



THE IEEE NORTH JERSEY SECTION NEWSLETTER

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SEPTEMBER 2023

Message from the IEEE North Jersey Section Chair Prof. Hong Zhao



As the new season of Autumn comes, the IEEE North Jersey Section is heating up with a variety of events tailored to meet the diverse interests and needs of our local members. We are kicking off this month with a series of technical seminars that cover the latest advancements in various fields of engineering and technology including Power and Energy, Clean Energy, Telecommunications, Machine Learning, Artificial Intelligence, and Computer Vision.

We also have our annual event, North Jersey Advanced Communication Symposium scheduled for September.

In addition, we also collaborated with other IEEE sections to have joint events. This will bring together experts from various IEEE sections. Stay tuned for more information and announcements about our joint events. We look forward to seeing you there!

Best wishes,

Hong Zhao, IEEE North Jersey Section Chair

IEEE – IMPORTANT EVENTS, ARTICLES, ANNOUNCEMENTS AND REMINDERS:

- **This Month's Communications Society News from Around the World**
- **“Moving Toward Electric Vehicles (EVs)” - An article by Harry Roman**
- **IEEE North Jersey Section Picnic/Membership Development Event**

Moving Toward Electric Vehicles (EVs)

Are you aware of an incredible IEEE report, premiered in IEEE Spectrum --- "The EV Transition Explained", by Robert Charette, contributing editor of Spectrum. A self-described "risk ecologist", Charette is interested in the intersections of business, political, technological, and societal risks. Charette is an award-winning author of multiple books and numerous articles on the subjects of risk management, project and program management, innovation, and entrepreneurship. A Life Senior Member of the IEEE, Charette was a recipient of the IEEE Computer Society's Golden Core Award in 2008. And his report is a "Must-Read" if you have an interest in the coming EV revolution. Hint: It is much harder than most people are aware of or believe, and likely fraught with some unpleasant surprises. Here are a few "sticks of dynamite" taken directly from the report to think about.

Transitioning to electric vehicles and renewable energy to combat climate change are valid goals in themselves. Drastically reducing our fossil-fuel use is key to realizing those goals. However, attempting to make such transitions at scale in such a short period is fraught with problems, risks, and unanticipated consequences that need honest and open recognition so they can be actively and realistically addressed. Going to scale means not only manufacturing millions of EVs per year but supporting them from recharging to repair. A massive effort will be needed to make this happen.

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Shifting a 125-year-old auto industry that's optimized for ICE-vehicle production to EVs using nascent technology is a monumental challenge. Requiring that automakers do so in 15 years or less is even more daunting, although part of it is their own doing by not recognizing earlier that EVs might be a threat to their business models. EVs require automakers and their suppliers to reinvent their supply chains, hire employees with new software, battery, and mechatronic skill sets, and retrain or else lay off workers whose outdated skills are no longer needed.

EVs alone aren't sufficient to meet carbon-reduction targets, which means enormous lifestyle changes for many of us, as we try to do our part to combat climate change. People will need to drive and fly less, walk and bike more, and take public transportation. We'll need to switch to a more plant-based diet and convert household appliances powered by fossil fuels to electricity, to name only a few looming adjustments. People's willingness to accept these changes and their ability to implement them will be crucial to our success at adapting to climate change and mitigating its impacts.

Download the free report and be informed. Check out this link as well -- <https://youtu.be/S1E8SQde5rk>

Talk to you again soon...

Harry

(Harry T. Roman: Life Senior Member (htroman49@aol.com))

(Author & Advisor, Edison Innovation Foundation), (Retired-PSE&G Co.), (htroman49@aol.com)

- **IEEE North Jersey Section Picnic/Membership Development Event**

The IEEE North Jersey Section held its 2023 Summer Picnic and Membership Development Event on August 20, 2023 at Duke Island Park Bridgewater, NJ. The event started at 12:00pm and was graced by the presence of the enthusiastic members of the North Jersey Section, their family members, some invited IEEE dignitaries from the neighboring sections and Region-1, and many students from graduate and undergraduate levels, award recipients from The North Jersey Science Fair and many others, totaling to about 80 people. The attendees were interested in knowing more about the benefits of becoming IEEE members and the event was the perfect setting for membership development, where many long-time members, Senior Members, Life members etc. were actively involved in interacting with the new and interested attendees. Delicious meals, followed by ice-cream, desserts, tea and other refreshments were served. All members went home with a gift token of appreciation for their volunteering efforts year-round. A few pictures of the events are shared below.



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GRADUATE SCHOOL VIRTUAL OPEN HOUSE!

