

THE IEEE NORTH JERSEY SECTION NEWSLETTER

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AUGUST 2015

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IEEE North Jersey Section Seeks Committee Chairs and Section Volunteers

The IEEE North Jersey Section is seeking new volunteers to help conduct business for the benefit of its membership. There are a variety of volunteer positions open and available. They range from technical to non-technical, leadership or just participatory. A list of IEEE North Jersey Societies, Chapters, Groups and Committees are published at the end of the newsletter for those interested in participating. If you would like to become involved with volunteering in some of these efforts or positions or just become more informed about what is happening at the North Jersey Section, please contact Adriaan van Wijngaarden (avw@ieee.org) and Naresh Chand, the Section's Nominations Committee Chair (chandnaresh@gmail.com) and/or any other volunteer (see the last page of this Newsletter for a list of the current volunteers, their contact information and positions. The Section's Executive Committee meeting is generally held the first Wednesday of every month (see the schedule and locations above, as well as more detailed information in the calendar). These meetings are a good opportunity to learn more about the Section's activities, and which volunteer activities require some help. Some committees needing volunteers include the following. Please contact the person indicated for additional information.

IEEE North Jersey Section's Affinity Groups

- **Consultants Network**
The Consultants Network is very active and holds monthly meetings. Please consider attending the presentations, and contact Robert Walker, Secretary (r.d.walker@ieee.org) if you would like to give a presentation or become a volunteer.
- **Professional Activity Committee for Engineers (PACE)**
PACE organizes monthly meetings (every second Wednesday of the month). Currently, most meetings are held at the library in Clifton, NJ. PACE is looking for speakers and volunteers to help organize events, also at other locations. For more information, please contact Richard Tax (rtax@verizon.net) and Adriaan J. van Wijngaarden (avw@ieee.org).
- **Women in Engineering (WIE)**
IEEE Women in Engineering is the largest international professional organization dedicated to promoting women engineers and scientists, and to inspire girls around the world to follow their academic interests to a career in engineering. The IEEE North Jersey Section currently has 36 WIE members, 14 of which are student members. Please consider volunteering and organizing WIE activities. Contact: Jyoti Bali (jyoti.bali@alcatel-lucent.com).
- **Young Professionals (YP)**
Young Professionals is an international community of enthusiastic, dynamic and innovative members and volunteers. Recent graduates automatically become a YP member. The IEEE North Jersey Section currently has 509 YP members. Please consider becoming involved in the organization of social and networking events. For more information, please contact John Taylor (john.taylor1204@gmail.com), Adriaan van Wijngaarden (avw@ieee.org), and/or Daniel Cerone (d.a.c@ieee.org).

IEEE North Jersey Section Society Chapters

- **Aerospace and Electronic Systems (AES)**
The North Jersey Section has 27 AES members. If you are interested in giving a presentation or to volunteer, please contact Goran Djuknic (gd@ieee.org) and/or Adriaan van Wijngaarden (avw@ieee.org).
- **Engineering in Medicine and Biology (EMBS)**
The North Jersey Section has 58 EMBS members. If you are interested in giving a presentation or to volunteer, please contact Russell Pepe (rcpepe@ieee.org) and/or Adriaan van Wijngaarden (avw@ieee.org).
- **Computer Society (C)**
The IEEE Computer Society has 545 members in North Jersey. If you are interested in giving a presentation or to volunteer, please contact Hanna Zhao (zhao@fdu.edu) and/or Howard Leach (h.leach@ieee.org).

IEEE North Jersey Section Committees

- **Awards Committee**

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The Awards Committee has several important tasks, including the nomination of candidates for IEEE Region 1 and IEEE MGA Awards, and the co-organization of the Annual Awards Banquet. If you are interested in volunteering, or if you would like to nominate a candidate, please contact KenOexle (k.oexle@ieee.org) and/or Adriaan van Wijngaarden (avw@ieee.org).

• Membership Development Committee

Membership development is very important for the IEEE and for the Section. If you are interested to help, please contact Kai T. Chen (k.t.chen@ieee.org) and/or Adriaan van Wijngaarden (avw@ieee.org).

Additionally, if interested volunteers would like to get more general information about the section, including a complete listing of all chapters and committees, visit the North Jersey section website <http://sites.ieee.org/northjersey> or contact anyone listed above.

2015 EXCOM Meeting Schedule

The new 2015 EXCOM meeting schedule is now in vTools. The events start at 6 pm with a buffet, and the EXCOM meeting starts at 7 pm. The meeting locations are:

Wed	Aug.5	Bell Labs, Murray Hill
Wed	Sep.2	Clifton Library, Clifton
Wed	Oct.7	NJIT, Newark
Wed	Nov.4	Bell Labs, Murray Hill

North Jersey Section Employment Network Announcement

Join the North Jersey Employment Network for assistance with your job search. By joining our network, you will have access to our LinkedIn group and to seminars in a variety of emerging technologies such as Hadoop, Big Data, Python, Cloud, Analytics, Java, etc.

For additional information or to join the LinkedIn group, please email the Employment Network Chair, Vaseem Ahmed (vas201@gmail.com).

About Senior Membership

Do you know an outstanding IEEE member who is not yet an IEEE Senior Member? Do you feel that you are qualified for such recognition? If you are interested in becoming a Senior Member or nominating a fellow IEEE member please see http://www.ieee.org/membership_services/membership/senior for an application and for qualification requirements.

