The IEEE Newsletter

IEEE

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

North Jersey Section Recognizes Naz Simonelli for 40+ Years of Service

On September 3, 2008, Kirit Dixit, Chair of the North Jersey Section (left), presented Nazaro Simonelli with a plaque for "dedicated and sustained services to IEEE activities."

Naz has enjoyed a long and distinguished tenure in two IEEE Section Executive Committees.

He joined the Long Island Section 1958, and continued to work on their Executive Committee from 1964 until 1994. During that time he served as Section Secretary, Treasurer, Society Coordinator, and as chairman of several different committees and society chapters.

In 1995 Naz relocated to Randolph, NJ, and began serving on the North Jersey Section Executive Committee. He continued taking an active role as Society Coordinator, Member-at-Large, By-Laws Committee Chair, Education Committee Chair, all while rejuvenating several society chapters. Most recently, Naz revised the North Jersey Operations and Procedures Manual based on his extensive IEEE experience. Naz also received several awards during that time including a Region 1 Award in 2001 for his many contributions.

The North Jersey Section Executive Committee thanks Naz for all of his hard work and dedication throughout the years!

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 for more details.

Visit the IEEE North Jersey Section Webpage at

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

North Jersey Section information such as officer contact details, 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.

NOVEMBER 2008

NEWSLETTER STAFF
Editor ....Keith Saracinello
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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
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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, rcpepe "AT" ieee.org.

NJ Communications Society:

Alice and Bob Get Physical: Insights into Physical Layer Security

On Monday, November 10, 2008, the IEEE Communications Society will host a presentation titled "Alice and Bob Get Physical: Insights into Physical Layer Security." The speaker will be Dr. Wade Trappe.

About the Talk

Although conventional cryptographic security mechanisms are essential to the overall problem of securing wireless networks, these techniques do not directly leverage the unique properties of the wireless domain to address security threats. The properties of the wireless medium are a powerful source of domain-specific information that can complement and enhance traditional security mechanisms. Recently, the fact that the radio channel decorrelates rapidly in space, time and frequency has led to a growth of new security research "at the physical layer". In this talk, we present an overview of authentication and confidentiality services that operate at the physical layer and can be used to facilitate cross-layer security paradigms. Specifically, for authentication services, we show how channel probing techniques can verify the authenticity of a transmitter (thus thwarting spoofing attacks), as well as provide a means to ensure that a transmitter claims a single identity (thus thwarting Sybil attacks). Similarly, for confidentiality, we examine several strategies for establishing shared secrets/keys between two communicators using the wireless medium. These strategies range from extracting keys from channel state information, to utilizing the channel variability to secretly disseminate keys. We present the results of validation efforts to support these techniques, including real system implementations involving a customized 802.11a platform, which uses channel impulse responses estimated from preambles to establish secret bits at a rate of 1b/sec in a typical indoor office environment. Lastly, in the spirit of good security research, we identify potential "security pitfalls" with physical layer security-- problems that suggest that the physical layer security field has a lively future ahead of it.

About the Speaker

Wade Trappe received his BA degree in Mathematics from The University of Texas at Austin in 1994, and the PhD in Applied Mathematics and Scientific Computing from the University of Maryland in 2002. He is currently an associate professor in the Electrical and Computer Engineering Department at Rutgers University, and is Associate Director of the Wireless Information Network Laboratory (WINLAB). His research interests include wireless security, wireless networking, multimedia security, and network security. While at the University of Maryland, Dr. Trappe received the George Harhalakis Outstanding Systems Engineering Graduate Student award. Dr. Trappe is a co-author of the textbook *Introduction to Cryptography with Coding Theory*, Prentice Hall, 2001. He is the recipient of the 2005 Best Paper Award from the IEEE Signal Processing Society. He is a member of the IEEE Signal Processing and Communications societies, and a member of the ACM.

All Welcome!

