

THE IEEE NORTH JERSEY SECTION NEWSLETTER

Vol. 62, No. 3

MARCH 2015

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A Note from the Chair

The March issue of our Newsletter contains information about the upcoming Student Paper Contest, which will be held on March 3, 2015 at FDU. I hope that there will be a large turnout. If you are a student, please use this opportunity and compete, and if you are not a student, please encourage students you know to participate. This year's IEEE Region 1 Student Conference will be held at the University of Vermont, Burlington, Vermont, on April 10-11, 2015:

<http://sites.ieee.org/r1/committee/sac/2015-R1-SC>

This issue also contains the announcement of the upcoming Research Day – Towards 5G Mobile Networks, which will be held on March 24, 2015 at NJIT. This event is co-sponsored by the IEEE North Jersey Section and its COM, IT, VTS

One of the Section's administrative tasks in February is to ensure that all activities from the previous year have been reported to IEEE Headquarters, and that the audits and financial reporting are finalized.

This issue of the Newsletter contains an interesting article on Life Membership. Each issue contains the EXCOM meeting calendar, the calendar of events, as well as information on symposia and courses. In many cases, links are provided for more information and for registration. If you are planning to

attend a meeting, please register in advance. Both the organizers and the attendees greatly benefit from registering, e.g., when selecting a conference room and when ordering food. Please note that one does not have to be an IEEE member to attend an event; consider bringing colleagues and friends if the topic is of interest to them.

I would like to thank everyone who has renewed their IEEE membership. About 2,000 members in North Jersey have already renewed. If you have not done so already, it may be useful to check the site <http://www.ieee.org/join>, which gives a good overview of the benefits of IEEE membership. For instance, IEEE members can request a unique IEEE e-mail address, which gives, at no additional cost, access to (ad-free) Gmail, Google Drive, Google+ and Picasa, with 30 GB of shared storage. Another useful site can be found at <http://www.ieee.org/discounts>, which provides an overview of discounts on insurance, travel, electronic equipment and several other categories.

If you have not renewed your membership yet, it would be important to do so by the middle/end February 2015 to avoid a disruption of membership and benefits. It is easy to renew electronically using the website <http://www.ieee.org/renew>. Most of the information is pre-populated and one can usually complete the renewal process with a few clicks. Another option is to use the membership renewal forms. I'd be happy to help if you have any questions or comments.

I would also like to draw your attention to our annual Student Paper Contest at FDU, which will be held on March 3, 2015. If you are a student in IEEE North Jersey's geographic area, please participate, and if you know students, please recommend them to participate. This year's IEEE Region 1 Student Conference will be held at the University of Vermont, Burlington, Vermont, on April 10-11, 2015:

<http://sites.ieee.org/r1/committee/sac/2015-R1-SC>

During January's EXCOM meeting the upcoming meetings and several initiatives were discussed. We hope that we can offer a lot of exciting events this year. We hope that you will be attending many of our technical and social meetings. If you are interested to speak about your work or experiences, please let us know. If you are interested in becoming a volunteer and helping with the organization of events, please contact me or any of the other current volunteers (all contact information is provided on the last page of this newsletter).

Please become or stay involved in the Section and do e-mail your suggestions and comments to me at: avw@ieee.org or alw@research.bell-labs.com.

Sincerely,

Adriaan J. van Wijngaarden

Chair, IEEE North Jersey Section

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MARCH 2015

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	Mar. 4	Clifton Library
Wed	Apr. 1	Bell Labs, Murray Hill
Sun	May 3	Awards at Birchwood Manor
Wed	Jun. 3	Clifton Library
Wed	Aug. 5	Bell Labs, Murray Hill
Wed	Sep. 2	Clifton Library
Wed	Oct. 7	NJIT, Newark
Wed	Nov. 4	Bell Labs, Murray Hill

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: Zhiwei Mao (zmao@fdu.edu) and/or Kai T. Chen (k.t.chen@ieee.org).

• 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 63 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 526 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

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 Ken Oexle (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.

Life Membership ... Already?!

Since that IEEE envelope arrived in my mailbox several months back, I have been somewhat confused and honored at the same time. I guess everything is in order, but I never expected it so soon.

Inside that thick envelope was an attractive, gold, IEEE membership card with the title "Life Senior Member" clearly printed there. I quickly did some mental calculations; and as best as I can remember.....I have been an IEEE member for about 44 years. That, and my age of 66, adds up to well over 100, so according to official IEEE rules, I qualify for life membership status. My trouble with all this is where did all the years go? Probably the same place my hair went!

Examining it all from the hindsight of retirement, I wonder how I managed to squeeze it all into my life....but I must have. It is hard to remember not being involved with IEEE. Let's see ... there were all those:

- Power Engineering Society winter power meetings
- Special conferences
- Conference sessions chaired
- Papers presented/ published
- Papers critiqued
- Articles written for society newsletters/magazines
- Various committees served on
- White papers developed
- Educational products developed for members
- Several short books and e-products written
- A few awards along the way
- Section meetings and activities

Yes ... the evidence seems to be in order.

I see the many faces too, many no longer here, but faces, smiles and voices I shall never forget-people who taught me the value of IEEE early in my career-because of them I have achieved life member status. There is the real payoff of IEEE, a giant, robust network of friends, expertise and dedication.

When I first started my career, many IEEE colleagues were there for me, folks with experience and mentorship who made sure I did not "step off the path" or "lose my footing". Back then I thought of those folks as slightly older brothers and sisters in the profession. Perhaps young members see me that way today; and I hope they do, for I have a big debt to pay back for those who took the time to inspire and guide me so many years ago. The time-honored tradition of taking folks under one's wing and "showing them the ropes", as we used to say back in the day, still works. I hope IEEE never loses that; and I doubly hope companies never lose sight of how employee IEEE membership is a powerful force for corporate competitiveness.

This is the organization that Thomas Edison and other great "electricians" of the day helped develop. Since Edison was my boyhood hero and remains so to this day, IEEE has and always will remain my mother society. I shall stay active, write these section newsletter articles, and do some E-books for members.

And along the way, I hope to guide some younger members whenever I can; and to work with kids and teachers in the classroom.

It has been one "helluva" ride and I expect some additional thrills in the years to come. That life member card is one fancy piece of plastic! Helps put things in perspective.

A Note to Readers

IEEE "Life" status is an automatic process based on an individual's membership record.

