

# THE IEEE NORTH JERSEY SECTION NEWSLETTER

Vol. 62, No. 2

FEBRUARY 2015

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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.

There are a few more things that I would like to highlight. The first is the Milestone dedication event at Bell Labs, Alcatel-Lucent in Murray Hill, held on Dec. 18, 2014. If you were one of the 150 attendees, or if you were unable to attend, there is now a chance to see the highlights on IEEE.tv:

<http://theinstitute.ieee.org/ieee-roundup/opinions/ieee-roundup/ieee-milestone-honors-nearly-a-century-of-breakthroughs-at-bell-labs>

An alternative to typing this rather long link is to search for "IEEE Bell Labs Milestone".

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](mailto:avw@ieee.org) or [alw@research.bell-labs.com](mailto:alw@research.bell-labs.com).

Sincerely,  
 Adriaan J. van Wijngaarden  
 Chair, IEEE North Jersey Section

### A Note from the Chair

The February issue of our Newsletter is ready and we hope that everyone will receive an electronic version in good order. This very much depends on the snow storm, and the resilience of the electric power grid and communication infrastructure. Hopefully there will not be any major disruptions.

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

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## 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	Feb. 4	NJIT, Newark
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](mailto:avw@ieee.org)) and Naresh Chand, the Section's Nominations Committee Chair ([chandnaresh@gmail.com](mailto: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](mailto: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](mailto:rtax@verizon.net)) and Adriaan J. van Wijngaarden ([avw@ieee.org](mailto: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](mailto:zmao@fdu.edu)) and/or Kai T. Chen ([k.t.chen@ieee.org](mailto: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](mailto:john.taylor1204@gmail.com)), Adriaan van Wijngaarden ([avw@ieee.org](mailto:avw@ieee.org)), and/or Daniel Cerone ([d.a.c@ieee.org](mailto: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](mailto:gd@ieee.org)) and/or Adriaan van Wijngaarden ([avw@ieee.org](mailto: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](mailto:rcpepe@ieee.org)) and/or Adriaan van Wijngaarden ([avw@ieee.org](mailto: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](mailto:zhao@fdu.edu)) and/or Howard Leach ([h.leach@ieee.org](mailto: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](mailto:k.oexle@ieee.org)) and/or Adriaan van Wijngaarden ([avw@ieee.org](mailto: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](mailto:k.t.chen@ieee.org)) and/or Adriaan van Wijngaarden ([avw@ieee.org](mailto: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.

### Home Workshops

I wonder if there are still home workshops, places in the basement or a nearby garage where a father and kids make things together. Judging from what I see going on in classrooms and the lack of hand skills in young kids.... I am very doubtful about this time-honored tradition of learning at the knees of one's parents. Compounding this is the almost total disappearance of woodshops in elementary schools. Are we at war with our hands?

My Dad was a subterranean creature, always downstairs in our little house, working in the basement workshop – a magical place we built together one autumn weekend many years ago. I remember all the math involved – measuring out the working surfaces, shelf and storage space, and cutting and assembling it all. From my early years through college, Dad and I worked together on many repair and building projects. I go there often in my dreams.

Working with tools was always about taking responsibility, being able to fix things and doing something useful with what I was learning in school. It was there in that little workshop that Dad and I repaired TVs, radios, electric appliances and anything else. My suite of activities in Head and Hands 101 also included other activities like running electric circuits, plumbing, car repair, painting and cement making. By age ten I could do much of this.

I remember my daughter asking one day, where did the old step stool in the pantry come from? I replied I had made it for grandmother in my eighth grade shop class ... as a Mother's Day gift. She was stunned. I took advantage of the situation and walked her around the house, pointing out other wooden artifacts I had created. With wide eyes she asked how did I know what to do to make it? I explained it is something you acquire by watching, listening and doing. No books, lots of math to measure the stuff, some cutting, gluing, and nailing. Sand it when you are done and varnish it to protect the wood's surface. She is still amazed her ancient old father could do this in elementary school.

It was not so special to me and the kids I grew up with. Most of us had fathers who were handy, and had some sort of little workspace where these ancient arts could be practiced. My buddy Jim, at age 14, was quite a welder in his Dad's welding shop. I learned about welding from him. When I got to engineering college everybody maintained their own cars and made repairs on the fly. In fact, the school parking lots looked like a montage of hybridized cars, pieced together as budgets would allow. Many of us spent more money on our cars in a year than we did on tuition (NCE, now part of NJIT, was \$235 a semester, and books were another \$100).

