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

As we continue to march into 2022, we are looking forward to a very active year. Our chapter officers, volunteers and student branches are busy planning various in-person as well as hybrid events in the coming months.

The Nokia Bell Labs New Jersey Regional Science Fair (NJRSF):
The Nokia Bell Labs NJRSF is just round the corner and our section will be involved in this event that promotes STEM education among high school children. **The Nokia Bell Labs NJRSF is a high school student science competition** in which students, individually or in groups, present a wide variety of projects. Most of the projects are investigative in nature, posing and attempting to answer some question or problem, either through experimentation and design or in a theoretical sense. All areas of science, math, and engineering are included. The fair accepts entries from ten counties of northern New Jersey: Bergen, Essex, Hunterdon, Middlesex, Morris, Passaic, Somerset. The mission of the Nokia Bell Labs NJRSF, found on the website, is to support, encourage, and recognize student involvement in scientific research. It is our belief that students can only truly appreciate the creative nature of the scientific process if they have actually experienced it themselves. In addition, we endeavor to provide resources which further this overarching goal, including giving students various opportunities to interact with professional scientists and engineers. The opportunity to partake of the NJRSF itself as well as the other resources we offer is intended to be open to all high school students in the northern NJ region. Sussex, Union, and Warren. For more useful navigation links for this website, please visit https://njrsf.org/.

Nokia Bell Labs North Jersey Regional Science Fair Judging will be held virtually on March 18 and 24, 2022 via GatherTown.

IEEE NJ Young Engineer Award: IEEE NJ section sponsors awards to TWO projects in Engineering, Math, Physics and Biomedical Engineering that demonstrate the use of sound engineering principles, as part of the **Special Awards**.

Each "IEEE NJ Section Young Engineer Award" consists of $250 cash and a certificate of achievement.

The Special Awards judging interviews will be held virtually on March 24th, 2022.

The Awards Ceremony will be held virtually on March 26th, 2022.

Hudson County's STEM Showcase 2022:
Another event promoting STEM education where our section will be actively involved in the judging is the Hudson County's STEM Showcase 2022. This program was founded by The Jersey Journal as the Hudson County Science Fair and is now run by Jersey City Medical Center-RWJ Barnabas Health.

Monday marked this year's deadline for entries, and judges will have a 12-day period in March to review the projects and give notes to the students. For more information about this event visit https://www.online-registration-system.com/nj/jcss/.

In addition, the ongoing STEM program for the Girls Scouts in New Jersey is making good progress. A glimpse of this can be found in this STEM video posted by Craig Polk on LinkedIn https://www.linkedin.com/posts/craigpolk_stem-story-craig-polk-activity-6877336232746065920-NAO0

Our section is very supportive and engages in several activities year-round that involved students at various levels, promotes STEM education while addressing DEI (Diversity, Equality and Inclusion), at every level.

We hope to continue to strive to make an impact for the betterment in the society that we live in, aligning our goals alongside the IEEE tagline advancing technology for humanity.

I would like to encourage everyone to find more opportunities to volunteer and contribute towards a better tomorrow for all.

IEEE AP-S Ulrich L. Rohde Humanitarian Project Award Call for Proposal

IEEE AP-S SIGHT are currently offering a **special Call for Proposals to support AP-S Chapter projects** that utilize AP-S-relevant technology to address local community challenges. The Call is open through 15 June 2022. Ulrich L. Rohde Humanitarian Project Awards of up to US$10,000 will be made to selected projects on pressing issues challenging an underserved community. For detail information, contact Dr. Anisha Apte (anisha_apte@ieee.org), member AP-S SIGHT and elected IEEE AP-S AdCom member, 2022-2024.

I wish all the members good health and a productive time ahead.

Ajay Poddar,
IEEE North Jersey Section Chair

You do not have to be an IEEE member but prior registration is encouraged to attend any event. **IEEE North Jersey Section Website The Section Executive Committee Roster**

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IEEE – IMPORTANT EVENTS, ARTICLES, ANNOUNCEMENTS AND REMINDERS:

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

- **"Edison Electric Cars"** - An article by Harry Roman for the March Newsletter

Edison Electric Cars

With all the talk about the importance of charging electric vehicles in our home garages, many Americans think this is something so radically new we must have an immediate national effort to encourage it.