To qualify for Life member status, a member must be at least 65 years of age and have been a member of IEEE or one of its predecessor societies for such a period that the sum of his/her age and his/her years of membership equals or exceeds 100 years. (IEEE Bylaw I-102.2). Benefits of life membership include:

- Dues and regional assessments are waived
- For qualifying Life Members, society fees are waived (IEEE Bylaw I-108.8).
- Individuals may receive reduced member rates at conferences where IEEE is the sole sponsor.
- Life Members continue to receive the same benefits that are available to other IEEE members-IEEE Member Discounts Program (includes IEEE Insurance Program)

Talk to you again soon.....

Harry

Harry T. Roman

Life Senior Member, North Jersey Section

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.

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SAC's Social Circle Just Went International

Despite the cold, SAC's latest event draws a crowd from around the world.

Article by Daniel Cerone, IEEE NNJ SAC Chair

February 23, 2015



Mug shots! Some social-goers pose for a picture on February 20, 2015.

The temperature outside hovered around a frigid two degrees but that didn't stop IEEE members from all around the tristate and around the world from mingling and networking at SAC's Second Annual Social Mixer which took place at Wicked Wolf in Hoboken, NJ. In attendance were students from countries as far flung as Iran and India, studying abroad in America and stopping in to meet the local IEEE members. North New Jersey SAC or NNJ SAC for short, also had the pleasure of welcoming a new IEEE member who signed up just to be at the event with his new IEEE extended family. The event brought the largest showing of existing members, new members, and potential members ever. New acquaintances were made and new commitments to success were formed all over a plate of mac and cheese bites and some chicken fingers.

Social-goers, as I like to call them, are the next generation of IEEE. These highly motivated, educated, and energetic individuals have a bright future ahead. One that is enhanced and advanced with the empowerment that IEEE provides. NNJ SAC strives to be a leader in continual educational and career development. At the Social Mixer, an invite was extended to join a Schneider Electric info session at NJIT on February 23. Several members attended the information session, made important impressions, and turned in resumes as a result of networking at the Social Mixer. It's events like these that can be real pivot points in a person's career. One that can put them in the driver's seat to go wherever they wish. See you all at the next one and thanks for making it awesome!

To learn more about NNJ SAC or to get involved, check out our Facebook page at www.facebook.com/ieeesac or follow us on Instagram at www.instagram.com/ieeesac.

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: rcepe@ieee.org

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.

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).

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Welcome! New Members of the IEEE North Jersey Section

Full Name	Current IEEE Grade
Julio Arroyo	Student Member
Ethan Eng	Student Member
Nathaniel Aaron Goldfarb	Student Member
Iman Habibi	Graduate Student Member
Xueqing Huang	Graduate Student Member
Miguel Huatuco	Student Member
Arjun Kanabar	Graduate Student Member
Henry T Lajoie	Member
Harsha Maganti	Graduate Student Member
Alexander Montoya	Student Member
Daniel Szymczuk	Student Member
Amir Toliyat	Graduate Student Member
Shawn Volpe	Student Member
Elisabete Cortes Carvalho de Paula	Student Member
Vincent Rubino	Member

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 LinkedIn IEEE North Jersey Section Group at: [LinkedIn Group Invitation](#)

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

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>

Then, enter the following login information: Username: 1431, Password: member1 **Happy shopping!**

Calendar of Events

- March 3, 5:30 PM to 9:00 PM:** IEEE SAC - 2015 IEEE Student Paper Competition
Location: Fairleigh Dickinson University, 105, Muscarelle Building Teaneck, NJ 07666
Contact: Daniel Cerone (d.a.c@ieee.org), [Read More...](#)
- March 4, 6:30 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...](#)
- March 6, 11:00 AM to 12:00 PM:** IEEE SMC, CS, SP, Computer, and EMBS– The Big Data Challenge: From Machine Learning and Pattern Recognition Perspective – Daniel S. Yeung, Ph.D. & Professor, South China University of Technology
Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)
Contact: Prof. Mengchu Zhou at [zhou@njit.edu](#), [Read More...](#)
- March 09, 5:30 PM to 7:30 PM - IEEE AP/MTT, ED/CAS – “Surprises in Physics”,** Prof. Dr. Rajeev K. Pathak, Univ. of Pune, Maharashtra, India
Location: NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)
Contact: Ajay Kumar Poddar, (201) 560-3806 ([akpoddar@ieee.org](#)), Edip Niver- (973)596-3542 ([edip.niver@njit.edu](#)), Durga Misra ([dmisra@njit.edu](#)) [Read More...](#)
- March 11, 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...](#)
- March 12, 9:30 AM to 3:30 PM: IEEE CNNNJ – Digital Distribution of Video Content -** Aldo Cugini, Principal of AGC Systems LLC
Location: Morris County Library, 30 East Hanover Avenue, Whippany, NJ 07981 [Getting to Morris County Library](#)
Contact: Robert Walker, 973-728-0344, or visit our website, [www.TechnologyOnTap.org](#) [Read More...](#)
- March 17, 9:30 AM to 3:30 PM: IEEE IT, Signal Processing, VTS – Towards 5G: Carrier-Grade Programmable Virtual Mobile Networks -** Dr. Tarik Taleb, Bell Labs, Alcatel-Lucent
Location: Bell Laboratories, Main Building, Room: 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974, [Getting to Bell Labs](#)
Contact: Durga Misra ([dmisra@njit.edu](#)), Adriaan van Wijngaarden ([avw@ieee.org](#)). [Read More...](#)
- March 24, 9:30 AM to 3:30 PM: IEEE IMS, IT, Computer, COMSOC, VTS – Research Day - Towards 5G Mobile Networks: Research Trends -** Dr. Reinaldo Valenzuela, Bell Labs, Alcatel-Lucent, and five invited presentations in the afternoon
Location: Campus Center Atrium - NJIT - 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)
Contact: Durga Misra ([dmisra@njit.edu](#)), Adriaan van Wijngaarden ([avw@ieee.org](#)). [Read More...](#)
- April 01, 3:00 PM to 4:00 PM: IEEE VTS/Stevens– Significant Gains in Coverage and Downlink Capacity from Optimal Antenna Down Tilt for Closely-spaced Cells in Wireless Networks -** Dr. Asif D. Gandhi, Distinguished Member of the Technical Staff, Alcatel-Lucent
Location: Babbio Center, Room 319, Stevens Institute of Technology, Hoboken, NJ 07030,
Contact: Adriaan J. van Wijngaarden, [avw@ieee.org](#) ([avw@ieee.org](#)), [Getting to Stevens Institute of Technology](#) [Read More...](#)
- April 01, 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...](#)
- April 24, 9:00 AM to 2:00 PM: IEEE PES/IAS- Trustworthy Critical infrastructures: Threats, Vulnerabilities and Protection through NERC CIP Compliance -** Saman Zonouz of Rutgers University
Location: PSE&G - Hadley Road Facility, Auditorium, 4000 Hadley Road, South Plainfield, NJ 07080, [Getting to PSE&G - Hadley Road Facility](#)
Contact: Ronald W. Quade ([rwquade@ieee.org](#)) [Read More...](#)
- May 03, 3:00 PM to 6:00 PM: IEEE North Jersey Section Awards Banquet**
Location: Birchwood Manor, 111 North Jefferson Road, Whippany, NJ 07981 [Getting to Birchwood Manor](#)
Contact: Adriaan J. van Wijngaarden ([avw@ieee.org](#)) [Read More...](#)

