) and integration of IoT (Internet of Things) with healthcare; that can improve the present healthcare system towards addressing infection caused by viruses such as Covid-19 by real-time tracking, testing, and treatment. The world has taken substantial strides in the face of misfortune to reinstate normalcy. The Covid-19 pandemic not only affected health but also resulted in employment loss and created uncertainty and inequality, particularly in underserved populations. We, at IEEE North Jersey Section and North Jersey SIGHT (Special Interest Group on Humanitarian Technology), feel privileged to share our undertakings for helping the underserved community. I hope you and your families are safe during these times of crisis! We positively hope that this situation ends quickly and that we can organize in-person technical and social events.

The Covid-19 immunization has ramped up and eligibility is relaxed for achieving target vaccination of more than 50% of people before the end of May. I hope that June 2021 onwards turns out to be improving and better for you and your family after what we all went through from the past 12 months. We hope that soon our section will slowly transition from virtual to hybrid and in-person meetings including conferences, student design contests, workshops, and technical talks.

In this May 2021 edition of the newsletter, you can read how we are progressing towards serving our members. Our North Jersey Section submitted a petition to IEEE for the formation of the IEEE North Jersey SIGHT (Special Interest Group on Humanitarian Technology) group, which was approved last month. SIGHT/HAC offers IEEE members a global platform to transfigure know-how into sustainable humanitarian projects. As a Working group Chair of the IEEE HAC Society Partnership and Industrial Engagement Subcommittee, I am enthusiastically advocating the IEEE Sections and industry partnership for interactions, engagement, networking, and commitment for creating a volunteering service community

for the special trade that teaches us to subsidize and aid underserved people. The Inter-Section partnership, Student Branch, YP, WiE involvement, and industry engagement can lead to new memberships as well as the pedestal for leveraging the appropriation of industry expertise to help identify opportunities for exploring sustainable humanitarian technology for benefiting the underserved community.

The engagement with SIGHT/HAC opportunities will position our North Jersey Section as a collaborative partner and bring greater value to members by helping to advance their careers in multi-disciplinary humanitarian projects. Technology is moving at an unprecedented pace, and next-generation students do not seem to be very much interested in high tech paper publication at IEEE Xplore, instead are looking for technology offerings for humanity, and HAC is superlatively positioned as a resource that can justify this need with the supplementary value of new members and membership retentions. IEEE HAC/SIGHT is prioritizing approval of the projects related to the Covid-19 pandemic. Check https://hac.ieee.org/funding-opportunities/

IEEE membership is declining worldwide, and our North Jersey Section is no exception. A big pool of new members can be recruited by engaging and networking pre-university students with young professionals. It is the student community that is interested in elevating their professional image, expanding their global network, connecting with peers locally, and giving back to their community. Since it encompasses all members from recent university graduates to experienced professionals and entrepreneurs, the group is highly diverse in what it has to offer. IEEE announced a 50% student membership discount code (FUTURE50), leading to a recovery rate of student members significantly. I encourage the student members to use this discount code for renewal as well as new memberships.

I would like to share the information about the "**Life Fellow Oral History Initiative of IEEE History Center".** The IEEE History Center has had an oral history program for many years and has recorded more than 900 Oral Histories to date. A new initiative recently approved by the IEEE New Initiative Committee entitled "IEEE Life Fellows – Capturing an Oral History", seeks to expand the oral history program with a special focus on the incredible experience base and knowledge resource held by the IEEE Life Fellows. Oral history is a chance to share and preserve personal experiences, insights, excitement, and lessons in the history of technology. The first step in this multi-year project will be the identification of topics and individuals willing to participate. Any project or experience that played a role in advancing technology is an

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appropriate topic. The program will be managed by the IEEE History Center as they will train and support the interviewers and conduct interviews throughout 2021. The result will be an official transcript posted to the IEEE History Center's oral history collection on the Engineering & Technology History Wiki. In addition, the audio and video will be archived by the History Center for use in future IEEE projects and for the benefit of future historians. Audio or video clips can be embedded in transcripts according to the wishes of the interviewee. You can contact History Center staff Dr. Mary Ann C. Hellrigel (m.c.hellrigel@ieee.org) for additional information.