Assistance with references is found on the Senior Member Web page and within the application form. You can also contact any of the IEEE North Jersey Section Executive Committee members including the Membership Development Chair or Society Chapter Chairs at the local level or attend an IEEE North Jersey Section meeting or upcoming Senior Member Drive, where qualified attendees will be happy to actively support you in the nomination process.

If you would like to join the Pre-University forces of the IEEE North Jersey Section, I can provide you with my presentations. Again, please contact me by e-mail.

How to subscribe to this Newsletter if you are not an IEEE North Jersey Member?

To subscribe, send an email to: listserv@listserv.ieee.org, with the body containing "subscribe northjerseypublic".

To unsubscribe, send an email to: listserv@listserv.ieee.org, with the body containing "signoff northjerseypublic".

Additionally, you can join the IEEE North Jersey Section Facebook Fan Page at:

www.facebook.com/pages/IEEE-North-Jersey-Section

Follow us on Twitter at: twitter.com/ieeenorthjersey

Or join the IEEE North Jersey Section LinkedIn Group at:

[LinkedIn Group Invitation](#)

Taylor's World Conference – Call for Papers

On September 24-25, 2015, Stevens Institute of Technology will be hosting a conference on the life and legacy of Frederick Winslow Taylor, a graduate of Stevens who is widely recognized as the father of scientific management. The event marks the centennial of Taylor's death in 1915, and will explore both Taylor's place in history and his legacy in the 21st century. We welcome proposals for either individual papers or full panels.

For details about the event please visit

<http://www.stevens.edu/library/taylorworld>

Please submit proposals for papers or panels by March 1, 2015, by filling out submission proposal form. Paper proposals should be 250–500 words; panel proposals should collect individual paper abstracts of that same length and also include a brief description of the panel's overarching theme. Panel proposals may also suggest possible commentators.

All other inquiries about the conference can be sent to Leah Loscutoff (lloscuto@stevens.edu).

The Smart Utility of the Future - A Possible Scenario

In the not too distant future, an artificially intelligent system at a local electric utility might have the following real time conversation with an asset manager, who happens to be in charge of that utility's large station transformers. This scenario could be where the much talked about smart utility is headed. Think of this as a conversation that may involve a sophisticated display system, or maybe speech recognition. It's 9:35 and our manager is just settling in with a second cup of coffee.....

Guardian

Levels of hydrogen gas have now reached alarm level at number 3 transformer at Mayberry Substation.

Asset Manager

Display graph of hydrogen gas levels at transformer.

Guardian

Here is the data, note escalating rate of rise in last 3 months.

Asset Manager

Show the graphs for transformers 1 and 2 on top of that for transformer 3. What is the diagnosis?

Guardian

Transformers 1 and 2 will reach similar alarm levels in 5 months, assuming load stays within current forecast, sooner if loads increase.

Asset Manager

What is the projection of load in next 5 months?

Guardian

It will likely increase by 2% over official projections - 97.5% confidence level.

Asset Manager

Schedule transformer 3 outage immediately with full diagnostics. Have spare transformer placed on standby and reserved for use if needed.

Guardian

Outage will be scheduled with Central Division, blocking and safety tags will be printed, and instructions for outage will be sent to transformer maintenance crews.

Asset Manager

Locate all stations with similar brand of transformers and display their hydrogen profiles in tabular format. Highlight concerns in yellow.

Guardian

Nine stations with 33 transformers have been located. Mt. Pilot station transformers (2) are showing a rise in hydrogen production as well, as is Carolina Heights (4). Mt. Pilot and Carolina Heights transformers total 6 and are grouped at 45% -58% of alarm level.

Asset Manager

Search the national transformer database here in the northeast, and identify if this type of transformer is experiencing problems in other utilities.

Guardian

Transformers at Powerlite, Xylon Energy, and ENGERIS have experienced similar problems. These utilities are currently dealing with them. 15 transformers in total are involved.

Asset Manager

Contact my counterparts at these companies and establish a conference call date using our reservation number. Tie in the transformer manufacturer's technical reps on the call. Access my automated calendar for a date and time within the next 10 days. Notify me when complete. Put this topic on the agenda at my next quarterly Regional Asset Manager's meeting in Pittsburgh.

A bit futuristic, but not so far out you cannot imagine such a man-machine dialogue. Guardian might involve a delightful mix of expert systems, neural nets, AI, forecasting, and problem diagnostic/classification software...and this system would work close in to the customer, not just at the free-flowing transmission system. Decisions here directly affect customer reliability. Guardian would be integrated into the utility's operations, and probably function alongside [and be integrated with] other asset management programs. Life is about to get very interesting. And who says such systems have to be limited to electric utilities? Why not national security, chemical plant processes, manufacturing, telecommunications?

Talk to you again soon.....

Harry

Harry T. Roman

IEEE Life Senior Member, North Jersey Section

Section Report - IEEE North Jersey Section

The IEEE North Jersey Section, founded on May 5, 1954, celebrated its 60th Anniversary in 2014-2015. The Section currently has 17 chapters (AES, AP/MTT, CAS/ED, C, COM, CS, EMBS, EMC/PSES, IAS, IM, IT, PE, PHO, SMC, SP, TMC, VTS), four affinity groups (Consultants Network, Life Members, Young Professionals, and WIE), and several active committees. The EMC/PSES Chapter was formed in 2015. The Section currently has 2699 members (F: 47, LF: 34; SM: 203, LSM: 109; M: 1513, LM: 397; GSM: 134; S: 192; A: 70).