In college labs, we were quite versed in building electrical equipment as almost all of us had made motors or repaired electrical things in our youth. It seems like such a different time today – much less discrete and more integrated, making it perhaps harder for kids to learn through experimentation; and for shade-tree mechanics to emerge.

One thing I remember most vividly about that home workshop is the time I spent with my father, getting to know him as a

person; the discussions; the laughter; and the shared satisfaction of making something work again. Although Dad was not an engineer, he worked with them and knew what would be expected of me....how I would lead others in teams, be responsible for their safety, and be required to explain the work to be done in detail ... and he was right. There in the workshop Dad and I had many discussions about my choice of engineering school and what I might major in, with me ultimately deciding upon electrical engineering at NCE.

When I married, the first thing I did was build my own basement workshop. My annual holiday gifts from Dad were almost always tools. He seemed to know exactly when I would need what tools. In between, I would receive unusual gifts – like the time he gave me several old coffee cans filled with odd-ball electric fittings for home ceiling lights. The old house I bought, and still live in today, had a potpourri of ceiling fixtures in every room, so those cans of special adaptors and such was just the thing I needed.

Now I have all his tools in my workshop, including some from my grandfather. When I need a little guidance about some tricky repairs at the house, I just hold some of Dad's tools and think about our times in the old workshop ... and in a little while, the answer comes.

\*\*\*\*\*

How can kids breeze through their early years missing that element of head and hands learning, analyzing problems, and developing a discipline for problem solving? It pays such dividends later in life. Are we afraid they might chose a blue-collar job and not go to college, so we erase any youthful excursions into the physical world? Are parents less handy today, so the kids miss out on the joy of interacting with their parents?

When I was doing robotics research, and some early work in dexterous hands, I could not help being impressed with our manual capabilities. Over 50% of the volume of the frontal lobes of the brain is dedicated for the use of our hands. There is a reason we have them; and they are meant to work with the rest of our problem-solving processes. Modern brain-based research is continually re-affirming the powerful learning connection between head and hands. When will our schools start instituting much more of this? This is what STEM is supposed to be all about, but it is painfully slow. As engineers we certainly can appreciate this; and we can help young folks discover the joy of working with their hands.

Talk to you again soon...

Harry

Harry T. Roman  
Life Senior Member  
IEEE North Jersey Section

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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](mailto:listserv@listserv.ieee.org), with the body containing “subscribe northjerseypublic”.

To unsubscribe, send an email to: [listserv@listserv.ieee.org](mailto: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](http://www.facebook.com/pages/IEEE-North-Jersey-Section)

Follow us on Twitter at: [twitter.com/ieeenorthjersey](http://twitter.com/ieeenorthjersey).

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

## 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](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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## 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](mailto: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 ([lloscut@stevens.edu](mailto:lloscut@stevens.edu)).

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## Calendar of Events

- February 4, 6:00 PM to 9:00 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 ([avw@ieee.org](mailto:avw@ieee.org)), [Read More...](#)
- February 10, 2:00 PM to 3:00 PM:** IEEE IT, COMSOC, VTS – Information-Estimation Analysis of the Intersymbol Interference Channel – Prof. Shlomo Shamai (Technion, Israel)  
**Location:** Bell Labs, Alcatel-Lucent, Main Building, Room 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974,  
[Getting to Bell Labs](#)  
**Contact:** Adriaan van Wijngaarden ([avw@ieee.org](mailto:avw@ieee.org)). [Read More...](#)
- February 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](mailto:rtax@verizon.net) [Read More...](#)
- February 20, 4:45 PM to 6:15 PM - IEEE AP/MTT, ED/CAS -** Recent Developments on Electrostatic Discharge (ESD) Protection of Low-Voltage RF Integrated Circuits - Jun J. Liou of University of Central Florida  
**Location:** NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)  
**Contact:** Ajay Kumar Poddar, (201) 560-3806 ([akpoddar@ieee.org](mailto:akpoddar@ieee.org)), Edip Niver- (973)596-3542 ([edip.niver@njit.edu](mailto:edip.niver@njit.edu)), Durga Misra ([dmisra@njit.edu](mailto:dmisra@njit.edu)) [Read More...](#)
- February 27, 9:00 AM to 2:00 PM:** IEEE PES/IAS - Metal-Clad Switchgear- Mike Dube of Eaton  
**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](mailto:rwquade@ieee.org)) [Read More...](#)
- 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](mailto: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](mailto:avw@ieee.org)) or Kai T. Chen ([k.t.chen@ieee.org](mailto:k.t.chen@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

#### 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!**

- **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

### February 4, 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 at the New Jersey Institute of Technology (NJIT), in Newark, NJ. The meeting will take place in the ECE Building, Room ECE-202, 161, Warren Street, Newark, NJ.

