

The



IEEE Newsletter

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

NJ EMBS Chapter:

Cross Industry Issues in Nanomanufacturing - Impact on Healthcare

On Monday, September 8, 2008, the North Jersey Section Engineering in Medicine and Biology Chapter will meet for a discussion on "Cross Industry Issues in Nanomanufacturing - Impact on Healthcare." The speaker will be Dr. Gary Fletcher.

About the Talk

Material surfaces and interfaces play a crucial role in a variety of chemical, electrical, mechanical, and biological phenomena and applications, cutting across a wide swath of industries, governmental and university research. The increased surface-area-to-volume provided by nanoparticles and nanostructure materials leads to a dominant role of surfaces / interfaces in the development and performance of nanomaterials. This talk will describe the potential impact of nanoparticles and nanostructured surfaces in medical devices and diagnostics, and describe current efforts to establish a cross-industry nanomanufacturing consortium to address broad technical issues currently hindering widespread industrial applications.

About the Speaker

Gary Fletcher, Technology Leader in the Advanced Technology R&D Group of BD Preanalytical Systems [PAS], leads technology sensing activities critical to the future growth of the BD diagnostics business. During the past twenty-five years, he has conducted and led research, discovery, and development of complex analytical systems in fields including defense, process control, and medical device and diagnostics. His present focus is to leverage his scientific knowledge in the assessment of new technologies to be applied to the development of innovative preanalytical products to serve patients and customers in clinical diagnostics.

During Gary's 4 years at BD he has developed the technology and innovation

strategy for PAS, conducted technology sensing, and as Director of Core Technologies led a team of scientists and engineers evaluating the feasibility of new technologies to improve the preanalytical handling of patient specimens. He has been the process champion for PAS Technology Development Process, which provides best practices management of pre-product-development technology innovation projects. Prior to joining BD, Gary spent three years at Sarnoff Corporation as Technical Manager of Healthcare Products, developing a new minimally invasive blood glucose monitor, which was spun out of Sarnoff. Prior to Sarnoff, Gary served as VP of Engineering and VP of Advanced Technology in a startup company developing a novel noninvasive microscopic imaging platform for assessment of human microcirculation and measurement of perfusion and hematology parameters. He also conducted research and product development as a Physicist at Measurex Corporation and at Lawrence Livermore National Laboratory.

Gary received his BA in Physics and Mathematics at DePauw University, and his M.Phil. and PhD in Physics from Yale University. In addition he completed postdoctoral research training in atomic physics at the University of Virginia.

Time: 6:30 PM, Monday, September 8, 2008.

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

Information: Dr. Goran Djuknic, (973) 633-3406, gdjuknic "AT" hotmail.com.

North Jersey Section Seeks Volunteers to Conduct Business at the Section Level

The NNJ IEEE Section ExCom is seeking new volunteers to help conduct business at the section level for an elected or nominated position for the benefit of its membership in the North Jersey section and surrounding areas. You must be an active IEEE member to hold an elected office at the section level. There are a variety of volunteer positions open and available. They range from long-term to short-term, technical to non-technical, leadership or just participatory. All activities have varying levels of time commitment. For Chapter Chairs, you must be a member of the corresponding IEEE Society.

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 NNJ IEEE Section, please contact Dr. Chandra Gupta at [c.gupta "AT" ieee.org](mailto:c.gupta@AT.ieee.org) or Har Dayal at [har.dayal "AT" baesystems.com](mailto:har.dayal@AT.baesystems.com). You can even attend the section business meeting held the first Wednesday of every month to find out more and other volunteer activities that require some help.

Additionally, if interested volunteers would like to get more general information about other activities in our section, visit the North Jersey Section website for newsletter information <http://web.njit.edu/~ieeenj/> or contact Dr. Chandra Gupta, [c.gupta "AT" ieee.org](mailto:c.gupta@AT.ieee.org).

Har Dayal

Jr. Past Chair, NNJ Section

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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@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:

IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, (732) 981-0060. It is not necessary to inform the North Jersey Section when you change your mailing address. "The IEEE Newsletter" and other section mailings use a list provided by IEEE's national headquarters.

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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) 960-6796, rpepe "AT" att.net.

NJ SP Chapter & SAC: Security Printing in Digital Age

On September 15, 2008, the IEEE NJ Signal Processing Chapter together with the IEEE NJ Student Activities Committee and New Jersey Institute of Technology will host a talk on "Security Printing in Digital Age." The speaker will be Dr. Zhigang Fan.

About the Talk

Security printing is the technology that aims to prevent forgery, tampering, or counterfeiting. Traditionally, security printing protects sensitive paper documents such as banknotes, passports, stock certificates and identity cards. It is often associated with expensive equipment, specially designed media and/or printing material. This was adequate in the past to restrict counterfeiting to the dedicated craftsman with access to a printing press. However, the emerging digital printing technology is changing the dynamics of security printing. In addition to numerous newly invented digital security features, many traditional features now can be implemented with digital technology using conventional equipment and material. Furthermore, the flexibility of digital technology enables variable information embedding at a low cost even at a run length of one, thus creating "individualized security printing". This talk will discuss the implication of the digital technology on security printing. It will also provide an overview of several digital security printing technologies we have developed in Xerox.

About the Speaker

Dr. Zhigang Fan joined Xerox Corporation Research and Technology in 1988 where he is currently a principal scientist. Dr. Fan's research interests include various aspects of image processing and recognition. He has authored and co-authored more than 70 technical papers, as well as over 120 patents and pending applications. Dr. Fan is associate editor for the IEEE Transactions on Image Processing.

All Welcome!

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

Time: 4:45 PM, Monday, September 15, 2008. Pizza will be offered at 4:30 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

Information: Yun Shi (973) 596-3501 (shi "AT" njit.edu), Alfredo Tan (201) 692-

2347 (tan "AT" fdu.edu), and Hong Man (201)-216-5038 (hman "AT" stevens-tech.edu).

NJ Consultants' Network:

Patenting 101

On Thursday, September 25, 2008, the IEEE Consultants' Network of Northern NJ (www.technologyontap.org) will feature a presentation titled "Patenting 101." The speaker will be Michael J. Feigin, Esq.

About the Topic

The talk will explore when you should file a patent, how the process works in the U.S. and abroad, and the controversy over where the line should be drawn between an abstract law of nature and a patentable invention.

In the course of the presentation, you will learn about the process of obtaining intellectual property for your invention and meet other inventors who have gone through the process themselves.

About the Speaker

Michael J. Feigin, Esq., is a Patent and Trademark Attorney, licensed in NY and NJ, with significant experience prosecuting patents for companies such as AT&T, Rus-Engineering and Vodaphone. He is a professional member of the United Inventors Association and can be reached at <http://PatentLawNY.com> or (973) 685-5280.

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!

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

Time: 7:30 PM, Thursday, September 25, 2008.

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 North Jersey Section Activities

September 2008

Sep. 3 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 77 River Rd, Clifton, NJ. Russell Pepe at rpepe “AT” att.net.

Sep. 8 – “Cross Industry Issues in Nanomanufacturing - Impact on Healthcare” by Dr. Gary Fletcher, NJ EMBS, 6:30 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Dr. Goran Djuknic, (973) 633-3406, gdjuknic “AT” hotmail.com.

Sep. 10 – “INS and GPS Technology Trends” by George T. Schmidt, NJ AES Chapter, 7:00 PM, BAE Systems, 164 Totowa Road, Wayne, NJ. Dr. Naresh Chand, (973) 636-7408, naresh.chand “AT” baesystems.com.

Sep. 10 – “Media Signal Processing in Cell Phones – An Amazing Story” by Dr. Peter Kroon, NJ SP Chapter and SAC, 4:45 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Yun Shi (973) 596-3501 (shi “AT” njit.edu), Alfredo Tan (201) 692-2347 (tan “AT” fdu.edu), and Hong Man (201)-216-5038 (hman “AT” stevens-tech.edu).