IEEE and its members inspire a global community through highly-cited publications, conferences, technology standards, and professional and educational activities. I encourage students to take advantage of IEEE memberships. When you join IEEE, you:

- Join a community of more than 400,000 technology and engineering professionals united by a common desire to continuously learn, interact, collaborate, and innovate
- Get the resources and opportunities you need to keep on top of changes in technology
- Get involved in standards development
- Network with other professionals in your local area or within a specific technical interest
- Mentor the next generation of engineers and technologists and so much more.

There's no better time to take advantage of what IEEE has to offer. Join now and get membership benefits through the end of 2021, plus save 50% on membership dues. Enhance your IEEE membership by joining a Society specializing in your technical interests, for as little as US$10 per year. https://www.ieee.org/membership_services/membership/societ ies/membership_societies_index.html

IEEE Society members stay technically current, network with colleagues locally and abroad, and collaborate on research and projects with leading experts, all while taking advantage of specialized opportunities. Discover which Society, or Societies, best match your technical interests by joining today to take advantage of membership benefits ranging from access to cutting-edge technical periodicals and conference discounts to educational resources and worldwide networking opportunities. Uncover IEEE member benefits that are most relevant to you. Use the Global Benefits finder below to select your current career phase and country, and then select "Go." Your results page will render a list of key IEEE member benefits that can help you accelerate your career plans and help you grow as a technology professional. IEEE - Global Benefits Finder

IEEE members can take advantage of exclusive and discounted pricing on insurance and a variety of products and services (where available) that can add up to substantial savings. Discover what IEEE Member Discounts can offer you. This program is offered exclusively to active IEEE members. https://www.ieee.org/membership/discounts/index. html#member-group-Insurance-plans%20

I request north Jersey ExCom members to consider nominating your fellow peer or colleague for a Region 1 Award this year! Through its Awards Program, Region 1 advances the interests of its members by recognizing their significant contributions and services in advancing IEEE-designated fields of interest. With this, the image and prestige of the organization, its members, and the profession are all enhanced. You may find yourself or someone who are deserving of one of the following awards:

Professional Awards for the following types of contributions:

- **Technological Innovation (Academic)**: For distinguished development, advancement, and pursuit of the IEEE's technical objective.
- **Technological Innovation (Industry or Government)**: For significant patents, the discovery of new devices, and development of applications or exemplary contributions to industry or government.
- **Managerial Excellence in an Engineering Organization**: For managerial excellence in organization, leadership, design, and development.
- **Outstanding Teaching in an IEEE Area of Interest (University or College)**: For outstanding contributions to education in an area of interest to the IEEE.
- **Outstanding Teaching in an IEEE Area of Interest (Pre-University or College)**: For improving communications between the IEEE and a student body; for support and service to a student body; for service and leadership to the student community.
- **Enhancement of the Relationship between IEEE and Industry**: For significant contributions in an enhanced IEEE-Industry relationship. Requires a minimum of five years of significant and sustained service as an IEEE volunteer.
- **Enhancement of the IEEE or Engineering Profession's Image with the Public**: For significant contributions in developing an IEEE-Public relationship. Requires a minimum of five years of significant and sustained service as an IEEE volunteer.
- **Outstanding Support for the Mission of the IEEE, MGA, Region 1 and/or Section**: For outstanding service to the IEEE at the Chapter, Section, Region, MGA, and/or National level. Requires a minimum of five years of significant and sustained service as an IEEE volunteer.

Lifetime Service Award

- **The William Terry Distinguished Service Award**: This award is intended to recognize those whose personal efforts have provided leadership, creativity, guidance, hard work, and inspiration in a wide range of IEEE activities over a significant and sustained period of time.

Young Professionals Award

- **IEEE Region 1 Young Professionals Award**: This award is designed to recognize those substantive projects or achievements of relatively short nature, but which have left an undeniable imprint on the fabric of Young Professionals operations within Region 1.

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Award nominations are due no later than Wednesday, June 30, 2021. For more information, please contact Section Award Committee Chairs (Ken Oexle, Adriaan van Wijngaarden).

Best Wishes,
Ajay Poddar, IEEE North Jersey Section Chair

FDU
Gildart Haase School of Computer Sciences & Engineering

GRADUATE SCHOOL VIRTUAL OPEN HOUSE!
Wednesday, May 19, 2021, 7 p.m.