The IEEE North Jersey Section organizes many seminars and events. In 2014, the Section, its Chapters and Affinity Groups organized 119 events (219 L31 reports), including 10 executive committee meetings, the yearly Awards Banquet, a 60-year Anniversary event to West Point, two symposia, a milestone event at Bell Labs, several IAS/PES courses, an 8-week course on Speechcraft, and several other courses and seminars. In the period from Jan. 1, 2015 until July 30, 2015, the Section and its Chapters and Affinity Groups organized at least 65 events (based on the 109 L31 reports filed thus far this year). These include many seminars, courses, a student paper contest, the annual banquet, and social events. All events are entered using IEEE vTools and are publicized on the Section's website, in the monthly Newsletters, and using eNotice. The Section's EXCOM meetings are held monthly at different locations in the North Jersey geographic area. Upcoming larger events include the IEEE North Jersey Advanced Communications Symposium, and the 30th AP/MTT Annual Symposium and Mini-Show. The Section also co-sponsors regional events.

Chapter and Individual Awards

Several section members were recognized at our annual Awards Banquet: five 2015 IEEE Fellows, five major IEEE Award recipients (2014 Rabi Award: Ulrich Rohde; IFCS Cady Award: Ajay Poddar; 2015 IEEE W.R.G. Baker Award: Thomas L. Marzetta; IEEE PES Lifetime Achievement Award: Virginia Sulzberger; IEEE MGA Award: Howard Leach), four 2014 IEEE Region 1 Awards: Mani Iyer, Shweta Jain, Meta Rohde, Ulrich Rohde; 2015 IEEE North Jersey Section Distinguished Service Awards: Har Dayal and Richard Tax, a PES Chapter Outstanding Engineer Award: William Magerkurth, and IEEE History Committee Awards (Howard Leach; North Jersey Section).

Milestones

At the IEEE Board of Directors meeting in June 2014, four milestones, all for Bell Labs in Murray Hill, were approved. The dedication ceremony was held at Bell Laboratories, Alcatel-Lucent on December 18, 2014, and was attended by about 150 people, including two former IEEE Presidents and many current and former Bell Labs researchers.

BELL LABS – WIRELESS AND SATELLITE COMMUNICATIONS, 1925-1983

Bell Telephone Laboratories, Inc. introduced: the first radio astronomical observations (1933), Smith Chart (1939), early mobile phone service (1946), cellular wireless concept (1947), TDX Microwave Radio System (1947), TD Transcontinental Microwave Radio System (1950), Telstar - first active communications satellite (1962), first observation of the cosmic background radiation (1965), first U.S. cellular wireless system (1978), digital cellular technology (1980), and the AR6A SSB-SC Microwave System (1981).

BELL LABS - DIGITAL SIGNAL PROCESSING AND COMPUTING, 1925-1983

Bell Telephone Laboratories, Inc. introduced: the first electronic speech synthesizer (1937), first binary digital computer (1939), first long-distance computing (1940), digitized and synthesized music (1957), digital computer art (1962), text-to-speech synthesis (1962), UNIX operating system (1969), the C, S, and C++ languages (1972, 1976, 1976), first single-chip digital signal processor (1979), single-chip 32-bit microprocessor (1980), and the 5ESS Digital Switching System (1982).

BELL LABS - SOLID STATE AND OPTICAL DEVICES, 1925-1983

Bell Telephone Laboratories, Inc. introduced: the point-contact and junction transistors (1947), zone refining (1951), silicon epitaxy (1951), ion implantation (1952), solar cell (1954), oxide masking (1955), silicon gate (1956), laser concept (1957), MOSFET (1959), foil electret microphone (1962), CO2 laser (1964), heterostructure semiconductor laser (1968), charge coupled device (1969), theory of disordered states of matter (1977), heterojunction phototransistor (1980), and VLSI CMOS technology and circuits (1981).

BELL LABS - COMMUNICATIONS THEORY AND NETWORKS, 1925-1983

Bell Telephone Laboratories, Inc. introduced: type A facsimile service (1925), first long-distance television transmission (1927), negative feedback amplifier (1927), first stereo sound transmission (1933), Hamming errorcorrecting codes (1947), information theory (1948), direct distance dialing (1951), TAT-1 transatlantic telephone cable (1956), T1 transmission system (1962), touch-tone dialing (1963), 1ESS electronic switch (1965), first U.S. commercial fiber-optic system (1977), and wide area telephone 800 service (1978).

2015 IEEE North Jersey Section Awards Banquet – May 3, 2015



2015 Award recipients and members of the IEEE North Jersey Section and Region 1: from left to right: Howard Huang, William Magerkurth, Russell Pepe, Virginia Sulzberger, Thomas Marzetta, Ajay Poddar, Peter Eckstein, Richard Tax, Ulrich Rohde, Meta Rohde, Bob Pellegrino, Ken Oexle, Ron Quade, Har Dayal, Adriaan van Wijngaarden, Mani Iyer, Krishna Raghunandan, Howard Leach, Shweta Jain, Robert Safranek, Matthew Andrews, and Gary Hoffman.

The 2015 IEEE North Jersey Section Awards Banquet was held at the Birchwood Manor, Whippany, NJ, on Sunday, May 3, 2015. The Awards Banquet started at 3:00 pm with a get together and a buffet, and was followed by the Awards ceremony, where a record number of award recipients were recognized. The event was well attended, with 67 in attendance. The Awards Ceremony started with opening remarks from the IEEE North Jersey Section Chair, Dr. Adriaan van Wijngaarden. He welcomed everyone and introduced several special guests: Peter Eckstein, 2015 IEEE USA President-Elect and past IEEE Region 1 Director (2012-2013), Bala Prasanna, IEEE Region 1 Treasurer, and Dr. Raghu Raghunandan, 2014-2015 IEEE Metropolitan Area Sections Activities Council (METSAC) Chair. Dr. Van Wijngaarden and Peter Eckstein took turns to recognize the award recipients.

