



IEEE North Jersey Section

IEEE North Jersey Section Newsletter

VOL. 70, NO. 10

Issue: NOVEMBER-DECEMBER 2024

Prior registration is highly encouraged to attend

IEEE North Jersey Section Website

IEEE North Jersey Section - Roster





Chair's Note - A Message from the IEEE North Jersey Section Chair, Prof. Hong Zhao

As we close out another year, I want to extend my heartfelt thanks to each ExCom member for their dedication and hard work. Together, you've organized an impressive range of events, including seminars, workshops, short courses on AI, AI Symposiums, Mini-Show on radio communications, membership development initiatives, a memorable Milestone dedication ceremony, and awards ceremonies that have truly become highlights for our community. Your efforts have been instrumental in making these a success. I deeply appreciate the ExCom for their ongoing support and commitment, which has helped us achieve so much together.

Our North Jersey Section has earned a reputation as a "powerhouse," and our chapters have been recognized with the Best Chapter Awards. None of this would have been possible without the tireless efforts and dedication of our ExCom members.

Over the past two years, it has been an honor and a joy to work alongside such a committed and talented team. This December marks the last month of my term, and I am delighted to welcome our new Chair and the incoming ExCom board. I look forward to the fresh perspectives and new adventures they will bring to our section. Thank you once again for an incredible journey, and here's to an exciting future ahead!

The 2025-2026 ExCom Board:

Chair	Emad Farag
First Vice-Chair	Anisha Apte
Second Vice-Chair	Alfredo Tan
Secretary	Avimanyou Vatsa
Treasurer	Weitian Wang
Member-at-Large	Michael Miller, Adriaan van Wijngaarden, Yudong Yao

IEEE – IMPORTANT EVENTS, ARTICLES, ANNOUNCEMENTS, AND REMINDERS:

- [This Month's Communications Society News from Around the World](#)
- [Quotes on Education - An article by Harry Roman](#)

Quotes on Education

Here is a selection of quotes about education to give you pause for reflection.

Let's begin with two quotes from Albert Einstein:

“It is the supreme art of the teacher to awaken joy in creative expression and knowledge. Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.”

This one from MLK, Jr.:

“The function of education is to teach one to think intensively and to think critically. Intelligence plus character - that is the goal of true education.”

Listen to Carl Sagan's sage wisdom:

“I am often amazed at how much more capability and enthusiasm for science there is among elementary school youngsters than among college students.” [I wonder what has happened in 12 years of school to dampen the awe of learning!]

The great educationalist Jean Piaget:

“The principal goal of education in the schools should be creating men and women who are capable of doing new things, not simply repeating what other generations have done.”

Some words from the great writer, John Steinbeck:

“I have come to believe that a great teacher is a great artist and that there are as few as there are any other great artists. Teaching might even be the greatest of the arts since the medium is the human mind and spirit.”

Let's hear from the philosopher Bertrand Russell:

“We are faced with the paradoxical fact that education has become one of the chief obstacles to intelligence and freedom of thought.”

Harry T. Roman, Life Senior Member

Author & Advisor, Edison Innovation Foundation

(Retired-PSE&G Co.)

htroman49@aol.com

Introducing the NNJ IEEE Education Committee Technology Review Series

The IEEE North Jersey Section Education Committee inaugurates a new series of approachable technical and tutorial articles on existing and emerging technologies. This series was motivated by the Education Committee's long-term chair and instructor Professor Don Hsu, PhD. His sudden passing in October of 2024 was the impetus to originate a memorial series of articles in the section's monthly Newsletter for at least the next calendar year.

Professor Hsu dedicated his efforts to bringing educational material on advanced topics to wide audiences to impart a true understanding of the subject.

The members of the section Executive Committee have volunteered their time and knowledge to produce a set of articles to continue that legacy.

Additional members of the public with expertise in different subject areas are invited to participate in producing technical articles for the series.

Dr Hsu's most recent teaching and advising efforts focused on several broad topics. He was guiding students and their research in areas of quantum computing, cybersecurity and artificial intelligence (AI). Additionally, he taught a variety of subjects at different educational institutions in the tri-state area, for the IEEE North Jersey Section Education Committee, and local and international conferences.