Sep. 10 – “Engineers Meet: Cell Phones - Anything to Worry About?” by Dr. Stephen H. Unger, NJ PACE, GOLD, & WIE, 6:30 PM to 9:00 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward, (973) 790-1625, PWARD1130 “AT” aol.com, Richard F. Tax, (201) 664-6954, rtax “AT” verizon.net.

Sep. 15 – “Security Printing in Digital Age” by Dr. Zhigang Fan, NJ SP Chapter and SAC, 4:45 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Yun Shi (973) 596-3501 (shi “AT” njit.edu), Alfredo Tan (201) 692-2347 (tan “AT” fdu.edu), and Hong Man (201)-216-5038 (hman “AT” stevens-tech.edu).

Sep. 23 – “Microsoft’s SharePoint Technologies” by Arthur J. Hedge III, NJ Computer and EMS Chapters, 7:00 PM, Public Meeting Room, Morris County Library, 30 E. Hanover Ave., Whippany, NJ, (973) 285-6930. Seth Jakel (973) 731-1902, (973) 820-1865, sgjakel “AT” comcast.net or Howard Leach (973) 540-1283, h.leach “AT” ieee.org.

Sep. 24 – “Enhancing the Efficiency of Computer-Aided Analysis and Design through Model Complexity Reduction” by Professor Andreas Cangelaris, NJ EDS/C&S & MTT-S/AP-S Chapters, 7:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), or Dr. Durga Misra (973) 596-5739 (dmisra “AT” njit.edu).

Sep. 25 – “Patenting 101” by Michael J. Feigin, Esq., 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.

Upcoming Meetings

Oct. 1 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 77 River Rd, Clifton, NJ. Russell Pepe at rpepe “AT” att.net.

Oct. 1 – “Overview of Signal Classification Techniques for Wireless Communications” by Dr. Wei Su, NJ SP Chapter and SAC, 4:45 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Yun Shi (973) 596-3501 (shi “AT” njit.edu), Alfredo Tan (201) 692-2347 (tan “AT” fdu.edu), and Hong Man (201)-216-5038 (hman “AT” stevens-tech.edu).

Oct. 2 – “2008 MTT/AP Symposium and Mini-Show” – MTT-S/AP-S Chapter, 9:00 AM - 4:30 PM, Hanover Manor, 16 Eagle Rock Avenue, E. Hanover, NJ. Kirit Dixit (201) 669-7599 (kdixit “AT” ieee.org), Art Greenberg (973) 386-6673 (ahg1 “AT” alcatel-lucent.com), Har Dayal (973) 633-4618 (har.dayal “AT” baesystems.com), or George Kannell (973) 386-4170 (gkk “AT” gsinnovations.com).

Oct. 4 – “Field Trip to Historic Speedwell the ‘Birthplace of the Telegraph’”, NJ GOLD & WIE Chapters, Assemble between 12-12:30 PM, Historic Speedwell, 333 Speedwell Ave, Morristown, NJ. Contact northjerseygold “AT” ieee.org.

Oct. 14-Dec. 2 – “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).

Oct. 15 – “The Development of Multi-Gigabit Radio Technology for Terabit Wireless Personal Area Networks” by Dr. Joy Laskar, NJ EDS/C&S Chapters, 7:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), or Dr. Durga Misra (973) 596-5739 (dmisra “AT” njit.edu).

Oct. 16 – “Life Grade Luncheon”, Hamilton Park Conference Center, Florham Park, NJ. Ken Oexle (973) 386-1156.

Oct. 18 – “Edison West Orange Laboratory IEEE Milestone Dedication”, Group tour at 11:30 AM, plaque dedication at 2:00 PM, Group tour at Edison’s Glenmont estate at Llewellyn Park, West Orange, NJ. Plaque dedication at West Orange Township Municipal Building, West Orange, NJ. Howard Leach, Historian, at h.leach “AT” ieee.org or (973) 540-1283, or Ken Oexle, Awards Chairman, at k.oexle “AT” worldnet.att.net or (973) 386-1156

Oct. 23 – “Designing Current-Fed Switchmode Power Supplies and Magna-Power Electronics Facility Tour” by Dr. Ira J. Pitel, NJ Consultants' Network, 7:30 PM, Magna-Power Electronics, 39 Royal Road, Flemington, NJ. Robert Walker (973) 728-0344 or www.TechnologyOnTap.org.

Oct. 31 – “Selective Coordination Seminar” by James M. Daley, PE, NJ PES/IAS, 9:00AM to 2:00PM, Automatic Switch Company, 50 Hanover Rd, Florham Park, NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade “AT” ieee.org.

Nov. 21 – “Automatic Transfer Switch Seminar” by Cathy Clausen, NJ PES/IAS, 9:00AM to 2:00PM, PSE&G, 80 Park Plaza, Newark, NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade “AT” ieee.org.

Members and Non-Members Welcome
PLEASE POST

NJ AES Chapter:

INS and GPS Technology Trends

On Wednesday, September 10, 2008, the North Jersey Chapter of the IEEE Aerospace & Electronic Systems Society will sponsor a talk titled "INS and GPS Technology Trends." The speaker will be George T. Schmidt.

About the Talk

This presentation focuses on accuracy and other technology trends for inertial sensors, Global Positioning Systems (GPS), and integrated Inertial Navigation System (INS)/GPS systems, including considerations of interference, that will lead to better than 1-m accuracy navigation systems of the future. For inertial sensors, trend-setting sensor technologies will be described. A vision of the inertial sensor instrument field and inertial systems for the future is given. Planned accuracy improvements for GPS are described. The trend toward deeply integrated INS/GPS is described, and the synergistic benefits are explored. Some examples of the effects of interference are described, and expected technology trends to improve system robustness are presented.

About the Speaker

George T. Schmidt is a distinguished lecturer for the IEEE AES Society, and a Lecturer in Aeronautics and Astronautics Department at MIT. He is also Editor-in-Chief of the American Institute of Aeronautics and Astronautics (AIAA) Journal of Guidance, Control, and Dynamics. In 2007 he retired as the Director of Education at the Charles Stark Draper Laboratory, Cambridge, Massachusetts. Prior to that position he was the Leader of the Guidance and Navigation Division and Director of the Draper Guidance Technology Center. His major technical activities have been in guidance and navigation system design for missiles, aircraft, and manned spacecraft; Kalman filtering applications; and integration techniques for high-resolution synthetic aperture radars, satellite navigation systems, and inertial sensors. He has served the NATO Research and Technology Organization (formerly AGARD) in many positions, including as a U.S. member of the Guidance and Control Panel. He is a Fellow of the AIAA, a Life Fellow of IEEE, and he is an elected member of the Russian Federation, Academy of Navigation and Motion Control. He has received several awards including the AIAA International Cooperation Award in 2001 and the NATO Research and Technology Organization's highest technical award, the von Kármán Medal, in 2005. He is authored or coauthored

more than 80 technical papers, reports, encyclopedia articles, and books. He received his SB and SM degrees in Aeronautics and Astronautics and his ScD in Instrumentation from MIT.

All Welcome!

You do not have to be a member of the IEEE to attend the talks but you need to email your name, address, and citizenship to Dr. Naresh Chand for obtaining security clearance by September 4th. In your email, please use your subject as "IEEE AESS talk". A free buffet dinner, starting at 6:00 PM, will be provided. Come and bring your friends.

Time: 7:00 PM (free buffet starts at 6:00 PM), Wednesday, September 10, 2008.

Place: BAE Systems, 164 Totowa Road, Wayne, NJ 07474.

Information: Dr. Naresh Chand, (973) 636-7408, naresh.chand "AT" baesystems.com.