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](mailto:avw@ieee.org)) and/or Kai T. Chen ([k.t.chen@ieee.org](mailto: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](mailto:avw@ieee.org)).

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

### February 10, 2015

#### IEEE IT, COMSOC, VTS present: Information-Estimation Analysis of the Intersymbol Interference Channel

**Speaker:** Shlomo Shamai (Technion)

**Abstract:** Professor Shlomo Shamai (Technion) will give a presentation on estimation analysis of the intersymbol interference channel at Bell Laboratories, Alcatel-Lucent, in Murray Hill, NJ. The meeting will be held in Room 6A-106, which is located near the main entrance behind the Bell Labs Showcase exhibition area. It is not necessary to register as a visitor to access this area.

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](mailto:avw@ieee.org)).

We focus on the classical intersymbol interference (ISI) Gaussian channel, taking an information-estimation view. We impose practically justified finite-alphabet and i.i.d. input constraints. We first consider the conjecture proposed in 1996 by Shamai and Laroia for the achievable rate in this setting. We analytically disprove the conjecture, which does provide an accurate approximation (for standard inputs) but is not

necessarily a lower bound on achievable rates. Moreover, numerical evidence indicates that even a relaxed version of the conjecture does not hold in general. However, we show that for any discrete input distribution, the conjectured lower bound holds in the high-SNR regime. Next, we study two prominent modulation schemes for the ISI channel: single-carrier linear modulation and OFDM (orthogonal frequency division multiplexing). Under finite-alphabet i.i.d. input constraints, the maximum achievable rate offered by each modulation technique is inherently different. Via Information-Estimation relations, we provide new insights on both achievable rates, analytically revealing a fundamental advantage of single-carrier modulation over OFDM.

This is joint work with Yair Carmon, Technion, and Tsachy Weissman, Stanford.

**Biography:** Shlomo Shamai (Shitz) received the B.Sc., M.Sc., and Ph.D. degrees in electrical engineering from the Technion—Israel Institute of Technology, in 1975, 1981 and 1986 respectively. During 1975-1985 he was with the Communications Research Labs in the capacity of a Senior Research Engineer. Since 1986 he is with the Department of Electrical Engineering, Technion-Israel Institute of Technology, where he is now a Technion Distinguished Professor, and holds the William Fondiller Professor of Telecommunications. His research interests encompass a wide spectrum of topics in information theory and statistical communications.

Dr. Shamai (Shitz) is an IEEE Fellow and a Member of the Israeli Academy of Sciences and Humanities and a Foreign Associate of the US National Academy of Engineering. He is the recipient of the 2014 Rothschild Prize in Mathematics/Computer Sciences and Engineering and the 2011 Claude E. Shannon Award. He has been awarded the 1999 Van der Pol Gold Medal of the Union Radio Scientifique Internationale (URSI), and is a co-recipient of the 2000 IEEE Donald G. Fink Prize Paper Award, the 2003 and 2004 joint IT/COM societies paper award, the 2007 IEEE Information Theory Society Paper Award, the 2009 European Commission FP7, Network of Excellence in Wireless COMMUNICATIONS (NEWCOM++) Best Paper Award, and the 2010 Thomson Reuters Award for International Excellence in Scientific Research. He is also the recipient of 1985 Alon Grant for distinguished young scientists and the 2000 Technion Henry Taub Prize for Excellence in Research. He has served as Associate Editor for the Shannon Theory of the IEEE Transactions on Information Theory, and has also served on the Board of Governors of the Information Theory Society. He is a member of the Executive Editorial Board of the IEEE Transactions on Information Theory.

**Location:** Bell Labs, Alcatel-Lucent,, Room 6A-106, 600 Mountain Ave, Murray Hill, NJ 07974. [Getting to Bell Labs](#)

It is not necessary to register as a visitor to access this area. Everyone is welcome to attend this meeting.

**Time:** 2:00PM to 3:00PM

**Contact:** Adriaan van Wijngaarden ([avw@ieee.org](mailto:avw@ieee.org))

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

## February 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](mailto:rtax@verizon.net)

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

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## February 12, 2015

### IEEE CNNNJ – Consulting Rates

**Speaker:** Jim Boyd, XL Research, Tom Russell, independent consultant, and Robert Walker, RD Walker Engineering.

**Abstract:** Setting Your Consulting Rate – Is there a Right Way?

On Thursday, February 12, 2015, the IEEE Consultants' Network of Northern NJ ([www.TechnologyOnTap.org](http://www.TechnologyOnTap.org)) will present a panel discussion hosted by Network members.

