

# THE IEEE NORTH JERSEY SECTION NEWSLETTER

**Vol. 61, No. 1**

**JANUARY 2014**

## In this Issue

- A Note from the Chair
- METSAC Luncheon Meeting
- Last 2013 EXCOM Meeting held on December 2<sup>nd</sup> at the Hanover Manor
- Schedule of 2014 EXCOM Meetings
- Cool Definitions of Engineering - By Harry T. Roman,
- "The Art of Speechcraft Returns to Murray Hill", A Great Success – by Mani Iyer and Brian Cort
- [Calendar of Events](#)
- Buyer's Edge Shopping service - announcement
- Meeting Announcements
- North Jersey Section Employment Network Announcement
- IEEE North Jersey Section Seeks Committee Members and Section Volunteers
- How to subscribe to this Newsletter if you are not an IEEE North Jersey Member?
- New Members of the IEEE North Jersey Section

As I mentioned in past Newsletters, my focus for 2014 will be with the Pre-University Committee, Student Activities Committee (SAC) and Women in Engineering (WIE). I want to promote STEM (Science, Technology, Engineering and Math) in the North Jersey Section in 2014. These committees can use your help. If you are considering a volunteer position with the North Jersey Section, I would strongly encourage you to consider one of these Committees.

In 2013, I announced that we planned to write a letter to be sent to our State and Federal Politicians. The letter is intended to notify our Government Officials about the loss of technical jobs in New Jersey. We want our IEEE Members to be employed with meaningful, high-paying jobs. The North Jersey Section has the support of IEEE-USA. The final draft of this letter is being circulated. We are now in the process of putting together the distribution to the appropriate people in our Government. A copy of the letter will be printed in a subsequent Newsletter. We encourage our Membership to also send this letter or a personalized version of it to their local Government Officials. Please look for this letter in a future Newsletter.

Sincerely,

Russell C. Pepe

Chair, IEEE North Jersey Section

201-960-6796, [rcpepe@ieee.org](mailto:rcpepe@ieee.org) or [atm\\_pepe@yahoo.com](mailto:atm_pepe@yahoo.com)

## A Note from the Chair

Happy New Year! Welcome back. I want to wish everyone a very healthy, happy and prosperous 2014.

2014 is the 60th Anniversary of the North Jersey Section. It is also the 350th Anniversary of the State of New Jersey. Keep reading the Newsletters to learn about celebrations planned for our 60th Anniversary. We plan to coordinate some activities with the State, as well.

I want to invite our Membership to volunteer. Involvement in the IEEE North Jersey Section is a great way to network. We have several positions open. Many of our Technical Society Chairs and Committee Chairs can use assistance. Our first EXCOM Meeting in 2014 will be held at Alcatel-Lucent (Bell Labs) in Murray Hill on Wednesday, January 8 at 7:00 pm (free buffet dinner served at 6:00 pm). Come and join us; all are welcome.

We are in the process of finalizing two new Technical Societies in the North Jersey Section, namely the IT Society and the EMC Society. I want to thank our future Chairs for both Societies for their work in establishing these Societies.

## The Tellers Committee of the IEEE North Jersey Section Announces the Election of its 2014 Executive Committee Officers

The following officers will begin their terms in January of 2014.

|                          |                         |
|--------------------------|-------------------------|
| <b>Chair:</b>            | Russell Pepe            |
| <b>1st Vice-Chair:</b>   | Adriaan van Wijngaarden |
| <b>2nd Vice-Chair:</b>   | Ajay Poddar             |
| <b>Secretary:</b>        | Chris Peckham           |
| <b>Treasurer:</b>        | Kalyan Mondal           |
| <b>Members-at-Large:</b> | Mengchu Zhou            |
|                          | Goran Djuknic           |
|                          | John C. Taylor          |

**Vol. 61, No. 1**



**JANUARY 2014**

## METSAC Luncheon Meeting

The IEEE Metropolitan Section Activities Council (METSAC) held its annual planning luncheon at Del'Arte Restaurant in Orangeburg, NY on December 7. The meeting is primarily a planning meeting for the upcoming year. This year was an election year for METSAC. Krishnamurthy (Raghu) Raghunandan, who was the Chair of the Jersey Coast Section in 2013, was elected METSAC Chair for 2014. We all congratulate Raghu on his appointment.