Fairleigh Dickinson University's Gildart Haase School of Computer Sciences & Engineering (GHSCSE)

- **A national leader in Cybersecurity, designated as a "Center of Academic Excellence for Cyber Defense Education" by NSA and DHS**
- **18 cutting-edge labs, among the best in the North and Mid-Atlantic Regions**
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    - Computer Engineering
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    - E-Commerce

Grow your career opportunities!

Register for the Open House: http://bit.ly/OpenHouseCyber

For Programs information, visit: https://tinyurl.com/GHprogram

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Calendar of Events

Past Events

5G Is Almost 3 Years Old: Meeting Expectations or Waiting for More – **NYIT SB/AP/MTT-S North Jersey**
Location: Event attendance will be virtual via Zoom. To receive the meeting information, please register through the NYIT website
Date: 12 April 2021   **Time**: 5:00 PM to 6:00 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org)
Speaker: Robert DiFazio of RZio LLC

Infrared Focused Substation Monitoring – **PES / IAS / LM Joint Meeting**
Date: 16 April 2021   **Time:** 09:00 AM to 11:00 AM (Eastern Daylight time)
Location: Required - vTools Registration link   Link for joining: "https://global.gotomeeting.com/join/668582805"
Contact: Ronald Quade: rwquade@ieee.org
Speakers: Angelo Rizzo of Systems with Intelligence

Compliance testing and signal integrity debugging of USB 3.2 interfaces – **AP/MTT-S, ED/CAS/ED, VT/EMBS**
Location: Link to External Registration
Date: 22 April 2021   **Time**: 2:00 PM to 3:15 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org) Durga Misra (dmisra@njit.edu), Edip Niver (edip.niver@njit.edu), Anisha Apte (3nisha_apte@ieee.org), Har Dayal (dayalhar@gmail.com); Ionel Bajescu (nelu108@yahoo.com)
Speakers: Guido Schulze of Rohde & Schwarz, Johannes Ganzert of Rohde & Schwarz

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Diversity & Inclusion in Industry – **Co-sponsored by NJIT Student Branch Chapter**
Location: vTools Event Link – to receive WebEx Joining Link
Date: 22 April 2021   **Time**: 4:30 PM to 5:30 PM (Eastern Daylight time)
Contact: Durga Misra (dmisra@njit.edu), ce73@njit.edu
Speakers: Dina Ayman, Microsoft and NJIT

5G MEC and Related Applications – Industry Leaders Lecture Series – **Co-sponsored by IEEE NYIT Student Branch, and IEEE R1 Student Activities Committee, North Jersey AP/MTT-S**
Location: Link to External Registration (The full NYIT Industry Leaders Lecture Series can be found here)
Date: 26 April 2021   **Time**: 5:00 PM to 6:00 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org) Durga Misra (dmisra@njit.edu), robdif@ieee.org,
Speakers: Sanyogita Shamsunder of Verizon

Heterogeneous Networks: The Impact 5G Will Have on Implementation & Testing Webinar Overview – **Co-sponsored by North Jersey AP/MTT-S**
Location: Link to External Registration
Date: 28 April 2021   **Time**: 1:00 PM to 2:00 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org) Durga Misra (dmisra@njit.edu), Edip Niver (edip.niver@njit.edu), Anisha Apte (4nisha_apte@ieee.org), Har Dayal (dayalhar@gmail.com); Ionel Bajescu (nelu108@yahoo.com)
Speakers: Wade Sarver of TECHFECTA, & WWW.WADE4WIRELESS.COM, Joe Gallagher of Rohde & Schwarz

Upcoming Events

RFID for Human Activity Sensing: Challenges, Solutions and Applications – **Co-sponsored by North Jersey ComSoc/AP/MTT**
Location: Registration Link- Required   The link to join the meeting will be sent out only to the registrants by May 1st, 2021
Date: 2 May 2021   **Time**: 8:00 PM to 9:15 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org)
Speakers: Dr. Shiwen Mao

From Top-Level Design Specification to Detail Design – Industry Leaders Lecture Series – **Co-sponsored by IEEE NYIT Student Branch, and IEEE R1 Student Activities Committee, North Jersey AP/MTT-S**
Location: Link to External Registration (The full NYIT Industry Leaders Lecture Series can be found here)
Date: 4 May 2021   **Time**: 12:45 PM to 01:45 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org) Durga Misra (dmisra@njit.edu), robdif@ieee.org,
Speakers: Ed Palacio of P&L Technical Management Solutions Corp.