The IEEE Consultants' Network of Northern NJ will hold a discussion and workshop on setting fees for consulting services. Experienced members of the Northern NJ Consultants' Network, with many years of consulting practice under their belts, will serve as panelists.

By popular demand, we are presenting this hot topic once again. The most prevalent dilemma among independent technology consultants, both novices and veteran consultants alike, is deciding how much to charge their next client for their services.

Putting a price tag on oneself can be a daunting and uncertain process: too high a price and you lose a contract. Too low a price and you are giving up the money that you deserve.

During the workshop, consultants from the Northern NJ Consultants' Network will discuss the various methods that they have used in their practices. Among the topics to be covered:

- Data and Charts for range of prices charged by various specialties;
- Flat fee pricing vs. Time & Materials pricing;
- The Contract Engineer vs. the Expert Consultant;
- Street Smarts in Price Determination;
- Maximizing the Price and Profit;
- Negotiation Factor: To Haggle or Not to Haggle.

Audience participation and questions will be welcomed.

#### Biographies

**Jim Boyd** specializes in custom hardware and software design of PIC-microcontroller-based products for consumer and industrial applications. Since forming XL Research ([www.XLResearch.com](http://www.XLResearch.com)) in 1978, he has delivered real-time controller designs used in such products as cordless telephones, experimental solar homes, high-speed printing machinery, fire alarm systems and a multiple processor control system for a US prison. Jim can be reached at (973) 584 0329 or at [atj.boyd@xlresearch.com](mailto:atj.boyd@xlresearch.com).

**Tom Russell** is an independent consultant focused on the design of electronic and electromechanical devices using a variety of microcontrollers, including Microchip PIC, Texas Instruments MSP430, ARM Cortex M and Lattice FPGA, as well as Linux, Arduino and mbed platforms. Projects include a device to measure the pressure and flow of cerebrospinal fluid in patients with hydrocephalus, an automotive fuel pump controller, a railway communications meter, and test sets for aircraft components. He is currently supporting the development of a novel photovoltaic module and tracking system for a start-up company. Tom can be contacted at [atcrussell@ieee.org](mailto:atcrussell@ieee.org).

**Robert Walker** of RD Walker Engineering has been offering analog and digital circuit design services since 1987. His expertise includes communication, sensing, conditioning and control equipment, utilizing discrete design as well as embedded controllers and FPGAs. He specializes in communication systems and develops equipment for telemetry and power line teleprotection. He offers complete product development services, comprised of production assistance, product reviews and debugging, as well as hardware/firmware integration. Contact him at [robert@rdwalker.com](mailto:robert@rdwalker.com), 973-728-0344.

**ABOUT THE NETWORK:** Founded in 1992, the IEEE Consultants Network of Northern NJ encourages and pro-motes 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 [www.TechnologyOnTap.org](http://www.TechnologyOnTap.org).

ALL ARE WELCOME!



No fees or registration required.

**Location:** 30 East Hanover Avenue Whippany, NJ 07981

(973) 285-6930, [Getting to Morris County Library](#)

**Time:** 6:30 PM to 8:30 PM

**Contact:** Robert Walker, 973-728-0344, or visit our website, [www.TechnologyOnTap.org](http://www.TechnologyOnTap.org).

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

[Back to Calendar of Events](#)

**February 20, 2015**

**AP/MTT, ED/CAS, ECE Dept, NJIT  
present: Outlook and Challenges of  
Electrostatic Discharge (ESD) Protection  
of Modern and Future Integrated  
Circuits**

**Speaker:** Juin J. Liou of University of Central Florida

**Abstract:** Electrostatic discharge (ESD) is one of the most prevalent threats to the reliability of electronic components. It is an event in which a finite amount of charge is transferred from one object (i.e., human body) to the other (i.e., microchip). This process can result in a very high current passing through the microchip within a very short period of time, and hence more than 35% of chip damages can be attributed to the ESD event. As such, designing on-chip ESD structures to protect integrated circuits against the ESD stress is a high priority in the semiconductor industry. The continuing advancement in MOS processing technology makes the ESD-induced failures even more prominent. In fact, many semiconductor companies worldwide are having difficulties in meeting the increasingly stringent ESD protection requirements for various electronics applications, and one can predict with certainty that the availability of effective and robust ESD protection solutions will become a critical and essential factor to the well-being and commercialization of modern and future electronics. An overview on the ESD sources, models, protection schemes, and testing will first be given in this talk. This is followed by presenting the challenges of designing and realizing ESD protection solutions for integrated circuits in Si CMOS, Si BiCMOS, GaAs, GaN, and emerging technologies. Challenges and difficulties associated with the ESD design and optimization for these technologies will be addressed.