NJ SP Chapter & SAC:

Media Signal Processing in Cell Phones – An Amazing Story

On September 10, 2008, the IEEE NJ Signal Processing Chapter together with the IEEE NJ Student Activities Committee and New Jersey Institute of Technology will host a talk on "Media Signal Processing in Cell Phones – An Amazing Story." The speaker will be Dr. Peter Kroon.

About the Talk

Modern cell phones have become widely accepted across the world, and have become small wonders of media signal processing. Although voice will always remain the essential media signal for a phone, many other multimedia applications have found their way into cell phones, making it a true media signal processing device. Voice, audio, image, video and graphics are all present, and are processed using techniques based on years of media signal processing research. To make this all work in a device that is constrained by power, size and cost has turned out to be quite a challenge. This talk will review some of the relevant media standards and processing techniques that are commonly found in cell phones. We also highlight some interesting accomplishments, and describe some of the challenges that we will find ahead.

About the Speaker

Peter Kroon (Fellow'96) received the MS and PhD Degrees in electrical engineering from Delft University of Technology, Delft, The Netherlands.

The regular-pulse excitation speech

coding technique described in his PhD thesis forms the basis of the GSM full rate coder. In 1986 he joined Bell Laboratories, Murray Hill, NJ, where he has worked on a variety of speech coding applications, including the design and development of the 4.8 kbit/s secure voice standard FS1016 and the ITU-T 8 kbit/s speech coding standard G.729. From 1996 till 2000 he supervised a research group at Bell Labs, Lucent Technologies working in the areas of speech and audio coding design and communications technology. In 2000 Dr. Kroon became director of Media Signal Processing Research at Agere Systems, a spin off from Lucent Technologies, where he was responsible for research and development of media processing for satellite radio, VoIP and cellular terminals. In 2003 he moved to the Mobility business unit of Agere, where he was chief multimedia architect and manager of the multimedia systems group responsible for algorithmic design, and software and hardware integration of multimedia components for cellular phones. In October 2007, this BU was acquired by Infineon Technologies, where Dr. Kroon continues his role as chief multimedia architect.

Dr. Kroon received the 1989 IEEE SP Award for authors less than 30 years old, for his paper on Regular Pulse Coding. He is an IEEE fellow, and served as Member of IEEE Speech Committee (1994-1996), General Chair, IEEE Speech Coding Workshop 1997, Associate Editor of IEEE Transactions on Speech and Audio processing (1997-2000), Member at Large, IEEE Signal Processing Society Boards of Governors (2001-2003), and as Guest Editor of the IEEE Transactions on Audio, Speech, and Language Processing Special Issue on Objective Quality Assessment of Speech and Audio (2006). Dr. Kroon has published more than 50 papers, and holds 15 US patents.

All Welcome!

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

Time: 4:45 PM, Wednesday, September 10, 2008. Pizza will be offered at 4:30 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

Information: Yun Shi (973) 596-3501 (shi "AT" njit.edu), Alfredo Tan (201) 692-2347 (tan "AT" fdu.edu), and Hong Man (201)-216-5038 (hman "AT" stevens-tech.edu).

NJ Section PACE, GOLD, & WIE:

Engineers Meet:

Cell Phones: Anything to Worry About?

On Wednesday, September 10, 2008 the North Jersey Section Professional Activities Committee, Graduates of the Last Decade and Women in Engineering will meet for a discussion about Cell Phones and health related issues. Our guest speaker will be Dr. Stephen H. Unger.

About the Meeting

Cell phones are really neat. They are a great convenience for travelers and can be life savers in emergencies. No wonder there are billions of them in use. Since they are so widely used, obviously they can't be harmful. Right? Well, surprisingly, that turns out to be a big question. There are many research reports from laboratories, in the US and elsewhere, of work demonstrating measurable, non-thermal, effects of non-ionising radiation in the frequency range associated with cell phones. Many of these effects are actually or potentially harmful. There are also published epidemiological studies linking cell phone use with various diseases, such as brain cancer. The situation is by no means clear, because there are even more reports of work purporting to show that there are no such harmful effects. What's going on here? The basic problem is that the mechanisms for protecting us against the marketing of hazardous products are broken. Regulatory agencies such as the FDA are grossly under-funded and are subjected to political pressure by corporations. Most research in the relevant areas, including that done at universities, is funded by industry, so that there is built-in bias toward results beneficial to companies, at least in the short-run. In the cell phone case, the result is that possible problems that might have technical solutions are being obscured, and many people may be harmed. An article about this is accessible at <http://www1.cs.columbia.edu/~unger/articles/cellPhones.html>.

About the Speaker

Dr. Unger is a recently retired Professor of Computer Science (and Electrical Engineering) at Columbia University. Previously he worked at Bell Labs and, while at Columbia, he worked for various companies including IBM and RCA Labs during summers and sabbaticals. Apart from technical publications, he has written about, and given many talks on, technology policy issues, including engineering ethics, the engineering job situation, energy, and government imposed secrecy. He was a founder, and

later President of, the IEEE Society on Social Implications of Technology. A decade ago, he served on the IEEE Board of Directors, and on various IEEE Boards including the US Activities Board (now called IEEE-USA). He was a member of the IEEE Ethics Committee 1995-98 (as chair 1997-98).

All Welcome!

Members and students from all professional societies and engineering disciplines are welcome. We now have attendees from IEEE, ASME, NSPE, ASCE and AEA. For information about these groups see:

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

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/.

Time: 6:30 PM to 9:00 PM, Wednesday, September 10, 2008. 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, Richard F. Tax, (201) 664-6954, rtax "AT" verizon.net.

NJ Computer Society and EMS: Microsoft's SharePoint Technologies

On Tuesday, September 23, 2008, the IEEE North Jersey Section Chapters of the Computer and Engineering Management Societies, and the Information Technology Club of the Stevens Institute of Technology Alumni Association, will host a presentation on "Microsoft's SharePoint Technologies" by Arthur J. Hedge III.

About the Talk

SharePoint is the fastest growing product in Microsoft's history. Come learn what all the fuss is about. SharePoint provides a unique architecture that lets groups collaborate on projects, documents, and numerous other tasks. It also provides enterprise search functionality, enterprise content management tools, forms-driven processes, and a complete application development framework for supporting knowledge workers. We will provide an overview of the SharePoint architectures,

demonstrate the core features, and explore some of the creative ways that organizations are using the tools.

About the Speaker

Arthur Hedge is the President of Castle Ventures LLC. Castle Ventures is a consulting firm focused on Information Technology specializing in Security, Collaboration and Business Process Management solutions. Mr. Hedge has over 20 years of consulting experience in the Information Technology field with both privately held and publicly traded firms. Before starting Castle Ventures in 2002, he was the Vice President of Professional Services for Steelpoint Technologies.

Mr. Hedge is a graduate of the Massachusetts Institute of Technology. He lives in New Jersey with his wife and two sons. He is a member of a number of professional organizations, including the IEEE Computer Society and the Association for Information and Imaging Management. He is active in standards work for AIIM. Mr. Hedge serves as a mentor for Columbia University's Technology Management program. He is a board member of the Foundation for Teaching Economics. He is a frequent speaker and writer on technology subjects.

All are welcome!

You do not have to be a member of the IEEE to attend. Bring your friends and network during the free pre-meeting buffet starting at 6:00 PM.

Time: 7:00 PM, Tuesday, September 23, 2008. Pre-meeting buffet starting at 6:00 PM.

Place: Public Meeting Room, Morris County Library, 30 E. Hanover Ave., Whippany, NJ, (973) 285-6930.

Information: Seth Jakel (973) 731 1902, [sgjakel "AT" comcast.net](mailto:sgjakel@comcast.net) or Howard Leach (973) 540-1283, [hleach "AT" aol.com](mailto:hleach@comcast.net).

Visit the IEEE North Jersey Section Webpage at

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

North Jersey Section information such as officer contact information, meeting presentation slides, and the online Newsletter can be found there. Check for last minute meeting updates and schedule changes.