IEEE NORTH JERSEY SECTION – Short Courses

- IEEE North Jersey Section Course: [Project Risk Management in Seven Saturdays](#)** - Seven weekly classes (March 7, 14, 28, April 4, 11, 18, 25, 2015) 9:00 am - 12:00 noon, New Jersey Institute of Technology, Newark, New Jersey
- IEEE North Jersey Section Course: [Big Data Market Research in Seven Saturdays](#)** - Seven weekly classes (March 7, 14, 28, April 4, 11, 18, 25, 2015) 9:00 am - 12:00 noon, New Jersey Institute of Technology, Newark, New Jersey

- 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: [vTools Registration](#) to register for a meeting or event

Meeting Announcements

March 3, 2015

IEEE SAC - 2015 IEEE Student Paper Competition

Meeting Agenda: The objective of this meeting is to have students present projects they have been working on, whether it a senior design project or a project of interest. The presentations will be judged based on several criteria, including clarity, content, and presentation skills. Students will gain experience presenting ideas and concepts in front of an audience in preparation for the IEEE Region 1 Student Conference that will be held at the University of Vermont in Burlington, Vermont, on April 10-11, 2015.

There will be food and \$ 400.00 in prizes!

Everyone is encouraged to arrive around 5:30 pm for a buffet and to socialize. All participants must register while also submitting presentations to Daniel Cerone (d.a.c@ieee.org).

Location: Fairleigh Dickinson University, 105, Muscarelle Building Teaneck, NJ 07666.

Time: 05:30 PM to 09:00 PM

Contact: Daniel Cerone (d.a.c@ieee.org)

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

March 4, 2015

IEEE North Jersey Section EXCOM meeting - Clifton, NJ

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).

06:00 pm - 07:00 pm Get together and buffet

07:00 pm - 08:30 pm IEEE North Jersey ExCom Meeting

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.

The meeting agenda typically includes reports from the Secretary and Treasurer, reports from the Chapter and Affinity Group Chairs and Representatives, Committee Chairs, news related to the IEEE and the North Jersey Section, planning and new initiatives.

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); Kai Chen (k.t.chen@ieee.org).

Location: Clifton Public Library - Allwood Branch, Activity Room, 44 Lyall Road, Clifton, NJ 07012

[Getting to Clifton Public Library](#)

Time: 06:00 PM to 08:45 PM

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

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

March 6, 2015

SMC, CS, SP, Computer, and EMBS present: The Big Data Challenge: From Machine Learning and Pattern Recognition Perspective

Speaker: Daniel S. Yeung, Ph.D. & Professor, South China University of Technology

Abstract: In this talk we will first examine the basic characteristics of the problem induced by the big data scenario. A natural question is: are the existing machine learning and pattern recognition techniques capable of handling the big data problem? We will use the example of the large-scale image retrieval problem to discuss possible solution to this problem and explore potential research issues related to the big data.

Biography: Daniel S. Yeung is a Past President of the IEEE Systems, Man and Cybernetics (SMC) Society and a Fellow of the IEEE. He received the Ph.D. degree in applied mathematics from Case Western Reserve University. In the past, he worked as an Assistant Professor of Mathematics and Computer Science at Rochester Institute of Technology, Research Scientist in the GE Research Center, and as a System Integration Engineer at TRW, all in the United States. He was the chairman of the Department of Computing, The Hong Kong Polytechnic University, Hong Kong, and a Chair Professor from 1999 to 2006. Currently he is a visiting Professor in the School of Computer Science and Engineering, South China University of Technology, Guangzhou, China. His current research interests include neural-network sensitivity analysis, data mining, and fuzzy rough set. He was the Chairman of IEEE Hong Kong Computer Chapter, an associate editor for both IEEE Transactions on Neural Networks and IEEE Transactions on SMC (Part B), and for the International Journal on Wavelet and Multiresolution Processing. He has served as the President, President-Elect, a member of the Board of Governors, Vice President for Technical Activities, and Vice President for Long Range Planning and Finance for the IEEE SMC Society. He co-founded and served as a General Co-Chair since 2002 for the International Conference on Machine Learning and Cybernetics held annually in China. He also served as a General Co-Chair (Technical Program) of the 2006 International Conference on Pattern Recognition, and 2012, 2013 and 2015 International Conference on Systems, Man and Cybernetics. He is also the founding Chairman of the IEEE SMC Hong Kong Chapter.

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

Time: 11:00 AM to 12:00 PM: –

Contact: Prof. Mengchu Zhou at zhou@njit.edu,

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

March 09, 2015

AP/MTT, ED/CAS, ECE Dept, NJIT present: “Surprises in Physics”

Speaker: Prof. Dr. Rajeev K. Pathak, Univ. of Pune, Maharashtra, India

Abstract: The informal colloquium will try to bring out some really astounding facts that one encounters in looking at diversified phenomena in physics that we encounter even in day-to-day life. I shall try to answer the following apparently naïve but subtle questions, with a latent and sometimes blatant (!) elements of amazing physics!

- Law of large numbers: The Emperor’s predicament!
- What would happen if macroscopic objects, including OURSELVES, had but only a teeny-weeny electrical charge imbalance? [...the Universe would have evolved in a radically different manner!]
- You are in front of a 100 meter high and five meter thick concrete wall. Can you get on the other side doing absolutely nothing (no pole-vaulting, etc. !) Quantum Mechanics says: YES, there is a chance! [...what are the odds? ...the answer will knock us out!]
- Are you a sharp-shooter? What is the quantum mechanical limit on the maximum accuracy with which one could shoot a rifle-bullet aimed at a target? [...it is bedazzling!]
- What is common among bullets, light quanta called photons and electrons? [...all classical expectations will be shattered!]
- The classical “explanation” of the photoelectric effect --- deems that an electron will be dislodged only after a delay of a day or two after shining light on a photosensitive surface...actually, the ejection time is less than a nanosecond! [Why so? that will be answered].
- What if material objects traveled faster than light? [...completely weird phenomena would result scrambling space and time!]
- How does theory of relativity help outlaws escape the police in pursuit?
- Exotica: Gravity, Anti-matter, the Higgs ‘scalar’ particle, Zero-point motion, Bose-Einstein condensation
- Waywardness of Mother Nature: Parity violation, Planetary motion and tides, Why do electrically neutral metal plates attract each other [...are you kidding...No! there is a weird, exotic, attractive force!]

