

THE IEEE NORTH JERSEY SECTION NEWSLETTER

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APRIL 2021

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

In each newsletter, I want to share new information from IEEE and our section activities for the benefit of members.



In this April edition of the newsletter, you can read how we are progressing towards serving our members. Our North Jersey Section sponsored the IEEE North Jersey Young Engineering Award Competition on March 25, 2021, held for high-school students. The IEEE North Jersey Young Engineering Award Competition is a part of the NJRSF (North Jersey Regional Science Fair). The IEEE North Jersey Section sponsors awards to two projects in Engineering, Math, Physics and Biomedical Engineering that demonstrate the use of sound engineering principles. There were 40+ projects, from which 11 projects selected for the presentation. These presentations and judging were held online on March 25 from 6:30 pm to 9:30 pm. The panel of 5 judges (Adriaan Wijngaarden, Chitra Venkatraman, Jay Morreale, Anisha Apte, and Craig Polk), all of whom are serving as part of the IEEE North Jersey Executive selected Committee, two best presentations.

Kathy Zhang, "A Low-cost Autonomous Quadropod that Measures Basic Soil Quality Values in Real Time for Early Preventions of Soil Pollution"

Kathy built a robot that is able to move around and take soil samples - multiple sensors - the robot was well-designed, and she had made a good "test bed"

Skywalker Li, "Voice-Activated Spice Machine"

Skywalker had made a voice-activated unit, where the "requested" spice would pop up - he built a consumer-grade prototype that he now uses himself.

Both projects were commendable. The winners will receive the IEEE North Jersey Young Engineering Award (and USD 250). I want to thank everyone who contributed to this event. Special thanks to Chitra Venkatraman, she managed all exchanges with NJRSF and got the team of reviewers and judges together, Jay Morreale set up all templates and downloaded all presentations. The overall event was very successful. The virtual event was so exciting, the judging team went to the "virtual bar" after the event; the intention was to have in-person judging next year. We are envisioned to consolidate one more STEM event this year, hopefully in the 4th quarter of this year, assuming Covid-19 pandemic will be under control by then.

The Covid-19 immunization has started and eligibility is relaxed and more people are added to the list for the vaccination. I hope that April 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 are optimistic that by the end of this year 2021 we will be returning to normalcy, and hopefully our section will be transitioned slowly from virtual to hybrid and in-person meetings including conferences, student design contests, workshops, and technical talks

Covid-19 pandemic not only affected health, but also resulted in employment loss and created uncertainty and inequality, particularly in underserved populations. 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 virus such as Covid-19 by real time tracing, testing and treatment.

IEEE HAC/SIGHT is prioritizing approval of the projects related to the Covid-19 pandemic.

We have submitted petition to IEEE for the formation of IEEE North Jersey SIGHT (Special Interest Group on Humanitarian Technology) group, which was approved on March 24, 2021. I want to thank Anisha. Apte and Dushyant Deshmukh for accepting the leadership roles as Co-Chair of the IEEE North Jersey SIGHT Group, which allow partnership with other IEEE sections and IEEE HAC for promoting the humanitarian projects and events, STEM education and addressing the inequality in the underserved communities. I encourage North Jersey members to submit SIGHT projects for funding and financial support as well as partnerships with industries and IEEE HAC and sister societies. It is recommended to visit the "USPTO announcement Patents for Humanity", that gives opportunity to file patents on technology addressing the humanitarian challenges.

https://www.uspto.gov/ip-policy/patent-policy/patents-humanity?utm_campaign=subscriptioncenter&utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term.

A patent for Humanity is the United States Patent and Trademark Office's (USPTO) awards competition recognizing innovators who use game-changing technology to meet global humanitarian challenges. The program provides business incentives for reaching those in need. Winners receive an acceleration certificate to expedite select proceedings at the USPTO, as well as public recognition of their work. The

awards showcase how patent holders with vision are pioneering innovative ways to provide affordable, scalable, and sustainable solutions for the less fortunate. Businesses and others are finding unique and creative ways to reach underserved markets. Their stories show that humanitarian engagement is compatible with business interests and strong patent rights, and that companies can effectively contribute to global good while maintaining commercial markets.

IEEE membership is declining worldwide, and our North Jersey Section is no exception. The major concern was losing members during the pandemic. IEEE announced 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 membership.

A big pool of new membership can be recruited by organizing SIGHT events (projects and workshops), engaging and networking of pre-university students with young professionals. IEEE Young Professionals is the group of IEEE members and volunteers who have graduated from their first professional degree within the past 15 years. It is an international community, whose members are 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.