You do not have to be a member of the IEEE to attend.
Time: 6:00 PM, Monday, November 10, 2008. Refreshments will be available at 5:45 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. Nirwan Ansari (973) 596-3670 (nirwan.ansari "AT" njit.edu) or Yanchao Zhang (973) 642-7817. Also check http://web.njit.edu/~ieeenj/comm.html for the latest updates.

NJ PACE, GOLD, WIE & EMS:

Engineers Meet:
Design for Six Sigma Seminar

On Tuesday, November 18, 2008, the North Jersey Section of Professional Activities Committee, Graduates of the Last Decade, Women in Engineering, and the Engineering Management Society will offer a free seminar on the "Design for Six Sigma" (DFSS). The course is one in a series of IEEE Expert Now Educational Courses. You will earn IEEE Continuing Education Units and Professional Development hours for attending the course and seminar.

About the Course

The course will be accompanied by a lecture on applying the tools of Six Sigma to real world examples in the Information Technology industry and other transactional and process based problem domains. This will be contrasted with the traditional application of Six Sigma in manufacturing domains. It will also compare the DMAIC, DFSS and Lean "flavors" of Six Sigma.

After the seminar, the attendee should understand the core concepts and key processes of Six Sigma and tools needed to accomplish transaction and reliability

improvements as well as understand how they are applied to different problem domains.

Six Sigma improves both product and process quality, reducing defects using a suite of tools that span statistical, analytical, and collaborative domains. The Six Sigma process has been extended to take the initiative in developing better designs that avoid problems rather than having to go back and correct them. This is the Design-for-Six Sigma (DFSS) initiative

About the Speaker

Kathi Kivi is president of Superior Project Solutions Inc., which provides consulting services in IT security, Six Sigma and project management. Kathi has over 20 years of experience in housing, telecommunications and government in the U.S. and Canada. Her experience is multi-faceted in information security, Six Sigma business operations process improvement, managing web applications, analysis, planning, disaster recovery and business continuity, business systems, network administration and operations, systems analysis and applications development, managing human resources, as well as outsourcing planning, execution and management. As an applications manager with Sony Electronics, she became a Six Sigma Black belt and certified Greenbelt. Six Sigma process improvement projects in both IT and business focused on increasing customer satisfaction and bottom-line performance resulting in measurable savings of over $1 million in less than one year. She is a member of IEEE, (ISC)2, ISSA, Infragard, and PMI. She is a Certified Information Systems Security Professional (CISSP) and has been a U.S. Researcher for Information Systems Audit and Control Association (ISACA). She received a Business Data Processing diploma from Confederation College, a BS in MIS from Regents College, and a MS in Telecommunications from Iona College. Kathi may be contacted at kkivi@SuperiorProject Solutions.com. Company website is www.superiorprojectsolutions.com.

All Welcome!

This talk is free to attend, you do not have to be an IEEE member, invite your friends. But you **MUST register** at ewh.ieee.org/r1/north_jersey/gold to insure an accurate count of attendees.

Time: 6:00 PM to 8:30 PM, Tuesday, November 18, 2008. Free pizza and soda will be served.

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

Information: northjerseygold "AT" ieee.org, Paul Ward, (973) 790-1625, PWard1130 "AT" aol.com, Richard Tax, (201) 664-6954, rtax "AT" verizon.net.

IEEE North Jersey Section Activities November 2008

Nov. 5 – "NJ Section Meeting", 6:30 PM, "Executive Committee Meeting" - 7:00 PM, ITT, 77 River Rd, Clifton, NJ. Russell Pepe at rcpepe "AT" ieee.org.

Nov. 6 – "X-Parameters: A new Paradigm for Interoperable Measurement, Modeling, and Simulation of Nonlinear Microwave and RF Components" by Dr. David E. Root, NJ 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. Edip Niver, (NJIT), (973) 596-3542 , Har Dayal, (973) 633-4618, har.dayal "AT" baesystems.com or Kirit Dixit, (201) 669-7599, kdixit "AT" ieee.org.