This series will not be limited to just his specific subjects, but will cover a wider set of topics that bridge the broader interest themes of IEEE members and more specifically topics from the individual chapters. The articles will appear monthly in the newsletter with a title and abstract of the full article.

Authors will produce a longer form article, linked to the abstract, so interested readers can click through to read the entire tutorial.

The pace of articles will attempt to match the publication schedule of the section's newsletter. Occasionally, some months might be skipped or others doubled up depending on author availability and timeliness of producing the articles. I, Amit Patel (a.j.patel@ieee.org), as a volunteer and member of the Education Committee, in conjunction with the Newsletter Committee will assist the curation of articles and posting for wider distribution.

Please contact me with any specific questions you have about this effort.

- Amit Patel (a.j.patel@ieee.org)

The First article in the series is found below:

Title: [A Tutorial-Based Introduction to Artificial Intelligence Technologies](#)

Abstract:

Artificial intelligence is a growing area of research and general interest. It is rapidly expanding and the breadth of topics is becoming a cornerstone in many new technologies being developed by companies today. AI will play a role in many of the products of tomorrow to either greatly enhance functionality, design, or even a new purpose. This article series will survey a number of machine and deep learning technologies as well as how to apply them to a variety of data sets for analysis, training, and prediction. A variety of topics and issues related to AI software engineering will be covered and explained with prose, diagrams, and graphs. Techniques and methodologies will be discussed as part of these tutorials so readers can apply them to bespoke data sets.

URL to full article: <https://ap20.github.io/nnj/NL/apatel/AITutorialSeries2.html>



GRADUATE SCHOOL VIRTUAL OPEN HOUSE!

Tuesday, December 17, 2024, 5 p.m.

Fairleigh Dickinson University

Gildart Haase School of Computer Sciences & Engineering (GHSCSE)

Cybersecurity Leadership: "National Center of Academic Excellence for Cyber Defense Education (CAE-CDE)" by NSA

18 cutting-edge labs, among the best in the North and Mid-Atlantic Regions

Offers 6 Masters of Science (MS) Programs

<p>*Cybersecurity & Information Assurance</p> <p>*Electrical Engineering</p> <p>*E-Commerce</p>	<p>*Management Information Systems</p> <p>*Computer Engineering</p> <p>*Computer Science (Data Science, Cloud Computing and more)</p>
--	--



Scan Zoom Registration



Scan Grad Program Info



The IEEE Women in Engineering (WIE) Forum USA East

The IEEE Women in Engineering (WIE) Forum USA East is dedicated to fostering leadership development for professionals at every career stage. Rotating between IEEE Region 1 and Region 2 in the Northeast USA, our forum offers attendees the chance to gain inspiration and empowerment from renowned leaders. Participants explore emerging technologies and innovative STEM outreach initiatives through dynamic workshops and engaging panel discussions.

2024 FORUM FOCUS AREAS

Inspire: Ignite positive career and personal growth

Empower: Unleash your full potential

Lead: Elevate your leadership skills and career trajectory

Workshops: Develop and enhance essential skills

Career Fairs: Connect with leading organizations

The IEEE WIE Forum USA East 2024, that took place in Stamford, Connecticut, was abundant with

insights, networking, and career advancement opportunities, with immense enthusiasm from attendees. The Forum provided STEM professionals with a wealth of opportunities. Volunteer leaders shared inspiring career experiences, while keynote speakers highlighted the transformative power of connections, the importance of speaking up, thriving in uncertainty, and self-empowerment. Be there and join us next year as we 'Innovate to Elevate.' Stay tuned!

For now, visit the [2024 Forum website](#) to seek inspiration for the next year.



The WIE Meet and Greet event was the perfect opportunity for the attendees, speakers, volunteers and all to interact with each other. The Region-1 Director Bala Prasanna addressed the attendees, followed by the IEEE WIE Chair Celia Shahnaz and the Conference General chairs Charlotte Blair, and Maryam Alibeik, who is also the IEEE R2 WIE Coordinator, and the IEEE R1 WIE Co-Ordinator, Anisha Apte. The event, also highlighted the Walmart Award Winner, Jyotika Athavle. The attendees enjoyed refreshments and WIE merchandise and giveaways. A few pictures of the event are seen below:





