

IEEE North Jersey Section Newsletter

VOL. 70, NO. 08 Issue: SEPTEMBER 2024

Prior registration is highly encouraged to attend

any event.

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 transition into September, our focus on Artificial Intelligence (AI) continues to be at the forefront of our efforts. This month, we have an exciting lineup of seminars, short courses, and events that explore the latest

advancements in AI and its applications across various fields.

We kick off with seminars that delve into the intricacies of Large Language Models and innovative Machine-Learning applications in Nanophotonic Device Design. A highlight of this month is the NJACS Symposium, where we will showcase groundbreaking research on Deep Learning and AI applications in Communications. This symposium promises to be a significant gathering for those keen on the intersection of AI and communication technologies.

Furthermore, the Photonics Society Chapter, along with several other co-sponsoring chapters of the North Jersey Section, are hosting Distinguished Lecture Talks. These sessions will cover both technical aspects and professional development, offering a well-rounded experience for all attendees.

I am also pleased to announce that the IEEE North Jersey Section Communications Society Chapter is offering a "Deep Learning with Applications" course starting on September 21st. This course is an excellent opportunity for members to deepen their understanding of AI and its practical applications.

Please stay tuned for all these wonderful opportunities to learn, collaborate, and advance our collective knowledge in AI. Your participation and engagement are what make our community vibrant and innovative.

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

- This Month's Communications Society News from Around the World
- North Jersey Section Call for Nominations
- Power Skills-Keys to Success An article by Harry Roman
- 38th AP/MTT Mini-Symposium
- SHE IN ECE 2024 Event Covered in the CAS Newsletter

North Jersey Section Call for Nominations

Dear North Jersey Section Members,

We are pleased to announce the North Jersey Section Annual Election. Candidate nominations are now being accepted for the **IEEE North Jersey Section** Annual Election.

We are seeking nominations for the following elected position(s).

- Chair
- First Vice Chair (Vice Chair)
- Second Vice Chair (Vice Chair)
- Secretary
- Treasurer
- Members-At-Large (3 Positions)

Nominees must be IEEE members of the North Jersey Section as of 04 September 2024 07:21 PM America/New_York and be a Graduate Student Member, Member, Senior Member, Life Member, or Fellow grade.

The nomination deadline is 16 September 2024 06:33 PM America/New_York. The Petition opening will be announced to all eligible members, and the deadline to place petitions will be 25 October 2024 06:33 PM America/New_York. Voting will be held utilizing vTools.

Please go to https://nominations.vtools.ieee.org/tego_/nominate_or_petition/R10327 using your IEEE account credential to nominate yourself or another member. With nominations, we ask each candidate to present a biography and a statement of plan.

Election Committee, Chair **Durga Misra**



Power Skills-Keys to Success

They are not soft skills, nor are they professional skills. They are "Power Skills" essential for success in the business world. These are the skills that engineers use to convert ideas into reality and create humanitarian value while earning great salaries.

I have never seen an engineer or technical person fired for incompetence, but I have seen careers ruined when such people had poor written and oral communication skills, especially the latter. Being able to speak in front of corporate leaders to get your ideas effectively heard is an absolute must for obtaining corporate resources to turn your ideas into reality.

Teamwork skills are huge in the business world and those professionals that can be both a follower and a leader on project teams are the essential ingredients for bringing raw ideas to market.

The leadership skills that allow for the assembly of high-quality project teams and the ability to manage and direct them are pure gold in the modern corporation.

Being able to educate and train new employees and develop existing valuable ones gives the corporation the vigor to grow and meet the challenges of the future. Those leaders who can connect employees to the future are the corporate "farmers" who tend the business soil for tomorrow.

Thinking and analyzing problems both broadly and deeply, simultaneously--seeing the pieces to a problem and the whole problem at once-- is incredibly important, especially when planning and organizing team members to solve important problems.

There are other great skills, but these are the ones that ring my bell and echo my 53 years of experience. Feel free to add more! Better yet, teach young engineers to appreciate and profit through them.

Harry T. Roman, Life Senior Member

Author & Advisor, Edison Innovation Foundation
(Retired-PSE&G Co.)

httoman49@aol.com









THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.