As an added benefit, all North Jersey Section members that have provided an email address in their IEEE member profile will receive an email with early notification of the Newsletter posting.

Enhancing the Efficiency of Computer-Aided Analysis and Design through Model Complexity Reduction

On September 24, 2008, 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 "Enhancing the Efficiency of Computer-Aided Analysis and Design through Model Complexity Reduction." The speaker will be Professor Andreas Cangellaris.

About the Talk

State-of-the-art electromagnetic (EM) field solvers and CAD tools are empowering high-frequency electronics designers with unprecedented capability and expediency in EM device conceptualization, design, optimization and prototyping. This is particularly true at the component and (small) sub-system level, where modeling complexity is manageable enough for state-of-the-art EM CAD tools to be used with confidence and solution efficiency consistent with the stringent time-to-market requirements. Yet, as functionality integration continues to escalate and product form factor continues to shrink, designers demand system-level EM CAD support of performance commensurate to that at the component level. This talk addresses this challenge and suggests near-term solutions to overcoming the modeling and computational complexity encountered in complex sub-system and system-level computer-aided electromagnetic analysis.

About the Speaker

Andreas Cangellaris is M. E. Van Valkenburg Professor in the Department of Electrical and Computer Engineering, at the University of Illinois, Urbana-Champaign. Professor Cangellaris received his Diploma in Electrical Engineering from the Aristotle University of Thessaloniki, Greece, in 1981, and the MS and PhD Degrees in Electrical Engineering from the University of California, Berkeley, in 1983 and 1985. Professor Cangellaris has spent over twenty years in academia, first at the University of Arizona (1987-1997) and then at the University of Illinois (1997 – to date). Professor Cangellaris' current teaching and research interests include computational electromagnetics; CAD methodologies and tools for signal and power distribution network design in high-speed/high-frequency electronics; EMI/EMC modeling and simulation; and techniques for MEMS CAD. Professor Cangellaris is a Fellow of IEEE and

serves as Editor of the IEEE Press Series on Electromagnetic Field Theory. In 2005 he received the Alexander von Humboldt Research Award from Germany for his contributions to engineering applications of electromagnetic field theory.

All Welcome!

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

Time: 7:00 PM, Wednesday, September 24, 2008. Free buffet will begin at 6:15 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

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

NJ Consultants' Network:

Designing Current-Fed Switchmode Power Supplies and Magna-Power Electronics Facility Tour

On Thursday, October 23, 2008, the IEEE Consultants' Network of Northern NJ (www.technologyontap.org) will feature a presentation on Designing Current-Fed Switchmode Power Supplies along with a facilities tour of Magna-Power Electronics. The speaker will be Dr. Ira J. Pitel.

About the Topic

Switching power supplies in the tens of kilowatt power range have been slowly replacing traditional silicon controlled rectifier (SCR) based topologies over the past several decades. Voltage-fed hard-switched, soft-switched, and resonant converter configurations are commonly deployed in newer generation products. Current-fed power converters, the electrical dual of voltage-fed converters, is still another, but less known and used, power circuit alternative. The speaker will present the pros and cons of higher power, switch mode circuits and the evolution of his company's product line.

The meeting will be held at Magna-Power Electronics and will conclude with a facility tour of a vertically integrated power electronics manufacturing operation.

About the Speaker

Ira J. Pitel is President of Magna-Power

Electronics, a company which he founded in 1981. Dr. Pitel is responsible for research and development and manufacturing of its line of 3.3-750 kW DC power supplies. In 1986, he joined Texas A&M University as an Adjunct Associate Professor and in 2008, he joined Rutgers the State University as a visiting Professor. Ira received the BS Degree from Rutgers -- The State University of New Jersey, the MS Degree from Bucknell University, and the PhD Degree from Carnegie-Mellon University in 1972, 1975, and 1978, respectively.

Dr. Pitel holds 28 patents in the field of power electronics and is co-recipient of the 1995 Society Prize Paper Award of the Industry Applications Society. He was honored as the Rutgers Outstanding Engineering Alumnus in 2000. He is a Fellow of the IEEE and has served in many IEEE capacities including Society President of the Industry Applications Society. He is a member of the Eta Kappa Nu and Tau Beta Pi.

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.

CNNNJ Invites You to Join the Network For 2008

The IEEE Consultants' Network of Northern NJ invites all engineers engaged in independent practice to join its ranks. We have recently revised our membership structure, hoping to make it even more worthwhile to participate.

For more details on member benefits and on sign-on requirements, please visit our website at www.TechnologyOnTap.org.

All Welcome!

Everyone is welcome. Admission to the meeting and plant tour is free. However, advance registration is required.

Time: 7:30 PM, Thursday, October 23, 2008.

Place: Magna-Power Electronics, 39 Royal Road, Flemington, NJ 08822.

Registration: Registration is required – for the pre-meeting dinner and for the meeting/tour at Magna-Power Electronics. To register, contact Robert Walker, (973) 728-0344.

Pre-Meeting Dinner: (for CNNNJ Members and invited guests only) 5:30PM at Perkins Restaurant & Bakery, 14 Royal Rd, Flemington, NJ 08822, (908) 237-0500.

Information: For information and up-to-date meeting status, call Robert Walker (973) 728-0344 or visit our website at www.TechnologyOnTap.org.

Edison West Orange Laboratory IEEE Milestone Dedication

The Edison West Orange Laboratory IEEE Milestone plaque will be officially dedicated at a ceremony to be held at the West Orange Township Municipal Building on Saturday, October 18th, as follows:

- ☞ 11:30 AM - Group tour of Edison's Glenmont estate, limited to 25.
- ☞ 12:30 PM - Registration and refreshments.
- ☞ 1:00 PM - Welcome and opening remarks by Kirit Dixit, IEEE North Jersey Chairman, and others including the Honorable John F. McKeon, State Assemblyman and Mayor of West Orange Township, NJ.
- ☞ 1:30 PM - Keynote address by Dr. Paul Israel, Director, Edison Papers Project, Rutgers University.
- ☞ 2:00 PM - Official Milestone Award presentation by Lew Terman, IEEE President, or his representative.

The plaque citation for this IEEE Milestone in Electrical Engineering and Computing will read:

*Thomas A. Edison West Orange
Laboratories and Factories, 1887*

Thomas Alva Edison, a West Orange resident from 1886 until his death in 1931, established his final and most comprehensive laboratory and factory complex about one-half mile (0.8 km) north of here in 1887. Edison's visionary combination in one organization of basic and applied research, development, and manufacturing became the prototype for industrial enterprises worldwide. Work here resulted in more than half of Edison's 1,093 patents.

Reservations Required

For further information and for reservations for the limited 11:30 AM group tour of Edison's Glenmont estate at Llewellyn Park, West Orange, NJ, contact Howard Leach, Historian, at h.leach "AT" ieee.org or (973) 540-1283, or Ken Oexle, Awards Chairman, at k.oexle "AT" worldnet.att.net or (973) 386-1156.

Time: Group tour at 11:30 AM, plaque dedication at 2:00 PM, Saturday, October 18, 2008.

Place: Group tour at Edison's Glenmont estate at Llewellyn Park, West Orange, NJ. Plaque dedication at West Orange Township Municipal Building, West Orange, NJ.

Information: Howard Leach, Historian, at h.leach "AT" ieee.org or (973) 540-1283, or Ken Oexle, Awards Chairman, at k.oexle "AT" worldnet.att.net or (973) 386-1156.

NJ EDS/C&S Chapters:

The Development of Multi-Gigabit Radio Technology for Terabit Wireless Personal Area Networks

On October 15, 2008, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "The Development of Multi-Gigabit Radio Technology for Terabit Wireless Personal Area Networks." The speaker will be Dr. Joy Laskar.