Five new 2015 IEEE Fellows in the North Jersey Section were recognized:

Dr. Matthew Andrews, Bell Labs, Alcatel-Lucent, *for contributions to network design and wireless resource allocation*

Dr. Gary Hoffman, Advanced Power Technologies, LLC, *for leadership in the advancement of monitoring systems for power transformers and power line protection*

Dr. Howard Huang, Bell Labs, Alcatel-Lucent, *for contributions to multiple antenna techniques in wireless cellular network*

Dr. Unnikrishna Pillai, NYU Polytechnic School of Engineering, *for contributions to adaptive signal processing and radar systems*

Dr. Robert Safranek, Benevue, Inc., *for contributions to perceptual image and video compression and quality*

IEEE Region 1 Awards

Four IEEE Region 1 Award recipients were recognized:

Dr. Mani Iyer, Alcatel-Lucent, *for outstanding leadership and service to the IEEE North Jersey Section*

Dr. Shweta Jain, Mathematics and Computer Science Department, York College, *for contributions in engineering education and technical leadership in wireless communication*

Dr. Meta Rohde, Synergy Microwave Corp., *for outstanding management in the design and production of the state-of-the-art RF and microwave components*

Dr. Ulrich Rohde, Synergy Microwave Corp., *for outstanding scientific contributions and leadership in the design and implementation of sophisticated RF technologies*

Major IEEE Awards

Four recipients of major IEEE Awards were recognized:

Howard Leach, Member and Geographic Activities Award, *for distinguished section volunteer leadership and outstanding contributions as Section Historian and IEEE Milestone Coordinator, serving IEEE for the benefit of the members and the engineering profession.*

Dr. Thomas L. Marzetta, Bell Labs, Alcatel-Lucent, IEEE W.R.G. Baker Award, *in recognition of the most outstanding paper reporting original work published in any IEEE archival publication: "Non-cooperative cellular wireless with unlimited numbers of base station antennas," IEEE Trans. Wireless Commun., vol. 9, no. 11, pp. 3590–3600, Nov. 2010.*

Dr. Ajay K. Poddar, Synergy Wave Corp., 2015 IFCS W.G. Cady Award, *for the analysis, design and development of a host of frequency control products exhibiting state-of-the-art performance, including the development of extremely low noise crystal oscillator circuitry.*

Dr. Ulrich Rohde, Synergy Wave Corp., 2015 IFCS I.I. Rabi Award, *for intellectual leadership, selection and measurement of resonator structures for implementation in high performance frequency sources, essential in the determination of atomic resonance*

IEEE History Committee Awards

Howard Leach, *for proposing and researching the Milestone: Bell Telephone Laboratories, Inc., 1925-1983*

North Jersey Section (accepted by Russell Pepe), *for contributing greatly to the preservation of the achievements of our electrical engineering and computing profession, as well as, regional history of great value.*

IEEE Power and Energy Society Awards

Virginia Sulzberger, IEEE PES Lifetime Achievement Award, *for pioneering leadership in developing reliability analysis methods, performing reliability assessments of interconnected transmission systems, and establishing transmission reliability planning standards applied in North America during a 50-year career.*

William Magerkurth, PES Outstanding Engineer Award, *for leadership and contributions in the design, analysis, operating*

performance and efficiency of electrical industrial power systems

IEEE North Jersey Section Service Awards

Har Dayal, *in recognition of leadership and outstanding service to the IEEE North Jersey Section.*

Richard Tax, *in recognition of leadership and outstanding service to the IEEE North Jersey Section*

The Awards Banquet was organized by Ken Oexle, Russell Pepe, and Adriaan van Wijngaarden. The Awards Program was prepared and printed by Ann Giedlinski.

Several photos of the Banquet are available on the IEEE North Jersey Section's website:

<http://sites.ieee.org/northjersey/events/2015-awards-banquet>

Promote STEM

Russell C. Pepe, Pre-University Co-Chair

Hi all. I hope you still remember me. This is Russell Pepe, your former North Jersey Section Chair for 2013-2014. I am now the Co-Chair of the Pre-University Committee. My focus in this position is to introduce our High School and Elementary School children to the world of technology. I strongly believe that a life steeped in technology is exciting, important and beneficial to the world. I have a great video which was prepared by the IEEE Headquarters. I spice this presentation with anecdotes from my own career. My mission is to first expose our children to the world of technology, educate them about Science, Technology, Engineering and Math (STEM), and then encourage them to consider a STEM education and career.