Nov. 10 – "Alice and Bob Get Physical: Insights into Physical Layer Security" by Dr. Wade Trappe, NJ Communications Society, 6:00 PM, 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. Dr. Nirwan Ansari (973) 596-3670 (nirwan.ansari "AT" njit.edu) or Yanchao Zhang (973) 642-7817.

Nov. 13 – "Intelligent Agents for Battle Command Services" by Dr. Israel Mayk, NJ SMC Society, 7:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Dr. Mike Liechenstein (973-471-0721) or E-Mails: (itsmikesju "AT" aol.com or zhou "AT" njit.edu).

Nov. 18 – "Engineers Meet: Design for Six Sigma Seminar" by Kathi Kivi, NJ PACE, GOLD, & WIE, 6:00 PM to 8:30 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. northjerseygold "AT" ieee.org, Paul Ward, (973) 790-1625, PWard1130 "AT" aol.com, Richard F. Tax, (201) 664-6954, rtax "AT" verizon.net.

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.

Upcoming Meetings

Dec. 12 – "Adjustable Frequency Drives Seminar" by Dan Kupersmith, NJ PES/IAS, 9:00AM to 2:00PM, PSE&G, 80 Park Plaza, Room 101, Newark, NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade "AT" ieee.org.

Members and Non-Members Welcome
PLEASE POST

X-Parameters: A new Paradigm for Interoperable Measurement, Modeling, and Simulation of Nonlinear Microwave and RF Components

On November 6, 2008, the IEEE NJ Section MTT/S/AP-S chapters and the New Jersey Institute of Technology will host a talk on "X-Parameters: A new Paradigm for Interoperable Measurement, Modeling, and Simulation of Nonlinear Microwave and RF Components." The speaker will be Dr. David E. Root.

About the Talk

X-parameters are the mathematically rigorous superset of S-parameters, applicable to nonlinear (and linear) components under both large-signal and small-signal conditions. X-parameters take into account mismatch at fundamental and harmonic frequencies, and correctly predict effects of source harmonics on DUT response. X-parameters enable the hierarchical design of chains of nonlinear components under large-signal drive, such as multi-stage power amplifiers, multi-chip RF modules, and RF systems including amplifiers and mixers.

This lecture presents the basics of X-parameter theory, describes practical X-parameter measurements using a novel Nonlinear Vector Network Analyzer instrument, and demonstrates how this data can be used directly in commercial nonlinear simulators for the design of nonlinear circuits and systems. Each piece (measurement, mathematical formalism, and simulation) of the puzzle has been created, and they now fit together, seamlessly. This results in an automated, high-throughput, interoperable system for predictable measurement-based (and simulation-based) nonlinear design with X-parameters [4]. X-parameters can be immediately used to reconstruct the time-domain waveforms (even under very large compression), estimate nonlinear figures of merit (FOM) such as IP3 and ACPR, design multiple stage amplifiers and RF subsystems, and optimize system performance as a function of the DUT characteristics and design parameters. The simulation is accomplished by an auto-configurable nonlinear frequency-domain simulation block, based on an extended Poly-Harmonic Distortion (PHD) framework for black-box nonlinear behavioral modeling [1-4]. The PHD framework enforces required DUT properties such as time invariance and Volterra constraints for extrapolation to very low signal levels.

The efficacy of X-parameters is demonstrated by predicting the nonlinear effects of power-dependent mismatch of cascaded amplifiers from measured X-parameter data of the individual components. The X-parameter method for characterizing output match under drive is evaluated, quantitatively, and demonstrated to be superior to the "hot S22" method that is shown to be incomplete.