About the Talk

The development of millimeter wave radios at the same cost structure of consumer electronic radios operating in C-Band opens a new field of innovation for systems designers. The convergence of FR4 based Modules, CMOS MMIC, Signal Processing and high efficiency PHY-MAC technologies will enable a new generation of low cost high performances millimeter-wave systems. The feasibility of ultra high-speed wireless transmission beyond 10 Gbps has been demonstrated on a low power low cost platform. Power budgets well below the one hundred pico-joules/bit range have been achieved. One may expect that 100 Gbps serial transmission with a femto-joule/bit power budget can be developed in the near future. These advances will enable a variety of volume millimeter-wave CMOS applications including: peer-to-peer ultra fast synchronization and adaptive WPAN, automotive radar, out-door point-to-point/multi-point links, portable radar, security, sensing and imaging and medical applications

About the Speaker

Dr. Joy Laskar received the BS degree (Computer Engineering with Math/Physics Minors, summa cum laude) from Clemson University in 1985. He received the MS and the PhD degrees in Electrical Engineering from the University of Illinois at Urbana-Champaign in 1989 and 1991 respectively. Prior to joining Georgia Tech in 1995, Dr. Laskar was a visiting professor at the University of Illinois at Urbana-Champaign and an assistant professor at the University of Hawaii at Manoa.

At Georgia Tech he holds the Schlumberger Chair in Microelectronics in the School of Electrical and Computer Engineering. He is also Founder and Director of the Georgia Electronic Design Center, and he heads a research group of 70 members (graduate students, research staff and administration) with a focus on integration of high-frequency mixed-signal

electronics for next-generation wireless and wire line systems. Between 1995 and Spring 2008 Dr. Laskar graduated 34 PhD students. He has authored or co-authored more than 500 papers, several book chapters and three books (with another book in development). He has given numerous invited talks, and he has more than 40 patents issued or pending.

Dr. Laskar's work has resulted in the formation of two companies. In 1998 he co-founded an advanced WLAN IC Company: RF Solutions, which is now part of Anadigics (Nasdaq: Anad). In 2001 he co-founded a next-generation analog CMOS IC company, Quellan, which is developing collaborative signal-processing solutions for the enterprise, video, storage and wireless markets.

Dr. Laskar's honors include the Army Research Office's Young Investigator Award in 1995, the National Science Foundation's CAREER Award in 1996, NSF Packaging Research Center Faculty of the Year in 1997, and co-recipient of the IEEE Rappaport Award (Best IEEE Electron Devices Society Journal Paper) in 1999. He was faculty advisor for the 2000 IEEE MTT IMS Best Student Paper award, was Georgia Tech Faculty Graduate Student Mentor of the year in 2001, received a 2002 IBM Faculty Award, and the 2003 Clemson University College of Engineering Outstanding Young Alumni Award. He was the 2003 recipient of the Outstanding Young Engineer award of the Microwave Theory and Techniques Society and was named an IEEE Fellow in 2005. For the 2004-2006 term, Dr. Laskar served as an IEEE Distinguished Microwave Lecturer and currently is an IEEE EDS Distinguished Lecturer. He received Georgia Tech's "Outstanding Faculty Research Author" award in 2007 and ECE's Distinguished Mentor Award in 2008. Dr. Laskar served as General Chairman of the IEEE International Microwave Symposium 2008.

All Welcome!

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

Time: 7:00 PM, Wednesday, October 15, 2008. Free buffet will begin at 6:15 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

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

Overview of Signal Classification Techniques for Wireless Communications

On October 1, 2008, the IEEE NJ Signal Processing Chapter together with the IEEE NJ Student Activities Committee and New Jersey Institute of Technology will host a talk on "Overview of Signal Classification Techniques for Wireless Communications." The speakers will be Drs. Wei Su and John Kosinski.

About the Talk

Signal classification is an important subject for military radio communications. With the revolution of digitizing communications ever closer to the antenna, cognitive radios with programmable modulation schemes and transmission rates have become a practical wireless communication platform. Signal classification techniques have attracted much attention recently by the commercial applications in developing the next generation receivers with automatic modulation scheme recognition and selection. However, the technical expectations and goals in commercial cognitive radios are quite different with that in military surveillance systems. A key research area is to develop new algorithms with the real-time adaptive demodulation capability. An overview of automatic signal classification techniques and the challenges in migrating current modulation recognition methods into the cognitive radios will be discussed.

About the Speaker

Dr. Wei Su received the BS Degree in electrical engineering and the MS Degree in systems engineering from Shanghai Jiao Tong University, China, in 1983 and 1987, respectively. He received his PhD Degree in electrical engineering from The City University of New York, New York, in 1992. Currently, he is a senior engineer in U.S. Army Communication Electronics Research Development and Engineering Center in Fort Monmouth, New Jersey. His research interests include wireless communication, signal and image processing, and adaptive control with over 160 patents and papers. Dr. Su has been a recipient of numerous prestigious awards for technical achievements including the 3rd highest honor in the U.S. Army – Superior Civilian Service Award and Medal, 2007 and 2004 AOC International Research and Development Awards, 2007 IEEE Region I Award, 2005 Army Research and Development Achievement Award, Army Material Command Top 10 Employee Nomination, and 2002 Thomas Alva Edison Patent

Award.

All Welcome!

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

Time: 4:45 PM, Wednesday, October 1, 2008. Pizza will be offered at 4:30 PM.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

Information: Yun Shi (973) 596-3501 (shi "AT" njit.edu), Alfredo Tan (201) 692-2347 (tan "AT" fdu.edu), and Hong Man (201)-216-5038 (hman "AT" stevens-tech.edu).

Want to host a Leadership Workshop at Your Student Branch?

This year, we want to bring the leadership workshop to your branch and hold it individually at your school! The Leadership Workshop is a great way to educate your branch members on some of the details of IEEE, their roles as students in IEEE, what is happening in the section and region, how they can get involved, and most importantly, training for new officers that were just elected or will be elected in the future.

If you would like to hold one at your branch, just contact the organizer at: northjerseysac "AT" ieee.org. We can make arrangements to hold a free workshop at an appropriate date and time.

Call for Fellow Nominations

Nominations are being accepted for the IEEE Fellows class of 2010. The rank of IEEE Fellow is the institute's highest member grade, bestowed on an IEEE Senior Member who has had an extraordinary record of accomplishments in any of the IEEE fields of interest. The deadline for nominations is 1 March 2009.

Senior Members can be nominated in one of four categories: application engineer/practitioner, research engineer/scientist, educator, or technical leader.

The Fellows Web pages contain information regarding the history of the IEEE Fellows program, the nomination process, access to the Fellows Nomination Kit, lists of Fellows who are eligible to be references and more about the Fellow program. Please visit the Fellows website at

<http://www.ieee.org/fellows>.

2008-2009 Student Activities Kickoff

Welcome back to the beginning of a new school year of student activities for the North Jersey Section. This year promises to be filled with new activities and events. We hope you and your student branches will be participating in all of these events throughout the 2008-2009 academic year. Also, since the year is just getting started, it is a good time for a refresher on what your branch must be doing to be recognized by the IEEE. Information about IEEE, student branch bylaws and forms to fill out is available on the website given below.

My name is Russell Pepe, and I plan to Chair the Student Activities Committee (SAC) again this year. You can reach me at the following e-mail address: northjerseysac "AT" ieee.org. I met several of you last year at and look forward to working with all of you during the upcoming school year.

To start off with, if you have not had elections yet, it would be a good idea to hold them and report to IEEE with the officer election form. Also, coming up is a leadership workshop that new (or potentially new) officers can attend to get essential training on running a branch. Your branch should fill out an annual plan of events in the fall and an annual report in the spring. Part of the reporting is on membership, which qualifies the branch for per member rebates. It's free money for turning in the right forms by the right time. Speaking of money, your branch should also plan fundraisers for basic expenses. If you really want to get started right, host one of these leadership workshops to learn the basics. Contact the organizer below.