## Last 2013 EXCOM Meeting held on December 2, at the Hanover Manor.

At the last EXCOM meeting in 2013, Russell Pepe, Chairman, gave a summary of the Section's accomplishments in 2013. He thanked everyone for their participation and wished them a safe and enjoyable holiday season. Shown below are those that attended.



From left to right: Russell Pepe, Kirit Dixit, Har Dayal, Steve Majkowski, David Haessig, Adriaan van Wijngaarden, Goran Djuknic, and Joel Miller.



From left to right: Durga Misra, Mani Iyer, Amit Patel, Krishna Raghunandan David Yee, and Mrs. Raghunandan



From left to right: Emad Farag, Jean-Paul Israel, Yu-Dong Yao, Mengchu Zhou, Hanna Zhao, DD??, and Fred Chichester.



From left to right: Daniel Cerone, Richard Tax, Ken Oxele, Anisha Apte, Ajay Poddar, Naresh Chand, and Bala Prasanna

## The 2014 EXCOM meetings are now in vTools - the schedule is as follows -

|     |       |                         |
|-----|-------|-------------------------|
| Wed | Jan 8 | Bell Labs, Murray Hills |
| Wed | Feb 5 | NJIT, Newark            |
| Wed | Mar 5 | Clifton Library         |
| Wed | Apr 2 | Bel Labs, Murray Hills  |
| Sun | May 4 | Birchwood Manor         |
| Wed | Jun 4 | Clifton Library         |
| Wed | Aug 6 | Bell Labs, Murray Hills |
| Wed | Sep 3 | Clifton Library         |
| Wed | Oct 1 | NJIT, Newark            |
| Wed | Nov 5 | Clifton Library         |
|     | Dec   | TBD                     |

## Cool Definitions of Engineering

by Harry T. Roman, Senior Member, IEEE (North Jersey Section)

For as long as I have practiced engineering, and even in retirement, I have had the pleasure of visiting schools and talking about engineering to interested students. In this pursuit, I have compiled a wide variety of definitions of engineering; and here I would like to share some of the ones I think stand out...being really cool.... so here they are.

*To make contributions of this kind, the engineer requires the imagination to visualize the needs of society and to appreciate what is possible as well as the technological and broad social understanding to bring his vision to reality.*

-- Sir Eric Ashby, 1958

\*\*\*\*\*

*The engineer has been, and is, a maker of history.*

-- James Kip Finch, 1960

\*\*\*\*\*

*Engineers operate at the interface between science and society.*

-- Dean Gordon Brown, MIT,

1962

\*\*\*\*\*

*The story of civilization is, in a sense, the story of engineering—that long arduous struggle to make the forces of nature work for man's good.*

-- L. Sprague De Camp, 1963

\*\*\*\*\*

*Scientists study the world at it is, engineers create the world that never has been.*

-- Theodore Von Karman

\*\*\*\*\*

*To the engineer falls the job of clothing the bare bones of science with life, comfort, and hope.*

--Herbert Hoover

\*\*\*\*\*

*Science is about understanding the origins, nature, and behavior of the universe and all it contains; engineering is about solving problems by rearranging the stuff of the world to make new things.*

--Henry Petroski, 2010

If you have the opportunity to work with young folks, talk to them about engineering-tell them the great things we do and have done. They will want to hear what you have to say and so will their teachers. Better yet, bring some things to class you have worked on. Students love to touch and discuss “technical props”. Show them a slide rule, and then show them a smart phone and laptop--discuss how we engineers designed those advanced tools as well.

Toot our engineering horn and show them how the math and science when used properly are a huge force for doing good things in the world. Tell them how engineers are:

- Builders of Civilization
- Creators of Wealth
- Organizers of Society
- Agents of Change
- Leaders and Developers of People
- Project Managers
- Inventors and Innovators
- Entrepreneurs
- Continuous Learners

Talk to you again soon.....