About the Speaker

Dr. David E. Root received BS degrees in physics and mathematics, and, in 1986, the PhD degree in physics, all from MIT. He joined the Hewlett-Packard Company (now Agilent Technologies, Inc.), in 1985, where he has held both technical and management positions. He is presently Principal Research Scientist and Modeling Architect at Agilent's High Frequency Technology Center in Santa Rosa, CA. His current responsibilities include nonlinear behavioral and device modeling, large-signal simulation, and nonlinear measurements for new technical capabilities and business opportunities for Agilent. Dr. Root is a Fellow of the IEEE. He is Vice-Chair of the IEEE MTT-S Committee on CAD(MTT-1) and a member of the Technical Program Committee of the International Microwave Symposium. He co-edited the recent book *Fundamentals of Nonlinear Behavioral Modeling for RF and Microwave Design*, Artech House, 2005. He holds an appointment as 2006-2008 IEEE MTT-S "Distinguished Microwave Lecturer." Recently, David was named the recipient of the 2007 IEEE ARFTG Technology Award for contributions to nonlinear RF and microwave device measurement and behavioral modeling.

All Welcome!

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

Time: 7:00 PM, Thursday, November 6, 2008. Free buffet will begin at 6:30 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: Dr. Edip Niver, (NJIT), (973) 596-3542 , Har Dayal, (973) 633-4618, har.dayal "AT" baesystems.com or Kirit Dixit, (201) 669-7599, kdixit "AT" ieee.org.

Intelligent Agents for Battle Command Services

On November 13, 2008, the NJ Systems, Man & Cybernetics (SMC) Chapter will be hosting a seminar titled "Intelligent Agents for Battle Command Services." Dr. Israel Mayk, a research scientist at the US Army Research, Development and Engineering Command (RDECOM), Fort Monmouth, NJ, will be the presenter.

About the Talk

In this presentation we'll provide a brief background on intelligent agent technology and describe the approach, design and initial implementation results obtained from prototyping intelligent agents as part of a suite of battle command services. These services are currently under development as part of the Tactical Information Technology for Assured Network Operations (TITAN) Army Technology Objective - Development (ATO-D) Program focused on Information Dissemination and Management (ID&M) for Battle Command (BC) Services. The Program was initiated by the Army in October 2008 leveraging the results of the Army Intelligent Agent Sub-IPT to span and integrate available resources associated with ID&M, Network Management (NM) Information Assurance (IA) technologies. This talk, however, will be limited to ID&M area. The objective of TITAN IM&D is to develop a set of core BC Services that will reside with the BC Common Services servers to be fielded as part of the Army Current Force BC systems in support of net-centric BC interoperability and collaboration. This core set consists of the following BC services: a) OPORD Service, b) Battle Book Service, c) Alert and Warning Service, d) Smart filtering Service, e) Workflow Orchestration Service, f) Initialization and Continuity of Operations Service and g) Product Dissemination Service, The primary approach of this effort is to leverage intelligent Agent Technology and build upon the success of the previous related programs. TITAN software agents are responsible for the functionality and behavior of TITAN BC Services. In this paper we will describe four types of computational behaviors associated with Commander's Critical Information Requirements (CCIR) that were derived in response to general requirements associated with the Military Decision Making Process. They include area protection, route protection, hotspot recognition and route deviation.

About the Speaker

Dr. Israel Mayk is an Electronics Engineer/Research Scientist and Technical Manager with the Command and Control Directorate, U.S. Army Research, Development and Engineering Command (RDECOM), Communications-Electronics Research, Development and Engineering Center (CERDEC) at Fort Monmouth NJ. He is responsible for research and development of battle command knowledge-based decision architectures. In particular, he is currently the Chair of the Intelligent Agents sub-IPT of the RDECOM Network IPT, the Technical Manager of several Exploratory Development Programs and of the U.S. Army Technology Objective Program called Tactical Information Technology for Assured NetOps (TITAN). Dr. Mayk's R&D efforts support several key Army/CERDEC C2 Programs including Current Force and Future Force Programs of Record. Since 1976 he has been working on numerous interoperability issues associated with Army, Joint and Coalition tactical data systems. From 1985 to 1995 Dr. Mayk was a member of the Basic Research Group (BRG) of the C3 Research and Technology Program sponsored by the Joint Directors of Laboratories (JDL), Technical Panel for C3 (TPC3) and chaired the C2 Reference Model (C2RM) Subgroup. His experience in research, exploratory development and advance development at CERDEC involves research and development of C2 computational environments including mathematical models and efficient algorithms for decision-aids, situation awareness, message and protocol design and simulation, communications networks, spread-spectrum systems and distributed processing architectures.

