

The



IEEE Newsletter

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

NJ LEOS Chapter:

Nanotube Field-Effect Devices and Beyond: Learning the Physics of Interfaces

On March 1, 2007, the IEEE NJ Lasers And Electro-Optics Chapter together with the Electronic Imaging Center at NJIT will host a talk on "Nanotube Field-Effect Devices and Beyond: Learning the Physics of Interfaces." The speaker will be Professor Slava V. Rotkin.

About the Talk

A new family of semiconductor and metallic nanostructure materials - carbon single-wall nanotubes (SWNTs) - has been in the focus of attention of physicists, material scientists and engineers for more than a decade. Intensive study of SWNT based materials that show superior electronic properties has been followed by the characterization of SWNT device prototypes that outperform many of semiconductor analogs. Thinking of a possible integration of SWNT devices with the Si, we talk about a single aspect of the problem: the physics of the interface of the SWNT materials with the technologically important Si and SiO₂ substrates. Several critical phenomena will be detailed, including charge scattering by the interface polaritons, remote Coulomb impurity scattering and associated SWNT mobility; surface charge trapping and related hysteresis effects, and gate capacitance coupling in single-tube field-effect devices being compared to the nearly ideal SWNT array in the thin-film transistor (TFT) applications.

About the Speaker

Dr. Slava V. Rotkin is the Frank J. Feigl Junior Faculty Scholar and Assistant Professor of Physics at the Physics Department and the Primary Member of the Center for Advanced Materials and Nanotechnology, Lehigh University. He received his MSc (Summa Cum Laude) in 1994 in Optoelectronics and Electronics from the Electro-technical University in St.

Petersburg, Russia and his PhD in Physics and Mathematics in 1997 from Ioffe Institute (St. Petersburg, Russia). He has been at the Lehigh University, Bethlehem, PA, since 2004. Dr. Rotkin is a recipient of scientific awards, including: (2004) Frank J. Feigl Junior Faculty Scholarship; (2000) Beckman Fellowship; (1995) Grant of Government Support Program for Leading Scientific Schools of Russia; (1995) Royal Swedish Academy of Sciences fellowship; (1994-96) President and Government Grant for Young Scientists of Russia. He is a member of IEEE, APS, MRS, ECS and SPIE.

All Welcome!

You do not have to be a member of the IEEE to attend.

Time: 5:00 PM, Thursday, March 1, 2007. Free pizza will be available starting at 4:45 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Directions are available at <http://www.njit.edu>.

Information: Professor H. Grebel, (973) 596-3538, grebel "AT" njit.edu.

Spring 2007 Region 1 GOLD Conference April 27-29 at FDU-Teaneck, NJ

Attention all members, the upcoming regional student paper conference this year will be held locally in the North Jersey Section. It is planned for the weekend of April 27-29 at Fairleigh Dickinson University in Teaneck, NJ. This year's Region 1 GOLD conference will be held jointly with the student conference at the same location.

There will be parallel programs of activities, introduction to GOLD, GOLD affinity group leadership training, a variety of seminars on different topics, a career fair, resume workshops and social events.

The committee is still seeking corporate sponsors and career fair participants, booths are still available, see the website below for contact information.

The details of the program, registration, and pricing for the GOLD conference can be found online at the Region 1 GOLD website linked from here http://ewh.ieee.org/r1/north_jersey/gold

Don't miss this opportunity to participate in a Regional event, locally right here in North Jersey. Register now!

MARCH 2007

March 2007

Volume 53, Number 9

Publication No: USPS 580-500

"The IEEE Newsletter" (North Jersey Section), is published monthly except June and July by The Institute of Electrical and Electronics Engineers, Inc. Headquarters: 3 Park Avenue, 17th Floor, New York, NY 10016-5997. \$1.00 per member per year (included in annual dues) for each member of the North Jersey Section. Periodicals-class postage paid at New York, NY and at additional mailing offices. Postmaster send address changes to: "The IEEE Newsletter", 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. USPS 580-500 (ISSN 1076-3732).

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Deadline for receipt of material is the 1st of the month preceding the month of publication. All communications concerning editorial and business matters, including advertising, should be sent to the Business Manager via e-mail at *k.saracinello "AT" ieee.org* or to *The IEEE Newsletter, c/o Keith Saracinello, 25 Messenger Ln, Ringoes, NJ 08551, (302) 683-7162.*

IEEE NJ SECTION HOME PAGE

<http://web.njit.edu/~ieeenj/>

IEEE NJ SECTION NEWSLETTER HOME PAGE

<http://web.njit.edu/~ieeenj/NEWSLETTER.html>

REPORT ADDRESS CHANGES TO:

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The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7:00 PM. Meetings are open to all members. For information on meeting agenda contact Secretary Russell Pepe at (201) 669-7599, rpepe "AT" att.net.

**North Jersey Spring
2007 Student**

Presentation Contest

The Spring 2007 Student Presentation Contest is coming up! The North Jersey Section will be holding a presentation contest scheduled for March 20, 2007. This contest has been held in years past. Its overwhelming success in generating student participation and interest makes it a fantastic event for up and coming engineers. This year's contest will feature similar prizes (\$\$\$) and have graduate and undergrad categories.