## Harry

Harry T. Roman  
Senior Member, IEEE  
North Jersey Section

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

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

- **By Mani Iyer & Brian Cort**

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 Fridays, Oct. 5-Nov. 22, 2013, from noon until 1:30 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 duration 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 or guests who work in area companies or in private consulting, as well as students from Universities such as the Stevens Institute of Technology in Hoboken. The seminar series was very well attended, with seventeen to twenty participants attending several sessions, of which eleven completed the majority of the planned speeches and curriculum during the 8-week period.

The participants delivered speeches starting with the “Ice Breaker” in the second session, followed by 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 - Brian Cort, ACS\*, ALB\*, Susanne Arney, ACB\*, ALB\*, David La Bruno, CC\*, CL\*, Holly Anderson, CC\*, CL\*, Rebecca George, ACB\*, ALB\*, and host, Mani Iyer, ACB\*, CL\*. Another key to the success of the program was the support of Toastmaster Volunteers – Jorge Aguilar Hernandez, Vikas Batra, Ralph Coviello, Jacquiline Jacob, Deepthi Paruchuri, Vikram Sharda, George Sun, Shiva Puttappa, and Uma Mahehwara Rao Samudrala Venkata who

fulfilled various roles such as Educational presenters, timers, Speech evaluators, and General evaluators.

IEEE North Jersey Section ExCOM members including Russell Pepe, Kirit Dixit, Adrian van Wijngaarden, Durga Misra, and Zhiwei Mao provided insights into IEEE activities in the North Jersey Section to the SpeechCraft participants and also participated in some of the Table Topics sessions and Speech evaluations.

The most important ingredient to the success of the program was the tireless and active participation and completion of most of the planned program by seasoned professionals Dave Bloom, Maureen Doran, Emad Farag, Vladimir Kolesnikov, Qi Liao, Shi-Min Qian, Wolfgang Schesing, Peter Smith, Bill Steinbrunn and Alex Xie. Another segment of enthusiastic support and participation came from Graduate student members, Alireza Louni, Mohsen Mosleh, and Ebrahim Safavi, who traveled from as far as Stevens Institute of Technology in Hoboken to attend a multitude of the sessions.



Sitting from left to right: coordinators: Brian Cort, ACS, ALB (Lead), Mani Iyer ACS, CL (Host), Susanne Arney, ACB, ALB and David La Bruno, CC, CL.

Standing Volunteer & Participants (L to R): Jorge Aguilar Hernandez, ACB (Cosmopolitan Toastmaster & Volunteer), Alex Xie, Wolfgang Schesing, David Bloom, Peter Smith, Emad Farag, Shi-Min Qian, Vladimir Kolesnikov and Maureen Doran.

The actual speech topics were chosen by the SpeechCraft participating Engineers to suit the theme of the week and the 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 at breaks, lunch, volunteer activities or informal get togethers with suppliers, customers and/or colleagues.

- Dave Bloom's speeches revolved around public service and his experience as an elected councilman in his township, with titles including “Democracy”, “Reflections on Veterans Day”, “Your Vote is a Bargaining Chip”, and “Impromptu Speeches”

- Maureen Doran shared very humorous and informative stories such as, “Glossophobia”, “Fear of Thunderstorms”, “Three Things I learned From my First Job” and “Three

Things You DON'T Want to be Doing on a Hot August Afternoon"

- Emad Farag presented many well researched topics including "Your Cell Phone: A Great Engineering Achievement for Such a Small Device", "Building a Lifelong Relationship with Your Children" and "The History of Languages"

- Vlad Kolesnikov took an intellectual angle in his speeches - "How to Appear Sophisticated and Enjoy It (the Museum)", "Is NSA Spying So bad?", and "How to be a Successful European Dictator" – humorously highlighting Toastmaster techniques that may be used in manipulating the masses

- Qi Lao spoke on many thought provoking topics including "Ich bin ein Berliner", "Misfortune May be A Blessing in Disguise", "Why a Painting Sells for 104 Million?" and "Another ME in the Internet World"