IEEE Region-1 and Region-2 Joint Board Meeting at Stamford CT, Nov 9-10, 2024

2024 RCA Technical Symposium



2024 RCA Technical Symposium - North Jersey AP/MTT, Photonics, WIE, ED/CAS Joint Co-sponsors – Participants – Dr. Ajay Poddar, Dr. Naresh Chand, Prof. Durga Misra, Dr. Anisha Apte. Student Poster Presentation – Trusha Kared

IEEE North Jersey Section AP/MTT Jt. Chapter, Photonics, WIE Co-Sponsors the TALK: "Photonics for National Defense" at the RCA Technical Symposium 2024

Photonics is the key technology that is enabling the current 4th industrial revolution. It plays a vital role in our everyday life and everywhere around us. Photonics is revolutionizing defense technologies to protect national assets. It allows warfighters to remain informed about their situational awareness, aiming, firing, range measurements, and safety during operations through optical sensors, reliable and secure communication, and electronic warfare (EW). Photonics provides highly accurate and reliable ways to detect and neutralize threats. This talk will give a broad overview of some photonics applications specific to defense to create an awareness of the importance of photonics.

2024 Technical Symposium, Awards Banquet, and Area Tours Registration - Events - Radio Club of America



2024 RCA Technical Symposium – North Jersey AP/MTT, Photonics, WIE, ED/CAS Joint Co-sponsors – Talk by Dr. Naresh Chand

DATE AND TIME	LOCATION	HOSTS	REGISTRATION
Date: 23 Nov 2024 Time: 03:40 PM to 03:55 PM All times are (GMT-05:00) US/Eastern Add Event to Calendar Add to Calendar Google Calendar	270 W 43rd St New York, New York United States 10036 Building: Western Times Square 	North Jersey Section II Chapter AP/MTT Jt North Jersey Section Chapter Photonics North Jersey Section Affinity Group, WIE Contact Event Hosts Ajay Priddy (ajay@dar.gov), Filip Neven (filip.neven@dar.mil), Anisha Apte (anisha_apt@ieee.org)	Starts 14 November 2024 12:00 AM Ends 23 November 2024 12:00 AM All times are (GMT-05:00) US/Eastern No Admission Charge Registration Closed
SPEAKERS Dr. Naresh Chand Topic: Photonics for National Defense 			



2024 RCA Technical Symposium – With Nobel Laureate Dr. Robert Wilson, (3rd from the Right)



From Left: Dr. David Bart (RCA President), Dr. Katherine August, Dr. Morimi Iwama, Dr. James Breakall, Dr. Ajay Poddar, Dr. Nathan "Chip" Cohen



The IEEE AP-S CAC/COPE/SIGHT/MGAmeeeting during the 1st edition of the LACAP was very well attended. The meeting was a great source of information and motivation to the attendees.

The first edition of the Latin American Conference on Antennas and Propagation was held successfully in Cartagena, Colombia, from Nov 30 to Dec 04, 2024. Dr. Ajay Poddar, who serves as the global chair of the chapter activity committee and Dr. Anisha Apte, member of the CAC/COPE/SIGHT committees, conducted the Chapter chairs, COPE/SIGHT/MGA meetings at Cartagena Columbia, during the course of this conference.

IEEE North Jersey Section End-of-the-Year Dinner Meeting Event

The End of the Year dinner Meeting was held on Dec 02, 2024, at the Hanover Manor, NJ

The invited speaker, Howard Rosen gave a very engaging and motivating talk about Inventions, Innovations, and Insights: Navigating the Journey from Ideas to Impact.

Several students, and Region-1 officers, including the R1 Director Bala Prasanna and many others joined in the celebrations.

Some pictures from the event are seen below:



Life Member Luncheon on Nov 15, 2024

We had a successful Life Member Luncheon on 11/15/2024 organized by the life-member Chair, Michael Miller, and co-sponsored by IAS Chair, Ken Oexle.