Tuesday, September 19, 2023, 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



Scan Grad Program Info



GRADUATE SCHOOL VIRTUAL OPEN HOUSE!

Tuesday, October 17, 2023, 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

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THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.

IEEE

NORTH JERSEY SECTION

MTT-Society and AP-Society Joint Chapter
PRESENTS

37th ANNUAL SYMPOSIUM AND MINI-SHOW

FOCUS:

SELECTED TOPICS IN RF AND MICROWAVE TECHNOLOGIES FOR
COMMERCIAL AND MILITARY APPLICATIONS

SAVE THE DATE

DATE: WEDNESDAY OCTOBER 4, 2023

PLACE: Hanover Manor, 16 Eagle Rock Ave., E. Hanover, NJ 07936. Ph#973-992-7425

SCHEDULE OF EVENTS

9:00 AM TO 4:30 PM

TECHNICAL SESSIONS

10 –12 LECTURES FEATURING SPEAKERS FROM LEADING
COMPANIES, WITH EMPHASIS ON MILITARY ELECTRONICS,
WIRELESS TECHNOLOGIES AND MICROWAVE COMMUNICATIONS.

MINI SHOW FEATURING LATEST PRODUCTS
(APPX. 30-40 EXHIBITORS)

(COMPLIMENTARY LUNCH SERVED)

Details of the schedule and speakers and the topics will be posted on the IEEE North Jersey section website by September 2023.

Registration: <https://events.vtools.ieee.org/m/362122>

For further information contact:

CHAIR - GENERAL-EXHIBITION: KIRIT DIXIT (201-669-7599), kdixit@ieee.org

CHAIR - TECHNICAL PROGRAMS: GEORGE KANNELL(973-284-3682) george.kannell@L3harris.com

EVENT/ LOCATION CO-ORDINATOR: KEN OEXLE k.oexle@verizon.net

CO-CHAIR– TECHNICAL PROGRAMS : HAR DAYAL , dayalhar@gmail.com

APS/MTTS CHAPTER Co -CHAIR: Dr. Anisha Apte, Dr. Edip Niver

SECTION CHAIR: Dr. Hong Zhao zhao@fdu.edu

NOTE: Covid-19 precautions are recommended and will be announced if required.
THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW.

Calendar of Events

Upcoming Events: September 2023 Onwards

Title	Date	Hosts	Location
Fairleigh Dickinson University 5th Annual Cybersecurity Symposium: North Jersey Section	06 Sep 2023 08:00 AM	R10327 - North Jersey Section	Florham Park, New Jersey View
IEEE North Jersey Section EXCOM - Meeting 6:30 PM: North Jersey Section	06 Sep 2023 06:30 PM	R10327 - North Jersey Section	Virtual View
Surge Protection of Power Systems: North Jersey Section Chapter, PE31	08 Sep 2023 09:00 AM	CH01097 - North Jersey Section Chapter, PE31, CH01092 - North Jersey Section Jt Chapter, AP03/MTT17	South Plainfield, New Jersey View
Mobile Material Characterization and Localization by Electromagnetic Sensing: North Jersey Section, Jt Chapter, AP03/MTT17	12 Sep 2023 12:00 PM	CH01092 - North Jersey Section Jt Chapter, AP03/MTT17, CH01178 - North Jersey Section Chapter, PHO36	Virtual View
Next-generation Computational Imaging and Display Systems Engineering based on End-to-end Optimization of Physical Structure and Signal Processing: North Jersey Section Chapter, SP01	13 Sep 2023 12:00 PM	CH01091 - North Jersey Section Chapter, SP01, CH01177 - North Jersey Section Chapter, C16, CH01092 - North Jersey Section Jt Chapter, AP03/MTT17, CH01178 - North Jersey Section Chapter, PHO36	Virtual View
IEEE NJACS-2023: 11th Annual IEEE North Jersey Advanced Communications Symposium (Theme: AI, Deep Learning, and ChatGPT) (Zoom): North Jersey Section Chapter, C16	16 Sep 2023 01:00 PM	CH01177 - North Jersey Section Chapter, C16, CH01262 - North Jersey/New York Jt Section Chapter, IT12, R103 - Metro Sec. Act. Council, CH01153 - North Jersey Section Chapter, VT06, CH01092 - North Jersey Section Jt Chapter, AP03/MTT17, CH01156 - COM 19, CH01215 - AES10, CH01294 -SYS45, CH01081 - EMB18, R10327 - North Jersey Section,	Zoom Online, New Jersey View
Redesign Ancillary Services with Clean Energy Resources, Machine Learning, and Ubiquitous Information: North Jersey Section Chapter, CS23	29 Sep 2023 11:00 AM	CH01095 - North Jersey Section Chapter, CS23, CH01097 - PE31	Newark, New Jersey View
37th ANNUAL SYMPOSIUM AND MINI-SHOW : North Jersey Section Jt Chapter, AP03/MTT17	04 Oct 2023 09:00 AM	CH01092 - North Jersey Section Jt Chapter, AP03/MTT17	E. Hanover, New Jersey View

