

# IEEE North Jersey Section

## IEEE North Jersey Section Newsletter

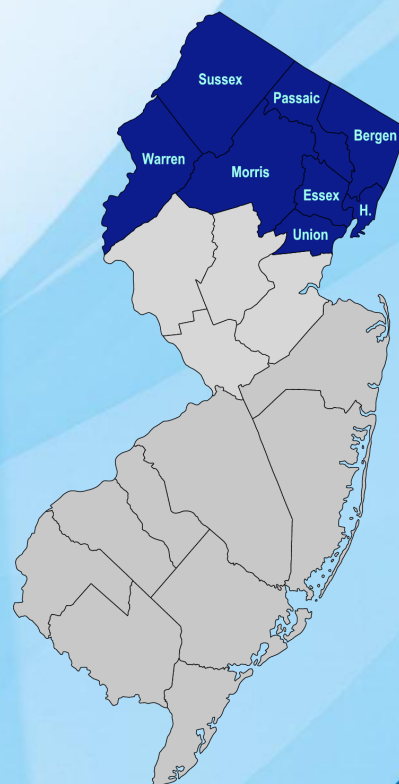
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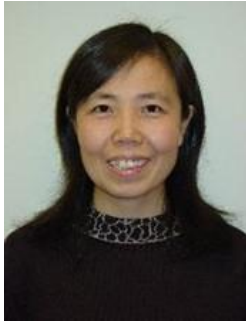
**Issue: November/December 2023**

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 approach the final months of the year, I am delighted to extend a warm welcome to our upcoming IEEE North Jersey events in November and December.

November is set to be a month filled with enriching experiences. We have planned a series of events and activities that will provide members with valuable opportunities for professional growth, knowledge sharing, and networking. Please take advantage of these events and enjoy networking with your fellow members.

The North Jersey Section has had a remarkable year of progress, learning, and collaboration. It is time to celebrate our achievements together at the end of the year party in December. Our annual IEEE North Jersey End of Year Party in December is a long-standing tradition that allows us to come together as a community to celebrate our shared achievements and reflect on the accomplishments of the past year. It is an occasion to relax, have fun, and enjoy the company of our fellow members. We will be treated to good food, great conversation, and maybe even some surprises.

Please mark your calendars and make registrations at the following link for the End of Year Party on December 4 th: <https://events.vtools.ieee.org/m/380347>

Wishing you a wonderful end of the year, and I am looking forward to seeing you at our events in the coming months!

**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](#)
- [“Building With Soda Straws?” - An article by Harry Roman](#)
- **IEEE Montclair Student Branch: A Report by Prof. Weitian Wang**

**Building with Soda Straws? Observing Student Teams:-** *An article by Harry Roman*

For most of my career, I have worked with schools in a variety of capacities, bringing the world of engineering and creativity into the classroom. A few years back I visited a local 6th grade school to try an interesting experiment - building towers primarily with soda straws and some other materials. I had done this challenge numerous times before at different schools, but this time I was trying to get a realistic measure and understanding of the success rate of student teams.

I was able to assemble over the course of four days, about 300 students to take my experimental test, 100 three-person teams in all. During this 2-hour adventure, students were urged to build the highest possible tower with available materials (soda straws, some paper clips, pipe cleaners and a small amount of masking tape) that could support a golf ball at the top of the tower.

Here is what I found:

- 72 teams were successful in building a measurable tower
- 28 teams unsuccessful - essentially nonstarters
- The largest tower was 100 cm tall compared to the smallest which was about 7 cm; with many tower sizes in the 10-59 cm height range.
- Teams that failed or were not producing robust towers had a variety of problems:
  - One student dominating the design challenge-turning other team members off
  - Over analyzing the challenge and afraid to start doing something different
  - Turned-off students-lack of interest
  - Poor spatial visualization-not able to visualize the third dimension
  - Lack of appreciation of building structures and supporting loads
  - Over emphasis on building some sort of special assembly to hold the ball.
- There was no clear-cut defining difference between gifted kids and traditional students, or their teams in performance.

- The highest tower (100 cm) was achieved by three girls who according to teachers had class problems, and generally rebellious in their studies. In this exercise their transformation into a tight and well-performing team was clearly visible. The head and hands paradigm had kicked-in!

Over my many years in classrooms, I offer this general observation: in the elementary and middle school grades, young ladies are ferocious problem-solvers; but seem to lose interest in high school. This is discouraging and should be investigated further.

Another piece of information from my experience: students who did not have good command of the language (migrants) and often handicapped students were also great head and hands team members. It was as though their head and hands skills burst wide open when given the opportunity to do so!

Talk to you again soon...