So what's happening this year? Lots of things! Details of the event's exact location, date, time, directions, and registration will become available on the SAC website below. Free Student Leadership Training Workshops in and Professional Skills Development Workshop will start up in the fall. Instead of just holding single workshops, multiple individual workshops will be held at each university who wishes to receive formal training at their local branch for this and upcoming year's students. This holds true for both the leadership and professional skills training. If you would like to host these events then contact the organizer below. The annual Paper Presentation Contest is also tentatively planned for March 2009. This is a chance for students to showcase their hard work on different projects worked on during the year. It is open to both graduate and

undergraduate students.

Last, but not least, the SAC and GOLD committees are looking for volunteers who might be graduating soon and would like to help out in the North Jersey Section. To find out how you can help, contact: northjerseysac "AT" ieee.org. Also, visit the new website at http://ewh.ieee.org/r1/north_jersey/sac. You will find the latest information updated there or you can also join the mailing list to get regular reminders of different events.

NJ GOLD & WIE Chapters:

Field Trip to Historic Speedwell the "Birthplace of the Telegraph"

Remember what the other "T" in AT&T stood for? North Jersey Section GOLD and WIE Affinity Groups in conjunction with Central Jersey Section GOLD are jointly sponsoring a field trip to Morristown's National Historic Landmark Historic Speedwell on Saturday, October 4, 2008.

Come tour the "Birthplace of the Telegraph" where Samuel Morse and Alfred Vail invented the American commercial telegraph and the modern telecommunications industry. Cost is \$4/adult, \$3/child/senior payable at the door. Online registration is required to get an accurate count for the tour. Sign up at the GOLD website at: http://ewh.ieee.org/r1/north_jersey/gold/. Bring a friend, enjoy the afternoon learning, interacting with your fellow members and win some door prizes.

The group will assemble between 12-12:30 PM in the parking lot located on the corner of Cory Road and Speedwell Avenue. The group will be treated to a special guided tour exclusively for the IEEE group. The tour will conclude at 4 PM. Afterward, the group will go to Cafe Arabica (<http://www.cafearabicanj.com/>) to network, mingle, and discuss future IEEE events.

The National Landmark website and directions are at: <http://www.morrisparks.net/speedwell/home.html> (973-285-6550).

Time: Assemble between 12-12:30 PM in the parking lot, Saturday, October 4, 2008. Tour concludes at 4:00 PM.

Place: Historic Speedwell, 333 Speedwell Ave, Morristown, NJ 07960.

Cost: \$4/adult, \$3/child/senior, payable up front.

Information/Questions: Contact northjerseygold "AT" ieee.org.

IEEE Communications Society Launches New Wireless Communication Engineering Technologies Certification Program

New Program Provides Certification in Technical Wireless Expertise

The Institute of Electrical & Electronics Engineers Communications Society (IEEE ComSoc) has launched a new program to certify the practical knowledge and skills of wireless communications professionals.

The IEEE Wireless Communication Engineering Technologies (IEEE WCET) Certification Program has been specifically designed by IEEE ComSoc to address the worldwide wireless industry's growing need for communications professionals with practical problem-solving skills in real-world situations. With this certification, professionals will be able to clearly demonstrate their knowledge of wireless communications technologies to employers or change engineering fields as new opportunities arise in the wireless industry.

To qualify for the IEEE WCET designation, candidates with a bachelor's degree from an accredited institution and at least three years of wireless engineering experience must pass a detailed comprehensive examination developed by more than 100 industry experts and experienced wireless practitioners. Administered on computer for the fee of \$500, the first testing period is scheduled for 22 September 2008 – 10 October 2008 at more than 500 testing sites located in 75 countries with the next testing period slated for March 2009. Online applications will be accepted beginning in mid-June.

The exam itself will consist of 150 multiple-choice questions encompassing the wireless areas of RF engineering, propagation and antennas; access technologies; network and service architecture; network management and security; facilities infrastructure; agreements, standards, policies and regulations; and fundamental knowledge.

In the coming months, IEEE ComSoc will also launch a set of resources designed specifically to help participants prepare for the examination. Two separate practice exams consisting of 75 different questions will be computer-based and available via the Internet for a price of \$75 for one exam and \$125 for both. A Wireless Engineering Body of Knowledge (WEBOK) sourcebook that provides detailed information on all the

specialty areas covered by the examination will also be available for purchase.

In addition, a Candidate Handbook for the IEEE WCET certification program containing policies, complete details of the subject areas covered, reference sources, sample questions, application procedures and contact information is currently available free-of-charge through IEEE ComSoc.

For more information on the IEEE Wireless Communication Engineering Technologies Certification Program (IEEE WCET) contact: Jean Niblett, IEEE Communications Society, 3 Park Avenue, New York, NY 10016. Phone: (212) 705-8913. E-mail: j.niblett@comsoc.org or visit www.ieee-wcet.org.

North Jersey Section Seeks Committee Chairs and Volunteers

The North 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. For Society Chapter Chairs, you must be a member of the corresponding IEEE Society.

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 Dr. Chandra Gupta at c.gupta@ieee.org. You are welcome to attend the Section business meeting held the first Wednesday of every month to find out more and other volunteer activities that require some help.

Some committees needing volunteers include the following. Please contact the person indicated for additional information.

- Power Electronics Society Chapter Chair - contact [c.gupta](mailto:c.gupta@ieee.org) below.
- GOLD (Graduates of the Last Decade) Affinity Group Volunteers and Committee members needed - contact northjerseygold "AT" ieee.org
- WIE (Women in Engineering) Affinity Group Volunteers and Committee members needed - contact kduncan@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://web.njit.edu/~ieeenj/>, or contact Dr. Chandra Gupta at c.gupta@ieee.org.

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. See <http://eleccomm.ieee.org/>.

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

Advertise in the IEEE North Jersey Newsletter

The IEEE Newsletter is the non-profit professional publication of the North Jersey Section of the Institute of Electrical and Electronics Engineers, Inc.

Published monthly except June (electronic only) and July, it is distributed to approximately 4,000 qualified members of the section.

Editorial content is pertinent and timely. It contains current information and details about special meetings, field trips, and seminars scheduled during the month and for future dates.

IEEE Newsletter readers are influential in the Electrical and Electronics industries. They are in decision-making positions or can influence decisions in this important field.

Demonstrate your support of their professional organization by advertising in their Newsletter while reaching your customers and prospects.

Manufacturers can support local reps and distributors by using cooperative advertising in the IEEE Newsletter. Classified ads and job postings are welcomed!

Contact Keith Saracinello, IEEE North Jersey Section Business Manager, at [k.saracinello "AT" ieee.org](mailto:k.saracinello@ieee.org) for more details.

NEWS from IEEE-USA:

Silicon Valley Engineer Testifies before Congress on Need to Retain Talented High-Tech Students and Professionals

Washington (12 June 2008) - Congress should make it easier for foreign graduate students and engineers to remain in the United States, Silicon Valley engineer and entrepreneur Lee Colby told a congressional subcommittee at a hearing on Capitol Hill today.

Speaking before the House Judiciary Committee's Subcommittee on Immigration, Citizenship, Refugees, Border Security and International Law, Colby testified in support of three permanent immigration reform bills introduced by subcommittee chair, Rep. Zoe Lofgren (D-Calif.).

Lofgren's proposals (H.R. 5882, 5921 and 6039), which enjoy bi-partisan support, would:

1. Increase the annual number of visas granted to professionals in science, technology, engineering and mathematics

(STEM) by exempting from the cap on employment-based (EB) permanent visas foreign students who earn graduate STEM degrees in the United States;

2. Eliminate restrictive per-country limits on EB admissions; and

3. Authorize the re-issuance of EB visas that went unused because of processing delays.

Exempting U.S.-educated STEM graduate students from permanent EB visa limits would help our nation retain talented individuals who are already here.