The main focus of the presentation contest is to give students an opportunity to sharpen their communication skills, and help prepare for real life situations as practicing engineers and researchers. Additionally, the North Jersey Section contest provides an excellent chance for students to practice for the Region I Student Paper contest in the spring.

The contest at the North Jersey Section level is also supplemented by awarding cash prizes to the three best presentations in both graduate and undergrad categories. All engineering students are encouraged to participate in submitting team or individual presentations on any project work related to engineering. This local contest does not require students to write a full paper, just a slide-based presentation on technical or non-technical work is sufficient. Senior design projects, lab projects, personal engineering hobbies, engineering policy, etc., are great topics to submit. Moving onto the regional contest requires submitting a short written paper.

The details of contest rules, judging criteria, viable topics for presentations, and abstract form will be same as last year. Also if you would like to get an idea of what topics would be appropriate or how you can prepare your abstract, take a look at winners from past years at the NNJ IEEE SAC homepage

http://ewh.ieee.org/r1/north_jersey/sac/iee.html

This year's North Jersey Section Contest will be open to graduate and undergraduate students and first/second/third place prizes will be awarded in each category of \$100/\$75/\$50. All participants MUST REGISTER by submitting an abstract by filling in the form available at the SAC website to qualify as a contest participant.

Time: 5:30 PM, Tuesday, March 20, 2007.

Place: Room TBD, FDU, Teaneck, NJ.
Directions available at

http://www.fdu.edu/visitorcenter/directions/teaneck_map.html. Free parking is available.

Information: Email the contest organizer, Russell Pepe, at northjerseysac "AT" ieee.org.

IEEE-USA in the News:

**Former IEEE-USA
President Cites
Productivity,
Innovation and
Entrepreneurship as
Career Keys for U.S.
Engineers in
BusinessWeek**

Washington (22 January 2007) - U.S. engineers need to hone their competitive edge through continuing education and focus on productivity, innovation and entrepreneurship to maintain rewarding careers, 2006 IEEE-USA President Dr. Ralph W. Wyndrum Jr. told BusinessWeek magazine.

"America's leadership in technology has underpinned our economic prosperity for the past half century," Wyndrum said.

"But we have no monopoly on smart people, capital investment or the will to succeed. As developing economies use comparative labor cost and other advantages to build competing industries based on mature technologies, the United States can best create new jobs and new opportunity by leading the way with new technology."

"Keeping Research and Leadership at Home," by Duke University's Vivek Wadhwa, looks at what the United States can do to maintain its technological leadership and remain on the cutting edge of innovation.

Wyndrum shared his perspective alongside Intel Chairman Craig Barrett; Charles Vest, president-elect of the National Academy of Engineering; and Rick Rashid, Microsoft senior vice-president of research, among others.

The article is available at

http://www.businessweek.com/smallbiz/content/jan2007/sb20070118_135378.htm

Wyndrum's portion is on page 9.

Contact: Chris McManes
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IEEE North Jersey Section Activities

March 2007

Mar. 1 – “Nanotube Field-Effect Devices and Beyond: Learning the Physics of Interfaces” by Professor Slava V. Rotkin, NJ LEOS Chapter, 5:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Professor H. Grebel, (973) 596-3538, grebel “AT” njit.edu.

Mar. 7 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Russell Pepe at rpepe “AT” att.net.

Mar. 14 – “Engineers Meet: Reflections on Leadership” - NJ PACE & GOLD, 6:30 – 9:00 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward, (973) 790-1625 (PWard1130 “AT” aol.com) or Richard F. Tax, (201) 664-6954 (rftax “AT” verizon.net).

Mar. 14-May 9 – “Project Management” by Dr. Donald Hsu, North Jersey Section, Tuesday Evenings, 8 sessions, 6:30-9:00 PM, NJ International Bulk Mail Center, 80 County Rd, Jersey City, NJ. Donald Hsu (yanyou “AT” hotmail.com).

Mar. 20 – “North Jersey Spring 2007 Student Presentation Contest”, Room TBD, FDU, Teaneck, NJ. Russell Pepe northjerseysac “AT” ieee.org.

Mar. 20 – “GOLD Networking Mixer”, location: see http://ewh.ieee.org/r1/north_jersey/gold, registration required. Amit Patel a.j.patel “AT” ieee.org.

Mar. 26-27 – “10th Communications and Networking Simulation Symposium (CNS 2007)”, see <http://www.scs.org/confernc/springsim/springsim07/springsim07.htm>.

Mar. 29 – “Clients First: Identifying and Focusing on Solving their Pain” by Ed McCauley, NJ Consultants' Network, 7:30 PM, Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. Robert Walker (973) 728-0344 or www.TechnologyOnTap.org.

Mar. 30 – “Mission Critical Power Technical Series - Uninterruptible Power Supplies Seminar” by Kit Killingsworth, NJ IAS/PES, 9:00 AM - 2:00 PM, PSE&G Training Center, 234 Pierson Avenue, Edison NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade “AT” ieee.org.

Upcoming Meetings

Apr. 4 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Russell Pepe at rpepe “AT” att.net.