I am available to speak at a school in your area. If you are interested in having me make a presentation, please contact me at: rcpepe@ieee.org

Calendar of Events

- **August 05, 6:00 PM to 9:00 PM: IEEE North Jersey Section EXCOM Meeting – Murray Hill NJ**
Location: Bell Laboratories, Alcatel-Lucent, Main Building, Room: 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974,
Contact: Adriaan J. van Wijngaarden, avw@ieee.org (avw@ieee.org), [Getting to Bell Labs](#) [Read More...](#)
- **August 12, 6:30 PM to 9:00 PM: IEEE North Jersey Section PACE- Engineers Meet (Second Wednesday of every month)**
Location: Clifton Memorial Library, 292 Piaget Ave., Clifton, NJ 07011 [Getting to Clifton Memorial Library](#) (Tel. 973 772-5500)
Contact: Richard F. Tax, (201- 664-6954) rtax@verizon.net [Read More...](#)
- **August 13, 2:00 PM to 3:00 PM - IEEE IT, COMSOC/VTs– Gaussian Channels: I-MMSE at Every SNR- Dr. Ronit Bustin, Princeton**
Location: Bell Laboratories, Alcatel-Lucent, Main Building, Room: 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974,
Contact: Adriaan J. van Wijngaarden, avw@ieee.org (avw@ieee.org), [Getting to Bell Labs](#) [Read More...](#)
- **September 2, 6:00 PM to 8:45 PM: IEEE North Jersey Section EXCOM Meeting – Clifton NJ**
Location: Clifton Public Library (Allwood Branch, 44 Lyall Road, Clifton, NJ 07012) [Getting to Clifton Public Library](#)
Contact: Adriaan J. van Wijngaarden (avw@ieee.org) or Kai T. Chen (k.t.chen@ieee.org) [Read More...](#)
- **October 6, 10:00 AM to 5:00 PM: IEEE Day - Intrepid Museum**
Location: Intrepid Museum, W 46 St & 12th Ave, New York, NY 10036 [Getting to Intrepid Museum, NY](#)
Contact: Adriaan J. van Wijngaarden (avw@ieee.org) [Read More...](#)
- **October 7, 6:00 PM to 8:45 PM: IEEE North Jersey Section EXCOM Meeting – Newark NJ**
Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)
Contact: Adriaan J. van Wijngaarden (avw@ieee.org) or Kai T. Chen (k.t.chen@ieee.org) [Read More...](#)

IEEE North Jersey Section IT and FDU - 3rd Annual Cybersecurity Symposium: – September 30, 2015, Fairleigh Dickinson University Florham Campus 285 Madison Avenue Madison, New Jersey 07940 - See more at: [Student Poster Competition information](#), <http://tinyurl.com/fducyberpostercompetition>

IEEE NORTH JERSEY SECTION – Short Courses

- **IEEE North Jersey Section Course: Big Data Market Research in Seven Saturdays** - Seven weekly classes (Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015) 9:00 am - 12:00 noon, New Jersey Institute of Technology, Newark, New Jersey
- **IEEE North Jersey Section Course: C# .NET Programming in Seven Saturdays** - Seven weekly classes (Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015) 12:30 pm - 3:30 pm, New Jersey Institute of Technology, Newark, New Jersey

Important information – Buyer's Edge Shopping

IEEE - North Jersey Group # 1431

The IEEE North Jersey Section is now a Member of the Buyer's Edge Shopping Service. The Buyer's Edge is a buying service that guarantees the lowest prices on major purchases for its 4 million members in the tri-state area of NY, NJ, CT and greater Philadelphia. They offer a Buy-By-Phone, Buy-Online and, in certain benefit categories and areas, Buy-In-Person. Many member benefits are available nationally, like Cars, Furniture and Kitchens; whereas, some benefits, like Appliances, are for the tri-state area only.

It is easy to use the services of the Buyer's Club. Visit the Web Site at: <http://www.buyersedgeinc.com>

- Prior registration is encouraged and appreciated. You do not have to be an IEEE member to attend any event.
- For up to date information, visit our website: [IEEE North Jersey Section](#) Visit: [yTools Registration](#) to register for a meeting or event

Meeting Announcements

August 5, 2015

IEEE North Jersey Section EXCOM Meeting – Murray Hill, NJ

Meeting Agenda: This executive committee (EXCOM) meeting of the IEEE North Jersey Section will be held at Bell Laboratories, Alcatel-Lucent, in Murray Hill, NJ. The meeting will take place in Room 6A-106, which is located at the right side of the main entrance behind the Bell Labs Showcase exhibition area. It is not necessary to sign in to access this area.

There will be a get-together with a buffet starting at 6 pm.

The meeting starts at 7 pm EST and typically ends at 8:45 pm. The meeting is meant to discuss and coordinate the section's activities and new initiatives.

Everyone is welcome to attend this meeting.

Please register in advance for this meeting using VTOOLS to provide the meeting organizers an accurate head count. You can change/cancel the registration if your plans change.

For more information, please contact Adriaan van Wijngaarden (avw@ieee.org).

Location: Bell Laboratories, Alcatel-Lucent, Main Building, Room: 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974, [Getting to Bell Labs](#)

Time: 06:00 PM to 09:00 PM

Contact: Adriaan van Wijngaarden (avw@ieee.org) or Kai T. Chen (k.t.chen@ieee.org)

[For Updates and Registration: Click Here](#)

August 12, 2015

IEEE North Jersey Section PACE – Engineers Meet IEEE-USA and H-1B Worker Discussion at North Jersey

Abstract: On Wednesday, August 12, 2015 the North Jersey Section Professional Activities Committee will meet for an Open Discussion and Social with Pizza, soda & refreshments.

The North Jersey Section Professional Activities Committee will meet for a discussion about the real world of Engineering, IEEE-USA and the importation of foreign engineers. Bring your Members and friends and discuss the Profession and your thoughts about the future of Engineering and opportunities in the job market.

We are indeed fortunate to have the North Jersey Section's PACE to provide opportunities to explore the Professional side of Engineering. A mid-meeting break will provide pizza and refreshments. Please arrive on time to be included in the head-count for refreshments. This meeting is about getting members of the Section together for a light evening of discussion and hospitality. Basically we can hold a brainstorming session to discuss the H-1B issue with future meetings and activities. All are invited. We shall encourage

North Jersey Section Ex-Com officers to attend. Attendees will have an opportunity to select Subjects and Speakers for future meetings. Bring your associates, friends and spouses.