Biography: Having earned his Doctoral (Ph.D.) degree in Theoretical Physics, Dr. Rajeev Pathak carried out four post-doctoral assignments in the United States and subsequently joined the University of Poona (now, S.P. Pune University), in 1989.

Dr. Pathak has had an opportunity to work on a diversified set of research problems in theoretical physics, primarily under

the premise of the now ubiquitous density functional formalism. His research interests to :
 ·Electronic exchange and correlation effects in atoms in both position and momentum spaces ·Intermolecular potential energy surfaces ·Electron Momentum-Distributions exclusively from Coordinate Space Electron Density
 ·Rigorous inequalities in atomic and molecular physics
 ·Electrostatic Potentials for Molecules and their ramifications; novel exact mathematical theorems ·Structure and properties of Density - Matrices in co-ordinate and momentum spaces ·Critical Exponents in High-Tc superconductivity: theoretical model of charged Bose gas
 ·“Compton Defect” within the Kohn-Sham approach
 ·Positron-atom binding ·Indirect paths for accurate atomic energies: the work formalism ·Ab initio studies on Water anionic nano-clusters ·Non-covalent cooperative Interactions: Hydrogen-bonded nano-clusters and their response to external electric fields ·PT-symmetric quantum systems with time-periodic Hamiltonians.

In recognition of his contributions to teaching and research, Dr. Pathak has been bestowed upon several awards and recognitions at the National and International levels, including the Career Award (UGC, New Delhi, India); International Advisory Board Membership (Boston College, Boston, MA, U.S.A.); American Physical Society’s Visiting Professorship Award for City University of New York System and Graduate Center (New York City, U.S.A.), Visiting Professorship to Tulane University (New Orleans, LA, U.S.A.), and Senior Associate-ship with the International Center for Theoretical Physics, Trieste, Italy. Dr. Pathak has taught a variety of core physics courses in Pune and New Orleans, and thus far published numerous research articles, all in renowned international research journals. Very recently, he has written an “E”-book elucidating interpretation of the wave function and surrounding aspects, for beginners (completely a freeware: “Psi of Relief”, available under the link:

http://physics.unipune.ac.in/~pathak/Rajeev_K_Pathak_Psi_of_Relief_Complete_Set_2013_OCT_05.pdf

Dr. Pathak has currently been investigating on the effect of external stimuli, especially an applied external electric field on hydrogen-bonded nano-clusters, such as those of ethanol, water and their admixtures. Ethanol is a promising candidate for fuel cells that harness facilitating electric current charge transfer through proton movement. His research, in silico, has a predictive value for in vitro ventures to be carried out. Electronic structure and reactivity have a direct bearing on the response of molecular nano-clusters to the applied electric field. Certain novel, field-induced-covalent species also have been predicted. This work is expected to provide immense insight by means of a prototype into description of phenomena like catalysis at the nano-scale.

Email: snehalandrajeev@gmail.com

Address: Professor of Physics, S.P. Pune University, Pune , Maharashtra, India, 411007

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

Time: 5:30PM to 7:30PM

Contacts: Ajay Poddar, (201) 560-3806 akpoddar@ieee.org;
D. Misra, (973) 596-5739, dmisra@njit.edu
Edip Niver, (973) 596-3542, edip.niver@njit.edu

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

March 11, 2015

IEEE North Jersey Section PACE – Engineers Meet –

Meeting Agenda: Our North Jersey Section Professional Activities Committee (PACE) meets for informal discussions about the Engineering Profession. Join us with your thoughts and concerns and meet other Engineers.

PACE is our Professional Activities Committee for Engineers and meets on the second Wednesday of every month at the Clifton Memorial Library.

As always, ENGINEERS MEET to discuss professional issues and experiences that affect the lives of Engineers.

Join us at the Clifton Memorial Library at 292 Piaget Ave., Clifton, from 6:15 pm to 8:45 pm for interesting, friendly, professional meetings. Pizza and refreshments are always served.

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

Time: 6:30 PM to 9:00 PM, on the second Wednesday of every month.

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

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

[Back to Calendar of Events](#)

March 12, 2015

IEEE Consultants' Network of Northern NJ presents: Digital Video Distribution

Speaker: Mr. Aldo Cugnini, Principal of AGC Systems LLC.

Abstract: The distribution of video content to consumers was once handled by analog means, over wireless broadcasting, hardwired cable and physical media.

Today, this distribution takes place in digital form, over media that includes the Internet. Digital video content distribution is possible because of advances in compression and transmission systems. This talk will present an overview of these digital systems, as well as an introduction to the various business and regulatory issues that are shaping the future of content distribution.

Biography: Aldo Cugnini is well known in the digital broadcast industry, and has held various technical and management positions at Philips Electronics, CBS Laboratories, and other technology companies. His achievements include ten patents in the fields of broadcasting and consumer electronics, with three additional patents

pending. He had a leadership role in the development of the ATSC Digital Television System now deployed in the United States, for which Philips shared an Engineering Emmy Award.

Aldo is the Principal of AGC Systems LLC, now in its 12th year as a video and audio technology consulting firm, with capabilities including technology development, intellectual property analysis and defense, and technology writing. He was also co-founder of VimiONix LLC, a company developing services for interactive wireless devices.

Aldo holds both a General (Commercial) Radiotelephone License and a General (Amateur) Radio License (W2AGC). Aldo can be reached at acugnini@agcsystems.tv or at 908-867-8550.

ABOUT THE NETWORK: Founded in 1992, the IEEE Consultants Network of Northern NJ encourages and promotes the use of independent technical consultants by business and industry.

CNNNJ INVITES YOU TO JOIN THE NETWORK

The IEEE Consultants' Network of Northern NJ invites all engineers engaged in independent practice to join its ranks. For more details on member benefits and on sign-on requirements, please visit our website at (www.TechnologyOnTap.org)

ALL ARE WELCOME! No fees or registration required.

Location: Morris County Library, 30 East Hanover Avenue, Whippany, NJ, [Getting to Morris County Library](#)

Time: 6:30PM to 8:30PM

You don't have to be an IEEE member to attend.

Contact: Robert Walker (973-728-0344, r.d.walker@ieee.org) or visit, www.TechnologyOnTap.org.