Dr. Mayk is a Senior Member of the IEEE and a member of AFCEA, AUSA, and USNI. He holds a BA degree in physics (1970) from Rutgers University, NJ, a MSc degree in nuclear physics (1973) from the Weizmann Institute of Science, Israel, and an EngScD in electrical engineering (1985) from NJ Institute of Technology.

All Welcome!

You need not be a member of IEEE to attend, and there is no charge for admission.

Time: 7:00 PM, Thursday, November 13, 2008. Light refreshments will be offered at 6:45 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/RSVP: Dr. Mike Liechenstein (973-471-0721) or E-Mails: (itsmikesju "AT" aol.com or zhou "AT" njit.edu). Please RSVP and check the electronic newsletter for any changes.

News from IEEE-USA:

IEEE RFID 2009 Conference Seeks Technical Papers

Washington (17 September 2008) - Organizers of the 2009 International IEEE Conference on RFID (IEEE RFID 2009) are seeking technical papers from authors presenting the latest research, innovations and implementations related to the theory and practice of RF-based identification and communication systems. Accepted papers will be published by the IEEE and presented at IEEE RFID 2009 (www.ieee-rfid.org/2009/), which is co-located with RFID Journal Live! executive conference and exhibition (http://www.rfidjournalevents.com/live/) in Orlando, FL, 27-29 April, 2009. The third-annual conference will address the technical and policy challenges of RFID technologies and feature keynote speakers from RFID thought leaders, panel discussions and presentations on technology advances.

Topics of interest include antennas & propagation; circuits, devices and sensors; communication protocols; security & privacy; system tools; RF-based localization; RFID system architecture; policy & regulatory issues; deployment issues and concerns; and applications.

RFID, or "Radio Frequency Identification," is an enabling technology. Tags storing information on a microchip connected to a radio antenna are accessed by readers that use radio waves to poll the tag and retrieve the data.

Authors are invited to submit full 8-page papers in the IEEE conference format (http://www.ieee.org/portal/cms_docs/pubs/confpubcenter/pdfs/samplems.pdf).

Submissions must describe original work not previously published or currently under review for publication in another conference or journal.

Abstract submissions are due 1 December 2008 and paper submissions 5 December. Acceptance notification is 13 February, 2009 and publication-ready papers are due 13 March, 2009.

IEEE-USA and the IEEE Communications Society (http://www.comsoc.org/) are financial co-sponsors for IEEE RFID 2009.

Questions can be directed to 2009info@ieee-rfid.org.

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

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 "AT" 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 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 "AT" 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 "AT" ieee.org.

2008 MTT Mini-Show

   The IEEE North Jersey Section, MTT/AP-Joint Chapter 23rd Annual Symposium and Mini-Show was held on Thursday, October 2, 2008, at the Hanover Manor, 16 Eagle Rock Ave, E. Hanover, NJ The conference presented a series of eight lectures describing the state of the art in Microwave, RF, Optical and Wireless, technologies by leaders in their respective fields. Exhibitors presented their latest technical products within the MTT & AP areas. The following were taken during the show.

IEEE Connecticut Section Chair, Charlotte Blair (left), North Jersey Section Chair, Kirit Dixit (center),
Nominations Committee Chair, Dr. Chandra Gupta (right)

North Jersey Section Secretary, Russell Pepe (left), Stephen Leung of Andrew Corporation (center), and
Dr. Fred Chichester, Audit Committee Co-Chair (right)

NJ EDS/C&S Chair, Dr. Richard Snyder, leads a lecture on Practical Aspects of Microwave Filter Development

Exhibitors meet customers and demo products

2009 IEEE Green Technology Conference Seeks Technical Papers

Washington (9 October 2008) - The first IEEE Green Technology Conference will examine alternative energy sources and energy-reduction technologies and their potential for helping the world meet its growing demand for energy, while reducing carbon emissions. Conference organizers are seeking technical papers on current and emerging technologies in environmentally friendly energy sources, and on ways to better manage our energy resources.