Calendar of Events

November 01, 2024 Onwards

Title	Date	Hosts	Location
IEEE Circuit and System (CAS) Seasonal School on In-Memory Computing (IMC 2024) – First Phase: North Jersey Section Jt Chapter, CAS04/ED15	04 Nov 2024 11:00 AM	CH01092, CH01184	Newark, New Jersey
A Characterization of All Passivizing Input-Output Transformations of a Passive-Short System: North Jersey Section Chapter, CS23	05 Nov 2024 11:00 AM	CH01095, CH01184	Newark, New Jersey
Worldwide standardization activities of AI: North Jersey Section Chapter, AES10	05 Nov 2024 12:00 PM	CH01092, CH01177, CH01178, CH01215, CH01253, CH01285, CH02067, SIGHT177, WE10327, YP10327	Virtual
IEEE North Jersey Section EXCOM - Meeting 6:30 PM: North Jersey Section	06 Nov 2024 06:30 PM	R10327	Newark, New Jersey Hybrid

Title	Date	Hosts	Location
Learn to Solve Constrained Markov Decision Process Efficiently: North Jersey Section Chapter, PHO36	06 Nov 2024 07:00 PM	CH01092, CH01178, CH01287, WE10327	Newark, New Jersey
Women in ECE: Beyond Academics: North Jersey Section Affinity Group, WIE	06 Nov 2024 04:00 PM	WE10327	Newark, New Jersey
Uncovering hidden signal anomalies with high-resolution oscilloscopes: North Jersey Section Jt Chapter, AP03/MTT17	07 Nov 2024 12:00 PM	CH01092, CH01178	Virtual
Distinguished Lecture (Virtual) - Civilized Collaboration: Ethical architectures for enforcing legal requirements and mediating social norms in Human-robot Interaction: New York Section Chapter, C16	08 Nov 2024 06:00 PM	CH01070, CH01080, CH01177, CH01246, CH02170, R10325, SBC10451A, STB03892	Virtual
AP-S COPE Project: Laser for detecting and monitoring the carbon footprint in the atmosphere: North Jersey Section Jt Chapter, AP03/MTT17	09 Nov 2024 05:30 PM	CH01092	Paterson, New Jersey Virtual
Print-on-Demand 3D Printed Radio Frequency Components for Sustainable Electronics: North Jersey Section Jt Chapter, AP03/MTT17	12 Nov 2024 12:00 PM	CH01092, CH01178	Virtual

Title	Date	Hosts	Location
Prototyping amateur radio systems with SDR and Raspberry Pi: North Jersey Section Affinity Group, CN	13 Nov 2024 06:30 PM	CH01146, CN10023, CN10327, SIGHT177	Virtual
Cybersecurity for Battery Energy Storage Systems: North Jersey Section Chapter, CS23	14 Nov 2024 11:00 AM	CH01095, CH01097, CH01290	Newark, New Jersey
Life Member Luncheon - Artificial Intelligence: North Jersey Section Affinity Group, LM	15 Nov 2024 12:00 PM	LM10327	Denville, New Jersey
Life Member Luncheon - Artificial Intelligence: North Jersey Section Affinity Group, LM	15 Nov 2024 12:00 PM	CH01098, LM10327	Denville, New Jersey
Life Member Luncheon - Artificial Intelligence: North Jersey Section Affinity Group, LM	15 Nov 2024 12:00 PM	LM10327, PE031	Denville, New Jersey
2D Materials for Next-Generation Electronics: From Low-Power Logic to Monolithic Memory: North Jersey Section Jt Chapter, CAS04/ED15	18 Nov 2024 02:30 PM	CH01092, CH01184	Newark, New Jersey
Developing Game Worlds: Seton Hall Univ	19 Nov 2024 06:30 PM	STB2503293	Virtual

Title	Date	Hosts	Location
Digital Engineering 101: North Jersey Section Chapter, SYS45	19 Nov 2024 07:00 PM	CH01092, CH01178, CH01294	Teaneck, New Jersey Virtual
Soldering Workshop: North Jersey Section Affinity Group, WIE	20 Nov 2024 02:30 PM	WE10327	Newark, New Jersey
Toward Trustworthy AI/ML in 6G Networks through Explainable Reasoning: IEEE Future Networks Community	21 Nov 2024 12:00 PM	C-FN772, R10327, R20035	Virtual
Power and URD Cable, Overhead Cable Systems & Molded Products - Marmon Utility: North Jersey Section Chapter, PE31	21 Nov 2024 09:00 AM	CH01092, CH01097	South Plainfield, New Jersey
Power and URD Cable, Overhead Cable Systems & Molded Products - Marmon Utility: No Jersey/Prin-Ctr Jersey Jt Sections Chapter, IA34	21 Nov 2024 09:00 AM	CH01092, CH01098	South Plainfield, New Jersey
Empowering Connectivity: Wearable Antennas for Wi-Fi and 5G Applications - AP-S DL Talk: North Jersey Section Jt Chapter, AP03/MTT17	22 Nov 2024 11:30 AM	AP003, CH01092, CH01178, CH07166, CN10327, SIGHT056, SIGHT177, WE10327, YP10327	Virtual