**Biography:** Juin J. Liou received the B.S. (honors), M.S., and Ph.D. degrees in electrical engineering from the University of Florida, Gainesville, in 1982, 1983, and 1987, respectively. In 1987, he joined the Department of Electrical and Computer Engineering at the University of Central Florida (UCF), Orlando, Florida where he is now the UCF Pegasus Distinguished Professor and Lockheed Martin St. Laurent Professor of Engineering. His current research interests are Micro/nanoelectronics computer-aided design, RF device modeling and simulation, and electrostatic discharge (ESD) protection design and simulation.

Dr. Liou holds 8 U.S. patents (4 more filed and pending), and has published 10 books (3 more in press), more than 270 journal papers (including 18 invited review articles), and more than 220 papers (including more than 90 keynote and invited papers) in international and national conference proceedings. He has been awarded more than \$14.0 million of research contracts and grants from federal agencies (i.e., NSF, DARPA, Navy, Air Force, NASA, NIST), state government, and industry (i.e., Semiconductor Research Corp., Intel Corp., Intersil Corp., Lucent Technologies, Alcatel Space, Conexant Systems, Texas Instruments, Fairchild Semiconductor, National Semiconductor, Analog Devices, Maxim Integrated Systems, Allegro Microsystems, RF Micro Device, Lockheed Martin), and has held consulting positions with research laboratories and companies in the United States, China, Japan, Taiwan, and Singapore. In addition, Dr. Liou has served as a technical reviewer for various journals and publishers, general chair or technical program chair for a large number of international conferences, regional editor (in USA, Canada and South America) of the Microelectronics Reliability journal, and guest editor of 7 special issues in the IEEE Journal of Emerging and Selected Topics in Circuits and Systems, Microelectronics Reliability, Solid-State Electronics, World Scientific Journal, and International Journal of Antennas and Propagation.

Dr. Liou received ten different awards on excellence in teaching and research from the University of Central Florida (UCF) and six different awards from the IEEE. Among them, he was awarded the UCF Pegasus Distinguished Professor (2009) – the highest honor bestowed to a faculty member at UCF, UCF Distinguished Researcher Award (four times: 1992, 1998, 2002, 2009) – the most of any faculty in the history of UCF, UCF Research Incentive Award (three times: 2000, 2005, 2010), UCF Trustee Chair Professor (2002), IEEE Joseph M. Biedenbach Outstanding Engineering Educator Award in 2004 for exemplary engineering teaching, research, and international collaboration, and IEEE Electron Devices Society Education Award in 2014 for promoting and inspiring global education and learning in the field of electron devices. His other honors are Fellow of IEEE, Fellow of IET, Fellow of AAAS, Fellow of Singapore Institute of Manufacturing Technology, Fellow of UCF-Analog Devices, Distinguished Lecturer of IEEE Electron Device Society (EDS), and Distinguished Lecturer of National Science Council. He holds several honorary professorships, including the Chang Jiang Scholar Endowed Professor of Ministry of Education, China – the highest honorary professorship in China, NSVL Distinguished Professor of National Semiconductor Corp., USA, International Honorary Chair Professor of National Taipei University of Technology, Taiwan, Chang Gung Endowed Professor of Chang Gung University, Taiwan, Feng Chia Chair Professor of Feng Chia University, Taiwan, and Chunhui Eminent Scholar of Peking University, China. Dr. Liou was a recipient of U.S. Air Force Fellowship Award and National University Singapore Fellowship Award.

Dr. Liou has served as the IEEE EDS Vice-President of Regions/Chapters, IEEE EDS Treasurer, IEEE EDS Finance



Committee Chair, Member of IEEE EDS Board of Governors, and Member of IEEE EDS Educational Activities Committee.

Email: liou@eecs.ucf.edu

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

**Time:** 4:45PM to 6:15PM

**Contacts:**

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

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

## February 27, 2015

### IEEE PES and IAS present - Metal-Clad Switchgear

**Speaker:** Mike Dube, Eaton

**Abstract:** The PES and IAS Chapters will sponsor a technical seminar on the topic of Metal-Clad Switchgear. The session will be held on Friday, February 27, 2015 at PSE&G's Hadley Road Facility, 4000 Hadley Road, South Plainfield, NJ 07080-1192.