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

March 17, 2015

IEEE IT, COMSOC, Signal Processing, VTS present: Towards 5G: Carrier-Grade Programmable Virtual Mobile Networks

Speaker: Dr. Tarik Taleb, Professor at the School of Engineering, Aalto University, Finland.

Please register in advance for this meeting using VTOOLS to provide the meeting organizers an accurate head count and for entry badges. Please bring photo-id for badges.

You can change or cancel the registration if your plans change.

Abstract: The telecom industry keeps reinventing itself. Soon, the world will be experiencing the 5th generation mobile networks (5G), also referred to as beyond 2020 mobile communication systems.

Major obstacles to overcome in 5G systems are principally the highly centralized architecture of mobile networks along with the static provisioning and configuration of network nodes built on dedicated hardware components. This has resulted in

lack of elasticity and flexibility in deployment of mobile networks; rendering their run-time management costly, cumbersome and time-consuming. Software Defined Networking, Network Function Virtualization, and Cloud Computing, along with the principles of the latter in terms of service elasticity, on-demand features, and pay-per-use, could be important enablers for various mobile network enhancements, to specifically virtualize and decentralize mobile networks using general-purpose COTS (commercial of the shelf) hardware. For this purpose, different requirements have to be met and numerous associated challenges have to be subsequently tackled. This talk will touch upon the recent trends the mobile telecommunications market is experiencing and discuss the challenges these trends are representing to mobile network operators. To cope with these trends, the talk will then showcase the feasibility of on-demand creation of cloud-based elastic mobile networks, along with their lifecycle management. The talk will introduce a set of technologies and key architectural elements to realize such vision, turning end-to-end mobile networking into software engineering.

Biography: Dr. Tarik Taleb is an IEEE Communications Society (ComSoc) Distinguished Lecturer and a senior member of IEEE. He is currently a Professor at the School of Engineering, Aalto University, Finland. He has been working as Senior Researcher and 3GPP Standards Expert at NEC Europe Ltd, Heidelberg, Germany. He was then leading the NEC Europe Labs Team working on R&D projects on carrier cloud platforms. He was also serving as technical leader of the main work package, Mobile Core Network Cloud, in EU FP7 Mobile Cloud Networking project, coordinating among 9 partners including NEC, France Telecom, British Telecom, Telecom Italia, Portugal Telecom Innovation, SAP, & Intel. Prior to his work at NEC and till Mar. 2009, he worked as assistant professor at the Graduate School of Information Sciences, Tohoku University, Japan, in a lab fully funded by KDDI, the second largest network operator in Japan. From Oct. 2005 till Mar. 2006, he was working as research fellow with the Intelligent Cosmos Research Institute, Sendai, Japan. He received his B. E degree in Information Engineering with distinction, M.Sc. and Ph.D. degrees in Information Sciences from GSIS, Tohoku Univ., in 2001, 2003, and 2005, respectively.

Dr. Taleb's research interests lie in the field of architectural enhancements to mobile core networks (particularly 3GPP's), mobile cloud networking, mobile multimedia streaming, congestion control protocols, handoff and mobility management, inter-vehicular communications, and social media networking. Dr. Taleb has been also directly engaged in the development and standardization of the Evolved Packet System as a member of 3GPP's System Architecture working group. Dr. Taleb is a board member of the IEEE Communications Society Standardization Program Development Board. As an attempt to bridge the gap between academia and industry, Dr. Taleb has founded and has been the general chair of the "IEEE Workshop on Telecommunications Standards: from Research to Standards", a successful event that got awarded "best workshop award" by IEEE Communication Society (ComSoC). Based on the

success of this workshop, Dr. Taleb has also founded and has been the steering committee chair of the IEEE Conference on Standards for Communications and Networking.

Location: Bell Labs, Alcatel-Lucent, Main Building Lobby, 600 Mountain Avenue, Murray Hill, NJ 07974

Everyone is welcome to attend this meeting.

Time: 6:00PM-6:30PM Collect in Lobby for badges, 6:30PM-8:30PM (buffet, talk, Q&A)

Contact: Amit Patel (a.j.patel@ieee.org), Mani Iyer (miyer108@gmail.com)

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

March 24, 2015

COMSOC, IT, Computer, and VTS present: Research Day - Towards 5G Mobile Networks: Research Trends

Speaker: Dr. Reinaldo Valenzuela, Bell Labs, Alcatel-Lucent, and five invited presentations in the afternoon

Abstract: The IEEE North Jersey Section and its Communications, Computer, Vehicular Technology and Information Theory Chapters co-sponsor the 2015 Research Day - Towards 5G Mobile Networks: Research Trends, which will be held on Tuesday March 24, 2015 at the Campus Center Atrium of New Jersey Institute of Technology, University Heights, in Newark, NJ. This research day starts at 9:30 am. with five invited presentations in the morning, a one-hour keynote talk by Dr. Reinaldo Valenzuela, Bell Labs, Alcatel-Lucent, and five invited presentations in the afternoon. The program ends at 3:30 pm.

Biographies: CWCSRP Research Day Presenters

Dr. Joerg Klierer



Dr. Joerg Klierer is an associate professor in the Helen and John C. Hartmann Department of Electrical and Computer Engineering at the New Jersey Institute of Technology. His current research interests include error correcting codes, network information theory, communication networks, secure communication, and applications of information theory in biology.

He has served on numerous conference technical program committees. He was a member of the editorial board of the EURASIP Journal on Advances in Signal Processing from 2005-2008, an associate editor of the IEEE Transactions on Communications from 2008-2014, and is an area editor for the IEEE Transactions on Communications (Source-Channel Coding and Signal Processing Area) since 2015. He is a Senior Member of IEEE and currently chairs the outreach subcommittee of the IEEE Information Theory Society.

Oswaldo Simeone

Oswaldo Simeone received the M.Sc. degree (with honors) and the Ph.D. degree in information engineering from Politecnico di Milano, Milan, Italy, in 2001 and 2005, respectively. He is currently with the Center for Wireless Communications and Signal Processing Research (CWCSRP), New Jersey Institute of Technology (NJIT), Newark, where he is an Associate Professor.

His current research interests concern wireless communications, data compression, information theory and machine learning. Dr. Simeone is a co-recipient of Best Paper Awards of the IEEE SPAWC 2007 and IEEE WRECOM 2007. He currently serves as an Editor for IEEE Transactions on Information Theory.