NORTH JERSEY SECTION

MTT-Society & AP-Society Joint Chapters PRESENTS

38th ANNUAL SYMPOSIUM AND MINI-SHOW

WEDNESDAY, OCTOBER 9, 2024

Hanover Manor, 16 Eagle Rock Ave., East Hanover, NJ 07936. 973-992-7425

TECHNICAL SYMPOSIUM from 8:50 AM - 4:30 PM

MINI SHOW featuring the latest products 9:00 AM - 4:30 PM

| Time | Topic | Speaker | Title | Affiliation |
|-----------------|--|--------------------|---|--|
| 8:50 | Opening Remarks | George Kannell | Technical Chair IEEE MTT/AP | L3Harris |
| 9:00- 9:30 | Spoof Surface Plasmon Polariton Based Integrated Circuits | Dr. Shiban Koul | IIT Delhi, India IEEE Inter-Society, (AP-MTT-EMC) | Honorary Professor the Indian Institute of Technology |
| 9:30- 10:00 | Guided Wave Theory: Can eigenvalues be extracted from propagation characteristics, or vice versa? | Dr. Levent Sevgi | Chair IEEE AP-S DL Professor | EMC TURKIYE - ISTANBUL |
| 10:00 | BREAKFAST BREAK - MINI SHOW EXHIBI | TION | | |
| 11:00- 11:30 | Multi-Function Multi-Band Reconfigurable High Q Filters | Dr. Rafaat Mansoor | MTT-S DL; Professor of Electrical & Computer Engineering | University of Waterloo |
| 11:30- 12:00 | Noise in Oscillators with Active Inductors | Dr. Ulrich L Rohde | Professor President & Chairman | University of Joint Forces DE, Synergy Microwave |
| 12:00 | LUNCH | | | |
| 1:00- 1:30 | RF and Sensor Networks for Environmental and Climate Change Efficiency | Dr. David Padi | Business Relationship Manager | The United Nations |
| 1:30 2:00 | Indian GNSS Paradigm- A Step towards Self- sustenance- (Atmanirbharata)" | Dr. Surendar Pal | Vice-Chancellor Defense Institute of Adv. Tech Pune, Founder Program Director-ISRO | ISRO, Indian Space Research Organization |
| 2:00 2:30 | Simultaneous Transmit & Receive (STAR) for Next Gen Comms 5G & 6G | Dr. Alan Brannon | Sr. Principal Research Associate, Prof. Adjunct | Univerity of Colorado Boulder |
| 2:30 | BREAK - MINI SHOW EXHIBITION | | | |
| 3:00- 3:30 | Optics in Electronic Warfare | Piotr Zelazny | Systems Engineer | L3Harris |
| 3:30- 4:00 | Non-Terrestrial Networks: Where 5G and SatCom Converge | Mike McLernon | Principal Technical Marketing Engineer | MathWorks |
| 4:00- 4:30 | EW Environmental Generation Overview | Bill Kardine | EW BDM | Rohde and Schwarz |
| 5:00 | Closing remarks | Kirit Dixit | Chair MTT/AP Symposium | Microcom Sales |

Registration is on-site. Section Home page: http://sites.ieee.org/northjersey/

ALL ARE WELCOME (IEEE Membership not required). REGISTRATION IS ON-SITE THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW. COMPLIMENTARY BREAKFAST / LUNCH INCLUDED FOR ALL.

FURTHER INFORMATION

| General Event Chair | Kirit Dixit | 201-669-7599 | kdixit@microcomsales.com |
|---------------------------|----------------------|--------------|-----------------------------|
| Technical Program Chair | George Kannell | 973-284-3682 | george.kannell@L3Harris.com |
| Co-Chair AP/MTT Chapter | Dr. Anisha Apte | | anisha_apte@ieee.org |
| Chair AP/MTT Chapter | Dr. Ajay Poddar | 201-560-3806 | akpoddar@ieee.org |
| Vice-Chair AP/MTT Chapter | Professor Edip Niver | 973-596-3542 | edip.niver@njit.edu |
| Event Coordinator | Har Dayal | 973-628-7394 | dayalhar@gmail.com |
| Event Coordinator | Ken Oexle | | k.oexle@ieee.org |
| Event Coordinator | Russell Pepe | 201-960-6796 | rpepe@att.net |
| Event Coordinator | Howard Leach | | h.leach@ieee.org |
| Chair North Jersey | Dr. Hong Zhao | | zhao@fdu.edu |





GRADUATE SCHOOL VIRTUAL OPEN HOUSE!

Tuesday, September 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

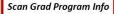
- *Cybersecurity & Information Assurance
- *Management Information Systems
- *Electrical Engineering
- *Computer Engineering

*E-Commerce

*Computer Science (Data Science, Cloud Computing and more)



Scan Zoom Registration









GRADUATE SCHOOL VIRTUAL OPEN HOUSE!