**Topic:** The seminar will cover Metal-Clad Switchgear, including:

- Applicable IEEE Standards
- Metal-Clad Definition
- Metal-Clad Ratings
- Metal-Clad Advantages
- Metal-Clad Design Features
- Arc Resistant Design
- Latest Safety Features
- Metal-Clad Specifications
- Enclosure Options
- Bussing Options

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.

**Biography:** Mike Dube has 46 years of experience in the design and application of metal-clad switchgear. He earned a B.S. in Engineering from Michigan State University. He enjoys his three children and seven grandchildren.

Email: [MichaelVDube@Eaton.com](mailto:MichaelVDube@Eaton.com)

Address: 3900 Dahlman Avenue, Omaha, Nebraska 68107.

**Location:** PSE&G - Hadley Road Facility, Auditorium, 4000 Hadley Road, South Plainfield, NJ 07080, [Getting to PSE&G - Hadley Road Facility](#).

**Time:** 9:00 AM to 2:00 PM:

**Contact:** Ronald W. Quade ([rwquade@ieee.org](mailto: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](#)

## 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](mailto: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](mailto:d.a.c@ieee.org))

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

[Back to Calendar of Events](#)

## 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

## PUBLICATION OF THE NORTH JERSEY SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

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](mailto:avw@ieee.org)); Kai Chen ([k.t.chen@ieee.org](mailto: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](mailto:avw@ieee.org))

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

### “The Art of SpeechCraft Returns to Murray Hill” A Great Success!

*Sponsored by the IEEE North Jersey Section and its Young Professionals Program, Women in Engineering (WIE), Professional Activities Committees for Engineers (PACE), and Membership Development Committee (MDC)*

*By Mani Iyer and Susanne Arney*

The Art of SpeechCraft Returns to Murray Hill, an 8-week seminar series on public speaking was held at Alcatel-Lucent, Bell Labs in Murray Hill, NJ on Mondays, Oct. 6–Nov. 24, 2014, from 5:30 pm until 7:30 pm. The seminar series consisted of eight weekly sessions of invited Educational Speaker presentations and speeches by SpeechCraft participants. The speeches were followed by immediate feedback on what went well and on specific areas for improvement, the primary goal being to motivate the speakers to become even more confident, self-assured speakers. The speech evaluations and feedback were provided by experienced SpeechCraft coordinators and volunteer members of Cosmopolitan Toastmasters and the Murray Hill Speakers Club, both located in Murray Hill. In addition to delivering speeches, the SpeechCraft participants also practiced the arts of great listening and evaluating over the period of eight weeks. Finally, Table Topics sessions offered diverse opportunities for the participants to speak extemporaneously on subjects of interest to Engineers and all.

SpeechCraft participants included Engineers who are IEEE members and guests who work in area companies or in private consulting, as well as students from universities such as NJIT. The seminar series was very well attended, with ten participants, of which eight completed many of the planned speeches and curriculum during the 8-week period.

The participants delivered speeches starting with the “Ice Breaker” in the second session; speeches in subsequent weeks centered on the themes of “Organize Your Speech”, “Get to the Point”, “Your Body Speaks”, “Vocal Variety”, “How To Say It”, and finally “Summing It All Up”. Educational presentations by the SpeechCraft coordinators and volunteers provided valuable tips on how to tailor the speeches to incorporate the above-mentioned themes. In addition, the participants practiced using “Introduce a Speaker” and

“Evaluate a Speaker” modules to polish their introduction and evaluation skills, respectively.

The program could not have been successful without the preparation, leadership, and experience of the SpeechCraft coordinators – Susanne Arney, DTM\*, Brian Cort, ACS\*, ALB\*, David La Bruno, CC\*, Laurie Kaplan, ACB\*, ALB\*, and host, Mani Iyer, ACB\*, ALB\*. Another key to the success of the program was the support of Toastmaster Volunteers – Jorge Aguilar Hernandez ACB\*, CL\* and Vikram Sharda, who fulfilled various roles such as Table Topics Masters, Timers, Speech Evaluators, and General Evaluators.

IEEE North Jersey Section ExCOM member and current Section Chair, Adriaan van Wijngaarden, provided insights into IEEE activities in the North Jersey Section to the SpeechCraft participants and also participated in some of the Table Topics sessions.



Sitting (from left to right): Kirtan Shah, Saiful Hakim, and guest, Master Feng; Standing (from left to right): Mani Iyer, ACB, ALB, Laurie Kaplan, ACB, ALB, I-Fong Wu, Nan Feng, Chun-Nam Yu, George Sexton, Susanne Arney, DTM, David La Bruno, CC, and Fang Deng.