- Mohsen Mosleh broke difficult technical topics down for non-specialist audiences in his speeches entitled "Centralized vs. Decentralized Systems, A General Theme in Many Complex Systems", "Telemetry Systems", and "Satellite Systems, the Decision Making Challenges about Satellite Architectures"

- Shi-Min Qian discussed personal experiences from living and traveling around the world – her speech topics included "My Passion for Travel", "Two of My Favorite Reality Shows", and hot button topics such as "U.S. Health Care System from a Canadian perspective", and "Fallacy of the NRA Slogan"

- Ebrahim Safavi spoke on "Thought and Language" - how language shapes our thoughts and how our thoughts change our language

- Wolf Schesing presented "Our Fascination with Alaska", "Pikes Peak", "Craig Vetter - Madman or Genius", "Why My Wife is Always Right", and "My Battle with My Lawn" that took the attentive audience around the world and in and around his house

- Pete Smith shared some valuable tips from dabbling with gadgets and his illustrious career in the Labs in his speeches, including "Video Adventure Games – Using Your Mind Instead of Your Thumbs", "The iPod Touch – Prototype for the iPad", "Career Networking – Start It Now", and "Bell Laboratories – My Story with Horst Stormer"

- Bill Steinbrunn enlightened and amused the participants with his speeches on topics such as "My Life and Career in 3 Minutes", "How to Tune-up a 1965 Cadillac", and "CRIME'S FINE!!" – concerning his local government's attitude about crime

- Alex Xie's speeches kept the audience wanting to hear more on topics such as "Effective Communication Is About Translation", "A Seatbelt Can Save Your Life", "Memorable Moments With My Kids", "How To Keep the Conversation Going", and "Mobile Devices: The Dark Side"

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 on odd (first, third and fifth, if any) Thursdays from 12:10p m to 1:10 pm while on even (second and fourth) Thursdays, the club meets from 5:30 pm to 6:30 pm.

All guests are welcome to both clubs. Check the club websites on the web for contact information.

### Biographies:

**Brian Cort**, ACS, ALB is the VP-Membership of the Murray Hill Speakers Club, current President of Northern Stars Advanced Toastmasters Club, and Past President of both the Murray Hill Speakers Club and Cosmopolitan Toastmasters; He served as Toastmasters 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.

**Susanne Arney**, ACB, ALB is the President of Murray Hill Speakers club, VP Membership of Cosmopolitan Toastmasters club and Northern Stars Advanced Toastmasters club, and Toastmasters Area 32 Governor; Susanne is a Bell Labs Fellow and is currently a Senior Director, Enabling Physical Technologies Research in Bell Labs, Alcatel-Lucent.

**Rebecca George**, ACB, ALB is the immediate past President of Cosmopolitan Toastmasters and current Treasurer of the Cosmopolitan Toastmasters. She works as a Global Human Resources Manager for the Wireless Division at Alcatel-Lucent. Rebecca has been a Toastmaster for 5 years and enjoys helping people realize that honing the skill of public speaking is a gateway to improving all of a person's communication and leadership skills, creating a platform for career growth.

**Holly Anderson**, CC, CL, is the current President of the Cosmopolitan Toastmasters club. She has also served the Cosmopolitan club in various officer roles. Holly is a Human Resources Business Partner supporting the Wireless organization in North America.

**David La Bruno**, CC, CL, is the VP-Education of the Murray Hill Speakers Club (MHSC), having previously served as President of the 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, CL is a member of the Cosmopolitan Toastmasters club and is currently serving as its Vice President, Education. He has also served as the President of the Holmdel Toastmasters club. Mani is a certified IEEE Wireless Communications Professional and an Engineer 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.