Tuesday, October 15, 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

- *Cybersecurity & Information Assurance
- *Management Information Systems
- *Electrical Engineering
- *Computer Engineering

*E-Commerce

*Computer Science (Data Science, Cloud Computing and more)



Scan Grad Program Info









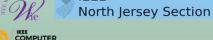












Co-sponsored by North Jersey Section Jt Chapters, PHO36, CASo4/ED15, APO3/MTT17, North Jersey Section SIGHT, Affinity Group, WIE and the North Jersey Section, New Jersey Coast Section Jt. Chapter, IMog/C16

IEEE PHOTONICS SOCIETY DISTINGUISHED LECTURER: Dr. Daniel Renner



Title: Professional Development Talk Title: "Life at a Photonic Startup – A very personal account"

Date: 24th SEPTEMBER 2024, 06:00 PM to 07:30 PM

Brief Agenda:

6:00-6:15 Networking

6:15-7:15 - Talk

7:15-7:30 Q/A, Discussion

Location: NJIT, ECE 202, 154 Summit Street, Newark, NJ 07102



















Co-sponsored by North Jersey Section Jt Chapters, PHO36, CASo4/ED15, APo3/MTT17, North Jersey Section SIGHT, Affinity Group, WIE and the North Jersey Section, New Jersey Coast Section Jt. Chapter, IMog/C16

IEEE PHOTONICS SOCIETY DISTINGUISHED

LECTURER: Dr. Daniel Renner



Title: Monolithic, Heterogeneous, and Hybrid Photonic Integration - There is a role for all

Date: 25th SEPTEMBER 2024, 06:00 PM to 07:30 PM

Brief Agenda:

6:00-6:15 Networking

6:15-7:15 - Talk

7:15-7:30 Q/A, Discussion

Location: M105, Muscarelle Building, Fairleigh Dickinson University, 1000 River Rd. Teaneck, NJ 07666



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 will explore emerging technologies and innovative STEM outreach initiatives through dynamic workshops and engaging panel discussions.

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





Calendar of Events

Upcoming Events: September 2024 Onwards

| Title | Date | Hosts | Location |
|--|-------------------------|--|----------------------------------|
| IEEE North Jersey Section September 2024 EXCOM - Meeting 6:30 PM: North Jersey Section | 04 Sep 2024 06:30 PM | R10327 | Hybrid Teaneck, New Jersey |
| Large Language Models (LLMs) for NextG Wireless Networks: IEEE Future Networks Community | 05 Sep 2024 06:00 PM | C-FN772, R10327, R20035 | Virtual |
| IEEE SSIT Lecture: Automating Empathy in Human-AI Partnerships: Issues, Ethics and Governance: UK and Ireland Section Chapter, SIT30 | 10 Sep 2024 06:00 PM | CH01070, CH01075, CH01092, CH01177, CH01239, CH01258, CH01268, CH01285, CH02100, CH04055, CH06042, CH07171, CH08031, CH08667, CH08917, LM10345, LM30385, R30385, SIGHT060, SIGHT119, SIGHT177, WE10327 | Virtual |
| Integrated Sensing and Communications: A Communication Theory Perspective: North Jersey Section Chapter, AES10 | 10 Sep 2024 07:00 PM | CH01081, CH01092, CH01153, CH01178, CH01215, CH01253, CH02067, SIGHT177, WE10327 | Virtual |



| Machine Learning and Photonic Devices: North Jersey Section Chapter, PHO36 | 12 Sep 2024 05:00 PM | CH01092, CH01178, CH01262 | Murray Hill, New Jersey |
|---|-------------------------|--|-------------------------------|
| IEEE NJACS 2024 -12th Annual IEEE North Jersey Advanced Communications Symposium - Themes: AI, Deep Learning, and LLM (Zoom): North Jersey Section Chapter, C16 | 14 Sep 2024 01:00 PM | CH01081, CH01092, CH01153, CH01156, CH01177, CH01215, CH01262, CH01294, R103, R10327 | Virtual |
| Eminent Member Award to Dr Robert Wilson and Honorary Eminent Member Award to Dr Arno Penzias: New Jersey Coast Section Jt. Chapter,IM09/C16 | 17 Sep 2024 11:30 AM | C-FN772, CH01070, CH01092, LM10345, R10327, SIGHT119 | Middletown , New Jersey |
| Deep Learning With Applications: North Jersey Section Chapter, COM 19 | 21 Sep 2024 01:30 PM | CH01156, R10327 | Teaneck, New Jersey |
| Life at a Photonic Startup – A Personal Account: North Jersey Section Chapter, PHO36 | 24 Sep 2024 06:00 PM | CH01070, CH01081, CH01091, CH01092, CH01177, CH01178, CH01184, SIGHT177, WE10327 | Newark, New Jersey |