Alexander Haimovich

Alex Haimovich is a Professor of Electrical and Computer Engineering at the New Jersey Institute of Technology. He recently served as the Director of the New Jersey Center for Wireless Telecommunications, a state funded consortium consisting of NJIT, Princeton University, Rutgers University and Stevens Institute of Technology. He has been at NJIT since 1992. Prior to that, he

served as Chief Scientist of JJM Systems from 1990 until 1992. From 1983-1990 he worked in a variety of capacities, up to senior staff consultant, for AEL Industries. He received the Ph.D. degree in systems from the University of Pennsylvania in 1989, the M. Sc. degree in electrical engineering from Drexel University in 1983, and the B.Sc. degree in electrical engineering from the Technion, Haifa, Israel in 1977. His research interests include space-time codes and turbo space-time codes in MIMO communications, peak-to-average power problems in OFDM systems, topics in ultra-wideband communications, cooperative networking, MIMO radar. He recently served as Chair of the Communication Theory Symposium at Globecom 2003. He is currently an associate editor for the IEEE Communications Letters and a guest editor for the EURASIP Journal of Applied Signal Processing Special Issue on Turbo Coding.

Ali Abdi

Ali Abdi, PhD, is an associate professor in the Department of Electrical and Computer Engineering at New Jersey Institute of Technology. He is also a graduate faculty of the Department of Biological Sciences. His current research interests include underwater communication, borehole communication in oil wells, radio frequency communication, acoustic

localization and signal processing, systems and computational biology, molecular networks and cell signaling.

He served as an editor for IEEE Transactions on Vehicular Technology for five years. He is a Senior Member of IEEE, a Member of the Acoustical Society of America, and a Member of the Society for Neuroscience.

Abdallah Khreishah

Abdallah Khreishah received his Ph.D and M.S. degrees in Electrical and Computer Engineering from Purdue University in 2010 and 2006, respectively. Prior to that, he received his B.S. degree with honors from Jordan University of Science & Technology in 2004. During the

last year of his Ph.D, he worked with NEESCOM. In Fall 2012, he joined the ECE department of NJIT as an Assistant Professor. Abdallah is an active researcher. His research spans the areas of network coding, wireless networks, congestion control, cloud computing, network security, and database systems for large projects. His research projects are funded by the National Science Foundation and the UAE Research Foundation.

Haim Grebel

Haim Grebel, PhD, a professor of electrical and computer engineering at New Jersey Institute of Technology, is the director of the Electronic Imaging Center, and a member of the Materials Science and Engineering Program at NJIT. Funded by the National Science Foundation, the Army Research Office and the Navy, Grebel's research

focuses on the linear and nonlinear properties of sub-wavelength structures and understanding the properties of structures at the nanoscale. On the latter, his group effort concentrates on optoelectronic elements that consist of individual single-walled carbon nanotubes.

Grebel has been instrumental in establishing the nanotechnology research focus at NJIT, both experimentally and theoretically. He is the North Jersey Chapter Chair of the Laser and ElectroOptics Society (LEOS) and has organized numerous talks and mini-conferences on optically related and nanotechnology-related topics. In addition, Grebel serves as a role model for young faculty members. He currently is supervising three PhD students and four post-doctoral researchers.

Leonid Tsybeskov

Leonid Tsybeskov, a professor of electrical and computer engineering at NJIT, is also the Chair of the ECE Department. Professor Tsybeskov's research is focused on materials science of group IV semiconductor nanostructures, Nanoelectronics and quantum devices.

Results of his recent research were published and discussed in

Nature (1996, 384, p. 6607 and 200, 407, p. 358), Laser Tech Briefs, Chemical Engineering Progress, Opto-Laser Europe, High-Performance Computing (HPC), and Business Week. The image of his nc-Si light-emitting device was chosen for the cover page of the January 1997 issue of Physics Today and April 1998 issue of MRS Bulletin. He is the author and co-author of more than 100 technical papers including dozens of invited papers, one US patent and several books and book chapters. He has served as a Guest Editor for many journals and as a co-organizer of many tutorials and technical symposia at APS and MRS Meetings. His graduate students have received many awards for their research conducted under Prof. Tsybeskov's supervision.

Dr. Yun Qing Shi



Dr. Yun Qing Shi has joined the Department of Electrical and Computer Engineering at the New Jersey Institute of Technology (NJIT), Newark, NJ since 1987, and is currently a professor there. He obtained his B.S. degree and M.S. degree from the Shanghai Jiao Tong University, Shanghai, China; his Ph.D. degree from the University of Pittsburgh, PA. His research interests include multimedia data hiding, forensics and security (robust watermarking, reversible data hiding, authentication, steganography and steganalysis, tampering detection, computer graphics classification from photographic images, camera identification, detection of double JPEG/MPEG compression), visual signal processing and communications (motion analysis, video compression and transmission), applications of image processing, computer vision and pattern recognition to industrial automation and biomedical engineering, theory of multidimensional systems and signal processing (robust stability of linear systems, 2-D spectral factorization, 2-D/3-D interleaving). Prior to entering graduate school, he had industrial experience in a radio factory as a principal design and test engineer in numerical control manufacturing and electronic broadcasting devices. Some of his research projects have been supported by several federal and New Jersey State funding agencies, and some industrial companies.

Roberto Rojas-Cessa



Roberto Rojas-Cessa, PhD, of Brooklyn, NY, an associate professor in the Department of Electrical and Computer Engineering at New Jersey Institute of Technology (NJIT). Dr. Rojas-Cessa joined NJIT in 2002, where he has been involved in the design and implementation of application-specific integrated circuits (ASICs) for biomedical applications and high-speed computer communications and in the development of high-performance and large-capacity packet switches. His research has been funded by the National Science Foundation, the Japan Society for the Promotion of Science, and other institutions. He received the Newark College of Engineering Excellence in Teaching Award in April 2013.

Hongya Ge



Hongya Ge is an associate professor in the Department of Electrical and Computer Engineering at New Jersey Institute of Technology (NJIT). She received her PhD in Electrical Engineering, University of Rhode Island (Dec. 1994), MS in Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing, P. R. China (Dec. 1985), and BS in Electrical Engineering, University of Electronic Science and Technology of China, Chengdu, P. R. China (1982). Her research interests are: Statistical and Array Signal Processing, Wireless Communications, Space-Time Multiuser Detection, MIMO for Broadband Wireless Access, Time-varying Signal/Channel Analysis and Modeling, Detection and Estimation Theory, Adaptive Filters, Interference Suppression, and Signal Enhancement, Numerical Analysis, and Approximation Theory.

