

The



# IEEE Newsletter

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

*NJ Control Systems Chapter:*

## **Petri Net-based Supervisory Controller Design to Enforce Production Ratio and Deadlock-free Operation in Manufacturing**

On February 10, 2009, the IEEE NJ Control Systems Chapter together with the New Jersey Institute of Technology will host a seminar on "Petri Net-based Supervisory Controller Design to Enforce Production Ratio and Deadlock-free Operation in Manufacturing." The speaker will be Mr. Hesuan Hu.

### **About the Talk**

This work presents a new class of Petri nets, namely Ratio-enforced weighted Augmented Marked Graphs (RAMG), and solves ratio control and liveness-enforcing supervision problems for automated manufacturing system together. In such systems, assembly operations are allowed so that several independently operating sub-processes can be activated and re-combined through splitting and merging activities. RAMG can ensure any required product ratios as demanded by production planners. Since deadlock of such systems can be attributed to the overuse of certain preemptive resources, a supervisor is introduced such that the shared resources can be properly allocated to prevent any deadlock occurrence. We theoretically prove that ratio and supervisory controllers for such Petri nets can be separately designed. Their design methods are presented. Examples are given to illustrate them. Prior to the presentation of our research results, Petri nets are introduced as an important class of modeling tools for discrete event systems

### **About the Speaker**

Mr. Hesuan Hu received the BS degree and MS degree from Xidian University, Xi'an, China, in 2003 and 2005, respectively. Currently, he is a PhD

candidate at Xidian University and also a visiting scholar at New Jersey Institute of Technology. From 1997 to 2000, he was an Assistant Engineer at the Department of Metrology of Xi'an Aircraft Engine Control Engineering Co., Ltd, where he was appointed as the Director of Electrical Laboratory from 2001 to 2002. His research interests include Petri nets, discrete event dynamic systems and their supervisory control techniques. In the above areas, he authored or co-authored nearly 30 papers on various peer-reviewed journals and conference proceedings. Also, he is an active reviewer for more than 10 international journals including several IEEE Transactions as well as many conferences. Since 2008, he has served as a program committee member for a number of conferences.

### **All Welcome!**

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

**Time:** 11:30 AM - 1:00 PM, Tuesday, February 10, 2009.

**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:** Professor Timothy Chang (973) 596-3519, [chang@njit.edu](mailto:chang@njit.edu), or Professor Mengchu Zhou (973) 596-6282.

## **Region 1 Award Nominations**

Nominate a colleague. Region 1 of IEEE offers a variety of awards to recognize the engineering accomplishments of members. Specific award categories include: technological innovation, engineering organization, academic teaching, enhancement of IEEE image in the public or industry and sustained IEEE service. To obtain additional information about these categories visit the Region 1 website [www.ieee.org/r1](http://www.ieee.org/r1)

Once at the site click on Section Information on the far right column. On the Section page click on Region 1 Awards Information. We will assist you. To nominate a qualified individual prepare a 200-word summary (including the individual's name, IEEE number and IEEE US postal mail address) specifying the accomplishment of the candidate.

Send the summary to our Awards Chair *Ken Oexle, 11 Deerfield Road, Whippany, NJ 07981*, prior to May 1. The North Jersey Awards Committee will review the summary; suggest any changes; complete the nomination form; and forward it to the Region 1 Awards committee with a Section endorsement.

Award nominations are evaluated and approved at the Region 1 Summer Meeting and plaques are presented at the following North Jersey Section Annual Awards Reception.

**FEBRUARY 2009**

# February 2009

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### 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, [rcpepe@ieee.org](mailto:rcpepe@ieee.org).**

### NJ EDS/C&S Chapters:

## Effective Energy Harvesting using Photovoltaic and Piezoelectric Sources

On February 26, 2009, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "Effective Energy Harvesting using Photovoltaic and Piezoelectric Sources." The speaker will be IEEE Distinguished Lecturer, Professor Dinesh Bhatia.

### About the Talk

Wireless applications are an integral part of our lives, and are only growing as technology enables smaller, lower power and more capable devices. One of the areas that is popular today and is finding new applications is wireless sensor networks (WSNs). The widespread need for WSNs is evident from the proliferation of short-range wireless standards such as Bluetooth, ZigBee, Wi-Fi, and RFID. Sensor nodes for wireless personal area network (WPAN) that utilize smart mesh network protocols are traditionally designed to optimize for low cost and low power. Each wireless node is intended for deployment in large quantities at remote locations to sense critical data and relay its measurements to other network nodes for monitoring and control purposes. As more applications proliferate, it will become necessary to deploy sensor nodes in hard to reach places. Once thousands of low-cost RF sensors are deployed for any given application, replacing batteries will become an impractical task. Therefore, self-sufficient devices that can operate for an indefinite period of time will be required.

Energy harvesting (EH) from solar, wind, vibrations, thermal, etc. to power wireless devices has been attracting considerable interest in the past few years. While solar energy provides relatively higher energy density outdoors, its efficiency under indoor conditions is considerably lower. Similarly, vibrational EH using piezoelectric bimorphs, and electromagnetic and electrostatic generators require high excitation energy to provide reasonable power levels (of the order of a few mWs). This talk will focus on design and implementation of systems operating on harvested energy. We will present efficient power management and power electronic circuits for effective conditioning and storage of harvested

energy.

### About the Speaker

Dinesh Bhatia is on the faculty of the electrical engineering department at the University of Texas at Dallas. He directs research activities within the Embedded and Adaptive Computing group and is also a member of Center for Integrated Circuits and Systems at the University of Texas at Dallas. His research interests include all aspects of biomedical electronics and systems, medical devices, natural energy scavenging, applications of wireless sensor networks, reconfigurable and adaptive computing, architecture and CAD for field programmable gate arrays (FPGAs), and physical design automation of VLSI Systems. He is very interested and is constantly exploring disruptive technologies for next generation living environments. He has extensive experience in building large scale embedded and reconfigurable systems. Some of these activities include principal designer and investigator for RACE and NEBULA systems for Wright Laboratories of USAF, principal investigator for DARPA funded REACT program, Co-PI on AFRL funded SPARCs program and several more. He has collaborated on phase 1 and phase 2 SBIR programs to build product prototypes. He has published extensively in leading journals and conferences and continues to serve on program committees of several conferences. He is a senior member of IEEE, Computer Society, Circuits and Systems Society, Eta Kappa Nu, and recently served on the editorial board of IEEE Transactions on Computers. He was an IEEE Circuits and Systems society's Distinguished Lecturer for 2007-2008.

### All Welcome!

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

**Time:** 7:00 PM, Thursday, February 26, 2009. 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@njit.edu](mailto:dmisra@njit.edu)).

# IEEE North Jersey Section Activities

## February 2009

**Feb. 4** – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 77 River Rd, Clifton, NJ. Russell Pepe at [rcpepe@ieee.org](mailto:rcpepe@ieee.org).

**Feb. 5** – “Region 1 Southern Area Industry Day”, NJ Section, 8:00 AM - 6:00 PM, 444 Hoes Lane, Piscataway, NJ. For more information see [http://ewh.ieee.org/r1/princeton-centraljersey/ieee\\_industry\\_day.htm](http://ewh.ieee.org/r1/princeton-centraljersey/ieee_industry_day.htm).

**Feb. 10** – “Petri Net-based Supervisory Controller Design to Enforce Production Ratio and Deadlock-free Operation in Manufacturing” by Hesuan Hu, NJ Control Systems Chapter, 11:30 AM - 1:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Professor Timothy Chang (973) 596-3519, [chang@njit.edu](mailto:chang@njit.edu), or Professor Mengchu Zhou (973) 596-6282.

**Feb. 11** – “Engineers Meet: The Employment Transition” by Amy M. Duncan, 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@aol.com](mailto:PWard1130@aol.com), Richard F. Tax, (201) 664-6954, [rtax@verizon.net](mailto:rtax@verizon.net).

**Feb. 16** – “Dependable Sensor Networks” by Dr. Grace Guiling Wang, NJ Communications Society, 6:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Dr. Nirwan Ansari (973) 596-3670 ([nirwan.ansari@njit.edu](mailto:nirwan.ansari@njit.edu)) or Yanchao Zhang (973) 642-7817. Also check <http://web.njit.edu/~ieeenj/comm.html> for the latest updates.

**Feb. 20** – “Selective Coordination Seminar” by Alton Baum, PE, NJ PES/IAS, 9:00 AM to 2:00 PM, Jersey Central Power and Light, Punch Bowl Room, 300 Madison Ave, Morristown, NJ. Ronald W. Quade, PE, (732) 205-2614 or [rwquade@ieee.org](mailto:rwquade@ieee.org).

**Feb. 26** – “Effective Energy Harvesting using Photovoltaic and Piezoelectric Sources” by Professor Dinesh Bhatia, 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@njit.edu](mailto:dmisra@njit.edu)).

**Feb. 26** – “Financial and Insurance Considerations for Small Business Owner” by Bob Stadeck, NJ Consultants' Network, 6:00 PM, Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. Robert Walker (973) 728-0344 or [www.TechnologyOnTap.org](http://www.TechnologyOnTap.org).

### Upcoming Meetings

**Mar. 4** – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 77 River Rd, Clifton, NJ. Russell Pepe at [rcpepe@ieee.org](mailto:rcpepe@ieee.org).

**Mar. 10** – “North Jersey Spring 2009 Student Presentation Contest”, NJ SAC, 6:00 PM, Room M105 Auditorium, Muscarelle Building, Farleigh Dickinson University, Teaneck, NJ. For more information email [northjerseysac@ieee.org](mailto:northjerseysac@ieee.org).

**Mar. 11** – “Solar Energy Conversion” by Dr. Vikram Dalal, 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@njit.edu](mailto:dmisra@njit.edu)).

**Mar. 30 – Apr. 1** – “2009 IEEE Sarnoff Symposium”, Nassau Inn, Princeton, NJ. Kyriakos Manousakis (Telcordia Applied Research) [kyriakos@research.telcordia.com](mailto:kyriakos@research.telcordia.com) or David G. Daut (Rutgers University) [daut@ece.rutgers.edu](mailto:daut@ece.rutgers.edu).

**Apr. 25-26** – “34<sup>th</sup> Annual Trenton Computer Festival”, 9:00 AM to 5:00 PM, The College of NJ, Ewing, NJ. [www.tcf-nj.org](http://www.tcf-nj.org).

**May 1-2** – “The 18<sup>th</sup> Wireless and Optical Communications Conference”, NJ Communications Society, New Jersey Institute of Technology (NJIT), Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>. Dr. Nirwan Ansari (973) 596-3670 ([nirwan.ansari@njit.edu](mailto:nirwan.ansari@njit.edu)).

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

**Members and Non-Members Welcome**

**PLEASE POST**

*NJ Communications Society:*

## **Dependable Sensor Networks**

On Monday, February 16, 2009, the IEEE Communications Society will host a presentation titled "Dependable Sensor Networks." The speaker will be Dr. Grace Guiling Wang.

### **About the Talk**

Dependability is a fundamental requirement in designing sensor networks. Specifically, a sensor network should successfully detect the phenomena of interest, e.g., intruding enemy, and reliably transmit the detection results to users. To achieve the above goals, the network must have sufficient coverage, which enables prompt and accurate detection of the phenomena; the network must also be secure to defend against attacks from an adversary such that the detected events can be transmitted back to the base station without being modified. In this talk, the speaker will first present two distributed algorithms for efficient deployment of mobile sensor nodes to achieve a desired level of coverage. Then the speaker will present a light-weight and compromise-resilient authentication protocol.

### **About the Speaker**

Grace Guiling Wang received her BS degree from Nankai University, China. She received the PhD degree in Computer Science and Engineering and a minor in Statistics from the Pennsylvania State University in May 2006. She is currently an assistant professor in the Computer Science Department at the New Jersey Institute of Technology. Her research interests include network security, wireless networks and mobile computing, with a focus on wireless sensor networks.

### **All Welcome!**

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

**Time:** 6:00 PM, Monday, February 16, 2009. 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@njit.edu](mailto:nirwan.ansari@njit.edu)) or Yanchao Zhang (973) 642-7817. Also check <http://web.njit.edu/~ieeenj/comm.html> for the latest updates.

*NJ Consultants' Network:*

## **Financial and Insurance Considerations for Small Business Owner**

On February 26, 2009, the IEEE Consultants' Network of Northern NJ ([www.technologyontap.org](http://www.technologyontap.org)) will be holding a meeting featuring a talk on financial and insurance issues of importance to a small business owner. Bob Stadeck will be the speaker.

### **About the Topic**

Our speaker, Bob Stadeck, will provide an overview of the economic upheaval of 2008 and offer an outlook for the opportunities and challenges of 2009. Bob will discuss practical ways to protect what you have worked so hard to acquire, reducing or containing company health and disability costs and reviewing some owner sponsored/employee paid supplemental benefit programs that can provide significant long term financial gain.

Small consulting businesses often have limited "exit strategies". Bob will offer concrete suggestions on ways to attract and retain key employees that can be the best source of potential buyers. Funding mechanisms to help pass assets to family members that may not be capable of managing or interested in retaining your company can be a significant component in funding your own retirement. Sufficient time will be allocated for questions and answers.

### **About the Speaker**

Bob Stadeck is a Financial Representative with Northwestern Mutual Investment Services in Summit. Northwestern Mutual's small business unit assists entrepreneurs in providing comprehensive entry level benefits packages to their employees, addresses the particular risks of "key employee" operations, and assists owners in maximizing the long term value of their companies, all with an appreciation of the cash flow constraints involved with start-up operations.

Bob has over 20 years of experience as an entrepreneur and small business owner; his prior manufacturers representative organization has served a number of our member companies. He can be reached at [robert.stadeck@nmfn.com](mailto:robert.stadeck@nmfn.com).

### **About the Consultants' Network**

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

### **All Welcome!**

Everyone is welcome. Admission to the meeting and plant tour is free.

**Time:** 6:00 PM, Thursday, February 26, 2009.

**Place:** Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. (Entrance at rear of building). To download a map to KDI, go to: <http://www.mcekdi-integrated.com/directions.htm>.

**Information:** For directions and up-to-date meeting status, call Robert Walker (973) 728-0344 or visit our website at [www.TechnologyOnTap.org](http://www.TechnologyOnTap.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](mailto: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@ieee.org](mailto:northjerseygold@ieee.org)
- WIE (Women in Engineering) Affinity Group Volunteers and Committee members needed - contact [kduncan@ieee.org](mailto:kduncan@ieee.org)
- EMBS (Engineering in Medicine and Biology Society) is seeking a chair and active committee volunteers - contact [c.gupta@ieee.org](mailto:c.gupta@ieee.org).
- Membership Development Committee Chair and Volunteers - contact [c.gupta](mailto:c.gupta@ieee.org) below.

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 [c.gupta@ieee.org](mailto:c.gupta@ieee.org).

NJ SAC:

## North Jersey Spring 2009 Student Presentation Contest

The Spring 2009 Student Presentation Contest is coming up! The North Jersey Section will be holding presentation contests scheduled for March 10 for undergraduate and graduate students. This contest has been held in years past. Its overwhelming success in generating student participation and interest make it a fantastic event for up and coming engineers. This year's contest will feature similar prizes (\$\$\$) and have graduate and undergraduate categories.

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

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

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

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

**Time:** Tuesday, March 10, 2009 starting at 6:00 PM with dinner at 5:30 PM

**Place:** Room M105 Auditorium, Muscarelle Building, Farleigh Dickinson University, Teaneck, NJ (Free Parking available).

**Information:** See [http://www.fdu.edu/visitorcenter/directions/teaneck\\_map.html](http://www.fdu.edu/visitorcenter/directions/teaneck_map.html). Any and all questions can be emailed to the contest organizer, [northjerseysac@ieee.org](mailto:northjerseysac@ieee.org).

*NJ Section PACE, GOLD, & WIE:*

### Engineers Meet:

#### The Employment Transition

On Wednesday, February 11, 2009, the North Jersey Section of Professional Activities Committee, Graduates of the Last Decade and Women in Engineering will host a meeting to discuss "The Employment Transition." Our guest speaker will be Amy M. Duncan, PHR of Tetra Tech, Inc.

#### About the Meeting

Where do you begin when you are in the employment transition? Amy will discuss the transition period. She will also discuss networking, recruiters, resume writing techniques for writing successful resumes and cover letters, and the employment offer. Come participate and pick up some techniques and get motivated for you next position.

#### About the Speaker

Amy M. Duncan, PHR is a Human Resources professional with Tetra Tech, EC, Inc. She has many years of business and Human Resources experience.

Amy holds a BS in Marketing and Management from Centenary College and an MBA in Human Resources from Fairleigh Dickinson. She also holds the Professional Human Resources Certification.

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

**Time:** 6:30 PM to 9:00 PM, Wednesday, February 11, 2009. Refreshments will be served.

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

**Information:** Paul Ward, (973) 790-1625, [PWard1130@aol.com](mailto:PWard1130@aol.com), Richard F. Tax, (201) 664-6954, [rtax@aea.org](mailto:rtax@aea.org), Kate Duncan, (973) 209-8607, [kduncan@ieee.org](mailto:kduncan@ieee.org).

## 5<sup>th</sup> Annual Washington Career Fly-In

IEEE-USA will be holding its 5th annual Washington Career Fly-In on March 23 and 24. All IEEE members in the United States are invited to join us on Capitol Hill to discuss high-skill immigration with your members of Congress.

For nearly a decade, IEEE-USA has been the strongest voice in Washington pushing for reforms to our skill-based immigration system. Over the past two years the debate about high-skill immigration reform shifted dramatically in our favor. But now we face a new Congress with an unusually large number of new members. These new members have probably never heard of an H-1B visa, never given any thought to high-skill immigration and likely don't know what IEEE is. This is your opportunity to tell them.

Studies have shown that the single best way to influence a member of Congress is to meet with them in person. The Career Fly-In gives IEEE members an easy way to ensure that your concerns and opinions are heard by your elected leaders.

Fly-In participants will meet on the afternoon of March 23rd for a complete briefing on skill-based immigration policy and to learn how to meet with members of Congress (hint: it is easy). On March 24th, participants will spend the day on Capitol Hill meeting with their legislators. IEEE-USA will arrange all meetings. All you have to do is hold them.

All IEEE members in the United States are welcome and encouraged to attend. Students, retired members and even IEEE members who are not American citizens are needed.

In 2009, IEEE-USA will be trying to convince Congress to adopt our "Green cards not Guest workers" program by expanding access to green cards for immigrants who earn a masters or PhD from an American university. Our goal is to shift the focus of American immigration policy away from short-term work visas towards permanent green cards, especially for international students.

More information on IEEE-USA immigration proposals can be found here: <http://www.ieeeusa.org/policy/issues/immigration/>

To learn more about the IEEE-USA Career Fly-In and to register for the event, visit us at <http://www.ieeeusa.org/policy/careerflyin>.

For more information, contact Russell T. Harrison, Senior Legislative Representative - Grassroots Affairs, IEEE-USA, (202) 530-8326.

NJ EDS/C&S:

## Solar Energy Conversion

On March 11, 2009, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "Solar Energy Conversion." The speaker will be Distinguished Lecturer, Dr. Vikram Dalal.

### About the Talk

In this talk, Dr. Dalal will describe the worldwide energy picture, showing how we are reaching the end of the era of inexpensive fossil fuels. Production of petroleum from traditional petroleum resources is on a decline, and newer sources such as tar sands and shale oil are very expensive to extract. Even coal, which is presumed to be plentiful, has a very limited lifetime, measured in <100 years. Dr. Dalal will explain why we are running out of fossil resources, and address the demand side push on prices of all fossil fuels. When one combines this scenario with the global warming due to emission of carbon dioxide (and soot) from fossil fuels, solar energy becomes the only choice for the longer term (defined here as 50 years from now). Dr. Dalal will describe the various strategies for solar energy utilization, the status of various technologies, and address the critical R&D needs for both the U.S. and for India.

### About the Speaker

Vikram Dalal is Whitney Professor of Electrical and Computer Engineering at Iowa State University. He obtained his B.Eng.(EE) degree from University of Bombay, India in 1964, and his PhD in EE from Princeton University in 1969. He also holds a MPA degree from the Woodrow Wilson School at Princeton where he studied Economics.

Dr. Dalal has extensive experience as research scientist in the field of semiconductors and solar energy conversion. He has worked in industry (RCA Labs, Princeton, NJ) and several small companies in New Jersey and Massachusetts) and at Universities (U. of Delaware and Iowa State), he has been at Iowa State University since 1988.

Dr. Dalal works in the fields of energy in general, and solar PV energy conversion in particular.

He holds 11 U.S. patents and has published about 170 papers and has mentored 25 PhD students and 35 MS students at Iowa State, in addition to teaching about 1500 undergraduate students.

Dr. Dalal is an IEEE Electron Devices Society Distinguished Lecturer, and a Fellow of IEEE.

### All Welcome!

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

**Time:** 7:00 PM, Wednesday, March 11, 2009. 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 ([dmsira@njit.edu](mailto:dmsira@njit.edu)).

## 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](mailto: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://elecomm.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.

## IEEE North Jersey Section Education Committee

- ran courses: C, C++, Java, Advanced Java and C# programming successfully since 1993
- 138 IEEE engineers and non-engineers took these courses and they gave excellent reviews
- We need a company that has a classroom with 10+ computers, to run the programming courses.
- Contact Donald Hsu, Education Committee Chair, [yanyou@hotmail.com](mailto:yanyou@hotmail.com) if you can help. Thanks!

*IEEE-USA in Action:*

## **IEEE-USA Participates in Technology-Enhancement Meeting with Obama Transition Team**

Washington (11 December 2008) - The United States should deploy universal broadband and increase energy efficiency, among other things, to promote economic growth and spur job creation, two IEEE-USA presidents said in a letter presented to President-Elect Barack Obama's transition team.

IEEE-USA made some of its recommendations in a meeting with four members of Obama's Science, Technology and Innovation Transition Task Force at AeA's Washington headquarters on 5 December. IEEE-USA was one of roughly 50 organizations invited to share ideas on what the new administration could do to stimulate the economy within Obama's first 60 days in office.

"Technology and innovation remain the cornerstone of our nation's economy," 2008 IEEE-USA President Russ Lefevre and 2009 President Gordon Day wrote. "Any plan for creating jobs and economic growth begins with encouraging innovation that promotes those new ideas and products and, ultimately, results in jobs."

IEEE-USA made recommendations in six areas: research & development investments, broadband, health care, energy infrastructure, small business and long-term priorities.

By expanding ubiquitous broadband access into rural areas, more people could compete for technology-based jobs without relocating. Plus, the incentive for high-tech companies to establish operations in these lower-cost areas is enhanced. This helps keep jobs in the United States.

"As with the universal deployment of electricity and telephone service, universal broadband service, coupled with new Internet applications, will generate economic and social gains that far exceed the investment in the enabling infrastructure," the presidents wrote.

IEEE-USA believes that by investing in such things as Smart Grid technologies, plug-in hybrid electric vehicles and clean, renewable energy sources, U.S. energy efficiency will increase.

"We also need to increase our electricity reliability by upgrading our aging national transmission grid," presidents Lefevre and Day wrote. "These steps can stimulate economic

activity, create jobs and ensure that our country has abundant supplies of reliable and affordable electric power."

The letter is available at <http://www.ieeeusa.org/policy/policy/2008/120508.pdf>.

Chris McManes, IEEE-USA Public Relations Manager, 1828 L Street N.W., Suite 1202, Washington, DC 20036-5104, (202) 530-8356, [c.mcmanes@ieee.org](mailto:c.mcmanes@ieee.org), [www.ieeeusa.org](http://www.ieeeusa.org).

*IEEE-USA in Action:*

## **Winning Entry in 'How Engineers Make a World of Difference' Online Video Scholarship Competition Featured on 'Design Squad' Web Site**

Washington (18 November 2008) - The winning entry in the 2008 IEEE-USA "How Engineers Make a World of Difference" Online Engineering Video Scholarship Competition can be seen on the PBS "Design Squad" Web site at <http://pbskids.org/designsquad/special/iee/e/ieee.html>.

Engineering Undergraduates Ben Toler and Emile Frey of Louisiana Tech University, Ruston, La., split the IEEE-USA competition's \$2,500 first prize. Their entry was deemed most effective in reinforcing for an 11-to-13-year-old audience how engineers improve the quality of life and how engineering can be a creative and rewarding career.

With two teams of high-school students competing to solve a new engineering challenge each week, "Design Squad" was created by PBS to reach the same 11-to-13-year-old audience. The program is in its third season on PBS with the IEEE continuing funding support.

Additionally, IEEE-USA is awarding \$5,000 in scholarship prizes in the second year of its online engineering video competition. Entries must be submitted through YouTube by U.S. undergraduate students in engineering, computer science and information technology no later than 16 January 2009. For more information on how to enter, go to [http://www.ieeeusa.org/communications/video\\_competition](http://www.ieeeusa.org/communications/video_competition).

Pender M. McCarter, Senior Public Relations Counselor, IEEE-USA/Washington, DC, (202) 530-8353, [p.mccarter@ieee.org](mailto:p.mccarter@ieee.org), <http://www.ieeeusa.org>.

## **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@ieee.org](mailto:k.saracinello@ieee.org) for more details.

### **Visit the IEEE North Jersey Section Webpage at**

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

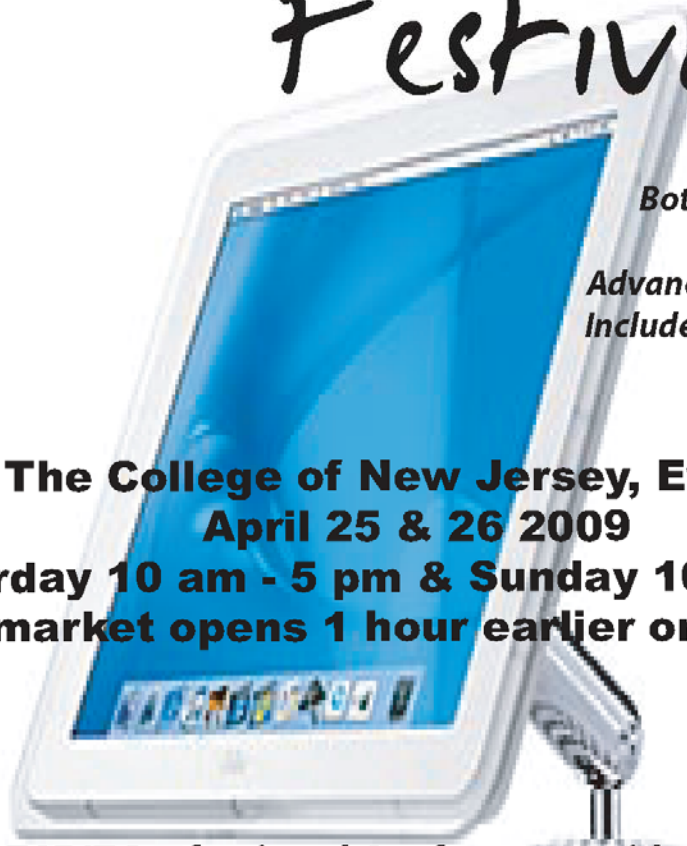
North Jersey Section information such as officer contact details, meeting presentation slides, and the online Newsletter can be found there. Check for last minute meeting updates and schedule changes.

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.

TCF009

34th Annual

# Trenton Computer Festival



**Admission:**  
**Both Saturday and Sunday - \$15.00**  
**Sunday only \$10.00**  
**Advance Tickets \$10.00 (deadline April 19)**  
**Includes both Saturday and Sunday tickets**  
**Parking is Free**

**@ The College of New Jersey, Ewing NJ**

**April 25 & 26 2009**

**Saturday 10 am - 5 pm & Sunday 10 am - 4 pm**  
**(flea market opens 1 hour earlier on both days)**

**TCF IT Professional Conference: Friday April 24th, 9 am - 5 pm**  
**for info see: <http://www.tcf-nj.org/pc>**

**For additional info and/or advanced tickets: [www.tcf-nj.org](http://www.tcf-nj.org)**

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**ROBOTICS CONTESTS**





**IEEE**

NJ Coast, Princeton/Central Jersey, North Jersey  
and New York Sections Present

**Region 1 Southern Area IEEE-Industry Day**  
**February 5, 2009**  
**444 Hoes Lane**  
**Piscataway NJ, adjacent to IEEE HQ**

**Engineering your future**  
**How Green is Transforming Industry**

*\*\*Learn new skills and network with  
executives & engineers from adjacent  
industries where your skills are applicable \*\**



The program includes:

- Continental Breakfast,
- Talk from IEEE foundation
- Confirmed Keynote Talks from CTO/VPs such as  
and more to come like Columbia University
- Provided Lunch
- Vertical Tracks on Communications and Green
- Communications Technologies (IMS, SIP, Wireless, Security)
- Panel: How IEEE Can Best Serve Industry
- Wine and Cheese



Contact email: [industry-ros@research.telcordia.com](mailto:industry-ros@research.telcordia.com)

More information at the following URL:

[http://ewh.ieee.org/r1/princeton-centraljersey/ieee\\_industry\\_day.htm](http://ewh.ieee.org/r1/princeton-centraljersey/ieee_industry_day.htm)

IEEE Members – Free

Non Members - \$40 (can be applied towards IEEE membership)

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

<i>Publication Chair:</i>	<b>Aileen Cheng</b> (Telcordia)	<i>Tutorial Chair:</i>	<b>Edwin Hou</b> (NJIT)
<i>Publicity Chair:</i>	<b>Wei Jiang</b> (Rutgers University)	<i>Finance Chair:</i>	<b>Deniel Deng</b> (NanoNuvo Corp.)
<i>Registration Chair:</i>	<b>Vishal Singh</b> (NEC-Labs)	<i>Local Arrangement Chair:</i>	<b>Kale Franz</b> (Princeton Univ.)
<i>Military Panel Chair:</i>	<b>Matthew Zieniewicz</b> (CERDEC)	<i>Exhibits Chair:</i>	<b>Wei Wei</b> (NEC-Labs)
<i>Commercial Panel Chair:</i>	<b>Elias Kpodzo</b> (BAE Systems)	<i>Web master:</i>	<b>Komlan Egho</b> (NJIT)
<i>Student Poster Chair:</i>	<b>Wieslaw Marszalek</b> (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 **IEEEExplore**. Student papers should be submitted to the Student Papers Chair ([wmarszalek@devry.edu](mailto:wmarszalek@devry.edu)). Prospective tutorial presenters should contact the Tutorials Chair ([hou@njit.edu](mailto:hou@njit.edu)). Detailed procedure is available at: [www.sarnoffsymposium.org](http://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

## The Eighteenth Wireless and Optical Communications Conference

May 1 – 2, 2009, NJIT, Newark, New Jersey, USA

### Conference Chair

Junyi Li, Qualcomm

### Conference Organizer

Yu-Dong Yao, Stevens

### Program Chairs

#### Wireless Symposium:

Guangying Li, Alcatel-Lucent

Jane Luo, Qualcomm

#### Networks Symposium:

Zhuangbo Tang, Johns Hopkins

Ben Tang, AT&T

#### Optical Symposium:

Angela Chiu, AT&T

Xiang Liu, Alcatel-Lucent

#### Multimedia Symposium:

Zhu Liu, AT&T

Hong Man, Stevens

### Research Posters

Yingying Chen, Stevens

### Tutorials

Hongya Ge, NJIT

### Conference Coordinator

Sigen Ye, Alcatel-Lucent

### Publications

Russell Sun, Alcatel-Lucent

Jin Yu, iBiquity Digital

### Fund Raising

Qi Bi, Alcatel-Lucent

### Treasurer

James Hwang, Lehigh

### Local Arrangement

Mengchu Zhou, NJIT

### Registration

Nirwan Ansari, NJIT

### Public Relations

Kevin Lu, Telcordia

Shuang Yu, Alcatel-Lucent

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Mengchu Zhou, NJIT

### Co-Sponsoring Associations

- Chinese American Academic and Professional Society
- Chinese Association of Science and Technology
- Chinese Institute of Engineers
- IEEE Communications Society
- IEEE Northern Jersey Section
- Monte Jade Science and Technology Association
- Photonics Society of Chinese Americans

The eighteenth Annual Wireless and Optical Communications Conference (WOCC) will bring together technical experts and business leaders from the North America and Pacific Rim to discuss multimedia, optical, and wireless communications technologies and business opportunities. The theme of WOCC 2009 is **Converging Broadband Communications** over public mobile wireless networks, public fixed broadband wireline networks, and private customer premises networks. The integration of these three networks is the focus of a new next-generation network providing convergent user-centric services that are no longer associated with the types of network access or content media. Instead, these convergent user-centric services will offer seamless delivery of multimedia applications including voice, data, image, and streaming video independent of any access technologies. The transport layer protocol is converging on Internet Protocol that propelled the growth of the world wide web. The network and service providers will need to deploy standard-compliant converged networks and offer these new value-added services to save operational cost and grow their revenue. Convergent Communications can truly be considered as the enabler for the next phase of growth for the telecommunication industry.

High quality presentations and papers are solicited in the areas of wireless networking, intelligent multimedia, optical communications, and network solutions. The conference consists of four symposiums, with topics including, but not limited to, the following:

#### Wireless Symposium

- Wide-area and fixed wireless communications
- Wireless LAN/PAN
- Convergence of fixed and mobile hybrid communication system
- Low-power mobile end-devices and system-on-chip
- Security in mobile and wireless networks
- Sensor network and distributed mobile computing
- Location-based services and positioning
- Mobile and wireless applications
- Fundamental research in mobile and wireless communications

#### Networks Symposium

- Convergence architectures and solutions
- Migration to NGN and mobile broadband
- Network planning, design methods and tools
- Position of new technologies in the network

#### Optical Symposium

- Optical network planning, designing, and modeling
- Optical access/metro networks
- Photonic switching system architectures and network elements
- Optical passive/active components and devices
- Optical network protection and restoration
- Optical network applications

#### Multimedia Symposium

- Multimedia indexing and search
- Semantic-based multimedia analysis
- Multimedia database
- Multimedia content personalization
- Multimedia content distribution
- Peer-to-peer multimedia
- IPTV technologies and services
- Security of multimedia data
- QoS for multimedia applications

**Submission Deadline: February 1, 2009**

**Notification: March 15, 2009**

Submit the abstract/bio in Microsoft Word to one of the symposium chairs:

- **Wireless:** Guangying Li, [gli@alcatel-lucent.com](mailto:gli@alcatel-lucent.com)
- **Networks:** Zhuangbo Tang, [z.bo.tang@jhuapl.edu](mailto:z.bo.tang@jhuapl.edu)
- **Optical:** Angela Chiu, [chiu@research.att.com](mailto:chiu@research.att.com)
- **Multimedia:** Zhu Liu, [zliu@research.att.com](mailto:zliu@research.att.com)

Please refer to [www.wocc.org](http://www.wocc.org) for the abstract/bio template and additional info.

# NJ Power & Energy 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, February 20, 2009 in the Punch Bowl Room at Jersey Central Power and Light, 300 Madison Ave, Morristown, NJ.

### Topics

Selective Coordination:

- ✓ What is Selective Coordination?
- ✓ Protection vs. Selectivity
- ✓ Phase vs. Ground Fault Protection
- ✓ Equipment Protection (Conductors, Transformers, Motors)
- ✓ The Coordination Study and relativity with Arc Flash
- ✓ Fuses vs. Circuit Breakers; Coordination Trip Intervals
- ✓ Emergency Systems (NEC Art. 700.27, 701.18)
- ✓ Critical Operations Power Systems (Art. 708.54)
- ✓ Healthcare Facilities Ground Fault Protection (Art. 517.17)
- ✓ Solution Tools

### About the Instructor

The speaker will be Alton Baum, PE from AB Engineering, LLC. Mr. Baum carries over 20 years of utility generation and industrial power systems experience working for Westinghouse, Eaton Electrical, and Square D. After starting his career as a field engineer in large generators/excitation, Mr. Baum focused in the area of power systems analyses, power quality investigation/solution, and, most recently, arc flash analysis. In 2007, Mr. Baum started an independent engineering consulting practice, AB Engineering, LLC, which provides power engineering services to the industrial/commercial markets. He has performed hundreds of short circuit, overcurrent coordination, and arc flash studies, and has been teaching in these areas for most of his career. Mr. Baum holds the BS degree in Electrical Engineering from West Virginia Institute of Technology (1987), the Master of Business Administration from Widener University (1998), and the MSEE in Power Engineering from Drexel University (2003). He is a member of IEEE, board member of the Delaware Valley Power Quality Group, and holds Professional Engineer licenses in multiple states.

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The registration fee for this seminar 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. 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, February 20, 2009.  
**Place:** Punch Bowl Room at Jersey Central Power and Light, 300 Madison Ave, Morristown, NJ.  
**Directions:** Route 287 to Route 124 (Madison Ave exit). Head toward Madison. Jersey Central building is on the left about 1.5 miles from the exit.  
**Information:** Ronald W. Quade, PE, (732) 205-2614 or rwquade@ieee.org

### Registration: Selective Coordination Seminar 2/20/2009

Register via US mail to: Ronald W. Quade, PE  
Eaton Electrical  
379 Thornall St, 8<sup>th</sup> 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 \$ \_\_\_\_\_

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