| Careers in Technology Fall Series 2024 - Victor B Lawrence, PhD 24 September 8 pm EST: Northwest Florida Section Chap, C16/COM19 | 24 Sep 2024 08:00 PM | C-FN772, CH01070, CH01092, CH02170, CH03197, CH03254, CH05005, CH05056, CH07198, HKN217, LM10345, LM30557, R10327, R30557, R50043, SIGHT119, STB63891, STB96971 | Virtual |
|--|-------------------------|---|--------------------------------|
| Monolithic, Heterogeneous, and Hybrid Photonic Integration – There is a role for all: North Jersey Section Chapter, PHO36 | 25 Sep 2024 06:00 PM | CH01070, CH01081, CH01091, CH01092, CH01095, CH01177, CH01178, CH01184, SIGHT177, WE10327 | Teaneck, New Jersey |
| Next generation of wireless power transfer network of Unmanned Aircraft Systems (UAS: North Jersey Section Chapter, AES10 | 01 Oct 2024 07:00 PM | CH01043, CH01081, CH01092, CH01178, CH01215, CH01253, CH02067, SIGHT177 | Virtual |
| AI Past, Present, and Future: North Jersey Section Chapter, AES10 | 08 Oct 2024 07:00 PM | CH01081, CH01092, CH01178, CH01215, CH01253, CH02067, SIGHT177, WE10327 | Virtual |
| 38th Annual Symposium and Mini-Show - Exhibitor Registration Site: North Jersey Section Jt Chapter, AP03/MTT17 | 09 Oct 2024 08:00 AM | CH01092 | East Hanover, New Jersey |



| EDS Distinguished Lecture: Compacting Models: The Art of Compact Modeling (Unification of Compact Models with the Unified Regional Modeling Approach): North Jersey Section Jt Chapter, CAS04/ED15 | 16 Oct 2024 04:45 PM | CH01092, CH01184 | Newark, New Jersey |
|--|-------------------------|--|------------------------|
| IEEE Neutrodyne Circuit Milestone Dedication: North Jersey Section | 19 Oct 2024 12:00 PM | R10327 | Hoboken, New Jersey |
| Worldwide standardization activities of AI: North Jersey Section Chapter, AES10 | 22 Oct 2024 07:00 PM | CH01092, CH01178, CH01215, CH01253, CH02067, SIGHT177, WE10327, YP10327 | Virtual |

For Past Month's Events - AUGUST 2024 - Click Here



2024 IEEE North Jersey Section Volunteers

Executive Committee

Chair - Hong Zhao zhao@fdu.edu

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

Second Vice-Chair – Anisha Apte

anisha_apte@ieee.org

Secretary - Adriaan J. van Wijngaarden avw@ieee.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

 $\textbf{Junior Past Chair}-Ajay\ K.$

Poddar akpoddar@ieee.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@ieee.org

Antennas and Propagation /

Microwave Theory and Techniques

Co-Chairs

Ajay Poddar

 $akpodd ar@\, synergy mwave.com$

Edip Niver niver@adm.njit.edu

Vice-Chair – Anisha Apte anisha_apte@ieee.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@ieee.org

Computer

Chair – Hong Zhao zhao@fdu.edu

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

Computational Intelligence Society

Chair: Prasenjit Bhadra - prasenjit@ieee.org

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@ieee.org

Engineering in Medicine and Biology

Chair - Yu-Dong Yao -

Yu-Dong. Yao@stevens.edu

Industrial Applications

Chair – Ken Oexle - k.oexle@ieee.org

Information Theory

Chair – Adriaan J. van Wijngaarden avw@ieee.org Instrumentation & Measurement

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

Photonics

Chair – Naresh Chand chandnaresh@gmail.com

Power & Energy

Co-Chairs

Ronald W. Quade rwquade@ieee.org

Michael Miller

michaelamiller8@gmail.com

Robotics & Automation

Chair - Mengchu Zhou

zhou@njit.edu

Vice Chair - Shilpi Chakraborty

shilpi@ieee.org

Signal Processing

 $\textbf{Chair}-Alfredo\ Tan\ \textbf{-}\ tan@fdu.edu$

Social Implications of Technology

Chair – Kirit Dixit kdixit@ieee.org

Systems, Man, and Cybernetics

Chair – Weitian Wang wangw@montclair.edu

Technology & Engineering Management

Co-Chairs – Kirit Dixit kdixit@ieee.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)

Reena Dahle reena.dahleh@gmail.com

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 Kennall

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