Keynote Speaker - Reinaldo Valenzuela



Director, Wireless Communications Research Department, Bell Labs, Alcatel-Lucent

Reinaldo Valenzuela received a Bachelor of Science degree from the University of Chile and a Ph.D. from Imperial College. He is currently Director of the Wireless Communications Research Department at Bell Laboratories, and is a Distinguished Member of Technical Staff. Valenzuela has been at the forefront of many recent advances in wireless systems; his research includes propagation measurements and models, MIMO/space time systems achieving high capacities using transmit and receive antenna arrays, HetNets, small cells, and next generation air interface techniques and architectures. The author of more than 185 papers, he has forty-four issued patents and more than 20,000 citations in Google Scholar. Valenzuela is a 'Highly Cited Author' in Thomson ISI, a Fulbright Senior Specialist, an IEEE Fellow and a Bell Labs Fellow. For his pioneering contributions to MIMO technology, he was awarded the 2010 IEEE Eric E. Sumner Award.

Location: NJIT Campus Center Atrium, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)

Time: 9:30 AM to 3:30 PM

Contact: Durga Misra (dmisra@njit.edu), Adriaan van Wijngaarden (avw@ieee.org)

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

April 1, 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 near 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) and Kai Chen (k.t.chen@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 08:45 PM

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

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

April 1, 2015

IEEE VTS/Stevens present: Significant Gains in Coverage and Downlink Capacity from Optimal Antenna Down-Tilt for Closely-spaced Cells in Wireless Networks

Speaker: Dr. Asif D. Gandhi, Distinguished Member of the Technical Staff, Alcatel-Lucent

Abstract: This talk focuses on the impact of antenna down tilt for closely placed cells. The results show the need for small to no down tilt in coverage-limited scenarios, otherwise (for the case of close placement of cells), down tilt improves performance significantly. The most important conclusion of this study is that there is a large gain in downlink coverage and capacity due to down-tilting to the correct range of values; in fact, without the correct down tilt, all the gain in coverage due to the close placement of cells is lost. The simulations demonstrate that all in-building penetration advantage (up to 40 dB for the examples simulated in this paper) and up to 60% of the capacity can be lost if the tilts are off by 4° to 5° from the optimal for closely placed cells. In-building coverage is one of the challenges for current cellular systems, and it is shown that the same range of down tilt is optimal whether the users are in-building or on-street; hence the concern that down

tilt will reduce in-building coverage is demonstrated as inaccurate for closely placed cells.

Another question that this presentation addresses is: Are the down tilts which have been optimized for 3G systems also optimal for the 4G system? It is shown that the tilts that are optimal for 3G and voice systems are very good (if not optimal, at least near optimal) for the 4G LTE system. The simulations show that optimal down tilts can substantially reduce the number of basestations (and hence capital investment) needed from the point of view of capacity. Given the capacity constraints in 4G LTE systems, the study suggests that antenna design and down tilts must receive much more than nominal focus for urban areas.

Biography: Asif D. Gandhi is a distinguished member of technical staff in Alcatel-Lucent's Wireless Business Unit. His current focus is on CDMA/EVDO and OFDMA technologies, and he has been the customer technical prime for a Tier 1 customer since the last 2 years. He has led several cross-functional teams to solve complex technical problems in CDMA systems. He specialized expertise is in the area of RF performance, capacity, and coverage of wireless systems. He holds more than 15 U.S. patents and has several other patents pending, all in the area of wireless technologies. Several of these innovations have found their way into Alcatel-Lucent CDMA and UMTS products. Dr. Gandhi has published several journal and conference papers and numerous technical memorandums on the above topics, and is the author of a chapter in the book, "Handbook of CDMA System Design, Engineering and Optimization." He received his bachelor of technology (B. Tech.) degree in electrical engineering from the Indian Institute of Technology (IIT), Mumbai, India, and an M.S. and Ph.D. in electrical and computer engineering from the University of Massachusetts, Amherst.

Location: Babbio Center, Room 319, Stevens Institute of Technology, Hoboken, NJ 07030, [Getting to Stevens Institute of Technology](#) (*Room subject to change*)

Time: 3:00 PM to 4:00 PM

Contact: Mani Iyer (mani.iyer@ieee.org), Yu-Dong Yao (yyao@stevens.edu)

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

April 24, 2015

IEEE PES and IAS present - Trustworthy Critical Infrastructures: Threats, Vulnerabilities and Protection through NERC CIP Compliance

Speaker: Saman Zonouz of Rutgers University

Abstract: The PES and IAS Chapters will sponsor a technical seminar on the topic of Trustworthy Power-Grid Critical infrastructures: Threats, Vulnerabilities and Countermeasures through NERC CIP (North American Electric Reliability Corporation - Critical Infrastructure Protection). The session will be held on Friday, April 24, 2015 at PSE&G's Hadley Road Facility.

Topic: Critical cyber-physical infrastructures, such as the power grid, integrate networks of computational and physical processes to provide the people across the globe with essential functionalities and services. Protecting these critical infrastructures is a vital necessity because the failure of these systems would have a debilitating impact on economic security and public health and safety. In this talk, I will i) focus on real past and potential future threats against critical infrastructures; ii) discuss the challenges in design, implementation, and analysis of security solutions to protect cyber-physical platforms; iii) introduce novel classes of working systems that we have developed to overcome these challenges in practice; and iv) present NERC CIP (North American Electric Reliability Corporation - Critical Infrastructure Protection) requirements and their regulations in current real-world platforms.

Biography: Saman Zonouz is an Assistant Professor in the Electrical and Computer Engineering Department at Rutgers University since September 2014 and the Director of the 4N6 Cyber Security and Forensics Laboratory. Before, he held a tenure-track position at the University of Miami for three years. He has been awarded NSF CAREER Award in 2015, the Best Student Paper Award at IEEE SmartGridComm 2013, Google Security Award, the University EARLY CAREER Research Award in 2012 as well as the Provost Research Award in 2011. The 4N6 research has been funded by over \$5.5M in grants from National Science Foundation (NSF), Office of Naval Research (ONR), Department of Energy – Advanced Research Projects Agency Energy (DOE ARPA-E), WinRiver, Google, and Fortinet Corporation. Saman's current research focuses on systems security and privacy, trustworthy cyber-physical critical infrastructures, binary and malware analysis and reverse engineering, as well as adaptive intrusion tolerance architectures. Saman has served as the chair, program committee member, and a reviewer for international conferences and journals. He obtained his Ph.D. in Computer Science, specifically, intrusion tolerance architectures for the cyber-physical infrastructures, from the University of Illinois at Urbana-Champaign in 2011.

Email: saman.zonouz@rutgers.edu

Address: Rutgers University, 94 Brett Road, Piscataway, New Jersey, United States, 08854-8058

Location: PSE&G - Hadley Road Facility, Auditorium, 4000 Hadley Road, South Plainfield, NJ 07080-1192.