## Calendar of Events

- January 8, 6:00 PM to 9:00 PM - IEEE North Jersey Section EXCOM Meeting – Murray Hill**  
**Location:** Bell Laboratories, Alcatel-Lucent, Main Building, Room 6A-106, 600 Mountain Avenue, Murray Hill, NJ 07974, [Getting to Bell Labs](#)  
**Contact:** Russell Pepe (rcpepe@ieee.org), Chris Peckham (cdp@ieee.org) and/or Adriaan van Wijngaarden (avw@ieee.org). [Read More...](#)
- January 9, 6:30 PM to 8:30 PM: - IEEE CNNNJ - Consultants' Network - Networking session**  
**Location:** Morris County Library, 30 East Hanover Ave, Whippany, NJ 07981 [Getting to Morris County Library](#)  
**Contact:** Robert Walker, (r.d.walker@ieee.org) 973-728-0344, or visit [www.TechnologyOnTap.org](http://www.TechnologyOnTap.org) [Read More...](#)
- February 5, 4:45 PM to 6:15 PM - IEEE AP/MTT, ED/CAS - NEMS and MEMS at Furtwangen University - Prof. Ulrich Mescheder, Hochschule Furtwangen – University**  
**Location:** NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)  
**Contact:** Dr.-Ing. Ajay Kumar Poddar, (201) 560-3806 ([akpoddar@ieee.org](mailto:akpoddar@ieee.org)), Prof. Edip Niver- (973)596-3542 ([edip.niver@njit.edu](mailto:edip.niver@njit.edu)) Prof. Durgamadhav Misra ([dmisra@njit.edu](mailto:dmisra@njit.edu)) [Read More...](#)
- February 5, 6:30 PM to 8:45 PM: IEEE North Jersey Section EXCOM Meeting – Newark NJ**  
**Location:** NJIT - ECE 202, 161 Warren Street, Newark, NJ 07102 [Getting to NJIT](#)  
**Contact:** Russell Pepe (rcpepe@ieee.org), Chris Peckham (cdp@ieee.org) and/or Adriaan van Wijngaarden (avw@ieee.org). [Read More...](#)

### 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

**January 8, 2014**

### IEEE North Jersey Section EXCOM meeting - Murray Hill, NJ

**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.

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.

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

**Time:** 6:00PM to 9:00PM

**Contact:** Russell Pepe (rpepe@ieee.org), Chris Peckham (cdp@ieee.org) and/or Adriaan van Wijngaarden (avw@ieee.org).

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

[Back to Calendar of Events](#)

**January 9, 2014**

### IEEE Consultants' Network of Northern NJ hosts Networking Meeting

#### Abstract:

On Thursday, January 9, 2014 the IEEE Consultants' Network of Northern NJ ([www.TechnologyOnTap.org](http://www.TechnologyOnTap.org)) will host a networking session, open to members and guests..

The first CNNNJ meeting of 2014 will take the form of an informal networking session. Meet your fellow Network members, socialize, find out about their interests, their capabilities, their projects. Promote yourself, increase your exposure!

Enjoy the company of like-minded individuals. Familiarity can very beneficial – it may lead to contract assignments between members, discovery of outside leads, and increase in your knowledge about operating a consulting business.

Participate in a discussion about future direction of the Network. Provide your input about the function of the group and the scope of our activities.

The meeting is open to all. Non-members, who are interested in our activities or who are considering joining the group, are strongly encouraged to participate, to socialize, to network and to gain insight into our organization.

#### NOTES

- Please notify us ASAP if you intend to join us: we will provide complimentary pizza for the participants.

- Long-term Network ExCom members, Peter Schutz and Laurie Cox, are retiring from their posts; we thank them for their service.

#### 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](http://www.TechnologyOnTap.org))

All are welcome!

No fees required. RSVP requested - [r.d.walker@ieee.org](mailto:r.d.walker@ieee.org)

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

**Time:** 6:30 - 8:30 PM. Thursday, January 9, 2013

**Contact:** Robert Walker, ([r.d.walker@ieee.org](mailto:r.d.walker@ieee.org))

973-728-0344, or visit [www.TechnologyOnTap.org](http://www.TechnologyOnTap.org)

Registration and more Information:

RSVP: please notify us as soon as possible.

Meeting Participation: Free

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

[Back to Calendar of Events](#)

**February 5, 2014**

### AP/MTT, ED/CAS, ECE Dept, NJIT present:

### NEMS and MEMS at Furtwangen University

**Speaker:** Prof. Ulrich Mescheder, Hochschule Furtwangen – University

**Abstract:** In the presentations research projects in the field of Nano-Electro-Mechanical and Micro-Electro-Mechanical Systems (NEMS and MEMS) at Furtwangen University (Germany) are presented. Especially, results from several

research projects about miniaturized sensors and actuators are discussed.