Harry

Harry T. Roman, Life Senior Member, Author & Advisor, Edison Innovation Foundation  
(Retired-PSE&G Co.), [htroman49@aol.com](mailto:htroman49@aol.com)

### **IEEE Montclair Student Branch: A Report by Prof. Weitian Wang**

IEEE Montclair Student Branch, collaborating with Montclair CRoSS Lab, IEEE STEM Champion Montclair Site, and Robotics Club, founded a new academic initiative Montclair Robotics and AI Seminar Series. The Montclair Robotics and AI Seminar Series aims at providing the MSU community with research breakthroughs and state-of-the-art technologies in the fields of robotics, artificial intelligence, computing, automation, engineering, and more from both academia and industries.

On September 27, 2023, IEEE Student Branch successfully organized and hosted the first seminar “[A Glimpse into The Robotics Industry](#)”, with guest speakers from one of the biggest global leading robotics companies, ABB Inc. Over 34 on-site/online attendees from different departments joined this seminar and talked with ABB’s speakers. The event was highlighted by both Montclair News and Montclair student community.

Below are the links to these two reports:

Montclair news:

<https://www.montclair.edu/school-of-computing/2023/10/12/a-glimpse-into-the-robotics-industry/>

Montclair student community The Montclarion:

<https://themontclarion.org/feature/a-glimpse-into-the-robotics-industry-and-its-future-in-education/>







**FDU**  
Gildart Haase School  
of Computer Sciences  
& Engineering

**GRADUATE SCHOOL VIRTUAL OPEN HOUSE!**  
**Tuesday, November 21, 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

*Scan Zoom Registration*



*Scan Grad Program Info*



*Offers 6 Masters of Science (MS) Programs*

<p><b>*Cybersecurity &amp; Information Assurance</b></p> <p><b>*Electrical Engineering</b></p> <p><b>*E-Commerce</b></p>	<p><b>*Management Information Systems</b></p> <p><b>*Computer Engineering</b></p> <p><b>*Computer Science (Data Science, Cloud Computing and more)</b></p>
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## Calendar of Events

### Upcoming Events: November 2023 Onwards

Title	Date	Location
Electromechanical Wave Propagation Modeling for Dynamic Stability Analysis in Power Systems: North Jersey Section Chapter, CS23	01 Nov 2023 11:00 AM	Newark, New Jersey
IEEE North Jersey Section EXCOM - Meeting 6:30 PM: North Jersey Section	01 Nov 2023 06:30 PM	Virtual
Microwave Filter Synthesis and Tuning: what circuit and approximation theory can do for you: North Jersey Section Jt Chapter, AP03/MTT17	14 Nov 2023 12:00 PM	Virtual
Powering the Future: Navigating Grid Transformation in an Era of Renewable Integration and Extreme Weather Challenges: North Jersey Section Chapter, CS23	15 Nov 2023 11:00 AM	Newark, New Jersey
Verifying JCAS performance in the 6G landscape: North Jersey Section Jt Chapter, AP03/MTT17	15 Nov 2023 01:00 PM	Virtual
IEEE Humanitarian Technologies Board Taenzer Webinar Dr Shikik Johnson SHARES HF Radio Program: IEEE New Jersey Coast Section SIGHT	17 Nov 2023 07:30 PM	Virtual

Title	Date	Location
Statistical Inference over Networks: Decentralized Optimization Meets High-dimensional Statistics: North Jersey Section Chapter, SP01	29 Nov 2023 12:00 PM	Virtual
New Jersey Offshore Wind Bootcamp Training - Winter Session: North Jersey Section Chapter, MAG33/UFFC20/SEN39	04 Dec 2023 08:30 AM	Newark, New Jersey
IEEE North Jersey Section End-of-the-Year 2023 Dinner Meeting Event - December 4: North Jersey Section	04 Dec 2023 06:00 PM	East Hanover, New Jersey
New Jersey Offshore Wind Technology Conference and Exhibition: North Jersey Section Chapter, MAG33/UFFC20/SEN39	06 Dec 2023 08:30 AM	Newark, New Jersey
EDS/CASS Distinguished Lecture: Semiconductor Innovation for Transformative Impact: North Jersey Section Jt Chapter, CAS04/ED15	03 Apr 2024 02:15 PM	Newark, New Jersey



## Past Month's Events: October 2023

Title	Date	Location
MEDICAL APPLICATIONS OF MHZ TO SUB-THZ WAVES: North Jersey Section Jt Chapter, AP03/MTT17	02 Oct 2023 12:00 PM	Paterson, New Jersey
MICROWAVE TO SUB-THZ MICROMACHINED CIRCUITS: North Jersey Section Jt Chapter, AP03/MTT17	03 Oct 2023 12:00 PM	Paterson, New Jersey
SuperDARN HF Log Periodic Array at the South Pole: North Jersey Section Jt Chapter, AP03/MTT17	03 Oct 2023 05:00 PM	Paterson, New Jersey
37th ANNUAL SYMPOSIUM AND MINI-SHOW: North Jersey Section Jt Chapter, AP03/MTT17	04 Oct 2023 09:00 AM	E. Hanover, New Jersey
Facilitating Security and Trust among Multiple Parties through Blockchain Techniques: North Jersey Section Chapter, C16	04 Oct 2023 04:30 PM	Newark, New Jersey
Antenna module for compact mmWave 5G mobile devices: North Jersey Section Jt Chapter, AP03/MTT17	05 Oct 2023 12:00 PM	Paterson, New Jersey
Webinar: Machine Learning in Communications and Sensing in Wireless Networks: North Jersey Section	05 Oct 2023 06:00 PM	Virtual