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Synthetic Aperture Radar (SAR) Signal Processing Challenges and Data Sets for Associated Research: North Jersey Section Chapter, SP01	18 Oct 2023 12:00 PM	CH01091 - North Jersey Section Chapter, SP01, CH01177 - C16, CH01178-PHO36, CH01092 - Jt Chapter, AP03/MTT17	Virtual View
Co-Design of Algorithms and Architectures for Machine Learning Inference at the Edge for Video Analytics: Long Island Section Chapter, SP01	30 Oct 2023 06:00 PM	CH01139 - Long Island Section Chapter, SP01, CH01258 - North Jersey Section Chapter, TEM14	Virtual View
Mobile Material Characterization and Localization by Electromagnetic Sensing: North Jersey Section Jt. Chapter, AP03/MTT17	12 Sep 2023 12:00 PM	CH01092 - North Jersey Section Jt. Chapter, AP03/MTT17, CH01178 - North Jersey Section Chapter, PHO36	Virtual
Next-generation Computational Imaging and Display Systems Engineering based on End-to-end Optimization of Physical Structure and Signal Processing: North Jersey Section Chapter, SP01	13 Sep 2023 12:00 PM	CH01091 - North Jersey Section Chapter, SP01, CH01177 - C16, CH01092 - Jt. Chapter, AP03/MTT17, CH01178 - PHO36	Virtual
37th ANNUAL SYMPOSIUM AND MINI-SHOW: North Jersey Section Jt. Chapter, AP03/MTT17	04 Oct 2023 09:00 AM	CH01092 - North Jersey Section Jt. Chapter, AP03/MTT17	E. Hanover, New Jersey
Synthetic Aperture Radar (SAR) Signal Processing Challenges and Data Sets for Associated Research : North Jersey Section Chapter,SP01	18 Oct 2023 12:00 PM	CH01091 - North Jersey Section Chapter, SP01, CH01177 - North Jersey Section Chapter, C16, CH01178 - PHO36, CH01092 - Jt. Chapter, AP03/MTT17	Virtual

Past Month's Events: The months of August 2023

CIT Summer Series - David A. Fisher - Why Software Fails and Why AI cannot Help: Northwest Florida Section Chap C16/COM19	03 Aug 2023 06:30 PM	Host: Northwest Florida Section Chap C16/COM19 Co-Sponsors -North Jersey Section Chapter, COM 19 (with many other co-sponsors)	Virtual
Humanitarian Project Activities: Technology and Environment, Climate Change: North Jersey Section Jt. Chapter, AP03/MTT17	04 Aug 2023 05:00 PM	CH01092 - North Jersey Section Jt. Chapter, AP03/MTT17, CH01178 - North Jersey Section Chapter, PHO36	Virtual