A concept for integrating self-organized nanoprocessing techniques into common Si-technology (micro-nano-integration) has been developed. Using porous Si a self-organized nanomaterial different applications such as biosensing, passive and active optical filters and bonding based on the Velcro-principle where introduced in the last few years at the Institute for Applied Research.

For MOEMS, a new approach for stress optimization is presented which allows the realization of large active focusing micromirrors based on SOI-technology.

**Biography:** Prof. Ulrich Mescheder was born on March 16, 1957 in Stukenbrock, Germany. He received his Dipl. Phys., Ph.D. (Dr. rer nat) in 1982 after study at University Bielefeld and Marburg (focus on solid state physics). He has been a professor at Hochschule Furtwangen – University Department Computer and Electrical Engineering and Institute for Applied Research, Furtwangen. His research activities includes Microtechnology/Micromachining, Microsystems (MEMS), Nanotechnology. He is a member of German Physical society, Verband deutscher Hochschullehrer and IEEE. He is currently the Executive Vice-president for Research Director Institute for Applied Research, Director Competence Center for Microfabrication and Systemintegration, Baden Württemberg (ZeMiS) Vice-director Graduation school GenMik (University Freiburg) he has worked on „Optoelectrical Measurements of amorphous Silicon“.

From 1985-1991 he was with the Philips Research Laboratory, Hamburg, Department Material Science, Thin film technology. He was a Visiting scientist at the Institute for Microstructuring Technology (IMT) in Berlin, working on technological developments for x-ray-lithography (mask technology and characterisation techniques).

Email: mes@hs-furtwangen.de

Address: Furtwangen, Germany

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

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

**Contact:** Dr.-Ing. Ajay Kumar Poddar, (201) 560-3806 ([akpoddar@ieee.org](mailto:akpoddar@ieee.org))

Prof. Edip Niver- (973)596-3542 ([edip.niver@njit.edu](mailto:edip.niver@njit.edu))

Prof. Durgamadhav Misra ([dmisra@njit.edu](mailto:dmisra@njit.edu))

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

[Back to Calendar of Events](#)

**February 5, 2014**

## IEEE North Jersey Section EXCOM meeting - Newark, NJ

**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. 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.

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

**Time:** 6:00PM to 9:00PM

**Contact:** Russell Pepe ([rcpepe@ieee.org](mailto:rcpepe@ieee.org)), Chris Peckham ([cdp@ieee.org](mailto:cdp@ieee.org)) and/or Adriaan van Wijngaarden ([avw@ieee.org](mailto:avw@ieee.org)).

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

[Back to Calendar of Events](#)

## 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 where we exchange job leads and discuss emerging technologies. You will also have access to low-cost educational opportunities in a variety of topics areas, e.g. Hadoop, Big Data, Python, Cloud, Analytics, and Java. Educational opportunities are flexible and can be expanded to address additional topics of interest.

Please email the chair, Suzanne McIntosh ([SKranjacMcIntosh@yahoo.com](mailto:SKranjacMcIntosh@yahoo.com)) for additional information or to join the LinkedIn group.

[Back to Calendar of Events](#)

## 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 Nominations Committee chair, Amit Patel at [a.j.patel@ieee.org](mailto:a.j.patel@ieee.org). You are welcome to attend the Section's executive committee meeting held the first Wednesday of every month to learn more about volunteer activities that require some help. Please check out the website below for published meeting times and locations. Some committees needing volunteers include the following. Please contact the person indicated for additional information.