Title	Date	Hosts	Location
Noise in Oscillators with Active Inductors: North Jersey Section Jt Chapter, AP03/MTT17	23 Nov 2024 08:00 AM	CH01092, CH01178, SIGHT177, WE10327	New York, New Jersey
Photonics for National Defense: North Jersey Section Jt Chapter, AP03/MTT17	23 Nov 2024 01:40 PM	CH01092, CH01178, WE10327	New York, New York
IEEE North Jersey Section End-of-the-Year 2024 Dinner Meeting Event - December 2: North Jersey Section	02 Dec 2024 06:00 PM	R10327	East Hanover, New Jersey
WIND INSTITUTE TECHNICAL BOOTCAMP @ NJIT: North Jersey Section Chapter, MAG33/UFFC20/SEN39	09 Dec 2024 08:30 AM	CH01092, CH01184, CH01290	Newark, New Jersey
2024 IEEE Metropolitan AI Applications Symposium (Saturday 12/14 @10AM Zoom 506 875 4099): North Jersey Section	14 Dec 2024 10:00 AM	CH01081, R10327	Virtual
Machine Learning Ideas for Sensor Networks: IEEE Future Networks Community	19 Dec 2024 12:00 PM	C-FN772, R10327	Virtual

[For Past Month's Events – OCTOBER 2024 - Click Here](#)