[Getting to PSE&G - Hadley Road Facility](#)

Time: 9:00 AM to 2:00 PM

Contact: Ronald W. Quade (rwquade@ieee.org)

The seminar fee includes lunch, refreshments and handouts. Non-members joining IEEE within 30 days of the seminar will be rebated 50% of the IEEE registration charge.

Four hours of instruction will be provided. If desired, IEEE Continuing Education Units (0.4 CEUs) will be offered for this course - a small fee of \$45 will be required for processing. Please pay attention to the "Registration Fee" and choose the appropriate choice either with or without CEUs.

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

May 3, 2015

IEEE North Jersey Section Awards Banquet

The annual IEEE North Jersey Section Awards Banquet will be held on Sunday, May 4, 2014 at the Birchwood Manor, in Whippany, New Jersey.

A time to relax, unwind and enjoy –

A time to pay tribute to our new Fellows –

A time to honor our Award Winners —

The Annual Section IEEE Awards Reception will be held at the Birchwood Manor, 111 North Jefferson Road, Whippany, NJ this year. The affair is scheduled for Sunday, May 4, 2014 from 3 pm to 6 pm. Spouses and guests are welcome. Tickets are \$35 per person. The capacity of the location is 90 persons, so please make your reservations early. Please use the vTools link to make the reservation. Please register all persons by completing the name, address, and e-mail entries on the form. Payments can be made through vTools, or by sending a check, payable to the IEEE North Jersey Section, with your name(s), address and e-mail to Russell Pepe, 43 Rambling Drive, Scotch Plains, NJ 07076, by Monday April 27, 2014. We will send you a confirmation e-mail upon request.

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

Russell Pepe, Section Chair

Adriaan van Wijngaarden, First Vice-Chair

Ken Oexle, Awards Committee Chair

Location: Birchwood Manor, 111 North Jefferson Road Whippany, NJ 07981 [Getting to Birchwood Manor](#)

Time: 03:00PM to 06:00PM

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

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

[Back to Calendar of Events](#)



Presentations of the years best student papers. \$450 in prizes!

At Fairleigh Dickinson University

Muscarella Building, M105, 1000 River Road, Teaneck, NJ

From 5:30PM until 9PM, March 3rd, 2015.

Cost is free and free food will be served

Submit your paper to d.a.c@ieee.org

RSVP at facebook.com/ieeesac

<https://meetings.vtools.ieee.org/m/31899>



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THE ELISHA YEGAL BAR-NESS
CENTER FOR WIRELESS COMMUNICATIONS
AND SIGNAL PROCESSING RESEARCH

Research Day 2015

Towards 5G Mobile Networks: Research Trends

**Tuesday, March 24, 2015,
NJIT, Campus Center Atrium, University Heights, Newark, NJ 07102**

Agenda

9:30AM - 9:40 Welcoming Remarks

AM Session Faculty Presentations

- 9:40-10:00 Advances in error control strategies for 5G – J. Kliewer
- 10:00-10:20 Cloud processing for 5G systems – O. Simeone
- 10:20-10:40 Direct methods for geolocation over multipath channels – A. Haimovich
- 10:40-11:00 5G is man-made cells, 1G in human cells! – A. Abdi
- 11:00-11:20 Visible-light enhanced 5G system – A. Khreishah

11:20-11:30 BREAK

11:30-12:30 KEYNOTE TALK – 5G Physical layer technologies: Challenges and Opportunities - Reinaldo Valenzuela, Director, Wireless Communications Research Department, Bell Labs, Alcatel-Lucent

12:30–1:30 LUNCH

PM Session Faculty Presentations

- 1:30-1:50 Ultra-short pulse antennas for communication and sensor systems – H. Grebel
- 1:50-2:10 Silicon-Germanium Nanotechnology for Wireless and Radar Applications – L. Tsybeskov
- 2:10-2:30 Reversible data hiding – Y. Shi
- 2:30-2:50 Expediting the Transmission of Data-Center Traffic – R. Rojas-Cessa
- 2:50-3:10 Even-Driven Signal Processing and Communications from Time-Varying and Level Crossing Sampling Perspectives – H. Ge

Co-sponsored by IEEE North Jersey Section COM, IT, IMS and VTS chapters

Please RSVP by March 6 to aretino@njit.edu or (973) 596-8474



IEEE North Jersey Section Course

Project Risk Management in Seven Saturdays

Saturdays, March 7 through April 25, 2014

Seven weekly classes (March 7, 14, 28, April 4, 11, 18, 25, 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 a course entitled "Project Risk Management". Dice.com lists 5000+ Project Risk Manager related jobs in the New York tri-state area daily! This course will help you to break down a master project into manageable tasks, pinpoint possible solutions, and provide information to keep the project under control. Using Microsoft Project 2013 software, you will learn to accomplish various project plans. In addition, it will greatly enhance your business, communications and interpersonal skills.

You will receive the IEEE Certificate of Achievement and earn 2 IEEE Continuing Education Units (CEUs) when you complete the course. You may wish to take the Certification exam in Project Management administered by Project Management Institute from the knowledge that you learned in this course. This is not an exclusive PMP-PMI examination prep course. No PDUs are issued for PMP eligibility. However, past attendees did successfully get the PMP certifications!

Instructor: Marilyn Moux, PMP, ITILv3, Cloud Essentials, CAP and Security+., has been a corporate manager for 20+ years and an IT security professional with experience within the entire Software Development Life Cycle Project Management.

TOPICS

1. Explain the need for a project risk manager
2. Define SOW, PERT, GANTT, CPM, and Scope of the project
3. Identify the team members, resources and plan for the strategy
4. Calculate schedule, budget variances, and monitor project progress
5. Manage risks, changes, estimates, and communications
6. Set a baseline, import tasks from MS Excel, export MS Project files to MS Word
7. Approve updates and conclude a project plan
8. Analyze Cloud Computing, Service Level Agreements, IT Security
9. Present student Projects

WHERE: New Jersey Institute Technology, Newark, New Jersey

WHEN: 7 Saturdays, (March 7, 14, 28, April 4, 11, 18, 25, 2015) 9:00 am to 12:00 pm

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

CONTACT: Donald Hsu, yanyou@hotmail.com,

REGISTRATION: Project Risk Management 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

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IEEE North Jersey Section Course

Big Data Market Research in Seven Saturdays

Saturdays, March 7 through April 25, 2015

Seven weekly classes (March 7, 14, 28, April 4, 11, 18, 25, 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, (March 7, 14, 28, April 4, 11, 18, 25, 2015) 9:00 am to 12:00 pm

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

CONTACT: Donald Hsu, yanyou@hotmail.com

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

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Name: _____ Email address: _____

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

Employer: _____

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