**GOLD** (Graduates of the Last Decade) Affinity Group Volunteers and Committee members needed

**Contact:** Sean Kennedy ([sean.kennedy@alcatel-lucent.com](mailto:sean.kennedy@alcatel-lucent.com))

**WIE** (Women in Engineering) Affinity Group Volunteers and Committee members needed –

**Contact:** Zhiwei Mao ([zmiao@fd.edu](mailto:zmiao@fd.edu))

**EMBS** (Engineering in Medicine and Biology Society) is seeking active committee volunteers –

**Contact:** [raquelpc@njit.edu](mailto:raquelpc@njit.edu)

**Computer Society Chapter** Committee Volunteers –

**Contact** [zhao@fd.edu](mailto:zhao@fd.edu)

**Technical Management Council** Committee Volunteers –

**Contact:** [almeida@synergymwave.com](mailto:almeida@synergymwave.com)

**North Jersey Section Awards Committee** Volunteers –

**Contact** [k.oexle@ieee.org](mailto:k.oexle@ieee.org)

**Membership Development Committee** Volunteers –

**Contact** [miyer108@gmail.com](mailto:miyer108@gmail.com)

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.

## 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](https://twitter.com/ieeenorthjersey)

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

[Back to Calendar of Events](#)

## The Montclair Society of Engineers is looking for volunteers

The Montclair Society of Engineers is looking for volunteers to help with the Clifton Regional FIRST Robotics Tournament. The tournament will be held on March 14, 15 and 16.

If you are interested, contact the Montclair Society of Engineers [montclairengineer@yahoo.com](mailto:montclairengineer@yahoo.com) (montclairengineer AT yahoo.com) or call 973-932-0MSE(0673).

Thanks,

Pete Donegan

## Welcome! New Members of the IEEE North Jersey Section

| Full Name           | IEEE Current Grade      |
|---------------------|-------------------------|
| Michael Ajala       | Student Member          |
| Shaun Anyi          | Student Member          |
| Jared Black         | Member                  |
| Al Bojkovic         | Student Member          |
| Bryan Bonnet        | Student Member          |
| Michael Brunetti    | Student Member          |
| Amparo Canaveras    | Graduate Student Member |
| Ritaban Chakravarty | Graduate Student Member |
| Bryan Criscitelli   | Student Member          |
| Giancarlo Cruz      | Student Member          |
| Daniel Gianduso     | Student Member          |
| John Kohlberger     | Member                  |
| Timothy Laux        | Student Member          |
| Rui Li              | Graduate Student Member |
| Xilong Liu          | Graduate Student Member |
| Xiaoyu Lu           | Graduate Student Member |
| Michael Mimo        | Member                  |
| Nnanna Okorie       | Graduate Student Member |
| Michael Pennock     | Member                  |
| Aditya Rawal        | Student Member          |
| Werner Rheeder      | Associate Member        |
| Abbu Sandeep        | Member                  |
| Daniel Sarnelli     | Student Member          |
| Jose Tabago         | Student Member          |
| Jim Vaughan         | Student Member          |
| Yilin Yang          | Student Member          |
| Robb Knie           | Member                  |
| Boris litvin        | Student Member          |

## 2014 IEEE North Jersey Section Volunteer

### *Executive Committee*

**Chair** - Russell Pepe  
rcpepe@ieee.org

**1<sup>st</sup> Vice-Chair** – Adriaan van Wijngaarden  
avw@ieee.org

**2<sup>nd</sup> Vice-Chair** – Ajay Poddar  
akpoddar@synergymwave.com

**Secretary** - Chris Peckham  
cdp@ieee.org

**Treasurer** - Kalyan Mondal  
mondal@fdu.edu

**Member-at-Large**  
Mengchu Zhou – zhou@njit.edu  
Goran Djuknic – gd@ieee.org  
John C Taylor –  
john.taylor1204@gmail.com