2024 IEEE North Jersey Section Volunteers

Executive Committee

Chair – Hong Zhao zhao@fdu.edu

First Vice-Chair – Emad Farag
enfarag@ieeee.org

Second Vice-Chair – Anisha Apte
anisha_apte@ieeee.org

Secretary - Adriaan J. van
Wijngaarden avw@ieeee.org

Treasurer – Avimanyou Vatsa
avatsa@fdu.edu

Member-at-Large

Naresh Chand -
chandnaresh@gmail.com

Har Dayal – dayalhar@gmail.com

Alfredo Tan – tan@fdu.edu

Junior Past Chair – Ajay K.
Poddar akpoddar@ieeee.org

Senior Past Chair – Yu-Dong Yao
Yu-Dong.Yao@stevens.edu

Society Chapters

Aerospace Electronic Systems

Chair – Cherif Chibane
cherif.chibane@gmail.com

Vice-Chair – Kirit Dixit -
kdixit@ieeee.org

Antennas and Propagation / Microwave Theory and Techniques

Co-Chairs

Ajay Poddar akpoddar@ieeee.org

Edip Niver niver@adm.njit.edu

Vice-Chair – Anisha Apte
anisha_apte@ieeee.org

Circuits and Systems/Electron Devices

Chair – Durga Misra
dmisra@njit.edu

Vice Chair - Shaahin Angizi
shaahin.angizi@njit.edu

Communications

Chair – Amit Patel -
a.j.patel@ieeee.org

Computer

Chair – Hong Zhao -
zhao@fdu.edu

Vice Chair -Tao Han -
tao.han@njit.edu

Computational Intelligence Society

Co-Chair: Prasenjit Bhadra -
prasenjit@ieeee.org

Co-Chair: Manfred Minimair
manfred.minimair@shu.edu

Vice-Chair: Ratna Raj -
ratna.raj@njit.edu

Control Systems

Chair – Marcos Netto
marcos.netto@njit.edu

Electromagnetic Compatibility/Product Safety Engineering

Chair – Russell C. Pepe -
rcpepe@ieeee.org

Engineering in Medicine and Biology

Chair – Yu-Dong Yao -
Yu-Dong.Yao@stevens.edu

Industrial Applications

Chair – Ken Oexle -
k.oexle@ieeee.org

Information Theory

Chair – Adriaan J. van
Wijngaarden avw@ieeee.org

Instrumentation & Measurement

Chair – Russell C. Pepe -
rcpepe@ieeee.org

Photonics

Chair – Naresh Chand
chandnaresh@gmail.com

Power & Energy

Co-Chairs

Ronald W. Quade
rwquade@ieeee.org

Michael Miller
michaelmiller8@gmail.com

Robotics & Automation

Chair - Mengchu Zhou
zhou@njit.edu

Vice Chair - Shilpi Chakraborty
shilpi@ieeee.org

Signal Processing

Chair – Alfredo Tan - tan@fdu.edu

Social Implications of Technology

Chair – Kirit Dixit -
kdixit@ieeee.org

Systems, Man, and Cybernetics

Chair – Weitian Wang
wangw@montclair.edu

Technology & Engineering Management

Co-Chairs – Kirit Dixit
kdixit@ieeee.org

Rakesh Singh
rakeshsingh49@gmail.com

Vehicular Technology

Chair – Ionel Bajescu
nelu108@yahoo.com

Affinity Groups and Councils

Consultants Network

Co-Chairs

Jim Julian
consultant@jimjulian.com

Jay Morreale p-brane@p-brane.com

Young Professionals

Chair – Larry Yang –
larry.yang@alcatel-lucent.com

Vice Chair -Patrick Beesley
Patrick.Beesley@se.com

Women in Engineering

Co-Chairs

Chitra Venkatraman
chitrav55@gmail.com

Ratna Raj (ratna.raj@njit.edu)

Vice chair: Rui Li
liru@montclair.edu

LIFE Members

Co-Chairs

Ken Oexle - k.oexle@ieee.org

Michael Miller -
michaelamiller8@gmail.com

Nanotechnology Council

Chair - Eui-Hyeok Yang -
ehyang@ieee.org

North Jersey SIGHT Group

Co-Chairs

Anisha Apte -
anisha_apte@ieee.org

Dushyant Deshmukh
pranavdush@gmail.com

Committees

Audit Committee

Co-Chairs Ajay Poddar -
akpoddar@ieee.org

Kalyan Mondal - mondal@fdu.edu

Mani Iyer - mani.iyer@ieee.org

Awards & Recognitions

Co-Chairs

Ken Oexle - k.oexle@ieee.org

Adriaan J. van Wijngaarden
avw@ieee.org

Educational Activities

Co-Chairs

Donald Hsu yanyou@hotmail.com

Kalyan Mondal – mondal@fdu.edu

Amit Patel – a.j.patel@ieee.org

Employment Network

Co-Chairs

Chitra Venkatraman
chitrav55@gmail.com

Naresh Chand
chandnaresh@gmail.com

Government and Industrial Liaisons

Co-Chairs

Art Greenberg
a.h.greenberg@ieee.org

Russell C. Pepe rcpepe@ieee.org

Group Coordinator / History

Chair – Howard Leach -
h.leach@ieee.org

Legal Activities

Chair – Vacant

Membership Development

Chair – Michael Newell -
msnewell@ieee.org

MTT/AP Trade Show and Symposium

Chair – Kirit Dixit -
kdixit@ieee.org

Vice-Chair – Har Dayal -
dayalhar@gmail.com

TPC Co-Chair – George Kannell
gkk@lgsinnovations.com

TPC Co-Chair – Ajay Poddar
akpoddar@ieee.org

Newsletter

Chair – Anisha Apte
anisha_apte@ieee.org

Nominations and Appointments

Ajay Poddar - akpoddar@ieee.org

Kalyan Mondal - mondal@fdu.edu

Durga Misra - dmisra@njit.edu

PACE

Chair – Russell C. Pepe -
rcpepe@ieee.org

Co-Chair – Paul E. Ward -
peward@ieee.org

Pre-University Activities

Co-Chairs – Chitra Venkatraman
chitrav55@gmail.com

Craig Polk - craig.polk@ieee.org

Program Review Committee

Kirit Dixit - kdixit@ieee.org

Ajay Poddar - akpoddar@ieee.org

Emad Farag - enfarag@ieee.org

Student Activities

Chair - Melvin Lewis
mlewis@fdu.edu

Student Representative Committee

Chair - Kalyan Mondal
mondal@fdu.edu

Webmaster

Co-Chairs

Adriaan J. van Wijngaarden -
avw@ieee.org

Avimanyou Vatsa - avatsa@fdu.edu