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Distributed beamforming aided wireless energy transfer: North Jersey Section Jt. Chapter, AP03/MTT17	07 Aug 2023 06:00 PM	CH01092 - North Jersey Section Jt. Chapter, AP03/MTT17, CH01184 - Jt. Chapter, CAS04/ED15, CH01153 -, VT06, CH01178 - PHO36, SIGHT177 - SIGHT, CH01095 - CS23, SIGHT056-AP-S SIGHT	Newark, New Jersey
High Frequency, High-Q Miniature Resonator and Filter Technologies : North Jersey Section Jt. Chapter, AP03/MTT17	08 Aug 2023 12:00 PM	CH01092 - North Jersey Section Jt. Chapter, AP03/MTT17, CH01178 - North Jersey Section Chapter, PHO36	Virtual
Wi-Fi 7 is now! What you need to know about global regulatory compliance : North Jersey Section Jt. Chapter, AP03/MTT17	10 Aug 2023 01:00 PM	CH01092 - North Jersey Section Jt. Chapter, AP03/MTT17, CH01178 - PHO36, CH01184 - Jt. Chapter, CAS04/ED15	Virtual
CIT Summer Series - Yuhong Liu - Trust and Privacy Vulnerabilities of Today's Online Social Networks : Northwest Florida Section Chap, C16/COM19	10 Aug 2023 06:30 PM	Host: Northwest Florida Section Chap C16/COM19 Co-Sponsors -North Jersey Section Chapter, COM 19 (with many other co-sponsors)	Virtual
CIT Summer Series - David Alan Grier - The Generations of Computing and the Coming Data Age: Northwest Florida Section Chap, C16/COM19	17 Aug 2023 06:30 PM	Host: Northwest Florida Section Chap C16/COM19 Co-Sponsors -North Jersey Section Chapter, COM 19 (with many other co-sponsors)	Virtual
IEEE North Jersey Section 2023 Summer Picnic: North Jersey Section	20 Aug 2023 12:00 PM	R10327 - North Jersey Section, SIGHT177 - North Jersey Section SIGHT	Bridgewater, New Jersey
Robust Decentralized Secondary Control Scheme for Inverter-based Power Networks: North Jersey Section Chapter, CS23	25 Aug 2023 11:00 AM	R10327 - North Jersey Section, CH01095 - North Jersey Section Chapter, CS23, CH01097 - PE31, CH01178 - PHO36, CH01092 - Jt. Chapter, AP03/MTT17,	Newark, New Jersey
Maximizing Learning with Minimal Labels: Innovations in Medical Image Analysis with Sparse Labels: Long Island Section Chapter, SP01	25 Aug 2023 06:00 PM	CH01139 - Long Island Section Chapter, SP01, CH01285 - North Jersey Section Chapter, SIT30	Virtual
CIT Summer Series - Jon Peddie - The History of Visual Magic in Computers: How Beautiful Images are Made in CAD, 3D, VR and AR: Northwest Florida Section, Chap, C16/COM19	31 Aug 2023 06:30 PM	Host: Northwest Florida Section Chap C16/COM19 Co-Sponsors -North Jersey Section Chapter, COM 19 (with many other co-sponsors)	Virtual

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enfarag@ieee.org

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anisha_apte@ieee.org

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avw@ieee.org

Treasurer – Avimanyou Vatsa
avatsa@fdu.edu

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Naresh Chand - chandnaresh@gmail.com

Har Dayal - dayalhar@gmail.com

Alfredo Tan - tan@fdu.edu

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akpoddar@ieee.org

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

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cherif.chibane@gmail.com

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

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Co-Chairs

Ajay Poddar akpoddar@synergymwave.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

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

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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

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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

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

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Chair – Naresh Chand
chandnaresh@gmail.com

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Co-Chairs

Ronald W. Quade rwquade@ieee.org

Michael Miller michaelamiller8@gmail.com

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Chair - Naresh Chand
chandnaresh@gmail.com

Vice Chair - Shilpi Chakraborty

shilpi@ieee.org

Signal Processing

Chair – Alfredo Tan - tan@fdu.edu

Social Implications of Technology

Chair – Kirit Dixit - kdixit@ieee.org

Systems, Man, and Cybernetics

Chair – Mengchu Zhou zhou@njit.edu

Technology & Engineering Management

Chair – Kirit Dixit - kdixit@ieee.org

Vehicular Technology

Chair – Ionel Bajescu nelu108@yahoo.com

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Jim Julian consultant@jimjulian.com

Jay Morreale p-brane@p-brane.com

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larry.yang@alcatel-lucent.com

Vice Chair -Patrick Beesley

Patrick.Beesley@se.com

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Chitra Venkatraman chitrav55@gmail.com

Reena Dahle reena.dahleh@gmail.com

Ratna Raj ratna.raj@njit.edu

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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

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Kalyan Mondal - mondal@fdu.edu

Mani Iyer - mani.iyer@ieee.org

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Adriaan J. van Wijngaarden avw@ieee.org

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Kalyan Mondal - mondal@fdu.edu

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

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Chitra Venkatraman chitrav55@gmail.com

Naresh Chand chandnaresh@gmail.com

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Russell C. Pepe rcpepe@ieee.org

Group coordinator / History

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

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msnewell@ieee.org

MTT/AP Trade Show and Symposium

Chair – Kirit Dixit - kdixit@ieee.org

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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

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Co-Chair – Chitra Venkatraman
chitrav55@gmail.com

Program Review Committee

Kirit Dixit - kdixit@ieee.org

Ajay Poddar - akpoddar@ieee.org

Emad Farag - enfarag@ieee.org

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Chair - Melvin Lewis (mlewis@fdu.edu)

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Co-Chairs

Adriaan J. van Wijngaarden - avw@ieee.org

Avimanyou Vatsa - avatsa@fdu.edu