Everyone will have an opportunity to express their views about the profession, jobs, and opportunities. We begin with Member introductions. Let's get active and make things happen.

Join the IEEE North New Jersey Section for an evening discussion.

A mid-meeting break will provide pizza and refreshments.

Location: Clifton Memorial Library, 292 Piaget Ave., Clifton, NJ 07011 [Getting to Clifton Memorial Library](#) (Tel. 973 772-5500)

Time: 6:30 PM to 8:45 PM, (second Wednesday of every month).

Contact: Richard F. Tax (201- 664-6954) (rtax@verizon.net)

PACE HELP! To All: We need guest speakers and subjects for meetings.

For Updates and Registration: Call (201 664-6954 or send to rtax@AEA.org)

August 13, 2015

IEEE IT, COMSOC, VTS present: Gaussian Channels: I-MMSE at Every SNR

Speaker: Dr. Ronit Burstin, Princeton

Abstract: - Multi-user information theory presents many open problems, even in the simple Gaussian regime. One such prominent problem is the two-user Gaussian interference channel which has been a long standing open problem for over 30 years. We distinguish between two families of multi-user scalar Gaussian settings; a single transmitter (one dimension) and two transmitters (two dimensions), not restricting the number and nature of the receivers. Our first goal is to fully depict the behavior of "good", capacity achieving, codes in one dimensional settings for every SNR. Such an understanding provides important insight to capacity achieving schemes and also gives an exact measure of the disturbance such codes have on unintended receivers. We first discuss the Gaussian point-to-point channel and enhance some known results. We then consider the Gaussian wiretap channel and Gaussian Broadcast channel and reveal MMSE properties that confirm "rules of thumb" used in the achievability proofs of the capacity region of these channels and provide insights to the design of such codes. Our second goal is to employ these observations to the analysis of the two dimensional setting. Specifically, we analyze the two-user Gaussian interference channel, where simultaneous transmissions from two users interfere with each other. We employ our understanding of "good" point-to-point code sequences to the analysis of this channel. Our results resolve the "Costa

Conjecture" for bounded variance inputs (a.k.a. the "missing corner points" conjecture).

* Joint works with H. V. Poor, R. F. Schaefer and S. Shamai.

Biography: Ronit Bustin received a B.Sc. degree in electrical engineering and computer science and a M.Sc. degree in electrical engineering in 2004 and 2006, respectively, from Tel-Aviv university, Israel. She received a Ph.D. in electrical engineering in 2013 from the Technion - Israel Institute of Technology, Haifa. She is currently a postdoctoral research associate in the department of electrical engineering at Princeton University. Her research interests include multi-user information theory, secrecy constraints, Gaussian MIMO channels, estimation theory and channel coding. Ronit Bustin received the Irwin and Joan Jacobs scholarship for excellence in graduate studies and research, in January 2010. She is a recipient of the Adams fellowship from the Israel Academy of Sciences and Humanities, April 2010, and an Andrew and Erna Finci Viterbi graduate fellow in the faculty of electrical engineering at the Technion for the fall semester 2010-2011. Ronit received the Rothschild fellowship in 2013 and the women postdoctoral scholarship of Israel's Council for Higher Education (VATAT) for her post-doctoral studies.

Location: Bell Laboratories, Alcatel-Lucent, Main Building, Room: 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974, [Getting to Bell Labs](#)

Time: 2:00 PM to 3:00 PM

Contact: Adriaan van Wijngaarden (avw@ieee.org)

[For Updates and Registration: Click Here](#)

September 2, 2015

IEEE North Jersey Section EXCOM Meeting – Clifton, NJ

Meeting Agenda: This executive committee (EXCOM) meeting of the IEEE North Jersey Section will be held in the Activity Room of the Clifton Public Library (Allwood Branch, 44 Lyall Road, Clifton, NJ 07012, T: (973) 471 0555).

There will be a get-together with a buffet starting at 6 pm.

The meeting starts at 7 pm EST and typically ends at 8:45 pm, when the library closes. The meeting is meant to discuss and coordinate the section's activities and new initiatives.

Everyone is welcome to attend this meeting.

Please register in advance for this meeting using VTOOLS to provide the meeting organizers an accurate head count. You can change/cancel the registration if your plans change.

For more information, please contact Adriaan van Wijngaarden (avw@ieee.org) and/or Kai Chen (k.t.chen@ieee.org).

Location: Clifton Public Library (Allwood Branch), 44 Lyall Road, Clifton, NJ 07012 [Getting to Clifton Public Library](#)

Time: 06:00 PM to 08:45 PM

Contact: Adriaan van Wijngaarden (avw@ieee.org) or Kai T. Chen (k.t.chen@ieee.org)

[For Updates and Registration: Click Here](#)

October 6, 2015

IEEE Day - Intrepid Museum

Meeting Agenda: The IEEE North Jersey Section is organizing a visit to the Intrepid Sea, Air, and Space Museum on IEEE Day (Tuesday Oct. 6, 2015). It is our intention to coordinate with the six Sections in the IEEE New York Metropolitan Area (IEEE METSAC: New York, Long Island, Connecticut, North Jersey, Central Jersey/Princeton, New Jersey Coast) The IEEE Foundation offers free entry to this museum that day for the first 500 IEEE members (and one guest each). Please register using the IEEE Intrepid Day link below to qualify for free entry.