Today, you can see Tom Edison's original electric vehicle garage charging station at his Glenmont Garage, located at the Thomas Edison National Historical Park, in West Orange, NJ. The point of all this is Tom was charging electric vehicles in this facility way back at the turn of the last century--quite some time ago; and he did so until his death in 1931. Did I mention his station could re-charge three vehicles simultaneously?

His equipment was bulky of course and reflected the state of the art back then, whereas today's equipment is easily wall-mounted and convenient to use. And thanks to Elon Musk (and others), you can integrate battery and electric vehicle re-charging with solar (photovoltaic) panels on the roof of a home.

I can almost hear Mr. Edison lamenting......."C'mon folks, what are you waiting for?"

By the way, Edison was experimenting with electric trucks as well in the 1920's / 30's. Did you folks at Ford hear this?

Talk to you again soon...

Harry

   Harry T. Roman, Life Senior Member
Author & Advisor, Edison Innovation Foundation
(Retired-PSE&G Co.)
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Calendar of Events

Current Events – March 2022 Events

Date and Time	Event - Details
10 Mar 2022 05:45 PM to 07:45 PM	**Towards Energy-Efficient Domain-Specific In-Sensor and In-Memory Accelerators, From Device to Algorithm**, North Jersey Section Jt Chapter, CAS04/ED15, AP03/MTT17 **Location:** ECEC 202, NJIT, 154, Summit Street. Newark, NJ 07102 Required - vTools Registration Link **Contact:** Ajay Poddar (akpoddar@ieee.org), Durga Misra (dmisra@ieee.org), Edip Niver (edip.niver@njit.edu), Anisha Apte (anisha_apte@ieee.org) **Speaker:** Prof. Shaahin Angizi of New Jersey Institute of Technology
23 Mar 2022 12:00 PM to 01:00 PM	**Policy Optimization in Reinforcement Learning: A Tale of Preconditioning and Regularization: North Jersey Section Chapter, C16** CH01177 - North Jersey Section Chapter, C16, CH01091 - North Jersey Section Chapter, SP01, Teaneck, New Jersey **Location:** Zoom Meeting Link **Meeting ID:** 936 1200 9151, Required: vTools Registration Link 1000 River Road, Muscarelle Center, M105, Teaneck, NJ 07666 **Contact:** Prof. Hong Zhao (zhao@fdu.edu), Prof. Alfredo Tan (tan@fdu.edu) **Speaker:** Dr. Yuejie Chi of ECE Department, Carnegie Mellon University
26 Mar 2022 09:00 AM to 12:00 PM	**Big Data Market Research in Seven Saturdays via Zoom: North Jersey Section Jt Chapter, AP03/MTT17** CH01092 - North Jersey Section Jt Chapter, AP03/MTT17 Newark, New Jersey **Location:** Zoom **OR** NJIT, ECEC 202, 154, Summit Street. Newark, NJ 07102 (To be Decided) Required: vTools Registration Link **Contact:** Donald Hsu (yanyou@hotmail.com) **Speaker/Instructor:** Donald Hsu, Ph.D.
06 Apr 2022 06:00 PM to 08:30 PM	**IEEE North Jersey Section - EXCOM - Zoom: North Jersey Section**, R10327 - North Jersey Section **Location:** Required - vTools Registration link **Contact:** Ajay Poddar (akpoddar@ieee.org), Adriaan van Wijngaarden (avw@ieee.org)
13 Apr 2022 12:00 PM to 01:00 PM	**Input Intelligence on Mobile Devices**, North Jersey Section Chapter, C16, SP01 **Location:** Zoom Meeting Link Meeting ID: 920 1460 9422 Required: vTools Registration Link 1000 River Road, Muscarelle Center, M105, Teaneck, NJ 07666 Contact: Prof. Hong Zhao (zhao@fdu.edu), Prof. Alfredo Tan (tan@fdu.edu) **Speaker:** Dr. Jerome R. Bellegarda of Apple Inc.
23 Apr 2022 01:00 PM to 02:30 PM	**Recent Advances in Motion Control of Underwater Vehicles for Inspection Applications**, North Jersey Section Chapter, AES10, North Jersey Section Chapter, COM 19 **Location:** Virtual Event Required - vTools Registration Link **Contact:** Cherif Chibane (cherif.chibane@ieee.org) **Speaker:** Dr. Ahmed Chemori of LIRMM