<b>Title</b>	<b>Date</b>	<b>Location</b>
Joint Ideathon Challenge - Greening the Planet: IEEE Pune Section (Joint event: with North Jersey Section)	06 Oct 2023 10:00 AM	Pune, Maharashtra
IEEE Day Celebration: Pune Section (Joint event: with North Jersey Section)	06 Oct 2023 04:30 PM	Pune, Maharashtra
Greening the planet Ideathon: North Jersey Section	07 Oct 2023 10:00 AM	Virtual
Introduction To Deep Learning: North Jersey Section Chapter, COM 19	07 Oct 2023 01:30 PM	Teaneck, New Jersey
2nd IEEE CAS Seasonal School: Intelligent Memory & Sensor at the Edge (IMS 2023) - Device to Architecture Co-Design: North Jersey Section Jt Chapter, CAS04/ED15	10 Oct 2023 09:30 AM	Newark, New Jersey
Applications of Microwaves in Medicine: North Jersey Section Chapter, PHO36	10 Oct 2023 12:00 PM	Virtual
Shaping the Radio Channel for Best Connectivity : North Jersey Section Jt Chapter,AP03/MTT17	10 Oct 2023 01:00 PM	Virtual
IEEE North Jersey Section EXCOM - Meeting 6:30 PM : North Jersey Section	11 Oct 2023 06:45 PM	Teaneck, New Jersey

Title	Date	Location
Deep Learning with Quantum State Fidelity and Beyond : North Jersey Section Chapter,C16	12 Oct 2023 11:00 AM	Newark, New Jersey
Applications of Microwaves in Medicine : North Jersey Section Jt Chapter,AP03/MTT17	12 Oct 2023 12:00 PM	Virtual
Geothermal Energy with Tokamak Plasma Testing : New Jersey Coast Section	12 Oct 2023 06:00 PM	Piscataway, New Jersey
Verification and Validation within a System of Systems : North Jersey Section Chapter,SYS45	17 Oct 2023 05:00 PM	Virtual
Synthetic Aperture Radar (SAR) Signal Processing Challenges and Data Sets for Associated Research : North Jersey Section Chapter,SP01	18 Oct 2023 12:00 PM	Virtual
Webinar: Improving Wi-Fi with Machine Learning : North Jersey Section	19 Oct 2023 12:00 PM	Virtual
Onsite Energy Storage – Industrial, Commercial & Residential Batteries and Gas Generators : North Jersey Section Chapter,PE31	20 Oct 2023 09:00 AM	South Plainfield, New Jersey
Resilient Situational Awareness for Smart Grids : North Jersey Section Chapter,CS23	20 Oct 2023 11:00 AM	Newark, New Jersey
IEEE AP-S Chapter Activity Coordinators Meeting-Region 1 and Region 9: Targetting Global	21 Oct 2023 03:00 PM	Paterson, New Jersey

Title	Date	Location
Warming and Climatic Changes Issues : North Jersey Section Jt Chapter,AP03/MTT17		
Millimeter Wave TX-RX TECHNIQUES:OPPORTUNITY IN OIL AND GAS EXPLORATION : North Jersey Section Jt Chapter,AP03/MTT17	22 Oct 2023 01:00 PM	Paterson, New Jersey
Techniques used in deep drilling for oil and gas exploration: Data analysis and opportunity for microwave-based solution : North Jersey Section Jt Chapter,AP03/MTT17	23 Oct 2023 06:30 PM	Paterson, New Jersey
Episodic Processing for Radar Image Characterization : North Jersey Section Chapter,AES10	24 Oct 2023 06:45 PM	Virtual
Defense Microelectronics Industrial Base : Northern Virginia/Washington Chap,ED15,SSC37,EP21	25 Oct 2023 06:30 PM	Arlington, Virginia
Cooperative Multi-UAV Swarm in an Uncertain Environment: A Markovian Mutual Information Based Approach : North Jersey Section Jt Chapter,CAS04/ED15	26 Oct 2023 03:45 PM	Newark, New Jersey
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	Virtual

## 2023 IEEE North Jersey Section Volunteers

### **Executive Committee**

**Chair** – Hong Zhao zhao@fdu.edu

**First Vice-Chair** – Emad Farag

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**Second Vice-Chair** – Anisha Apte

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**Senior Past Chair** – Yu-Dong Yao

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#### **Microwave Theory and Techniques**

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#### **Devices**

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#### **Electromagnetic**

#### **Compatibility/Product Safety**

#### **Engineering**

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#### **Biology**

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#### **Social Implications of Technology**

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