This is to update you that IEEE TryEngineering.org newly launched a new Pre-University Volunteer STEM Portal in an effort to support IEEE volunteers in their STEM outreach initiatives, as well as a useful tool to build local Section STEM communities.

I have noticed that many Chapter officers and volunteers in our section are finding difficulties in connecting to IEEE Collabratec. I would like to encourage our North Jersey Section members to be connected using IEEE Collaborate which offers a forum to (i) stay current with opportunities and insights around the community's shared interests including location, interests or career pursuits, (ii) Network with likeminded people, (iii) Pose, discover and receive answers to technical and professional questions, (iv) Exclusive IEEE Collabratec communities may require additional memberships.

The new IEEE Future Directions Community on IEEE Collabratec provides a space to share relative events, articles, volunteer opportunities, and more from all current and graduated Future Directions initiatives. Join now to share your ideas and get more involved! Visit the community to get started.

On behalf of the section, I extend deepest condolences to the loved ones of Prof. Tapan K. Sarkar, who passed away on March 12, 2021. The picture shows in Figure 1, the in-person North Jersey MTT/AP Chapter event on Jan 30, 2020, Dr. Tapan Sarkar gave a two-hour talk at New Jersey Institute of Technology in Newark. The talk was well attended by graduate students, young professionals and local members.

I would like to share information about Dr. Sarkar; he has been giving talks at our Chapter for more than 20 years. His talks have always been interactive, followed by discussion, and generated scientific interest among students and professionals. This talk was perhaps the last lecture organized by North Jersey MTT-S Chapter at NJIT. After two hours of lecture, we had dinner; the picture in Figure 2 shows the photo with Dr. Sarkar. After dinner, he met all the folks in person and said goodbye before driving to his college at Syracuse, denying our request to stay the night in hotel as he had to teach a class in the morning. This shows how much he was caring for his students. Dr. Sarkar was a great advocate of IEEE, especially North Jersey MTT and AP Chapter. Unfortunately, he got infected by the Corona virus in March/April 2020, passed away on March 12, 2021. Dr. Sarkar will be dearly missed by North Jersey MTT/AP Chapter volunteers and members.



Figure 1. From the left Dr. Anisha Apte, ED/CS chair, Prof. Durga Misra, IEEE USA President Dr. Katherine Duncan, IEEE Past President Dr. Moshe Kam, handing the plaque to Dr. Tapan Sarkar, AP-s Past president and VP of IEEE Publication committee, Dr. Ajay Poddar, MTT/AP chair, Prof Edip Niver, MTT/ AP Co-Chair, Har Dayal, EXCOM member North Jersey Section, Dr. Richard Snyder, MTT-s Past President, Dr. Simone Bastioli, MTT-S DML speaker, Prof. Whitman, Professor at NJIT.



Figure 2 shows the photo with Dr. Sarkar

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

Best Wishes,

Ajay Poddar

IEEE North Jersey Section Chair



GRADUATE SCHOOL VIRTUAL OPEN HOUSE!

Wednesday, April 21, 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
- Offers 6 Masters of Science (MS) Programs:
 - o Cybersecurity & Information Assurance
 - o Computer Science
 - o Electrical Engineering
 - o Computer Engineering
 - Management Information Systems
 - E-Commerce

Grow your career opportunities!

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

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

Calendar of Events

Past Events

IEEE HAC and Sister Society Collaboration: Discussion and meeting on Humanitarian Projects and Hackathon -

HAC/SIGHT

Location: https://meet.google.com/dwh-zgan-iru?hs=224

Date: 10 March 2021 **Time:** 6:30 PM to 7:15 PM (Eastern Daylight time)

Contact: Ajay Poddar (akpoddar@ieee.org)

Speaker: Open Discussion

HAC/SIGHT Partnerships and Industry Engagement: Antenna and Wireless Technology for Humanity – HAC/SIGHT/AP-S

Location: Join with Google Meet meet.google.com/yyn-tjwc-guz

Date: 17 March 2021 **Time**: 9:30 AM to 10:00 AM (Eastern Daylight time)

Contact: Ajay Poddar (akpoddar@ieee.org)

Speaker: Open Discussion

OTA medical patient monitoring systems: Wireless co-existence can be lifesaving – AES/TEM/CS

Location: Registration Link

Date: 17 March 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

(anisha_apte@ieee.org), Har Dayal (dayalhar@gmail.com); Ionel Bajescu (nelu108@yahoo.com) **Speaker:** Mahmud Naseef of Rohde & Schwarz, Dr. Pascal Hervé of CSA Group Bayern GmbH

HAC/SIGHT Partnerships and Industry Engagement: Microwave Theory and Techniques Chapter - HAC/SIGHT/MTT-S