The most important ingredient to the success of the program was the tireless and active participation and commitment to the planned program by seasoned professionals and Speechcrafters Fang Deng, Nan Feng, Saiful Hakim, George Sexton, Kirtan Shah, I-Fong Wu, Ganga Yandamuri, and Chun-Nam Yu.

The actual speech topics were chosen by the SpeechCraft participating Engineers to suit the theme of the week and each speaker’s own style, experience, and background. This enabled them to share a variety of social, economic, technical, business, professional and personal interest topics – thus further developing and enhancing a soft skill required during an Engineer’s day, such as during breaks, lunch, volunteer activities or informal get togethers with suppliers, customers and/or colleagues.

Fang Deng shared very informative speeches on everything you wanted to know on varied topics such as, “Reading: Differences Between China & US”, “How to Make Croissants”, “Tradition and Innovation” and “Oolong Tea”.

Nan Feng’s speeches amused and educated the audience with topics such as “Water in the Sponge” about taking a break

from being a tiger mom, “R-I-C-E” (Rest-Ice-Compression-Elevation) on tips to recover from ankle injury based on her recent personal experience, and “First Day in USA” which was all about one long day’s experience traveling from China that transformed her life.

Saiful Hakim provided great insights and humor from his personal experience growing up in France on topics such as “Skydiving”, “Anonymous Watch Making”, “Eating and Living Healthy”, “Project Management” to deal with time, scope and money matters, “Living on the Oil Drilling Rig”, and “All You Wanted to Know About How Not to Intrude into Personal Space”.

George Sexton brought out his interests and experiences as a financial consultant, Aircraft pilot, and an enthusiast of National Air and Space Museum Udvar-Hazy annex at Dulles airport, and an avid dog owner starting with his speech on “Who Am I? Why Am I Here?”; his strengths in animation and vocal variety came through in his speeches on topics such as “We Are Not Alone”, on the Human Micro biome, “Scary Stuff” on not the Halloween, but on politics and the Ebola virus scare, and “Ubermensch Dog Rescuer”, based on his experience of becoming and adventuring as a dachshund owner in Manhattan.

Kirtan Shah shared his unique experience as a graduate student in Computer Science at New Jersey Institute of Technology, as the President of the Graduate Student Association, and a visiting Bell Labs researcher. He spoke with knowledge and authority on topics such as “Being a Leader”, “Working at Bell Labs”, and “Home Networking and Security”.

I-Fong Wu spoke confidently on many thought provoking topics including “Should Gay Marriage Be Legal?”, “Soon Women Will Rule the World”, “How I Deal with my Teenage Daughter” and “My Very First Experience of Purchasing on My Own”, and “My Kids Want a Pet”.

Ganga Yandamuri spoke with passion on fun topics such as “Apple Picking”, and “Socializing on the Internet”, and serious topics affecting Engineers and all professionals today such as “Gender Inequality”.

Chun-Nam Yu, a Bell Labs Researcher took this opportunity in SpeechCraft to break down difficult technical topics for a non-specialist audience in his speeches entitled “Why I Love Data Mining”, “Big Data”, and “Data Privacy”. He also amused and enlightened the audience with his speeches on topics such as “How I Learnt to Control Stage Fright”, “How to Make a Ceramics Cup”, and “What I Really Like About this SpeechCraft Series”.

The participants expressed their confidence in continuing their journey in public speaking using the Toastmasters International program by joining a Toastmasters club near them since “the mission of a Toastmasters club is to provide a mutually supportive and positive learning environment in which every member has the opportunity to develop communication and leadership skills, which in turn foster self-confidence and personal growth.” The organizers and

participants from IEEE and/or Toastmasters are also very thankful to the IEEE North Jersey Section for sponsoring this successful event which promoted a skill needed for today’s Engineer in a fun and friendly environment!

#### **About the Toastmasters Clubs of Murray Hill:**

Cosmopolitan Toastmasters and the Murray Hill Speakers Club have been helping employees as well as members of the community polish their speaking and leadership abilities for over half a century!

Cosmopolitan Toastmasters meets the 2nd and 4th Tuesdays of each month from 12pm – 1pm.

Murray Hill Speakers Club meets the first, third and fifth (if any) Thursdays of each month from 12:10p m to 1:10 pm as well as the second and fourth Thursdays of each month, from 5:30 pm to 6:30 pm.