IEEE North Jersey Section EXCOM meeting – May 2021 – Online (Zoom)
Date: 5 May 2021   **Time:** 06:30 PM to 08:45 PM
Location: Required – vTools Registration link   Link to Join Zoom Meeting   Meeting ID: 890 6781 1667
Contact: Dr. Ajay Poddar akpoddar@ieee.org, Prof. Hong Zhao zhao@fdu.edu, Dr. Adriaan van Wijngaarden avw@ieee.org

Antenna Far Field Patterns Using Near Field Probing – **Co-sponsored by IM/ EMC/PSE AP/MTT-S**
Location: Link to Registration   Microsoft Teams Meeting Link
Date: 11 May 2021   **Time**: 12:00 PM to 1:30 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org) Durga Misra (dmisra@njit.edu), Russell Pepe (rcpepe@ieee.org),
Speakers: Saeed Javidmehr, Rezvan Rafiee Alavi

Power Amplifiers for High Efficiency Above 100 GHz – **Co-sponsored by North Jersey AP/MTT-S, ED/CAS, SIGHT**
Location: Link to External Registration
Date: 11 May 2021   **Time**: 12:00 PM to 1:00 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org) Durga Misra (dmisra@njit.edu), Edip Niver (edip.niver@njit.edu), Anisha Apte (anisha_apte@ieee.org), Har Dayal (dayalhar@gmail.com); Ionel Bajescu (nelu108@yahoo.com)
Speakers: Prof. Jim Buckwalter of UC Santa Barbara

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Interactive Art via Pattern Recognition and Machine Learning Technologies – **Co-sponsored by North Jersey IT/ IEEE METSAC**
Location: Link to Registration
Date: 11 May 2021   **Time**: 06:00 PM to 07:00 PM (Eastern Daylight time)
Contact: Adriaan J. Van Wijngaarden (avw@ieee.org)
Speakers: Dr. Larry O'Gorman of Nokia Bell Labs, Murray Hill, NJ

Digital Weak Signal Modes in Amateur Radio – CNNNJ
Date: 13 May 2021   **Time:** 06:30 PM to 09:30 PM (Eastern Daylight time)
Location: Required - Registration link
Contact: info@technologyontap.org
Speakers: Ria Jairam

3D Intelligent design in Substations, Transmission and Distribution – PES / IAS / LM Joint Meeting
Date: 14 May 2021   **Time:** 09:00 AM to 11:00 AM (Eastern Daylight time)
Location: Required - vTools Registration link   Link for joining: "https://global.gotomeeting.com/join/829426277"
Contact: Ronald Quade: rwquade@ieee.org
Speakers: Ostap Dzikh of RCMT, Igor Gejo of RCMT

Chip-Scale Wave-Matter Interactions at RF-to-Light Frequencies: Circuits, Systems and Applications – **MTT-S DML, Co-sponsored by North Jersey AP/MTT, ED/CAS, VTS, SIGHT**
Location: External Registration Link- Required   The link to join the meeting will be sent out only to the registrants by May 1st, 2021
Date: 17 May 2021   **Time**: 12:00 PM to 01:00 PM (Eastern Daylight time)
Contact: Ajay Poddar (akpoddar@ieee.org) Durga Misra (dmisra@njit.edu), Edip Niver (edip.niver@njit.edu), Anisha Apte (anisha_apte@ieee.org), Har Dayal (dayalhar@gmail.com); Ionel Bajescu (nelu108@yahoo.com)
Speakers: Dr. Ruonan Han of Massachusetts Institute of Technology, USA

IEEE North Jersey Section EXCOM meeting - June 2021 - Online (Zoom)
Date: 2 June 2021   **Time:** 06:30 PM to 08:45 PM
Location: Required - vTools Registration link   Link to Join Zoom Meeting   Meeting ID: 890 6781 1667
Contact: Dr. Ajay Poddar akpoddar@ieee.org, Prof. Hong Zhao zhao@fdu.edu, Dr. Adriaan van Wijngaarden avw@ieee.org

IEEE – IMPORTANT EVENTS, ARTICLES, ANNOUNCEMENTS AND REMINDERS:

- **This Month's Communications Society News from Around the World**

- **"Thomas Edison and Chemistry" - An article by Harry Roman**

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