Location: Join with Google Meet meet.google.com/fwf-edmv-cdf

Date: 18 March 2021 **Time**: 4:30 PM to 5:30 PM (Eastern Daylight time)

Contact: Ajay Poddar (akpoddar@ieee.org)

Speaker: Open Discussion

During Covid-19 How Can Technology Help – Joint Event Co-sponsored by North Jersey COM

Location: Required vTools registration - for attendance

Date: 20 March 2021 **Time:** 11:00 AM to 12:30 PM (Eastern Daylight time)

Contact: Amit Patel (a.j.patel@ieee.org)

Speaker: Mr. Fawzi Behmann, ComSoc Distinguished Lecturer, Mr. Fawzi Behmann, President, TelNet Management Consulting Inc.

Extreme IoT: Wireless & Sensor Technologies for Oceans, Health, and Robotics - Joint Event Co-sponsored by AP/MTT-S

Location: Join WebEx meeting Registration Link

Date: 22 March 2021 **Time**: 7:00 PM to 8:00 PM (Eastern Daylight time)

Contact: Ajay Poddar (akpoddar@ieee.org)

Speaker: Fadel Adib

mmWave and Sub-THz Active Load-pull, Gain Compression and S-parameter Measurements - Joint Event Co-sponsored by

AP/MTT-S, ED/CAS/ED, VT/EMBS

Location: Registration Link

Date: 24 March 2021 **Time**: 2:00 PM to 3:00 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:** Joe Mallon of Rohde & Schwarz, Jonas Urbonas of CSA Group Bayern GmbH

THz communication - a key enabler for beyond 5G? - Joint Event Co-sponsored by AP/MTT-S

Location: Registration Link

Date: 25 March 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

(anisha_apte@ieee.org)

Speakers: Dr. Taro Eichler of Rohde & Schwarz, Sebastian Schmitz, Development Engineer Rohde & Schwarz of Rohde & Schwarz

IEEE North Jersey Young Engineer Award Competition - Joint Event Co-sponsored by North Jersey Section

Location: Registration Link

Date: 25 March 2021 **Time**: 6:30 PM to 8:30 PM (Eastern Daylight time)

Contact: Ajay Poddar (akpoddar@ieee.org), Adriaan Van Wijngaarden (avw@ieee.org)

Award: IEEE North Jersey Section Young Engineer Award - \$250 cash and a certificate of achievement

Arduino Day 2021 - Joint Event Co-sponsored by North Jersey Section - CNNNJ

Location: Registration Link

Date: 27 March 2021 **Time**: 10:00 PM to 2:00 PM (Eastern Daylight time)

 $\textbf{Contact:} \ Robert \ Walker \ robert @rdwalker.com$

- Overview of Arduino (Jay Morreale)
- Highlights of the Arduino Fundamentals Kit (Jay Morreale)
- Acoustic Wildlife Monitoring (David Wilson)

Upcoming Events

Time in the Power Industry: How and Why We Use It – PES / IAS / LM Joint Meeting

Date: 2 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/569774365"

Contact: Ronald Quade: rwquade@ieee.org

Speaker: Bill Dickerson of Arbiter

IEEE North Jersey Section EXCOM meeting - April 2021 - Online (Zoom)

Date: 7 April 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

Spectrum Situational Awareness (SSA) Through Distributed RF Sensing – AES/TEM/CS

Location: Required vTools registration - for attendance Link To join Zoom Meeting ID: 843 8742 4038 Passcode: 249685

Date: 8 April 2021 **Time**: 7:00 PM to 8:15 PM (Eastern Daylight time)

Contact: Cherif Chibane: cherif.chibane@gmail.com, Kirit Dixit: kdixit@ieee.org, Amit Patel: davidhaessig@ieee.org

Speaker: Andrew Portune, Ph.D. Senior Research Scientist, Perspecta Labs



Next Generation Television (ATSC3.0) — How will this new system change television broadcasting as we know it? – CNNNJ

Location: Required registration - for attendance

Date: 8 April 2021 **Time**: 6:30 PM to 9:00 PM (Eastern Daylight time)

Contact: Jay Morreale (p-brane@p-brane.com)

Speaker: Aldo Cugnini

Quantum Computing with Microwaves – Co-sponsored by North Jersey AP/MTT-S

Location: Required - vTools Registration link Registration Link

Date: 13 April 2021 **Time**: 12:00 PM to 1:00 PM (Eastern Daylight time)

Contact: Ajay Poddar (akpoddar@ieee.org) Anisha Apte (anisha_apte@ieee.org) Durga Misra (dmisra@njit.edu), Edip Niver