Accepted papers will be published by the IEEE and presented at the 2009 IEEE Green Technology Conference (http://www.ieeegreentech.org/) at the Holiday Inn Hotel Towers in Lubbock, Texas, USA, 16-17 April 2009. The conference will precede the annual IEEE Region 5 Meeting.

Topics of interest include the technical and policy challenges of renewable energy sources; alternative vehicle power sources; home automation and energy management; commercial energy management strategies; energy usage reduction; and integration of green energy sources into the existing power grid. The social and economic implications of renewable and reduced carbon emission energy sources will also be examined.

Alternative energy keynote speakers will address these challenges, as will panel discussions and presentations on technology advances.

With increasing concerns about fossil fuel costs, supplies and emissions, people the world over are more closely examining the commercial viability of other energy sources. These include solar, wind, nuclear, geothermal, hydro and biomass, among others, as well as alternative vehicle power sources such as fuel cells, gasoline and liquid natural gas electric hybrids and plug-in hybrid electric vehicles.

Authors are invited to submit abstracts by 31 December 2008. Accepted authors will be notified 31 January 2009, and full 8-page papers in the IEEE conference format are due by 1 March 2009 (http://www.ieee.org/portal/cms_docs/pubs/confpubcenter/pdfs/samplems.pdf).

Submissions must describe original work not previously published or currently under review for publication in another conference or journal. Send your submissions to green.tech09@gmail.com.

The 2009 IEEE Green Technology Conference is sponsored by IEEE Region 5, the IEEE South Plains Section and IEEE-USA.

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
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Local TV Reports on Engineering, Science Highlight IEEE Technologies that Benefit Society

Washington (30 September 2008) - As part of its public-awareness program to promote engineering and technological literacy, IEEE-USA has helped to underwrite almost 600 local television news reports on engineering and science since 2005. The "Discoveries & Breakthroughs Inside Science" TV news reports are distributed to local U.S. television stations in more than 100 cities, transit systems in seven U.S. cities, as well as through the Voice of America and the Roo Online Video Network in more than 60 countries. Stations airing the IEEE-related spots include a mix of ABC, CBS, NBC, Fox, Univision, cable and independent affiliates. IEEE-related technology stories have their own Web site at http://www.aip.org/dbis/IEEE.

Recent TV news reports on IEEE technologies that benefit society have included segments on:

- Engineers who have created a model to forecast the progression of a future pandemic allowing researches to design the best way to distribute food and vaccines to those in need
- Engineers who have invented a device to bring air samples into contact with genetically engineered biosensors to detect dangerous biological agents
- Environmental scientists and engineers who have developed mathematical models to calculate the impact of pollution from Europe and Asia on areas in the United States
- Chemists and engineers who have designed a technology that protects soil and helps promote plant growth to keep topsoil in place over the long term.

Additional TV news reports on IEEE technologies include:
- Biomedical and safety engineers who, in order to improve safety for children using seat belts, have added a more lifelike abdomen to models representing youngsters between the ages of 4-8
- Engineers who have developed a computer program to track and schedule immunizations for infants
- Pyschoacoustics researchers and industrial technologists who use a pen computer to help visually impaired students learn science and math
- Engineers and scientists who have developed a new technology that allows cardiologists to capture detailed pictures of the heart in less than one second, revealing subtle changes in blood flow and blockages in tiny blood vessels
- Biomedical engineers who have used advanced cone beam imaging technology to take a series of two-dimensional x-rays, allowing dentists to create a detailed three-dimensional picture of a patient's mouth

The "Discoveries & Breakthroughs" TV news service was developed by the American Institute of Physics (AIP) with a coalition of 23 technical professional organizations including IEEE/IEEE-USA.The service delivers 12 vetted 90 second TV reports monthly -- in English and Spanish -- with a potential reach of up to 75 million TV viewers, and an estimated 41 million online views per month. Academic research has documented that the public obtains most of its information about engineering and science from local TV news and that viewers of the "Discoveries & Breakthroughs" service are more likely to support engineering and science than those who are not viewers.