Apr. 25 – “Global Stability Analysis and Stabilization of Power Amplifiers” by Professor Almudena Suarez, EDS/C&S & MTT-S/AP-S Chapters, 7:00 PM (buffet at 6:15 PM), New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), Har Dayal (973) 633-4618 (BAE Systems), or Dr. Durga Misra (973) 596-5739 (dmisra “AT” njit.edu).

Apr. 27 – “Mission Critical Power Technical Series Generators Seminar”, NJ IAS/PES, 9:00 AM - 2:00 PM, PSE&G Training Center, 234 Pierson Avenue, Edison NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade “AT” ieee.org.

May 6 – “NJ Section Awards Reception” - 3:00 to 6:00 PM at the Birchwood Manor, 111 North Jefferson Rd, Whippany, NJ. Anne Giedlinski (973) 377-3175.

May 25 – “Mission Critical Power Technical Series Paralleling Switchgear Seminar” by Ron Hilbert, NJ IAS/PES, 9:00 AM - 2:00 PM, PSE&G Training Center, 234 Pierson Avenue, Edison NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade “AT” ieee.org.

Members and Non-Members Welcome
PLEASE POST

NJ Section PACE, GOLD:

Engineers Meet: Reflections on Leadership

On Wednesday, March 14, 2007 the North Jersey Section Professional Activities Committee and Graduates of the Last Decade will host a meeting to discuss leadership.

Our guest speaker will be Region 1 IEEE Professional Activities Coordinator, Dr. Robert W. Sadowski.

About the Meeting

The talk is designed to introduce members to PACE activities within the Region and provide an overview of leadership theory and real-world practice. Beginning with a brief overview of professional activities within IEEE Region One, Dr. Sadowski will discuss what PACE is and how members can get involved. The second portion of the talk will be a discussion of leadership traits, techniques, and activities. Although important, these soft-skills are rarely covered in a formal engineering curriculum. The talk contains reflections and real-world examples gathered over twenty years of active military service.

You are encouraged to attend and invite your associates.

About the Speaker

LTC Robert W. Sadowski is currently an associate professor in the Department of Electrical Engineering and Computer Science at the United States Military Academy at West Point where he serves as the Electrical Engineering Program Director. He is a distinguished graduate of U.S. Military Academy and received his MS and PhD in electrical engineering from Stanford University as a Hertz Fellow. He has deployed twice to Iraq designing strategic coalition communications systems. His research interests include non-linear fiber optics, optical information processing and integrated sensor technology. He is a Fannie and John Hertz Fellow, senior member of the IEEE, Eta Kappa Nu, Phi Kappa Phi, and Sigma Xi member.

LTC Sadowski's career has spanned over twenty years where he has served in a variety of command and staff positions from platoon leader in the 82nd Airborne Division to company commander to task force commander during Operation Desert Thunder. He has spent 27 months in Southwest Asia managing Army/joint communications. In 2004, he deployed to the central Baghdad area serving as the Iraq country lead with a mixed team of civilian and military engineers who designed coalition communication upgrades and infrastructure. His military

awards include the Bronze Star and Meritorious service medals.

All Welcome!

Members and students from other professional societies and engineering disciplines are always welcome. We now include members from IEEE, ASME and AEA. For more information about these groups see:

www.aea.org
www.ieeeusa.org
<http://web.njit.edu/~ieeenj/>
www.asme.org/sections/northjersey

Time: 6:30 to 9:00 PM, Wednesday, March 14, 2007. Refreshments will be served.

Place: Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ, (973) 772-5500.

Information: Paul Ward, (973) 790-1625 (PWARD1130 "AT" aol.com) or Richard F. Tax, (201) 664-6954 (rftax "AT" verizon.net).

CARE is the Congressional Advocacy Recruitment Effort. CARE is a voluntary network of IEEE members who are interested in public policy. To help go to www.ieeeusa.org/policy/care/

NJ EDS/C&S & MTT-S/AP-S Ch: **Global Stability Analysis and Stabilization of Power Amplifiers**

On April 25, 2007, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with MTT-S/AP-S and the New Jersey Institute of Technology will host a talk on "Global Stability Analysis and Stabilization of Power Amplifiers." The speaker will be Professor Almudena Suarez.

About the Talk

Power amplifiers often exhibit instabilities giving rise to frequency division by two or oscillations at incommensurate frequencies. These phenomena, observed from a certain level of input power, cannot be detected through a small-signal stability analysis of the circuit. Instead, a large-signal stability analysis must be performed. Other behaviors, like hysteresis and chaotic solutions, can also be obtained when the input power is varied. The qualitative changes in the output-power spectrum are due to bifurcations or qualitative stability changes in the circuit solution or in the number of solutions when the parameter is varied. The talk introduces the local and global stability concepts and the analysis techniques, based on

harmonic balance. The first objective is to allow a good comprehension of the different phenomena. The second objective is to provide practical simulation tools for an efficient prediction and elimination of the undesired behavior. Different approaches for the local-stability analysis of nonlinear regimes will be presented, with emphasis on the pole-zero identification. Then, techniques will be shown for the detection of the most common types of bifurcations in power amplifiers. The final goal will be the stabilization of the circuit and the design corrections in order to suppress the undesired phenomena will also be presented.

For illustration, the simulation tools will be applied to two different switching amplifiers developed at California Institute of Technology. These amplifiers have remarkably high efficiency, but in intermediate input-power range they exhibited different undesired phenomena. The first amplifier is a Class-E/F amplifier, which showed oscillations, hysteresis and chaos. The second amplifier is a Class-E amplifier, which showed jumps in the power transfer curve and sideband noise amplification. After the application of the different techniques, the two amplifiers were globally stabilized for all the expected operating values of the amplifier bias voltage and input power. This was achieved with negligible degradation of the amplifier performance, in terms of output power and drain efficiency. The stable behavior obtained in simulation was experimentally confirmed.

About the Speaker

Almudena Suarez is a Professor at the University of Cantabria Communications Engineering Department and is a MTT-S Distinguished Lecturer.

All Welcome!

You do not have to be a member of the IEEE to attend.

Time: 7:00 PM, Wednesday, April 25, 2007. Free buffet will be starting at 6:15 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Directions are available at <http://www.njit.edu>.

Information: Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), Har Dayal (973) 633-4618 (BAE Systems), or Dr. Durga Misra (973) 596-5739 (dmisra "AT" njit.edu).

NJ Consultants' Network:

Clients First: Identifying and Focusing on Solving their Pain

On Thursday, March 29, 2007, the IEEE Consultants' Network of Northern NJ is pleased to present "Clients First: Identifying and Focusing on Solving their Pain", by Ed McCauley.

About the Talk

Pain & pleasure, in the past, present, and in the future, are fundamental motives that cause people to act.

For 18 years, Bottom Line Technologies Inc has worked with business owners and senior executives:

- Challenged to meet aggressive, sometimes nightmare schedules.
- Struggling with technologies they lack the experience to effectively manage.
- Frustrated by a lack of resources to achieve their goals.
- Risking lost market share, lost contracts, customers, or worse should they fail.

Do these folks sound like they're in pain? You bet they are!

BLT designs chips, boards, and complete systems for commercial, industrial, and military Clients seriously committed to quality product development.

Come hear BLT's president, Ed McCauley, share how they execute on their prime directive: "Acting in the Client's best interest" by understanding and treating their Client's pain.

During the second half of the meeting, Chris Mesibov of the IEEE Consultants' Network of Northern NJ will be presenting a brief overview of his consulting practice, Techgenesis. Chris can be emailed at chris "AT" techgenesis1.com or reached by phone at (914) 584-2659.

About the Speaker

Ed McCauley is President of BLT.

About the Consultants' Network

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

All Welcome!

Everyone welcome. No registration needed. Free admission.

Time: 7:30 PM, Thursday, March 29, 2007.

Place: Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. (Entrance at rear of building).

Information: For directions and up-to-date meeting status, call Robert Walker

(973) 728-0344 or visit our website at www.TechnologyOnTap.org. To download a map to KDI, go to: <http://www.mcekdi-integrated.com/directions.htm>.

IEEE Personal Email

Alias

The IEEE offers a personal e-mail Alias service in which IEEE members can register or instantly update a personal alias of their choice (subject to availability and on a "first-come, first-served" basis). Messages addressed to the alias@ieee.org will automatically be forwarded to the members real Internet e-mail address at their ISP. Over 100,000 members received more than 200 million messages using this service in 2003.

Free Virus Scanning

9,000,000 Virus-Infected Messages Detected in 2005!

The virus-scanning feature helps prevent you from receiving viruses in the first place. Attachments within e-mail sent to your IEEE alias will be scanned, and if a virus is found, the attachment will be deleted. An alert is then sent to both the sender and recipient. While the IEEE cannot guarantee that every virus will be caught, the virus scanning software is updated daily. A service like this typically costs \$20 to \$30 per year, but as an IEEE member, it is yours FREE of charge.

Free Spam Tagging

Members have the option of adding a new feature to help IEEE members manage the amount of unsolicited commercial email (UCE), or spam, they receive. Members who elect to take advantage of this new service have the option of either tagging or blocking possible UCE. The service also now supports black and white listings.

This e-mail forwarding service is available to IEEE members to simplify the myriad number of constantly changing computer e-mail addresses.

You may choose your alias name, but are encouraged to use a construction of your family and given names whenever possible, to make it easier for people to contact you.

Advantages of a Personal IEEE E-Mail Alias:

- If you change your Internet Service Provider and hence your e-mail address, you only have to send one correction - an update to the IEEE.
- If you change your employer or your location within the company which results in a different e-mail address, you only have to send one update - to the IEEE.
- An e-mail address which is independent of your service provider

or employer.

- Only one place to make changes to your e-mail address.
- IEEE aliases are usually easier to remember and simpler to use than the real address.
- An e-mail address which associates you with the IEEE.

Qualifying for Life Member Status

To qualify as a Life Member, an IEEE Member must be at least 65 years old, and the sum of the member's age and the number of years of paid membership effective the following January must equal or exceed 100 years.

Member Get a Member, get \$15 Voucher

From now through August 15, IEEE members can earn \$15 for each professional member that they recruit. Students members who participate in the Student Get a Student program are eligible for a \$5 for recruiting 2-4 students, \$10 for 5-7 students and \$15 for 8 or more students.

The vouchers will be sent out in October, and can be used toward 2007 IEEE dues, IEEE Society fees, the purchase of IEEE products and services, or a donation to the IEEE Foundation.

In order to qualify, completed applications (either print or online), with full dues payment, must be submitted with the recruiter's name and membership number in the proper recruiter box that is provided on the application.

For further information, contact Membership Chairman, Pete Donegan doneganp@ieee.org (973) 783-7998.

GOLD Networking Mixer

Attention all GOLD folks! The North Jersey Section GOLD committee in conjunction with the New York Section GOLD/WIE committees is co-sponsoring on Tuesday, March 20, 2007, in NYC, an after-work networking mixer. This will be a good opportunity to meet local GOLD members in the metro-area and network, interact, trade stories, experiences, and make new contacts with folks of different sections.

Exact location and registration (required, but no cost) information can be found at the North Jersey section GOLD website at

http://ewh.ieee.org/r1/north_jersey/gold

News from IEEE-USA:

IEEE-USA's New President Seeks to Bolster U.S. Competitiveness to Preserve Engineering Jobs, Maintain America's High Standard of Living

Washington (29 January 2007) - John W. Meredith, PE, who became IEEE-USA president on New Year's Day, said he will devote his presidency to helping U.S. engineers cope with the impact of globalization.

"Our profession within the United States is in a continuing struggle to deal with the effects of global competition," said Meredith, a product development engineer with Agilent Technologies in Colorado Springs, Colorado.

"While the U.S. economy has shown improvement since the infamous dot-com bust of 2000-01, our national competitiveness in the high-tech sector is increasingly challenged."

Meredith will work closely with 2006 IEEE-USA President Ralph W. Wyndrum Jr. of Fair Haven, NJ, and IEEE-USA President-Elect Russell J. Lefevre of Redondo Beach, CA. The three are committed to bolstering the career prospects of U.S. electrical and computer engineers in the face of global competition in high-tech industries.

"This competition was initially in manufacturing but is now moving more and more into design and development work," Meredith said.

"Because labor rates are lower in many countries that compete with the United States, we are losing high-tech jobs. We must act strategically as a nation to improve U.S. competitiveness. This is necessary to preserve jobs for U.S. engineers and to maintain the standard of living that Americans have enjoyed for several generations."

Meredith defines competitiveness, as it relates to our nation, as a concerted drive to compete with other countries in selling our goods and services. While the United States has been the world's leading high-tech incubator, other countries have made advances that challenge our position.

"My highest priority is to take steps to ensure the competitiveness of U.S. industry in our fields of interest," Meredith said. "This is a big challenge because developing countries are now competing in jobs that are higher up the high-tech

'food chain.'"

Read more about Meredith's 2007 vision for IEEE-USA at http://www.ieeeusa.org/communications/p_residentscolumn/Meredith/jan07.html.

IEEE-USA is in year two of its strategic plan to address U.S. competitiveness. The organization will continue to work with Congress to enact comprehensive legislation promoting U.S. innovation and competitiveness. It will also recommend that Congress reform high-tech immigration and correct significant flaws in the H-1B guest worker program.

The IEEE-USA Innovation Institute, which will begin this year, will promote innovation through training and mentoring tomorrow's technology leaders.

For more on IEEE-USA's Innovation Initiative, go to <http://www.innovation-institute.org/>

Meredith is a registered professional engineer and a senior member of the IEEE. He is in his 27th year working for Agilent Technologies (formerly Hewlett-Packard) in various management and engineering positions. He has also worked for Honeywell (1974-79), American Microsystems (1972-74) and General Electric (1969-72). He has been an adjunct professor of electrical engineering at the University of Colorado at Colorado Springs (UCCS) for a number of years.

Meredith, a native of Fayetteville, Ark., graduated from the University of Arkansas in 1965 with a bachelor of science degree in electrical engineering. He added a master's in the field from UCCS in 1981. He served in the United States Navy, first as an assistant electronics officer aboard the USS Intrepid (1965-67), and then as a projects officer in the Navy's Electronics Laboratory (1967-69).

Meredith began his IEEE volunteer career in college and began doing section work in 1972. He has been a member of the Educational Activities Board (2003); the Regional Activities Board (2004-05); the IEEE-USA Operating Committee (2004); and the Membership Development Committee (2002). He joined the IEEE and IEEE-USA Board of Directors when he served as Region 5 director in 2004-05. He was honored with an IEEE Millennium Award in 2000; an Educational Activities Board Meritorious Service Citation in 1995; and a Regional Professional Leadership award in 1991. He was named Region 5's Outstanding Member in 1998.

An author of numerous technical and professional papers, Meredith's interests

include high-speed analog integrated circuit design and lifelong learning.

IEEE-USA advances the public good and promotes the careers and public policy interests of more than 220,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. IEEE-USA is part of the IEEE, the world's largest technical professional society with 360,000 members in 150 countries. See <http://www.ieeeusa.org>.

Contact: Chris McManes
IEEE-USA Senior Public Relations
Coordinator
Phone: (202) 530-8356
E-Mail: c.mcmanes@ieee.org

IEEE-USA Commends Congress for Increasing Investment in Innovation and Competitiveness Programs

Washington (28 September 2006) - IEEE-USA President John Meredith commended congressional leaders for including increased investments in innovation and competitiveness in the proposed continuing budget resolution in a 31 January letter.

The continuing resolution includes increased funding for research and development (R&D) at the Department of Energy Office of Science, the National Institute of Standards and Technology, and the National Science Foundation.

"We are pleased to see that Congress recognizes the vital role that science and technology R&D play in ensuring U.S. competitiveness, energy independence and national security," Meredith wrote. "In addition, the need for a strong and balanced federal R&D portfolio is critically important for the United States to maintain its leadership role and assure future economic prosperity in the emerging global economy."

IEEE-USA encourages bipartisan cooperation and support for legislation promoting U.S. innovation and competitiveness.

See the letter at www.ieeeusa.org/policy/policy/2007/013107.pdf

Contact: Chris McManes
IEEE-USA Senior Public Relations
Coordinator
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E-Mail: c.mcmanes@ieee.org

NJ Power Engineering Society/Industry Applications Society
Mission Critical Power Technical Series
Paralleling Switchgear Seminar

The PES and IAS Chapters will sponsor a 3-month series of technical seminars on mission critical power. This third seminar will be on the topic of Paralleling Switchgear. The session will be held on Friday, May 25, 2007, at the PSE&G Training Center, 234 Pierson Avenue, Edison, NJ.

Topics

- Generator Paralleling Switchgear
 - ✓ Paralleling Switchgear Basics
 - ✓ Emergency Generator Paralleling
 - ✓ Closed Transition Transfers
 - ✓ Redundant Engine Applications
 - ✓ Reliability in Paralleling Switchgear Controls
 - ✓ Horizontal Through Bus Density
 - ✓ Differentiating UL 891 vs UL 1558 for Paralleling Switchgear
 - ✓ Impact of NFPA 99 and 110 on Paralleling Switchgear

About the Instructor

The instructor will be Ron Hilbert. Ron is the Northeast Regional Sales Manager for Caterpillar Switchgear.

The registration fee for this seminar prior to May 11th will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after May 11th must include an additional late fee of \$25. 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.

If desired, IEEE Continuing Education Units will be offered for this course - a small fee of \$25 will be required for processing. A total of 0.4 CEUs will be offered. Please indicate if desired below.

Time: 9:00 AM to 2:00 PM (lunch is included), Friday, May 25, 2007.
Place: PSE&G Training Center, 234 Pierson Avenue, Edison NJ
Directions: www.pseg.com/customer/business/small/facility/edison_directions.jsp
Information: Ronald W. Quade, PE, (732) 205-2614 or [rwquade "AT" ieee.org](mailto:rwquade@ieee.org)

Registration: Paralleling Switchgear Seminar 5/25/2007

Register via US mail to: Ronald W. Quade, PE
Eaton Electrical
379 Thornall St, 8th Floor
Edison, NJ 08837

Name _____

Address _____

Phone _____ Email _____

IEEE # _____ Student @ _____ Non IEEE _____ Life Member _____

Continuing Education Units: _____ Yes \$25 _____ No

If CEUs are chosen, please include a \$25 processing fee

Payment Enclosed \$ _____ Add \$25 late registration after May 11, 2007

Make checks payable to North Jersey Section IEEE (Credit Cards cannot be processed at this time).

NJ Power Engineering Society/Industry Applications Society
Mission Critical Power Technical Series
Generators Seminar

The PES and IAS Chapters will sponsor a 3-month series of technical seminars on mission critical power. This second seminar will be on the topic of Generators. The session will be held on Friday, April 27, 2007, at the PSE&G Training Center, 234 Pierson Avenue, Edison, NJ.

Topics

Generator Sets:

- ✓ A Historical Perspective
- ✓ Engine and Generator Fundamentals
- ✓ Applications- Data Centers, Healthcare, Utilities, Telecom, etc.
- ✓ Selecting, Sizing and Specifying a Generator Set
- ✓ Installation Guidelines – Enclosures, Controls, Fuel, Cooling, Exhaust, etc.
- ✓ Paralleling Multiple Generator Sets - Designing for Redundancy
- ✓ Systems Integration - Integrating Generator Sets with Other Critical Equipment (ATS, UPS, Switchgear, etc.)
- ✓ Regulations – EPA, NFPA, UL and more
- ✓ Remote Generator Set Monitoring and Control
- ✓ Equipment Testing and Contingency Planning

About the Instructor

The instructors will be a team from Caterpillar’s Electric Power Generation division and the New Jersey Caterpillar dealer Foley Power Systems.

The registration fee for this seminar prior to April 13th will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after April 13th must include an additional late fee of \$25. 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.

If desired, IEEE Continuing Education Units will be offered for this course - a small fee of \$25 will be required for processing. A total of 0.4 CEUs will be offered. Please indicate if desired below.

Time: 9:00 AM to 2:00 PM (lunch is included), Friday, April 27, 2007.
Place: PSE&G Training Center, 234 Pierson Avenue, Edison NJ
Directions: www.pseg.com/customer/business/small/facility/edison_directions.jsp
Information: Ronald W. Quade, PE, (732) 205-2614 or [rwquade "AT" ieee.org](mailto:rwquade@at.ieee.org)

Registration: Generators Seminar 4/27/2007

Register via US mail to: Ronald W. Quade, PE
Eaton Electrical
379 Thornall St, 8th Floor
Edison, NJ 08837

Name _____

Address _____

Phone _____ Email _____

IEEE # _____ Student @ _____ Non IEEE _____ Life Member _____

Continuing Education Units: _____ Yes \$25 _____ No

If CEUs are chosen, please include a \$25 processing fee

Payment Enclosed \$ _____ Add \$25 late registration after April 13, 2007

Make checks payable to North Jersey Section IEEE (Credit Cards cannot be processed at this time).

NJ Power Engineering Society/Industry Applications Society
Mission Critical Power Technical Series
Uninterruptible Power Supplies Seminar

The PES and IAS Chapters will sponsor a 3-month series of technical seminars on mission critical power. This first seminar will be on the topic of Uninterruptible Power Supplies. The session will be held on Friday, March 30, 2007, at the PSE&G Training Center, 234 Pierson Avenue, Edison, NJ.

Topics

Uninterruptible Power Supplies:

- ✓ Differentiating UPS Technologies (Battery and Battery Free)
- ✓ Decision Criteria for Selecting a UPS
- ✓ Relationship Between UPS and Other Emergency Power Equipment
- ✓ Evaluating Life Cycle Costs of Different UPS Technologies
- ✓ Predictive UPS Maintenance
- ✓ Planning for Future - Expandable/Upgradeable Systems
- ✓ Innovative Battery Free UPS Technologies

About the Instructor

Kit Killingsworth is the Northeast Regional Sales Manager for Active Power. He has worked in various sales and field service positions in the UPS industry since 1984. For the past eight years with Active Power, he has developed into an expert in battery free, flywheel UPS technology. Prior to that, he worked for 10 years with MGE, a leading supplier of double conversion, battery based UPS. He also worked for Electronic Data Systems (EDS) maintaining UPS and battery systems as well as ancillary HVAC systems. Kit is a licensed electrician and has a degree in electronics engineering with extensive study in HVAC, Refrigeration and Air Conditioning.

The registration fee for this seminar prior to March 16th will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after March 16th must include an additional late fee of \$25. 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.

If desired, IEEE Continuing Education Units will be offered for this course - a small fee of \$25 will be required for processing. A total of 0.4 CEUs will be offered. Please indicate if desired below.

Time: 9:00 AM to 2:00 PM (lunch is included), Friday, March 30, 2007.
Place: PSE&G Training Center, 234 Pierson Avenue, Edison NJ
Directions: www.pseg.com/customer/business/small/facility/edison_directions.jsp
Information: Ronald W. Quade, PE, (732) 205-2614 or [rwquade "AT" ieee.org](mailto:rwquade@at.ieee.org)

Registration: Uninterruptible Power Supplies Seminar 3/30/2007

Register via US mail to: Ronald W. Quade, PE
Eaton Electrical
379 Thornall St, 8th Floor
Edison, NJ 08837

Name _____

Address _____

Phone _____ Email _____

IEEE # _____ Student @ _____ Non IEEE _____ Life Member _____

Continuing Education Units: _____ Yes \$25 _____ No

If CEUs are chosen, please include a \$25 processing fee

Payment Enclosed \$ _____ Add \$25 late registration after March 16, 2007

Make checks payable to North Jersey Section IEEE (Credit Cards cannot be processed at this time).

IEEE North Jersey Section Course Project Management

Wednesday Evening, March 14, 2007 through May 9, 2007

Eight weekly classes (March 14, 21, 28, April 11, 18, 25, May 2, 9, 2007)

USPS, NJ International Bulk Mail Center, 80 County Road, Jersey City, NJ 07097

(Checks should not be mailed to this address)

IEEE North Jersey Section thanks USPS, BMC for sponsoring this course at its site

The North Jersey Section IEEE is offering an evening course entitled "Project Management". Dice.com lists 5500+ Project 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 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 completion when you finish the course. You may wish to take two certification exams, one in *Project Management* administered by Project Management Institute and the other in *IT Project+* by CompTIA Inc from the knowledge you learned in this course. (This is *not an exclusive PMP-PMI examination prep course*. No PDUs are issued for PMP eligibility. CEU credits would be given by IEEE)

Instructor: **Donald Hsu, Ph.D.**, has been a corporate manager for 11 years and is an experienced trainer. Since 1999, he has trained 450 people in *IT Project+*, *MS Project 2003*, and *Project Management* courses in eight organizations.

TOPICS

1. Explain the need for a project 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 changes, estimates, and communications
6. Set a baseline, import tasks from MS Excel, export Project files to MS Word
7. Create and modify custom reports, templates and combination views
8. Share resources and create a master plan loaded to Project Server
9. Approve updates and conclude a project plan
10. Market global e-Commerce projects
11. Present student Projects

WHERE: NJ International Bulk Mail Center, Jersey City, NJ. (Checks **should not** be mailed to this address)

WHEN: 8 Wednesdays, March 14, 21, 28, April 11, 18, 25, May 2, 9, 2007, from 6:30 to 9:00 PM.

COST: IEEE (& affiliate) members \$430; Non-IEEE members \$480.

CONTACT: Donald Hsu: [yanyou "AT" hotmail.com](mailto:yanyou@AT@hotmail.com)

REGISTRATION: Project Management

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

Donald Hsu, Co-Chair Education Committee, IEEE North Jersey Section, P.O. Box 2093, Fort Lee, NJ 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**

As soon as a completed registration form and the payment are received, you are officially registered for this course. Registration status will be emailed to you for confirmation.

I wish to receive the IEEE Completion Certificate Signature: _____

IEEE AWARDS RECEPTION

*North Jersey Section
May 6, 2007
Birchwood Manor, Whippany NJ*

*A time to relax, unwind and enjoy --
A time to pay tribute to our new Fellows --
A time to honor our Award Winners --
YES it's time for the Annual Section Reception*

The Annual Section IEEE Awards Reception will be held at the Birchwood Manor, 111 North Jefferson Road, Whippany again this year. The affair is scheduled for **Sunday, May 6, 2007** from 3 to 6 PM. Tickets are \$35.00 each. Spouses and guests are welcome. We are limited to 90 attendees, so please make your reservations early.

Reservations are required by April 25, 2007. Complete the reservation form and return it with your payment. If you would like tickets mailed back to you, please enclose a self-addressed **stamped** envelope. Otherwise, your tickets will be held at the door for you. If any additional information is required concerning the reception, contact Anne Giedlinski at (973) 377-3175.

Use this form for Reception reservations. **ENCLOSE A SELF-ADDRESSED STAMPED ENVELOPE to receive tickets in advance. Reservations are required by April 25, 2007.** Mail reservation request to:

Anne Giedlinski
299 Brooklake Road
Florham Park, NJ 07932

Enclosed is _____ for _____ ticket(s) at \$35.00 each (make check payable to **North Jersey Section IEEE**) for:

NAME: _____

ADDRESS: _____

Yes, please send me directions to the Birchwood Manor



LISAT 2007

Third Annual IEEE Long Island Systems, Applications and Technology Conference

Friday, May 4, 2007

Institute for Research & Technology Transfer, Farmingdale State University
Farmingdale, NY

CALL FOR PAPERS AND EXHIBITORS

Last year's successful conference featured contributed papers that were presented in three parallel sessions: Systems, Applications, and Technology. Technical papers describing research development and application on a broad range of electronic and electrical engineering topics are solicited for LISAT2007.

All paper submissions must include title and a 300 to 500 word summary, the speaker(s) full name, affiliation, address, phone number and email address and a 1/3 page long biography. Submissions should be emailed to the LISAT Technical Program Co-Chairmen, Dave Mesecher at d.mesecher@ieee.org and Daniel Rogers at drogers@ieee.org, as well as Jesse Taub, Technical Program Consultant, at jjtaub@aol.com. Papers will be accepted based on their originality, quantitative content, clarity, and interest to IEEE members.

The deadline for paper submissions is December 1, 2006. You will be notified of acceptance or rejection on or before January 10, 2007 and will be given instructions for electronic submission of your full paper which is due by February 15, 2007. One author of each paper must register for the Conference and will be expected to provide a 40 minute PowerPoint presentation at the conference followed by 10 minutes of Q&A. Presented papers will be part of the CD-ROM Conference Proceedings to be given to each attendee and will become part of the IEEE Xplore database.

While LISAT welcomes a wide variety of papers in systems, applications and technology, some examples of topics of particular interest are:

Homeland Defense, Satellite Communications, Mobile Communications, RF ID Tag Technology, Microwave Technology, Electromagnetic Compatibility, Mobile Ad Hoc Networking, Multi-level Network Security, Sensor Fusion, New Electrical Power Sources, Antenna Systems and Processing, Radio Locating, Radar Systems and Techniques, and Medical Electronics

Releases and Approvals: This conference will be unclassified and attended by both US and non-US persons. It is the author's responsibility to obtain all required company and government releases and approvals prior to making a paper submission. A statement that such releases and approvals have been obtained as well as a completed IEEE copyright form (signed by the submitting author) must accompany the final manuscript of each accepted paper.

For information on Exhibiting at LISAT, please contact: Fred Kruger at f.m.kruger@ieee.org or Mark Sadick at mark@sagharborind.com and/or Tel: 516-967-2970

For all other information contact LISAT2007 Conference Chair: Dr. Charles Rubenstein at c.rubenstein@ieee.org or Conference Vice Chair: Dr. Babak Beheshti at b.beheshti@ieee.org

LISAT is sponsored by the IEEE Long Island Section and its Technical Society Chapters, and IEEE Region 1 in cooperation with the Institute for Research & Technology Transfer (IRTT) at Farmingdale State University