Past Month's Events – February 2022 Events

Date and Time	Title
01 Feb 2022 09:30 AM to 11:00 AM	**Heuristics for external cluster tool scheduling in flexible flow shops**, SMC28 **Location:** Required - External Registration/Joining link, ECE-NJIT, 323 MLK Blvd. Newark, NJ 07102 **Contact:** Prof. Mengchu Zhou (zhou@njit.edu) **Speaker:** Dr. Fajun Yang, Humboldt Research Fellow, Dept. of Mathematics and Computer Science, Hagen University, Germany

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02 Feb 2022 06:00 PM to 08:30 PM	IEEE North Jersey Section - EXCOM - Zoom: North Jersey Section, R10327 - North Jersey Section **Location:** Required - vTools Registration link **Contact:** Ajay Poddar (akpoddar@ieee.org), Adriaan van Wijngaarden (avw@ieee.org)
08 Feb 2022 12:00 PM to 01:00 PM	Security for Radar Sensors: Attacks and Risk Mitigation: AP03/MTT17, CAS04/ED15, SIGHT177, PHO36, VT06 **Location:** Required - External Registration link **Contact:** Ajay Poddar (akpoddar@ieee.org), Durga Misra (dmisra@ieee.org), Edip Niver (edip.niver@njit.edu), Anisha Apte (anisha_apte@ieee.org) **Speaker:** Prof. Changzhi Li of Department of Electrical and Computer Engineering, Texas Tech University, USA
10 Feb 2022 01:00 PM to 02:00 PM	The role of AI/ML in future wireless communication – an early test & measurement perspective, AP03/MTT17, CAS04/ED15 **Location:** Required - External Registration link **Contact:** Ajay Poddar (akpoddar@ieee.org), Durga Misra (dmisra@ieee.org), Edip Niver (edip.niver@njit.edu), Anisha Apte (anisha_apte@ieee.org) **Speaker:** Andreas Roessler of Rohde & Schwarz
11 Feb 2022 09:00 AM to 11:00 AM	Proliferation of Distributed Energy Resources - PES / IAS / LM Joint Meeting: PE31, CH01098 - No Jersey/Prin-Ctr Jersey Jt Sections Chapter, IA34, LM10327 - North Jersey Section Affinity Group, LM **Location:** Required - External Registration Link Required - vTools Registration link **Contact:** Ronald Quade (rwquade@ieee.org) **Speakers:** Sankaran Rajagopal of Siemens Digital Grid, Jim Waight of Siemens Digital Grid
23 Feb 2022 12:00 PM to 01:00 PM	Machine Learning Assisted Network Slicing for Wireless Edge Computing System: C16, SP01 **Location:** Required - External Registration/Joining link Required - vTools Registration Link **Contact:** Prof. Hong Zhao (zhao@fdu.edu) **Speaker:** Dr. Tao Han of ECE Department, NJIT
23 Feb 2022 04:45 PM to 06:30 PM	SDR: Past, Present, and Future, CAS04/ED15, AP03/MTT17, AES10, VT06 **Location:** Required – External Registration/Joining link **Contact:** Ajay Poddar (akpoddar@ieee.org), Durga Misra (dmisra@ieee.org), Edip Niver (edip.niver@njit.edu), Anisha Apte (anisha_apte@ieee.org) **Speaker:** Prof. Cherif Chibane of New Jersey
23 Feb 2022 06:30 PM to 07:30 PM	The Galileo Project: In Search for Technological Interstellar Objects - IEEE SSIT Ch. Meeting: Northern Virginia/Baltimore/Washington, North Jersey Section, Phoenix Section Chapter, SIT30, Student Activities **Location:** Required - External Registration link Required - vTools Registration Link **Contact:** Murty (murtyp@ieee.org), Kirit Dixit (kdixit@ieee.org), Michael Andrews (michael@andrews-associates.com) **Speaker:** Dr. Avi Loeb of Harvard University
24 Feb 2022 08:00 PM to 09:00 PM	Towards Designing Autonomous Systems - Convergence of Cognitive AI and Robotic Process Automation, North Jersey Section Jt Chapter, CIS11, RA24 **Location:** Required - External Registration/ Joining Link Required - vTools Registration Link **Contact:** Prasenjit Bhadra (prasenjit@ieee.org), Shilpi Chakraborty Bhadra (shilpi@ieee.org) **Speaker:** Prasenjit Bhadra of Ranial Systems

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