(edip.niver@njit.edu),

Speakers: Prof. Joseph Bardin, University of Massachusetts, Amherst & Google of University of Massachusetts, Amherst & Google

Benchmarking of 5G networks - Co-sponsored by North Jersey AP/MTT-S

Location: Required - vTools Registration link Registration Link

Date: 15 April 2021 **Time**: 12:00 PM to 1:00 PM (Eastern Daylight time)

Contact: Ajay Poddar (akpoddar@ieee.org) Anisha Apte (anisha_apte@ieee.org) Durga Misra (dmisra@njit.edu), Edip Niver

(edip.niver@njit.edu), Ionel Bajescu (nelu108@yahoo.com)

Speakers: Michael Thelander of Signals Research Group (SRG), Arnd Sibila of Rohde & Schwarz

Loading Balancing and Resource Allocation for Edge Computing-enabled IoT - Co-sponsored by North Jersey SP/CS

Location: Registration Link Zoom Meeting Link Meeting ID: 998 4616 8756 **Date:** 21 April 2021 **Time:** 4:00 PM to 5:00 PM (Eastern Daylight time)

Contact: Hong Zhao (zhao@fdu.edu)

Speakers: Dr. Qiang Fan of Virginia Tech, VA

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

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

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

• "A Coming Problem" - An article by Harry Roman

2021 IEEE North Jersey Section Volunteers

Executive Committee

Chair - Aiav K. Poddar akpoddar@synergymwave.com

First Vice-Chair - Hong Zhao

zhao@fdu.edu

Second Vice-Chair - Emad Farag

enfarag@ieee.org

Secretary - Adriaan J. van Wijngaarden

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Treasurer - Avimanyou Vatsa

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Member-at-Large

Har Dayal - dayalhar@gmail.com Kirit Dixit -kdixit@ieee.org

Anisha Apte - anisha_apte@ieee.org Junior Past Chair - Yu-Dong Yao

Yu-Dong.Yao@stevens.edu

Senior Past Chair - Kalyan Mondal

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Society Chapters

Aerospace Electronic Systems

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Vice-Chair - Kirit Dixit kdixit@ieee.org

Antennas and Propagation / Microwave

Theory and Techniques Co-Chair - Ajay Poddar akpoddar@synergymwave.com

Co-Chair -Edip Niver niver@adm.njit.edu Co-Chair - Anisha Apte anisha_apte@ieee.org

Circuits and Systems/Electron Devices

Chair – Durga Misra dmisra@njit.edu **Communications** Chair - Amit Patel a.j.patel@ieee.org

Computer

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zhao@fdu.edu Control Systems Chair - David Haessig

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Electromagnetic Compatibility/Product

Safety Engineering Chair - Russell C. Pepe rcpepe@ieee.org

Engineering in Medicine and Biology

Chair - Har Dayal dayalhar@gmail.com

Industrial Applications Chair - Ken Oexle k.oexle@ieee.org

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Instrumentation Measurement Chair - Russell C. Pepe rcpepe@ieee.org

Photonics

Chair - Naresh Chand chandnaresh@gmail.com

Power & Energy

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Co-Chair - Michael Miller michaelamiller8@gmail.com

Signal Processing

Chair - Alfredo Tan

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Systems, Man, and Cybernetics

Chair - Mengchu Zhou

zhou@njit.edu

Vehicular Technology Chair - Ionel Bajescu nelu108@yahoo.com

Technical Councils

Technology & Engineering

Management Chair - Kirit Dixit kdixit@ieee.org

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Young Professionals Chair - Larry Yang

larry.yang@alcatel-lucent.com

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chitrav55@gmail.com Co-Chair - Reena Dahle reena.dahleh@gmail.com

LIFE Members Co-Chair - Ken Oexle k.oexle@ieee.org

Co-Chair - Michael Miller michaelamiller8@gmail.com

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Co-Chair - Mani Iyer mani.iyer@ieee.org Awards & Recognitions

Co-Chair - Ken Oexle

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Co-Chair - Adriaan J. van Wijngaarden

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Membership Development Chair - Michael Newell msnewell@ieee.org

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TPC Co-Chair - George Kennall gkk@lgsinnovations.com

TPC Co-Chair - Ajay Poddar akpoddar@synergymwave.com

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Durga Misra dmisra@njit.edu

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Co-Chair - Paul E. Ward

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Pre-University Activities Co-Chair - Chitra Venkatraman chitrav55@gmail.com

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Student Activities Chair - Hong Zhao zhao@fdu.edu

Student Representative Committee

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Co-Chair - Adriaan J. van Wijngaarden

avw@ieee.org

Co-Chair - Avimanyou Vatsa

avatsa@fdu.edu