Former IEEE-USA Mass Media Engineering Fellow Sourish Basu and former IEEE Washington Internships for Students of Engineering Participant Elizabeth Johnston participate with other society representatives in weekly telephone conferences to develop and vet story ideas. "Discoveries & Breakthroughs" is seeking new story ideas to include in its TV reports incorporated in local TV news broadcasts. Pitches should be directed to Emilie Lorditch, the series' manager and senior science editor, at elorditc@aip.org.

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

Sarnoff 2009 Symposium
Call for Papers

Conference Chairs: **Kyriakos Manousakis** (Telcordia Applied Research); **David Daut** (Rutgers University)
Technical Program Chairs: **Nicholas Madamopoulos** (City College of CUNY); **Ajay Rajkumar** (Alcatel-Lucent)

Publication Chair:	**Aileen Cheng** (Telcordia)	*Tutorial Chair:*	**Edwin Hou** (NJIT)
Publicity Chair:	**Wei Jiang** (Rutgers University)	*Finance Chair:*	**Deniel Deng** (NanoNuvo Corp.)
Registration Chair:	**Vishal Singh** (NEC-Labs)	*Local Arrangement Chair:*	**Kale Franz** (Princeton Univ.)
Military Panel Chair:	**Matthew Zieniewicz** (CERDEC)	*Exhibits Chair:*	**Wei Wei** (NEC-Labs)
Commercial Panel Chair:	**Elias Kpodzo** (BAE Systems)	*Web master:*	**Komlan Egoh** (NJIT)
Student Poster Chair:	**Wieslaw Marszalek** (DEVRY)		

Since 1978 the IEEE Sarnoff Symposium has been bringing together a tremendous and rich diversity of telecom experts from industry, universities, and government. The popularity of the Sarnoff Symposium, again being held in the historic Nassau Inn located in the heart of downtown Princeton, continues to grow as the premier forum for researchers, engineers, and business executives in the North East drawing an attendance from all over the world. Besides the technical paper presentations, the Symposium will include *tutorials, student paper poster presentations, executive panels*, and *exhibition*.

Prospective authors are encouraged to submit a full paper for review. Only original papers that have not been published or submitted for publication elsewhere will be considered. The submission process is carried through the *EDAS conference management* system (http://edas.info/).

The manuscripts must follow the IEEE two-column format with single-spaced, 10-point font in the text. The maximum paper length is of five (5) pages. A sixth page may be accepted after an additional fee. Submission of a regular paper implies that at least one of the authors will have a full registration to the Conference and present the paper upon the acceptance of the submission.

All accepted papers (after review by experts in the field) will be presented in oral sessions, included in the *2009 IEEE Sarnoff Symposium proceedings* and published through **IEEEXplore**. Student papers should be submitted to the Student Papers Chair (wmarszalek@devry.edu). Prospective tutorial presenters should contact the Tutorials Chair (hou@njit.edu). Detailed procedure is available at: www.sarnoffsymposium.org.

The Symposium is soliciting state-of-the-art research papers and tutorial proposals in the following areas of interest.

Communication Systems
- Broadband Networks (LAN/WAN)
- Network Security
- VoIP & QoS (IPv6/Telephony)

Communications Theory
- Network Information Theory
- Signal Processing for Communications
- Modulations and Coding Techniques

Military Communications
- Disruption Tolerant Networks
- Trust, Security, and Privacy
- Power Management Issues

Optical Communications & Networking
- WDM Systems and Devices
- Broadband Access Communication Technologies
- Fiber-Wireless (FiWi)
- Radio over Fiber (RoF)