**Junior Past Chair** – Naresh Chand  
chandnaresh@gmail.com

**Senior Past Chair** – Amit Patel  
a.j.patel@ieee.org

### *Society Chapters*

**Aerospace Electronic Systems Society**  
**Chair** – Goran Djuknic  
gd@ieee.org

**Vice-Chair** – Naresh Chand  
chandnaresh@gmail.com

**Antennas and Propagation Society/  
Microwave Theory and Techniques  
Society**

**Chair** - Ajay Poddar  
akpoddar@synergymwave.com  
**Vice-Chair** – Edip Niver  
niver@adm.njit.edu

**Circuits and Systems Society /  
Electron Devices Society**  
**Chair** - Durga Misra  
dmisra@njit.edu

**Communications Society**  
**Chair** - Amit Patel  
a.j.patel@ieee.org

**Computer Society**  
**Chair** - Hanna (Hong) Zhao  
zhao@fdu.edu

**Controls Society**  
**Chair** - David Haessig  
davidhaessig@ieee.org

**Engineering in Medicine and Biology  
Society**  
**Chair** - Raquel Perez-Castillejos  
raquelpc@njit.edu

**Industrial Applications Society**  
**Chair** - Ken Oexle  
k.oexle@ieee.org

### **Instrumentation Measurement Society**

**Chair** – Emad Farag  
emad.farag@alcatel-lucent.com  
**Vice-Chair** – Russell Pepe  
rcpepe@ieee.org

**Photonics Society**  
**Chair** – Naresh Chand  
chandnaresh@gmail.com

**Power & Energy Society**  
**Chair** - Ronald W. Quade  
rwquade@ieee.org

**Signal Processing Society**  
**Chair** - Alfredo Tan  
tan@fdu.edu

**Systems, Man, and Cybernetics Society**  
**Co-Chair** – Mike Liechenstein  
itsmikesju@aol.com  
**Co-Chair** – Mengchu Zhou  
zhou@njit.edu

**Vehicular Technology Society**  
**Chair** - Mani Iyer  
mani.iyer@ieee.org

### *Technical Councils*

**Technology Management Council**  
**Chair** - Tony Almeida  
almeida@synergymwave.com

**Affinity Groups**  
**Consultants Network**  
**Chair** - Peter Schutz  
schutzpe@compuserve.com

**GOLD**  
**Chair** - Sean Kennedy  
sean.kennedy@alcatel-lucent.com

**Women in Engineering**  
**Chair** - Zhiwei Mao  
zmao@fdu.edu

**LIFE Members**  
**Chair** - Art Greenberg  
a.h.greenberg@ieee.org

### *Committees*

**Awards/Recognition**  
**Chair** - Ken Oexle  
k.oexle@ieee.org

**Audit Committee**  
**Chair** - Fred Chichester  
fdchichester@gmail.com

**Education**  
**Co-Chairs**  
Donald Hsu – yanyou@hotmail.com  
Kalyan Mondal – mondal@fdu.edu  
Mengchu Zhou – zhou@njit.edu

**Employment Network**  
**Chair** - Suzanne McIntosh  
skranjacmcintosh@yahoo.com

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

**Chair** – Art Greenberg  
a.h.greenberg@ieee.org

**Group coordinator / History**  
**Chair** - Howard Leach  
h.leach@ieee.org

**Membership Development**  
**Chair** - Mani Iyer  
mani.iyer@ieee.org  
**Vice-Chair** - Ajay Poddar  
akpoddar@synergymwave.com

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

**Chair** - Kirit Dixit  
kdixit@ieee.org  
**Vice-Chair** – Har Dayal  
dayalhar@gmail.com  
**TPC Co-Chair** – George Kennall  
gkk@lgsinnovations.com  
**TPC Co-Chair** – Ajay Poddar  
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**Newsletter**  
**Chair** - Anisha Apte  
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**Nominations**  
**Chair** – Amit Patel  
a.j.patel@ieee.org

**PACE**  
**Chair** - Richard Tax  
rtax@verizon.net  
**Co-Chair** – Paul E. Ward  
peward@ieee.org

**Pre-University Activities**  
**Chair** – Steve Majkowski  
steve.majkowski@alcatel-lucent.com  
**Vice-Chair** – Jesse Colby  
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**Student Activities**  
**Chair** -John C Taylor  
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**Vive-Chair** - Daniel Cerone  
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**Webmaster**  
**Chair** – Adriaan van Wijngaarden  
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**Industrial Liaison**  
**Chair**-Kirit Dixit  
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**Intersection activities**  
**Chair**- Amit Patel  
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**Legal Activities**  
Joel Miller  
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