"Graduates from American schools are among the most sought-after employees in the world," Colby said in written testimony on behalf of IEEE-USA. "This is especially true of students who receive master's and PhD degrees in STEM fields. America has already invested in these students' education. The students speak English, have lived here for several years and, to qualify for an employment-based visa, have a job. It is in America's interest and Americans' interest that we allow them to put their talents and education to work here.

"Remember, it is not a question of whether the talented graduates of our schools will get jobs, only of where these jobs will be located. If we force them to leave, the jobs they create will not be in this country, but rather in whatever nation had the foresight to accept them."

Lofgren's bills would give U.S. companies greater access to talented workers from around the world.

"We need to educate more of our own students in these fields, but the United States does not have a monopoly on talent," Colby wrote. "There are hard working, innovative and smart people all over this planet, many of whom would apply their skills here, if given a chance.

"Congress needs to give them that chance."

Colby, who lives in Sunnyvale, Calif., worked for 36 years as an electrical engineer for Hewlett-Packard. Lee Colby and Associates, which he started in 1997, consults on circuit designs for some of the world's leading technology companies. He served as chair of the IEEE's Santa Clara Valley Section in 2005.

"Balanced reforms in the nation's legal permanent and temporary admissions programs are particularly important if U.S. employers and U.S. workers are to compete and succeed in an increasingly knowledge-based, technology-driven global economy," Colby wrote.

Colby's testimony is available at <http://www.ieeeusa.org/policy/policy/2008/061208.pdf>.

Contact: Chris McManes, IEEE-USA Public Relations Manager, (202) 530-8356, c.mcmanes@ieee.org.

IEEE-USA in Action:

Tune in to IEEE.tv, WETA.org for Projects Supporting Engineering Awareness

Washington (31 July 2008) - IEEE.tv has prepared a special program on IEEE-USA's 2007-08 Online Video Scholarship Awards Competition for Engineering Undergraduates on "How Engineers Make a World of Difference." Three scholarship awards totaling \$6,000 were awarded during Engineers Week in February to undergraduate students who created 90-second video clips deemed most effective in reinforcing engineers contributions to the quality of life for an 11-to-13-year-old audience. The 2008-09 online engineering video competition will be launched in September. To view the IEEE.tv program, visit <http://www.ieee.org/web/membership/IEEETv/about.html>.

Additionally, IEEE-USA continues to reach out to some 400,000 influential Washington, D.C.-area listeners of the U.S. capital's only classical music radio station, WETA-FM (90.9), with a brief message about the organization's mission to advance the public good and to promote the career and technology policy interests of U.S. IEEE members. In August, these promotional announcements will be presented on Friday, 1 August, at 6:59 PM Eastern Time (ET), prior to WETA-FM's simulcast of "The News Hour with Jim Lehrer"; on Saturday, 2 August, between 1:30 PM - 5:00 PM ET, during the afternoon opera; and on Monday, 4 August, between 6:00 AM - 9:00 AM ET, during the NPR news broadcasts. The first of some 30 15-second IEEE-USA announcements began airing on 4 January, and will continue through 6 December. To hear the programs and announcements, tune in to <http://www.weta.org/fm>.

Through these and other public awareness activities, IEEE-USA seeks to counter a public perception, cited in the most recent Harris opinion poll on engineers and scientists, that engineers contribute less to the quality of life than scientists and show less interest in their local communities than scientists. For more information, visit <http://www.ieeeusa.org>.

Contact: Pender M. McCarter, Senior Public Relations Counselor, IEEE-USA/Washington, DC, (202) 530-8353, p.mccarter@ieee.org.

NEWS from IEEE-USA:

IEEE-USA Position Encourages Energy Efficiency to Save Households Money, Reduce Carbon Emissions

Washington (2 July 2008) - There's little the average person can do to stem the rising cost of gasoline, electricity, natural gas and other energy sources. But by improving our energy efficiency at home, on the road and at work, we can use less energy and save money.

IEEE-USA, in an "Energy Efficiency" position adopted on 20 June, says that, "Through energy efficiency improvements, the United States can reduce energy costs; reduce the depletion of fuel resources; increase energy security; enhance international competitiveness, reduce environmental impacts and substantially reduce greenhouse gas emissions."

To that end, IEEE-USA encourages the federal government to adopt the following policies, among others, that facilitate energy efficiency by:

- Developing technologies to further reduce energy losses in electric power generation, transmission and distribution
- Developing, commercializing and using more efficient electric-drive transportation technologies, such as plug-in hybrid electric vehicles:
- Improving and upgrading transportation systems to reduce energy consumption, and adopting "smart growth" policies that reduce distances traveled
- Using communications and information technologies, such as teleconferencing and the Internet, to reduce the need for business travel, such as in telecommuting

Power electronics, which is essential for converting and controlling electric power at high efficiency, can, according to IEEE-USA, save 15 percent of U.S. electric grid energy. One of the easiest things the organization recommends is for each household to use compact fluorescent light bulbs (CFLs).

The U.S. Environmental Protection Agency and the Department of Energy says that Energy Star-qualified CFLs "use about 75 percent less energy than standard incandescent bulbs and last up to 10 times longer." Over each bulb's lifetime, this saves at least \$30 in electricity costs.

Further, if every home in America had at least one such CFL, it would save our nation "more than \$600 million in annual energy costs, and prevent greenhouse gases equivalent to the emissions of more than 800,000 cars." See http://www.energystar.gov/index.cfm?c=cf ls.pr_cfls.

Continued research and development into transportation systems can also play a key role in enhanced energy efficiency. This includes the development and deployment of electric, hybrid and fuel cell vehicles; fuel-efficiency improvements in trucks, trains, aircraft and passenger cars; and greater use of public transit.

Communication systems advances, coupled with high-speed Internet access, can greatly reduce the energy consumed in business travel and save companies millions in travel costs.

BusinessWeek, in a 22 May article, "The Waning Days of the Road Warrior," said, "Videoconferencing, Web-enabled meetings, online collaboration tools - all are giving workers the ability to dart around the globe from their desk chairs." The publication also reports that flying less is a great way for companies "to cut their carbon footprint." See http://www.businessweek.com/magazine/content/08_22/b4086065667204.htm.

IEEE-USA's "Energy Efficiency" position statement, developed by its Energy Policy Committee, is available at <http://www.ieeeusa.org/policy/positions/energyefficiency.pdf>.

See all IEEE-USA position statements at <http://www.ieeeusa.org/policy/positions/index.html>.

IEEE-USA advances the public good and promotes the careers and public policy interests of more than 215,000 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 375,000 members in 160 countries. See <http://www.ieeeusa.org>.

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

Life Grade Luncheon

The PES Chapter and the Section will sponsor a luncheon for North Jersey IEEE Life Grades (Members, Senior Members and Fellows) on Thursday, October 16, at

Hamilton Park Conference Center
175 Park Avenue
Florham Park, NJ 07932.

The luncheon will begin at 11:30 AM in the Terrace area. Cost is \$ 5.00 per person

Advance registration is required prior to Oct. 9. We can accommodate only 30 people. Registrations will be processed in the order of receipt and will be confirmed by return mail. Please complete the following registration form and include a check payable to the North Jersey Section IEEE in the amount of \$ 5.00 per person.

Reservations cannot be accepted at the door. For additional information regarding the event contact Ken Oexle 973-386-1156.