IEEE Intrepid Registration

Registration closes on Oct. 4, 2015 or when 500 members have registered. An additional fee is required to enter the Space Shuttle Pavilion (\$7 for adults and \$5 for children).

Please note that IEEE members receive complementary admission for themselves and for one guest (for the first 500 registered participants). Additional guests may purchase admission tickets upon arrival (adults: \$24, seniors/students: \$20; youth \$19; children: \$12). The museum is open from 10:00 am until 05:00 pm. The last tickets are issued at 04:00 pm. Access to the Space Shuttle Pavillion is \$7 for adults and \$5 for children.

Please register also using the vTools registration link

IEEE vTools Registration

such that we can coordinate the visit for IEEE North Jersey members and their guests. Please enter your names and contact information (e-mail and phone number) for each of the participants such that we have an accurate headcount. Please indicate when you intend to arrive in the comment section of the registration form, and whether or not you are interested in coordinating transportation from New Jersey. The IEEE North Jersey Section will try to coordinate with the other sections in the New York Metropolitan Area and IEEE METSAC.

General information on the Intrepid Museum can be found at

<http://www.intrepidmuseum.org>.

This exclusive IEEE Day event is made possible by an ongoing relationship between IEEE Foundation and The Intrepid Sea, Air, and Space Museum. More information on the IEEE Foundation can be found at

<http://www.ieeefoundation.org>.

Location: Intrepid Museum, W 46 St & 12th Ave, New York, NY 10036 [Getting to Intrepid Museum, NY](#)

Time: 10:00 AM to 05:00 PM

Contact: Adriaan van Wijngaarden (avw@ieee.org)

[For Updates and Registration: Click Here](#)

October 7, 2015**IEEE North Jersey Section EXCOM
Meeting – Newark, NJ**

Meeting Agenda: This executive committee (EXCOM) meeting of the IEEE North Jersey Section will be held in the Activity Room of the Clifton Public Library (Allwood Branch, 44 Lyall Road, Clifton, NJ 07012, T: (973) 471 0555).

There will be a get-together with a buffet starting at 6 pm.

The meeting starts at 7 pm EST and typically ends at 8:45 pm, when the library closes. The meeting is meant to discuss and coordinate the section's activities and new initiatives.

Everyone is welcome to attend this meeting.

Please register in advance for this meeting using VTOOLS to provide the meeting organizers an accurate head count. You can change/cancel the registration if your plans change.

For more information, please contact Adriaan van Wijngaarden (avw@ieee.org) and/or Kai Chen (k.t.chen@ieee.org).

Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)

Time: 06:00 PM to 08:45 PM

Contact: Adriaan van Wijngaarden (avw@ieee.org) or Kai T. Chen (k.t.chen@ieee.org)

[For Updates and Registration: Click Here](#)



THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.

IEEE

NORTH JERSEY SECTION

MTT-Society and AP-Society Joint Chapter

PRESENTS

30th ANNUAL SYMPOSIUM AND MINI-SHOW

FOCUS:

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

DATE: THURSDAY OCTOBER 1, 2015

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 Home page
<http://www.ieee.org/go/njsection> by September 2015.

Registration: https://meetings.vtools.ieee.org/meeting_view/list_meeting/26953

For further information contact:

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

CHAIR – TECHNICAL PROGRAMS: GEORGE KANNELL(973-437-9990), gkk@lgsinnovations.com

PUBLICITY: ARTHUR GREENBERG (gardner1@optonline.net)

EVENT/ LOCATION CO-ORDINATOR: KEN OEXLE (973-386-1156) k.oexle@verizon.net

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

APS/MTTS CHAPTER CHAIR : Dr. AJAY PODDAR , akpoddar@synergymwave.com

APS/MTTS CHAPTER Vice -CHAIR: Dr. EDIP NIVER , edip.niver@njit.edu

SECTION CHAIR: Adriaan J. de Lind van Wijngaarden, alw@research.bell-labs.com

THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW.

IEEE North Jersey Section Course

Big Data Market Research in Seven Saturdays

Saturdays, (Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015)

Seven weekly classes ((Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015))

New Jersey Institute of Technology (Checks should not be mailed to this address)

IEEE North Jersey Section thanks New Jersey Institute Technology for sponsoring this course

The North Jersey Section IEEE is offering "Big Data Market Research" course. Careerbuilder.com lists 7252 Marketing, 4192 Data, and 1736 Analyst positions in the New York tri-state area daily! As an engineer, you never did marketing. Getting the MBA takes two years. This is a better alternative to learn marketing and how you work as Data Analyst or Market Researcher.

This course deals with the collection, evaluation and analysis of market-related big data. Topics are: market research industry, problem definition, research process, focus group, secondary database, quantitative research, questionnaire design, sampling techniques, statistical testing, bivariate and multivariate correlation, communicating results and management reports. Using IBM SPSS software, you will perform detailed big data analysis and get jobs in healthcare, finance, social sciences, and marketing research firms, at private or public sectors, or in government.

You will receive the IEEE completion certificate. You may work as a market researcher in any organization that needs your quantitative skills.

Instructor: Donald Hsu, Ph.D., has been a corporate manager for 20+ years and is an experienced trainer. Since 2009, he has trained 750 people in Big Data, Data Warehouse, Management, Global Marketing, and Marketing Research courses in seven organizations. He is the top rank 1% all star- most view profile on LinkedIn, with 5300+ partners and clients in 75 countries. Past attendees work at AT&T, Goldman Sachs, IBM, GE, Microsoft, Morgan Stanley, and Verizon.

TOPICS

1. Describe the big data market research industry, problems and research process
2. Understand the importance of primary data collection, secondary database, and survey
3. Define quantitative research, measurement technique and sampling methods
4. Explain the questionnaire design, data processing and statistical testing
5. Build the knowledge of bivariate regression and multivariate data analysis
6. Communicate results, manage ethical issues, and prepare reports
7. Employ IBM SPSS software for frequency analysis, ANOVA, T-test and others
8. Review real-world marketing research using Harvard Business School cases
9. Present Final Project in Big Data Market Research

WHERE: New Jersey Institute Technology, Newark, New Jersey

WHEN: 7 Saturdays, ((Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015)) 9:00 am to 12:00 pm

COST: IEEE (& affiliate) members \$500; Non-IEEE members \$550.

CONTACT: Donald Hsu, yanyou@hotmail.com

REGISTRATION: **Big Data Market Research in Seven Wednesdays**

Please mail the completed registration form with a check (**Checks payable to "North Jersey Section IEEE"**) to

Dr. Donald Hsu, Chair Education Committee, IEEE North Jersey Section, P. O. Box 2093, Fort Lee, New Jersey 07024.

Name: _____ Email address: _____

☐ Non-member ☐ IEEE Member Member #: _____ Member of _____ technical society

Employer: _____

Employer Address: _____

Home address: _____

Business (day) telephone #: _____ Home telephone #: _____

Please enclose required fee payable to: **North Jersey Section IEEE**

☐ I wish to receive the IEEE Completion Certificate Signature: _____

IEEE North Jersey Section Course

C#.NET Programming in Seven Saturdays

Saturdays, (Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015)

Seven weekly classes ((Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015))

New Jersey Institute of Technology (Checks should not be mailed to this address)

IEEE North Jersey Section thanks New Jersey Institute Technology for sponsoring this course

The IEEE North Jersey Section is offering a course entitled "C# .NET Programming". Since 2009, C# .NET has generated significant headway in Fortune 1000 enterprise development systems. Dice.com lists 800+ C# .NET jobs (up from 620 last year) in the New York tri-state area daily! This course will cover the fundamentals of C# language, the .NET framework, window and web-based applications, ADO.NET, ASP.NET, and XML. It will be useful for anyone to develop applications based upon these tools.

You will receive the IEEE Certificate of Completion when you finish the course. Microsoft Corp. has MCAD and MCS D certifications. You may wish to get certified by taking the necessary Microsoft exams with the knowledge gained from this course.

Past attendees got jobs at AT&T, Bank America, Goldman Sachs, IBM, Microsoft, Morgan Stanley, Verizon, and other Fortune 500 firms

Instructor: Donald Hsu, PhD., has been a corporate manager for 20 years and is an experienced trainer. Since 2009, he has trained 700+ people in Android, C++, Java, Oracle, WebLogic, XML, and C# .NET in 8 different organizations.

TOPICS

1. Compare the enterprise development tools using Java to C# .NET
2. Define Visual Studio .NET Version 2008 to latest
3. Identify C# syntax, data type, control structures and common language runtime
4. Distinguish methods, arrays, object-oriented programming
5. Build graphical user interface, multithreading, files and streams
6. Explain the benefit of using extensible markup language (XML)
7. Select database, SQL server, and ADO .NET
8. Choose ASP .NET, web forms, web services, advanced topics
9. Present student Projects

WHERE: New Jersey Institute Technology, Newark, New Jersey

WHEN: 7 Saturdays, ((Oct 10, 17, 24, 31, Nov 7, 14, 21, 2015) 12:30 pm to 3:30 pm

COST: IEEE (& affiliate) members \$500; Non-IEEE members \$550.

CONTACT: Donald Hsu, yanyou@hotmail.com,

REGISTRATION: C#.NET Programming in Seven Saturdays

Please mail the completed registration form with a check (Checks payable to "North Jersey Section IEEE") to

Dr. Donald Hsu, Chair Education Committee, IEEE North Jersey Section, P. O. Box 2093, Fort Lee, New Jersey 07024.

Name: _____ Email address _____

☐ Non-member

☐ IEEE Member Member #: _____ Member of _____ technical society

Employer: _____

Employer Address: _____

Home address: _____

Business (day) telephone #: _____ Home telephone #: _____

Please enclose required fee payable to: **North Jersey Section IEEE**

☐ I wish to receive the IEEE Completion Certificate

Signature: _____

2015 IEEE North Jersey Section Volunteers

Executive Committee

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

First Vice-Chair – Ajay K. Poddar
akpoddar@synergymwave.com

Second Vice-Chair – Kalyan Mondal
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Secretary – Kai T. Chen
k.t.chen@ieee.org

Treasurer – Mani Iyer
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Senior Past Chair – Naresh Chand
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Society Chapters

Aerospace Electronic Systems Society
Chair – Goran Djuknic
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Vice-Chair – Naresh Chand
chandnaresh@gmail.com

Antennas and Propagation/Microwave Theory and Techniques Society
Chair – Ajay Poddar
akpoddar@synergymwave.com
Vice-Chair – Edip Niver
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Circuits and Systems Society / Electron Devices Society
Chair – Durga Misra
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Electromagnetic Compatibility/Product Safety Engineering Society
Chair – Dan Roman
danpses@verizon.net

Engineering in Medicine and Biology Society
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Industrial Applications Society

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Systems, Man, and Cybernetics Society
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Group coordinator / History
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