Multimedia Applications & Networking
- Multimedia Communications

RF and Microwave Techniques
- Power Amplifiers
- Microwave Devices
- Antenna Systems
- Transceiver Design
- Satellite Communication Systems

Wireless Communications
- WLAN, WiMAX, 3G and 4G Systems
- Multiple Antenna Systems (Uplink and Downlink MIMO/Beamforming)
- Radio Resource Management and Interference Management
- Femto Network Deployment
- Self Configuring Networks
- Self Optimizing Networks
- Sensor, Mesh & Ad Hoc Networks
- Performance Analysis of Wireless Systems
- Ultra Wideband (UWB) Communications
- User and Network Security in Next Generation Networks

IMPORTANT DATES

Papers Due:	Dec. 9, 2008
Tutorial Proposals Due:	Dec. 9, 2008
Notification of Tutorials Acceptance:	Jan. 7, 2009
Student Papers Due:	Jan. 19, 2009
Notification of Papers Acceptance:	Feb. 6, 2009
Final Version Due:	Mar. 2, 2009

CONFERENCE SCHEDULE

Tutorials:	Mar. 30, 2009
Paper Sessions:	Mar. 31- Apr. 1, 2009
Exhibits:	Mar. 31, 2009
Poster Presentations:	Apr. 1, 2009

For more information www.sarnoffsymposium.org or sarnoff.symposium@ieee.org

NJ Power Engineering Society/Industry Applications Society
Adjustable Frequency Drives Seminar

The PES and IAS Chapters will sponsor a technical seminar on the topic of variable frequency drives. The session will be held on Friday, December 12, 2008, at Public Service Electric & Gas Corporate Headquarters in Newark, NJ.

Topics
Adjustable Frequency Drives:
- ✓ Why use AFD's
- ✓ Motor Theory
- ✓ Drive Theory
- ✓ Energy Savings
- ✓ AFD Applications
- ✓ What are harmonics
- ✓ IEEE-519 Recommendations
- ✓ AC Drives and Harmonics
- ✓ Why Harmonics Matter
- ✓ How to Mitigate Harmonics

About the Instructor
The instructor will be Dan Kupersmith, Senior Application Engineer with Eaton Corporation in Watertown, Wisconsin. Dan is degreed in Electrical Engineering from the University of Wisconsin in Milwaukee. He has 30 years of experience in the drives industry, including drives and system design, systems engineering management and application engineering. Prior to Eaton, Dan worked for Allen Bradley, Louis Allis (later became Magnetek). His last 9 years have included a major focus on practical harmonic mitigation solutions.

The registration fee for this seminar prior to November 26th 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 26th 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, December 12, 2008.
Place: PSE&G, 80 Park Plaza, Room 101, 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

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Registration: Variable Frequency Drive Seminar 12/12/2008

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 26, 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 1IS 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

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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).

2009 Officer Ballot

Instructions for Casting Ballots
Completed ballots should be mailed to the North Jersey Section Newsletter Editor as follows:

> Keith Saracinello
> IEEE North Jersey Section Newsletter Editor
> 25 Messenger Ln
> Ringoes, NJ 08551

The ballot MUST be filled out completely with members name, membership number, and signature. The ballots are invalid without this information. Xerox copies of the ballot are acceptable as long as they are filled out completely. Ballots received after December 1, 2008, will <u>not</u> be counted.

Chairperson: (choose one)
☐...........................Amit Patel
☐...............................(write-in)_____
Vice Chairman-1: (choose one)
☐...................Sanghoon Shin
☐...............................(write-in)_____
Vice Chairman-2: (choose one)
☐...............................(write-in)_____
Treasurer: (choose one)
☐.................... Pete Donegan
☐.............................(write-in)_____
Secretary: (choose one)
☐..................... Russell Pepe
☐.............................(write-in)_____
Members-At-Large: (choose three)
☐.............. Dr. Naresh Chand
☐........Dr. Katherine Duncan
☐..........................Seth Jakel
☐.............................(write-in)_____

Member Name_____ Member No. _____

Signature _____ Date _____