IEEE Life Grade Luncheon Registration NJ - Oct. 16, 2008

Name _____

Address _____

Phone _____

IEEE # _____ Life Grade ____ Yes

Return to: Ken Oexle
11 Deerfield Rd
Whippany, NJ 07981

Prior to October 9 and enclose \$5.00. Make check payable to **NJ Section IEEE**

IEEE North Jersey Section Course Project Management

Tuesday Evenings, October 14, 2008 through December 2, 2008
Eight weekly classes (October 14, 21, 28, November 4, 11, 18, 25, December 2, 2008)
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, NJBMC for sponsoring this course at its site

The North Jersey Section IEEE is offering an evening course entitled "Project Management". Dice.com lists 5800+ 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 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. CEU credits would be given by IEEE)

Instructor: **George Sierchio**, has 16 years of experience in owning and operating technical consulting and training based businesses. He has personally managed over 30 projects and developed/delivered training to over 500 adult students on both business and technical subjects.

TOPICS

1. Explain the need for a project manager in different industries
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. Employ the use of MS Project 2007, MS Visio 2007 and related software
7. Set a baseline, import tasks from MS Excel, export Project files to MS Word
8. Create and modify custom reports, templates and combination views
9. Approve updates and conclude a project plan
10. Market global E-commerce projects
11. Present final projects from the participants

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

WHEN: 8 Tuesdays, October 14, 21, 28, November 4, 11, 18, 25, December 2, 2008, 6:30-9:00 PM.

COST: IEEE (& affiliate) members \$450; Non-IEEE members \$490.

CONTACT: Donald Hsu: 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, 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

Tuition receipt will be issued only if this box is checked Signature: _____

NJ Power Engineering Society/Industry Applications Society

Selective Coordination Seminar

The PES and IAS Chapters will sponsor a technical seminar on the topic of Selective Coordination. The session will be held on Friday, October 31, 2008, at Automatic Switch Co., 50 Hanover Rd, in Florham Park, NJ.

Topics

Selective Coordination in power systems having multiple sources:

Abstract: Selective coordination of overcurrent protective equipment is as much an art as it is a science. The objective is to provide overload and fault protection without nuisance tripping of overcurrent devices. This protective equipment must not only interrupt hard faults but also arcing faults. Technological advancements have made it possible to detect and interrupt an ever broadening range of undesirable electrical conditions. Taking advantage of these advancements, the National Electrical Code (NEC), NFPA 70, expands its requirements with each revision.

Given the ever-increasing criticality of electric loads and increasing dependence upon the availability of electric power the size and scope of emergency and stand by power systems continues to grow. In the 2008 NEC the scope of critical power systems is expanded to require selective coordination. This is no simple feat to achieve. Given the characteristics of disparate sources serving common loads, selective coordination may not always be achievable.

This presentation explores the requirements of the NEC with respect to these issues and surfaces many of the concerns and challenges facing the power system designer in serving the needs of the critical electric loads while meeting the intent of the NEC.

About the Instructor

The instructor will be James M. Daley, P.E., DGCP, Principal of Facilities Electrical Consulting Services. Mr. Daley is a licensed professional engineer in the states of New Jersey & Pennsylvania. He is a Life Senior Member of the IEEE and a Senior Member and Distributed Generation Certified Professional of the Association of Energy Engineers.

Mr. Daley has served many IEEE committees holding various roles including that of Chair. He is still active sitting on several IEEE committees at present. His activities included membership in NFPA and contributions to the National Electrical Code.

Mr. Daley was employed by Automatic Switch Company in 1965 and retired from ASCO in 2002. He has been published many times.

Since retirement, Mr. Daley has worked with ASCO as a consultant continuing to address technical issues concerning power system phenomena. Applying the decades of experience in user power generation, distribution and control systems, he formed his own company, Facilities Electrical Consulting Services to make his expertise available to the industry. As a result, he has worked on a number of projects as an independent consultant in forensic engineering and power generation distribution and control.

The registration fee for this seminar prior to October 17th 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 October 17th 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, October 31, 2008.
Place: Automatic Switch Company, 50 Hanover Road, Florham Park, NJ 07932 (973-966-2000)
Directions: From Route 80 Take I-287 to Exit 37 (NJ 24 East - Springfield). Take NJ 24 East to Exit 2B (Columbia Turnpike). Proceed 2.2 miles to Hanover Road (6th set of traffic lights). Turn left on Hanover Road (AAA Building). Automatic Switch will be on the right (0.4 mile). Enter first driveway-marked shipping/receiving and proceed to visitor parking lot on the left. Follow sidewalk to office entrance door.
Information: Ronald W. Quade, PE, (732) 205-2614 or rwquade "AT" ieee.org

Registration: Selective Coordination Seminar 10/31/2008

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 October 17, 2008

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

NJ Power Engineering Society/Industry Applications Society

Automatic Transfer Switch Seminar

The PES and IAS Chapters will sponsor a technical seminar on the topic of automatic transfer switches. The session will be held on Friday, November 21, 2008 at Public Service Electric & Gas Corporate Headquarters in Newark, NJ.

Topics

Automatic Transfer Switches:

- ✓ Maintenance Bypass Switches
- ✓ Code considerations & service entrance applications
- ✓ Open transition, closed transition, soft transition
- ✓ Application of 3-pole vs. 4-pole
- ✓ Coordination considerations with other electrical distribution equipment
- ✓ Transfer Controllers

About the Instructor

The instructor will be Cathy Clausen from Eaton. Cathy received a Bachelor of Science Degree in Mechanical Engineering from the University of Wisconsin in 2001. Since 2001 she has worked for Eaton in Milwaukee, WI, Hengelo, Netherlands, and Asheville, NC (www.eaton.com) and now holds the position of ATS Engineering Manager. She serves as the Madame Chairman of the Automatic Transfer Switch Workgroup NEMA 11S SC16, which is responsible for the various standards involving transfer switches with primary focus on UL1008. She is also a member of the tri-national CANENA committee for automatic transfer switches.

The registration fee for this seminar prior to November 7th 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 November 7th 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, November 21, 2008.
Place: PSE&G, 80 Park Plaza, Newark, NJ 07101
Directions: <http://www.pseg.com/about/directions.jsp> or Amtrak, NJ Transit or PATH buses and trains
Information: Ronald W. Quade, PE, (732) 205-2614 or [rwquade "AT" ieee.org](mailto:rwquade@at.ieee.org)

Registration: Automatic Transfer Switch Seminar 11/21/2008

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 November 7, 2008

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

THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.



IEEE NORTH JERSEY SECTION
MTT-Society and AP-Society Joint Chapter



PRESENT

23rd ANNUAL SYMPOSIUM AND MINI-SHOW



**FOCUS: SELECTED TOPICS IN MICROWAVE TECHNOLOGIES FOR
COMMERCIAL AND MILITARY APPLICATIONS**

Thursday, October 2, 2008

Hanover Manor

16 Eagle Rock Avenue, E. Hanover, NJ 07936 (Phone # 973-992-7425)

SCHEDULE OF EVENTS

9:00 AM TO 4:30 PM

TECHNICAL SESSIONS

**10 –12 LECTURES FEATURING SPEAKERS FROM LEADING COMPANIES,
WITH EMPHASIS ON MILITARY ELECTRONICS,
WIRELESS TECHNOLOGIES AND MICROWAVE COMMUNICATIONS**

**MINI SHOW FEATURING LATEST PRODUCTS
(APPX. 30-40 EXHIBITORS)**

(COMPLIMENTARY LUNCH SERVED)

Details of the schedule, speakers and topics can also be found at the IEEE North Jersey Section Newsletter webpage:

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

For further information contact:

Chair/Exhibition: Kirit Dixit (201-669-7599), kdixit "AT" ieee.org

Publicity: Arthur Greenberg (973-386-6673), ahg1 "AT" alcatel-lucent.com

Event/ Location Coordinator: Ken Oexle (973-386-1156)

Co-Chair– Technical Program: Har Dayal (973-633-4618), har.dayal "AT" baesystems.com

Co-Chair -Technical Program: George Kannell (973-437-9990), gkk "AT" lgsinnovations.com

THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW