

The



IEEE Newsletter

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

NJ EDS/C&S:

Digital Radiography

Rescheduled from February 10, 2010.

On March 24, 2010, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "Digital Radiography." The speaker will be Distinguished Lecturer, Dr. Lucian A. Kasprzak.

About the Talk

If you or someone you know has had an x-ray recently, you may have discovered that things have changed in the radiology department. Almost all the techniques used today are digital. Some techniques used in the radiology department of a hospital are digital by nature. As examples, Computed Radiography, Magnetic Resonance Imaging and Computed Tomography come to mind. However, general radiography and mammography were not digital as originally conceived. These two types of medical radiography have gone through a transition in the last 15 years, resulting in the displacement of x-ray film radiography by digital devices. This change in media, so to speak, allows radiologists to see images almost instantaneously. Further, the infrastructure is now in place to quickly send these images literally around the world for analysis or second opinion.

After a brief description of the x-ray film technique, we will explore the digital technologies used in general radiography and mammography. The image capture technologies and their applications will be described with a focus on aspects of resolution and detection. These detectors use TFT technology similar to that used in flat panel displays. Key attributes of the detector pixels such as fill factor, modulation transfer function, detective quantum efficiency and fixed pattern noise will be reviewed. In addition, the components, materials and processes used in the fabrication of these devices will be examined to lend perspective on their performance and reliability. Finally, some practical challenges for possible future improvement will be advanced.

About the Speaker

Lucian A. Kasprzak received the PhD

degree in Solid State Technology from the Materials Science Department of Stevens Institute of Technology in 1972, while on an IBM Resident Fellowship. He received a BS in Physics from Stevens in 1965 and an MS in Physics from Syracuse in 1970. He has worked his entire career on reliability of semiconductor devices and ICs from their inception as discrete devices to ULSI. He discovered the hot electron effect in short channel MOSFET devices in 1973 while at IBM, from which he retired in 1995. The past 14 years, he has been in the medical device industry in various R&D organizations. He pioneered the creation of IEEE transactions on Device and Materials Reliability and is on the Board of Directors of the International Reliability Physics Symposium. Dr. Kasprzak is a Fellow of the IEEE.

All Welcome!

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

Time: 7:00 PM, Wednesday, March 24, 2010. 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/about/visit/gettingtonjit.php>.

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

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

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.

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NEWSLETTER STAFF

Editor..... Keith Saracinello
Business Manager Keith Saracinello
k.saracinello@ieee.org (302) 683-7162

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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>

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SECTION OFFICERS

Chair Amit Patel
a.j.patel@ieee.org
Vice-Chair-1 Dr. Sanghoon Shin
s.shin@ieee.org (973) 492-1207 Ext. 22
Vice-Chair-2 Dr. Naresh Chand
naresh.chand@baesystems.com (973) 636-7408
Treasurer Vacant
Secretary Russell Pepe
rcpepe@ieee.org (201) 960-6796

Members-at-Large:

Pete Donegan (doneganp@ieee.org)
Dr. Katherine Duncan (kduncan@ieee.org)
Dr. Mengchu Zhou (zhou@njit.edu)

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.

NJ SMC Society:

Deadlock-free and Ratio-enforced Supervision of Automated Manufacturing Systems Using Petri Nets

On Thursday, March 11, 2010, the NJ Systems, Man & Cybernetics (SMC) Chapter will be hosting a seminar on "Deadlock-free and Ratio-enforced Supervision of Automated Manufacturing Systems Using Petri Nets." Mr. Hesuan Hu, a visiting PhD student in New Jersey Institute of Technology, will be the presenter.

About the Talk

In automated manufacturing systems (AMSS), Petri nets are widely adopted to solve the supervisory control problems. Among them deadlock-freeness and fairness constitute two important parts. The former ensures no occurrence of deadlock situations so as to inhibit the emergence of the partial or complete blockage of the processing of jobs. The latter ensures a reasonable regulation scheme for orderly resolution such that a desired ratio can be achieved among different processes. This work proposes an efficient method for designing the supervisors, which are based on the invariance property of Petri net models of AMSS. A novel approach is proposed to iteratively produce empty siphons as the solutions of a set of linear inequalities. We show that the implementation of these two supervisors can be separately performed. The applicability of these results is illustrated through examples. Comparison with the previous work is presented to demonstrate the advantages of the proposed approach.

About the Speaker

Hesuan Hu received the BS and MS

degrees from Xidian University, Xi'an, P. R. China, in 2003 and 2005, respectively. He is currently working towards the PhD degree at Xidian University. Since 2008, he has been a research scholar in the Electrical and Computer Engineering Department, New Jersey Institute of Technology, Newark, where he has also served as an Adjunct Professor in charge of two graduate courses since 2009. From 1997 to 2000, he was an Assistant Engineer at the Metrology Department of Xi'an Aircraft Engine Control Engineering Co., Ltd., where he was appointed as the Director of the Electrical and Electronic Laboratory from 2001 to 2002. His research focuses on Petri nets and their application, automated manufacturing systems, resource allocation systems, and discrete event systems. In the above areas, he authored or co-authored 40 papers on various peer-reviewed journals or conferences including a number of IEEE Transactions. Also, he is an active reviewer for more than 10 prestigious international journals as well as many conferences. Since 2008, he has served as a program committee member for several conferences.

All Welcome!

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

Time: 7:00 PM (light refreshments at 6:45 PM), Thursday, March 11, 2010.

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/about/visit/gettingtonjit.php>.

Information/RSVP: Dr. Mike Liechenstein (973-471-0721) or E-Mail: itsmikesju@aol.com or zhou@njit.edu. Please RSVP and check the electronic newsletter for any changes.

From the North Jersey Section's Education Committee: **Hot courses can enhance your position in the job market**

IEEE North Jersey Education Committee ran programming and management courses since 1993. 236 IEEE members and non-members completed these courses. Benefits: Some got jobs at AT&T and Microsoft Corporation.

We need hot courses, instructors and classrooms. If you can teach a hot course (any course that can get people jobs), email your one-page abstract and your resume. If your NJ firm can provide a conference room, evening or Saturday morning, contact Donald Hsu, Chair, yanyou@hotmail.com. Thank-you and act NOW!

IEEE North Jersey Section Activities

March 2010

Mar. 3 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, Clifton Public Library - Allwood Branch, 44 Lyall Road, Clifton, NJ 07012. Russell Pepe at rcpepe@ieee.org.

Mar. 10 – “Engineers Meet: IEEE-USA – Engineering Supply and Demand”, NJ PACE, 6:30 PM to 8:45 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward, (973) 790-1625, PWard1130@aol.com, Richard F. Tax, (201) 664-6954, rtax@aea.org.

Mar. 11 – “Deadlock-free and Ratio-enforced Supervision of Automated Manufacturing Systems Using Petri Nets” by Hesuan Hu, 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-Mail: itsmikesju@aol.com or zhou@njit.edu. Please RSVP and check the electronic newsletter for any changes.

Mar. 13 - May 15 – “C# .NET Programming” by Donald Hsu, PhD, 9:00 AM to 12:00 PM, Room ECEC 202 , NJIT, 161 Warren Street, Newark, NJ. Donald Hsu, yanyou@hotmail.com.

Mar. 24 – “North Jersey Spring 2010 Student Presentation Contest”, NJ Section, 6:00 PM, FDU, Teaneck, NJ. For more information contact northjerseysac@ieee.org or jignasa.ray@ieee.org.

Mar. 24 (rescheduled from Feb. 10th) – “Digital Radiography” by Dr. Lucian A. Kasprzak, 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. Durga Misra (973) 596-5739 (dmisra@njit.edu), Dr. Edip Niver (973) 596-3542 (NJIT), or Dr. Richard Snyder (973) 492-1207 (RS Microwave).

Mar. 25 – “Brushless DC Motors – More Knowledge Means Better Results” by Steven R. Garfinkel, NJ Consultants' Network, 6:30-8:30 PM, Morris County Library, 30 East Hanover Avenue, Whippany, NJ. Robert Walker, (973) 728-0344, or visit www.TechnologyOnTap.org.

Mar. 26 – “Small Power Transformer Technical Seminar” by Tommy Nunn and Jeffrey Wimmer, NJ PES/IAS, 9:00 AM to 2:00 PM, PSE&G - Hadley Road Facility, 4000 Hadley Road, South Plainfield, NJ. Ronald W. Quade, PE, (732) 205-2614 or rwquade@ieee.org.

Mar. 26 – “Application Deadline for IEEE WCET Certification Program”, North Jersey Section. See www.ieee-wcet.org for more information.

Upcoming Meetings

Apr. 6 – “Internal Development of Test and Measurement Hardware for Wireless Infrastructure Applications” by Charles Jobbers, NJ IMS, 6:30 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center (Intersection between Warren & Summit Streets), Newark, NJ. Russell C. Pepe, 201-960-6796, rcpepe@ieee.org.

Apr. 6 - May 25 – “Project Management” by George Sierchio, 6:30 PM to 9:00 PM, Room: ECEC 202 , NJIT, 161 Warren Street, Newark, NJ. Donald Hsu, yanyou@hotmail.com.

Apr. 7 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, Clifton Public Library - Allwood Branch, 44 Lyall Road, Clifton, NJ 07012. Russell Pepe at rcpepe@ieee.org.

Apr. 29 – “More Assistance for Small High-Tech Businesses: Resources and Grants from NJ COS&T” by Dr. Peter Reczek, NJ Consultants' Network, 7:00 PM, Olive Restaurant, Parsippany Hilton, Parsippany, NJ. Robert Walker, (973) 728-0344, or visit www.TechnologyOnTap.org.

May 2 – “NJ Section Awards Reception” - 3:00 to 6:00 PM at the Birchwood Manor, 111 North Jefferson Rd, Whippany, NJ. Anne Giedlinski (973) 377-3175.

May 4 – “Outdoor ITE-Global Deployment” by Don Gies, NJ IMS, 6:30 PM, Alcatel-Lucent, Building 5, 600 Mountain Avenue, Murray Hill, NJ. Russell C. Pepe, 201-960-6796, rcpepe@ieee.org.

Members and Non-Members Welcome

PLEASE POST

NJ Section PACE:

Engineers Meet: IEEE-USA – Engineering Supply and Demand

On Wednesday, March 10, 2010 the North Jersey Section Professional Activities Committee will meet to discuss IEEE-USA's influence on the Manpower Supply/Demand Ratio. Do they help or hinder? Stop in for an informative discussion with pizza, & refreshments. Bring your friends and associates.

About the Meeting

This meeting will provide members of the profession with an opportunity to discuss IEEE-USA's involvement and influence over the Supply of engineers. More about this subject listed in the "PACE News" column in this *Newsletter*.

These meeting's provide the means to reach other engineers and IEEE members. Historically, once members get to our meetings they just don't want to leave. Our meetings are entertaining and thought provoking.

All are invited. We encourage North Jersey Section Ex-Com officers to attend. When they do, our Section membership can meet with them on a first name basis.

Bring your associates, friends and spouses.

All Welcome!

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

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

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

Time: 6:30 PM to 8:45 PM, Wednesday, March 10, 2010. 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, Richard F. Tax, (201) 664-6954, rtax@aea.org.

NJ Consultants' Network:

Brushless DC Motors – More Knowledge Means Better Results

On Thursday, March 25, 2010, the IEEE Consultants' Network of Northern NJ (www.TechnologyOnTap.org) will present Steven R. Garfinkel, Principal of Ellipsah LLC, who will discuss how BLDC motors are constructed, their performance and how to select them.

About the Topic

Brushless DC motors are used in high performance servo systems. They are capable of high power output in a given size, making them the motor of choice for weight- or size-sensitive applications. When properly applied, they are enormously robust.

This discussion will cover the basics of the construction of BLDC motors. Without resorting to heavy math, the basics of their design will be presented to provide attendees with a more complete understanding of how they work and what features to look for. Users of BLDC motors will be in a better position to ensure they get a motor that will work from their supplier.

The primary components of a BLDC motor are the magnets, laminations, insulation, commutation sensor and windings. Each will be briefly discussed. A systematic approach to the selection of a BLDC motor for a specific application will be presented. If you have any questions about how BLDC motor work, you will find the answers in this presentation.

About the Speaker

Steven Garfinkel received his BSc and MEng in Electrical Engineering from Rensselaer Polytechnic Institute in Troy, NY. He designed autopilots, flight control actuators, rescue hoists, cargo winches and industrial tools over his career of more than twenty five years. His company, Ellipsah LLC, provides complete servo system design services, including custom motors and controllers. Steven can be reached at sgarfinkel@ellipsah.com or at (973) 432-7401.

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!

Free admission – members and non-members are welcome

Time: 6:30-8:30 PM, Thursday, March 25, 2010.

Place: Morris County Library, 30 East

Hanover Avenue, Whippany, NJ.
Directions to Library: www.mclib.info.

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

North Jersey Spring 2010 Student Presentation Contest

The Spring 2010 Student Presentation Contest is coming up! The North Jersey Section will be holding a presentation contest scheduled for March 24, 2010, 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 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 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.

Call for Volunteer Judges!

If you're interested in volunteering to judge the student presentations, please send a brief bio and interest notice to jignasa.ray@ieee.org.

Time: starting at 6:00 PM with dinner at 5:30 PM, Wednesday, March 24, 2010.

Place: FDU, Teaneck, NJ (http://www.fdu.edu/visitorcenter/directions/teaneck_map.html).

Information: If you have any questions, please email the contest organizer, northjerseysac@ieee.org (jignasa.ray@ieee.org).

NJ IMS:

Internal Development of Test and Measurement Hardware for Wireless Infrastructure Applications

On Tuesday, April 6, 2010, the IEEE North Jersey Section of the Instrumentation and Measurement Society (IMS) is hosting a talk entitled "Internal Development of Test and Measurement Hardware for Wireless Infrastructure Applications." The presenter will be Charles Jobbers, MTS, Andrew Corporation.

About the Talk

The cost pressures on commercial infrastructure component manufacturers have forced organizations to explore innovative solutions to reduce test costs. For some manufacturers, viable options to address specific test and measurement needs must be developed internally. Andrew Corporation decided to design our own hardware to determine whether cost savings are possible while maintaining the necessary performance criteria needed to test our commercial wireless infrastructure hardware. Utilizing a highly-focused, small development team and a straightforward goal to reduce cost, we decided to develop a line of modular hardware that may be used by R&D, reliability and production test and measurement needs. We have successfully developed an Arbitrary Waveform Generator (ARB), Digital Upconverter, CW Signal Source and Reflectometer that are used in Vector Signal Generators (VSGs) and Vector Network Analyzers (VNA's) which are currently in use throughout the organization. Our work has resulted in a significant reduction in our capital equipment expenditures as well as a new product line which may be marketed as a lower cost alternate to the RF & Microwave Test and Measurement

industry.

About the Speaker

Charles D. Jobbers earned his Bachelor's Degree in Electronic Engineering Technology from DeVry University in North Brunswick, NJ on June 2001. Later he received his Master's Degree in Software Engineering from Monmouth University in West Long Branch, NJ, in May 2006. He is currently pursuing an MBA in Finance from the same institution. He is currently working as an Engineering Manager at Andrew Corporation for the last 6 years. Previously, he held titles of Test Engineer, Software Engineer, and RF Engineer at Mitec Wireless, Inc., based out of Montreal Canada.

All Welcome!

Free admission. Members and non-members welcome.

Time: 6:30 PM, Tuesday, April 6, 2010. Free buffet will be provided at 5:30 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/about/visit/gettingtonjit.php>.

Information: Russell C. Pepe, 201-960-6796, rcpepe@ieee.org.

NJ Consultants' Network:

More Assistance for Small High-Tech Businesses: Resources and Grants from NJ COS&T

The April 29, 2010 meeting of the IEEE Consultants' Network of Northern NJ will feature a talk on assistance for small high-technology businesses provided by the State of New Jersey Commission on Science and Technology.

The presenter, Peter Reczek, PhD, is the Executive Director of New Jersey COS&T. He brings to this position an extensive background in high-tech start-ups that he founded, as well as in managing technology transfer and industrial-academic partnerships.

Dr. Reczek will highlight many of the state programs that foster growth of small design or manufacturing businesses or benefit engineers in consulting practices.

The meeting will take place on Thursday, April 29, 2010 at 7:00 PM, in the Olive Restaurant at the Parsippany Hilton.

More information will be available closer to the meeting date – in this newsletter and on the CNNNJ Web site (www.TechnologyOnTap.org).

NJ IMS:

Outdoor ITE-Global Deployment

On Tuesday, May 4, 2010, the IEEE North Jersey Section of the Instrumentation and Measurement Society (IMS) is hosting a talk entitled "Outdoor ITE-Global Deployment." The presenter will be Don Gies, MTS, Alcatel-Lucent Global Product Compliance Laboratory.

About the Talk

This talk explores aspects of IEC 60950-1, enclosure test standards (UL 50, CSA C22.2 No. 94, NEMA 250, IEC 60529, IEC 60950-22), and global electrical codes and wiring methods that impact outdoor ITE, and provides insight on how to juggle, compromise, and reconcile conflicting international requirements.

About the Speaker

Don Gies has been a Product Compliance Engineer for over 23 years. Since 1989, Mr. Gies has worked at AT&T-Bell Laboratories/Lucent Technologies/Alcatel-Lucent as a Product Safety Engineer, responsible for obtaining product safety certifications for his company's telephone and information processing equipment from domestic and international product safety organizations. Mr. Gies has become a leading subject matter expert for his company in the field of global product safety compliance, working primarily with Alcatel-Lucent's wireless base station equipment. Mr. Gies is a member of the Alcatel-Lucent Technical Academy. Prior to working at AT&T, Mr. Gies was a Tempest Engineer for Honeywell-Signal Analysis Center, where he worked on various secure communications projects for the US Army Communications -Electronics Command. Mr. Gies, a lifelong resident of the Jersey Shore, graduated from Rutgers University - College of Engineering as an Electrical Engineer. He is an iNARTE Certified Product Safety Engineer.

All Welcome!

Free admission. Members and non-members welcome.

Time: 6:30 PM, Tuesday, May 4, 2010. Free buffet will be provided at 5:30 PM.

Place: Alcatel-Lucent, Building 5, 600 Mountain Avenue, Murray Hill, NJ 07974.

Information: Russell C. Pepe, 201-960-6796, rcpepe@ieee.org.

PACE News

By Richard F. Tax

IEEE to increase Engineer Supply/Demand Ratio

"The E2 Education Act would help states introduce engineering to students as regular parts of the science curriculum. The bill provides the states grant money to develop curriculums that introduce engineering and engineering concepts to students. The bill then provides further grants to implement those curriculums."

Are you worried about the declining number of American students who are majoring in Engineering or the STEM professions?

IEEE-USA has sent the following to our membership to solicit their support for *The E2 Education Act*. However, is this in the best interest of the Profession or our students? How will this affect the Engineering manpower Supply/Demand ratio? High is bad for the Engineering professional, and low would be better. It looks like another money issue where cheap is better.

IEEE-USA wrote, under the Subject line: "Help IEEE-USA Reform Science Education"

"IEEE Member:

We have a unique opportunity to change the way science and engineering are taught in the United States - if we act quickly.

A bill will soon be introduced into Congress that would help states add engineering to their basic science curriculums at the K-12 level. If passed, the bill would be a significant reform to our STEM education system. The bill will introduce all students to engineering much earlier in their academic careers than we do currently. It will also encourage students to continue their science educations through high-school, a time when many American students abandon the hard sciences.

While the bill has support in Congress, it needs more. We need to explain to our elected officials exactly what the bill is and what it does. Most importantly, we need to convince Congress that this issue is important enough for them to focus on it.

To do this, IEEE-USA is inviting all IEEE members to come to Washington on February 8 and 9 to discuss the bill with your elected leaders.

Full details are here: <http://www.ieeeusa.org/policy/careerflyin/default.asp>

If you are interested in education reform, concerned about how America is educating our future engineers, or worried about the declining number of American

students who are majoring in STEM fields, this is your opportunity to make a difference. Please join IEEE-USA on February 8 and 9 to explain this problem, and this solution, with Congress. Register today!"

That sums up this effort toward increasing the supply of engineers, but we know their will be more.

See the involvement on the National Engineers Week (NEW) effort. Hey, little girl, want a cookie? You will see it when you get there.

<http://www.eweek.org/EngineersWeek/introduce.aspx?ContentID=28>.

LETTER

With concern about the Supply/Demand Ratio, I sent the following, dated November 28, 2009, to our IEEE-USA presidents. **I never did receive a reply.**

Here is the letter:

To Gordon W. Day, Ph.D, Russell Lefevre, Ph.D, Evelyn H. Hirt. John Vig
November 28, 2009

I am the PACE chair for the North Jersey, IEEE, Section and the Metropolitan Section's Activities Council (METSAC). PACE is the acronym for Professional Activities Committee for Engineers.

I would like to prepare a Year End report for these two entities. We all have access to "The Institute" and "Spectrum", but I see little to address the bread and butter issues facing our American Engineers.

What has IEEE-USA done during 2009 to enhance the profession for our engineering practitioners? Please note, I mentioned engineering practitioners (working engineers) and not academics. These two groups seem to have conflicting interests and goals.

I am interested in your efforts to address the Supply/Demand Ratio and enhancement of the job market for engineers. Are IEEE-USA's efforts having a positive or negative affect on the S/D ratio? I see as a goal the reduction of the S/D ratio i.e. reducing the supply and increasing the demand for our American Engineers.

Regards,
Richard F. Tax
North Jersey Section. PACE chair.
METSAC PACE Chair

See http://www.aea.org/documents/tax/htri_file.pdf

While IEEE-USA wrote "**While the bill has support in Congress, it needs more.**" No it doesn't need more support;

it needs opposition. This bill provides federal funding to expand the K-12 education and seduce our youth into engineering.

Perhaps it is time to get rid of IEEE-USA and IEEE leaders responsible for this activity.

In conclusion, I believe IEEE-USA and IEEE are and have been acting to increase the supply of Engineers with total disregard for the profession or demand for our engineering members. Supporting IEEE-USA and these efforts is detrimental to the career of all practicing engineers. It is also harmful to our young students. I know and respect the staff at IEEE-USA. Unfortunately, they can only do what they are told to do. Compare them to www.aea.org.

TCF-2010

The 35th Annual Trenton Computer Festival (TCF) will be held Saturday & Sunday, April 24th & 25th, 2010 <http://www.tcf-nj.org>.

The TCF IT Professional Conference is Friday April 23rd.

New this year, the ARRL NJ Amateur Radio Convention is being held coincident with the festival, on Sunday April 25th, all at The College of New Jersey, Ewing, New Jersey.

This year we are focusing on Open Source Software, but we are still interested in covering all topics relating to computers and digital technology. As 2010 is our 35th year, we are also seeking talks that deal with the history of PCs and their impact on society. We are looking for talks (50 minutes) and tutorials/workshop (100 minutes) on all forms of computer, digital electronics, information, communications technology, robotics, home/environmental control, Vid/Podcasting, gaming and digital home entertainment, digital photography, wireless technology, networking.

If you have an idea for a talk or workshop/tutorial for TCF, please fill out a Speaker Application form at http://tcf-nj.org/speaker_registration.html.

If you are interested in more information, or in speaking at the other related events. For the IT Professional Conference contact David Soll at dsoll@Omicron.com. For the Amateur Radio Conference contact Gary Wilson at k2gw@optonline.net. For TCF in general, contact Allen Katz, TCF Program Chairperson, a.katz@ieee.org, telephone: 609-771-2666, fax: 609-631-0177, US Mail: Dr. Allen Katz, School of Engineering, The College of New Jersey, PO Box 7718, Ewing, NJ 08628-0718.

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 long-term to short-term, from technical to non-technical, leadership or just participatory. For Society Chapter Chairs, you must be a member of the corresponding IEEE Society. You must be an active IEEE member to hold an elected office at the section level.

If you would like to become involved with volunteering in some of these efforts or positions or just become more informed about what is happening at the North Jersey Section, please contact Dr. Chandra Gupta at c.gupta@ieee.org. You are welcome to attend the Section business meeting held the first Wednesday of every month to find out more and other volunteer activities that require some help.

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

- Power Electronics Society Chapter Chair - contact [c.gupta](mailto:c.gupta@ieee.org) below.
- GOLD (Graduates of the Last Decade) Affinity Group Volunteers and Committee members needed - contact northjerseygold@ieee.org
- WIE (Women in Engineering) Affinity Group Volunteers and Committee members needed - contact kduncan@ieee.org
- EMBS (Engineering in Medicine and Biology Society) is seeking a chair and active committee volunteers - contact c.gupta@ieee.org.
- Membership Development Committee Chair and Volunteers - contact [c.gupta](mailto:c.gupta@ieee.org) below.
- Student Activities Committee volunteers and committee members needed - contact jignasa.ray@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 c.gupta@ieee.org.

Introduction of Region 1 Student Activities Leadership and Upcoming Region 1 Student Competitions

Thank you for all your efforts in keeping your IEEE Student Branch active and I hope it has been a good year for providing activities for your student members. My name is Ms. Jignasa Ray and I have been appointed the 2010-2011 Region 1 Student Activities Chair. The Region 1 Student Activities Committee is comprised of myself, Briana Morey (student representative until May 2010), Stephen Callender (R1 Southern Area SAC Coordinator), Section SAC Chairs, Student Branch Chairs and Advisors and most importantly YOU, the student members. We are also joining efforts with the Region 1 GOLD, WIE, PACE, SPAC, HTC and MD to provide more student activities, competitions and seminars. We would like to extend our support to you for your IEEE Student Branch local activities and participation in the upcoming Region 1 student competitions and events.

Our role is to try to keep you connected to IEEE as a local, northeastern US, and international organization, make sure you're aware of all the resources IEEE has for you that may make running your student branch a little easier, and help you in any other way we can. We all have diverse experience in volunteering with the IEEE and look forward to working with you to make the R1 Student Branches more active and raise awareness of Student IEEE membership benefits in the coming years. Please visit the Region 1 SAC website (<http://ewh.ieee.org/reg/1/sac/>) for more information about us and the student activities in Region 1 as well as our Region website at <http://www.ieee.org/r1> for general IEEE member information and resources.

We also want to inform you of the upcoming joint Region 2/Region 1 Student Congress on April 17, 2010 at Temple University - Philadelphia, PA. There will be a number of exciting competitions, including the micromouse competition, paper contest, ethics contest, brown bag and t-shirt competition. Details on the competitions are available at: <http://www.temple.edu/students/ieee/SAC/competitions.html>. This will be a great opportunity to meet engineers and students from other schools. For registration guidelines, please visit the Region 1 SAC website (<http://ewh.ieee.org/reg/1/sac/>).

We hope you have completed your annual reporting and submitted the officer information to the IEEE. Please e-mail me if you need any assistance in completing your branch annual reports or if there is a change in your Student Branch leadership and/or Advisors so that we may keep you informed of upcoming conferences, competitions and student activities. If you're looking for speakers in your area, have a problem with your student branch you're not sure how to solve, are looking for events to run, or have any other issues, please do not hesitate to contact us. We're here to help! Hope to see you at the conference!

Jignasa Ray, PE
R1 SAC Chair
jignasa.ray@ieee.org

Briana Morey
R1 Student Representative
briana.morey@ieee.org

Stephen Callender, PE
R1 Southern Area SAC Coordinator
stephen.callender@nyct.com

Elevate to Senior Member Grade!

To get information and an application to advance to Senior Member Grade, see <http://www.ieee.org/web/membership/senior-members/>. For further information or to find potential references, contact Mario Ogava, Membership Chair, at m.ogava@ieee.org.

IEEE WCET Certification Program

Examination to be held from 11 April to 8 May 2010

New Training Programs Launched to Help Candidates Prepare for the Exam & Provide Comprehensive Knowledge of the Wireless Field

The IEEE Communications Society (IEEE ComSoc), the leading worldwide professional organization dedicated to the advancement of communications technologies, will hold the Spring examination period for the IEEE Wireless Communication Engineering Technologies (IEEE WCET) Certification Program from 11 April to 8 May 2010. The application deadline for this upcoming exam cycle is 26 March 2010. Additional details including program and application information are available at www.ieee-wcet.org.



Farmingdale
State College

LISAT2010

Sixth Annual IEEE Long Island Systems, Applications and Technology Conference

Friday, May 7, 2010

The Institute for Research & Technology Transfer at Farmingdale State College
State University of New York - Farmingdale, NY

CALL FOR PAPERS, PRESENTATIONS, EXHIBITORS and STUDENT PAPERS

The Long Island Systems, Applications and Technology (LISAT) Conference features several parallel professional tracks including topics in Systems, Applications, and Technology, along with an Exhibit Hall. We are currently soliciting submissions for participation in both the Technical Program and the Exhibit Hall, and are interested in papers, presentations, and exhibits that showcase the development and use of technology by local organizations. LISAT 2010 will also provide the opportunity for select student papers to be presented. Undergraduate and graduate students are encouraged to submit papers in an area of their interest or current work.

Preliminary acceptance to the Technical Program will be based on a 300-to-500-word abstract. Authors of accepted abstracts will be required to provide a six (6) page IEEE standard manuscript (in MS Word format) for publication in IEEE *Xplore*, and will be required to make a power point presentation at the conference. Manuscripts are subject to the LISAT Technical Program Committee's peer review and may require revision prior to final acceptance. Important dates for the Technical Program are:

Oct 31, 2009:	Abstracts due (300-to-500 words)
Nov 15, 2009:	Notification of accepted abstracts
Nov 30, 2009:	Biographies of authors and ½-page presentation outlines due
Jan 15, 2010:	Manuscripts for publication (MS Word) and copyright releases due
Jan 30, 2010:	Notification of final acceptance of manuscripts
Feb 15, 2010:	Presenter Registration Fee and two (2) sentence presentation descriptions due
Apr 1, 2010:	Power Point slide presentation due
May 7, 2010:	LISAT2010 Conference

For more information see <http://ewh.ieee.org/conf/lisat/>

IEEE North Jersey Section Course C# .NET Programming

Saturday, March 13, 2010 through May 15, 2010

Eight weekly classes (March 13, 20, 27, April 3, 10, May 1, 8, 15, 2010)

Place: Room ECEC 202, New Jersey Institute of Technology, 161 Warren Street, Newark, New Jersey 07102
(Checks should not be mailed to this address)

IEEE North Jersey Section thanks New Jersey Institute of Technology, for sponsoring this course.

The IEEE North Jersey Section is offering a course entitled "C# .NET Programming". Since 2004, C# .NET has generated significant headway in Fortune 1000 enterprise development systems. Dice.com lists 700+ C# .NET jobs in the New York tri-state area daily! This course will cover the fundamentals of C# language, the .NET framework, window and web-based applications, ADO.NET, ASP.NET, and XML. It will be useful for anyone to develop applications based upon these tools.

You will receive the IEEE Certificate of Completion when you finish the course. Microsoft Corp. has MCAD and MCSD certifications. You may wish to get certified by taking the necessary Microsoft exams with the knowledge gained from this course.

Instructor: **Donald Hsu, Ph.D.**, has been a corporate manager for 11 years and is an experienced trainer. Since 2004, he has trained 700+ people in database, Java, WebLogic, XML, and C# .NET courses in 7 organizations.

TOPICS

1. Compare the enterprise development tools using Java to C# .NET
2. Define Visual Studio .NET Version 2005 to 2008
3. Identify C# syntax, data type, control structures and common language runtime
4. Distinguish methods, arrays, object-oriented programming
5. Build graphical user interface, multithreading, files and streams
6. Explain the benefit of using extensible markup language (XML)
7. Select database, SQL server, and ADO .NET
8. Choose ASP .NET, web forms, web services, advanced topics
9. Present student Projects

WHERE: Room ECEC 202, New Jersey Institute of Technology, 161 Warren Street, Newark, NJ.
WHEN: Eight Saturdays, March 13, 20, 27, April 3, 10, May 1, 8, 15, 2010, 9:30 AM to 12:00 noon.
COST: IEEE (& affiliate) members \$500; Non-IEEE members \$550.
CONTACT: Donald Hsu, yanyou@hotmail.com

REGISTRATION: C# .NET Programming

Please mail the completed registration with a check (payable to "North Jersey Section IEEE") to:
Donald Hsu, Chair Education Committee, IEEE North Jersey Section, P.O. Box 2093, Fort Lee, New Jersey 07024.

Name: _____ Email address _____

Non-member

IEEE Member Member #: _____ Member of _____ technical society

Employer: _____

Employer Address: _____

Home Address: _____

Business (day) telephone #: _____ Home telephone #: _____

Please enclose required fee payable to: **North Jersey Section IEEE**

As soon as the completed registration form and the payment are received, you are officially registered for this course.
Registration status will be confirmed by email.

I wish to receive IEEE Completion Certificate

Signature: _____

IEEE North Jersey Section Course Project Management

*Tuesday Evenings, April 6, through May 25, 2010
Eight weekly classes (April 6, 13, 20, 27, May 4, 11, 18, 25, 2010)
New Jersey Institute Technology, 161 Warren Street,
Newark, New Jersey (Checks should not be mailed to this address)*

IEEE North Jersey Section thanks New Jersey Institute Technology for sponsoring this course

The North Jersey Section IEEE is offering an evening course entitled "Project Management". Dice.com lists 5800+ Project related jobs in the New York tri-state area daily! This course will help you to break down a master project into manageable tasks, pinpoint possible solutions, and provide information to keep the project under control. Using Microsoft Project software, you will learn to accomplish various project plans. In addition, it will greatly enhance your business, communications and interpersonal skills.

You will receive the IEEE certificate of completion when you finish the course. You may wish to take two Certification exams, one in Project Management administered by Project Management Institute from the knowledge that you learned in this course. (This is not an exclusive PMP-PMI examination prep course. No PDUs are issued for PMP eligibility. CEU credits would be given by IEEE)

Instructor: **George Sierchio**, business owner with 16 years of experience. He did technical consulting, training, and managed over 30 projects. He trained 500+ adult students in the last 10 years.

TOPICS

1. Explain the need for a project manager
2. Define SOW, PERT, GANTT, CPM, and Scope of the project
3. Identify the team members, resources and plan for the strategy
4. Calculate schedule, budget variances, and monitor project progress
5. Manage changes, estimates, and communications
6. Set a baseline, import tasks from MS Excel, export Project files to MS Word
7. Create and modify custom reports, templates and combination views
8. Share resources and create a master plan loaded to Project Server
9. Approve updates and conclude a project plan
10. Analyze global E-Commerce and present student Projects

WHERE: Room ECEC 202, New Jersey Institute of Technology, 161 Warren Street, Newark, NJ.

WHEN: 8 Tuesdays, April 6, 13, 20, 27, May 4, 11, 18, 25, 2010, 6:30-9:00 PM.

COST: IEEE (& affiliate) members \$500; Non-IEEE members \$550.

CONTACT: Donald Hsu: yanyou@hotmail.com

REGISTRATION: Project Management

Please mail the registration form with the check (**Checks payable to "North Jersey Section IEEE"**) to
Donald Hsu, Chair Education Committee, IEEE North Jersey Section, P. O. Box 2093, Fort Lee, NJ 07024

Name: _____ Email address _____

Non-member

IEEE Member Member #: _____ Member of _____ technical society

Employer: _____

Employer Address: _____

Home Address: _____

Business (day) telephone #: _____ Home telephone #: _____

Please enclose required fee payable to: **North Jersey Section IEEE**

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

I wish to receive the IEEE Completion Certificate

Signature: _____

NJ Power & Energy Society/Industry Applications Society

Small Power Transformer Technical Seminar

The PES and IAS Chapters will sponsor a technical seminar on the topic of medium voltage small power transformers. The session will be held on Friday, March 26, 2010 at PSE&G's Hadley Road Facility, 4000 Hadley Road, South Plainfield, NJ.

Topics

The seminar will cover the basics of design and product selection of small power transformers for power distribution systems for industrial and commercial facilities. The seminar will focus on the selection of the various types of small power transformers, and how to configure the systems to provide the proper level of reliability based on available project funding:

- ✓ Comparison of Transformer Technologies, Dry Type and Liquid Filled Transformers
- ✓ Transformer Overload Capability and System Coordination
- ✓ Transformer Thermal Characteristics
- ✓ ANSI C57.12.96 and C57.12.92
- ✓ ANSI Test Requirements
- ✓ DOE National Efficiency Standard
- ✓ Fluids: Oil, Less Flammable, Biodegradable
- ✓ Total Ownership Costs:
 - ✓ New Equipment Developments
 - ✓ Acquisition & Commissioning Costs
 - ✓ Operations / Energy Costs
 - ✓ Operations / Maintenance Costs
 - ✓ Life Cycle / Retirement Cost

About the Instructors

The instructors will be Tommy Nunn and Jeffrey Wimmer, ABB.

Tommy Nunn has a BS degree in Electrical Engineering and comes to us with 31 years experience in the medium voltage power equipment industry specializing in Small Power Transformers. His experience in the industry includes ITE, Gould, Brown Boveri Corporation, PEMCO and presently he is the Marketing Manager for ABB's North American Dry Type Transformer Division.

Jeffrey Wimmer MS/MBA studied both engineering and management, and is a certified substation maintenance engineer with experience in the medium voltage power equipment industry specializing in Small Power Transformers. His experience in the industry includes the US Air Force, Virginia Transformer Corp., AVO/Megger, North American EPC's, and currently he is the Senior Marketing Representative in Business Development for ABB's North American Dry Type Transformer Division.

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, March 26, 2010.
Place: PSE&G - Hadley Road Facility, 4000 Hadley Road, South Plainfield, NJ 07080-1192
Directions: Route 287 to Exit 5
If Southbound make right onto Stelton Road; If Northbound make left onto Stelton Road
Make first left onto Hadley Road
Pass the two lights and building is on the left; look for PSE&G sign on left
Information: Ronald W. Quade, PE, (732) 205-2614 or rwquade@ieee.org

Registration: Small Power Transformer Seminar 3/26/2010

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 \$ _____

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

IEEE AWARDS RECEPTION

*North Jersey Section
May 2, 2010
Birchwood Manor, Whippany NJ*

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

The Annual Section IEEE Awards Reception will be held at the Birchwood Manor, 111 North Jefferson Road, Whippany again this year. The affair is scheduled for **Sunday, May 2, 2010** from 3 to 6 PM. Tickets are \$35.00 each. Spouses and guests are welcome. We are limited to 90 attendees, so please make your reservations early.

Reservations are required by April 24, 2010. Complete the reservation form and return it with your payment. If you would like tickets mailed back to you, please enclose a self-addressed **stamped** envelope. Otherwise, your tickets will be held at the door for you. If any additional information is required concerning the reception, contact Anne Giedlinski at (973) 377-3175.

Use this form for Reception reservations. **ENCLOSE A SELF-ADDRESSED STAMPED ENVELOPE to receive tickets in advance. Reservations are required by April 24, 2010.** Mail reservation request to:

Anne Giedlinski
299 Brooklake Road
Florham Park, NJ 07932

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

NAME: _____

ADDRESS: _____

Yes, please send me directions to the Birchwood Manor