All guests are welcome to visit and join both clubs. Check the club websites on the web for contact information. You may also contact any of the coordinators of the SpeechCraft program.

#### **Biographies**

**Susanne Arney**, DTM is the VP Membership of both Cosmopolitan Toastmasters Club and Murray Hill Speakers Club, and served as President of Murray Hill Speakers Club and other officer roles as well as Toastmasters International Area 32 Governor. Susanne is a Bell Labs Fellow and is currently a Senior Director, Enabling Physical Technologies Research in Bell Labs, Alcatel-Lucent.

**Brian Cort**, ACS, ALB is the VP-Public Relations of the Cosmopolitan Toastmasters Club and VP-Education of the Murray Hill Speakers Club. He has served as Past President of both the Murray Hill Speakers Club and Cosmopolitan Toastmasters Club, and as Toastmasters International Area 32 Governor for 2011 to 2012. He is a Distinguished Member of Technical Staff at Alcatel-Lucent, and currently works on 4G Wireless technology.

**Laurie Kaplan**, ACB, ALB, is the VP-Education of the Cosmopolitan Toastmasters Club, having previously served other officer roles. During the last 10 plus years, Laurie has worked for Bowker, CSA, Serials Solutions, and ProQuest in the position of Director, Serials Editorial. All of these companies are part of the same parent company, Cambridge Information Group.

**David La Bruno**, CC, is the President of the Murray Hill Speakers Club (MHSC). He is a Senior Intellectual Property Counsel at Alcatel-Lucent, and currently manages patent prosecution related to the mobile/wireless core network, in particular technology directed to 4G Wireless.

**Mani Iyer**, ACB, ALB, is the President of Cosmopolitan Toastmasters Club having previously served other officer roles. He has also served as the President of the Holmdel Toastmasters Club. Mani is a certified IEEE Wireless Communications Professional (WCP) and a RF Systems Engineer & Architect in the Wireless Division at Alcatel-Lucent.

\* Please see <http://www.toastmasters.org/> to learn more about Toastmasters Educational Designations, e.g., CC/CL Competent Communicator/Leader; ACB/ALB Advanced Communicator Bronze/Advanced Leader Bronze, etc.





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

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

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Cost is **free and free food will be served**

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

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## 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](mailto: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

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

### 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](mailto: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: \_\_\_\_\_

## 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  
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**Treasurer** - Mani Iyer  
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### *Society Chapters*

**Aerospace Electronic Systems Society**  
**Chair** – Goran Djuknic  
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**Antennas and Propagation/Microwave Theory and Techniques Society**  
**Chair** – Ajay Poddar  
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**Vice-Chair** – Edip Niver  
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**Circuits and Systems Society / Electron Devices Society**  
**Chair** – Durga Misra  
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**Communications Society**  
**Chair** – Amit Patel  
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**Computer Society**  
**Chair** – Hanna (Hong) Zhao  
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**Controls Society**  
**Chair** – David Haessig  
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**Engineering in Medicine and Biology Society**  
**Chair** – TBA

**Industrial Applications Society**  
**Chair** – Ken Oexle  
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### **Information Theory Society**

**Chair** – Adriaan J. van Wijngaarden  
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### **Instrumentation Measurement Society**

**Chair** – Emad Farag  
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### **Photonics Society**

**Chair** – Naresh Chand  
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### **Power & Energy Society**

**Chair** – Ronald W. Quade  
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### **Signal Processing Society**

**Chair** – Alfredo Tan  
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### **Systems, Man, and Cybernetics Society**

**Chair** – Mengchu Zhou  
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### **Vehicular Technology Society**

**Chair** – Mani Iyer  
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### *Technical Councils*

#### **Technology Management Council**

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**Co-Chair** – Vaseem Ahmed,  
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### *Affinity Groups*

#### **Consultants Network**

**Chair** – Steven Garfinkel  
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#### **Young Professionals**

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### **Women in Engineering**

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### **LIFE Members**

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### *Committees*

#### **Awards/Recognition**

**Chair** – Ken Oexle  
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#### **Audit Committee**

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### **Education**

#### **Co-Chairs**

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### **Employment Network**

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### **Government and Industry Relations Committee**

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### **Group coordinator / History**

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### **MTT/AP Trade Show and Symposium**

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**TPC Co-Chair** – Ajay Poddar  
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### **Nominations**

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### **PACE**

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### **Pre-University Activities**

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### **Student Activities**

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### **Webmaster**

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### **Industrial Liaison**

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### **Intersection activities**

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### **Legal Activities**

**Chair**– Joel Miller  
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