

The



IEEE Newsletter

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

NJ Computer Chapter:

Introduction to Capability Maturity Model Integration (CMMI)

On Tuesday, September 20th, 2005, the IEEE North Jersey Section Computer Chapter will host a presentation titled "Introduction to Capability Maturity Model Integration (CMMI)" by Donald A. Borcharding.

About the Talk

This presentation provides a primer on Capability Maturity Model Integration (CMMI) developed by the Software Engineering Institute (SEI) at Carnegie Mellon. The presentation will begin with a short overview of CMM and how it has evolved into the CMMI model of today.

Both Staged and continuous representations of the CMMI model will be discussed while covering the specific and generic practices required for each representation.

The talk will close with an example on how to get started with CMMI using qualitative data gathered on 10 projects over a 3 year period. The example will show how the data can be used to pick a starting point that best meets the needs of the organization. Information provided can be easily adapted to any organization and industry.

About the Speaker

Donald A. Borcharding has a BSEE from the University of Missouri at Rolla and has over 25 years of hands-on experience in Engineering development projects, resource management, project management, process development and continuous process improvements. He has developed processes for Systems, Software, Electrical and Mechanical Engineering departments in the Semiconductor, Defense, and Medical Device Industries to transform ad hoc development environments into well structured organizations to deliver high quality and on-time products.

All Welcome!

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

Time: 7:00 PM, Tuesday, September 20, 2005 (pre-meeting buffet starting at 6:00 PM).

Place: Lucent Technologies, 67 Whippany Road, Room TBA, Whippany, NJ.

Information: Seth Jakel (973) 731-1902 or (908) 243-8715 or (973) 820-1865 (sgjakel "AT" comcast.net), Howard Leach (973) 540-1283 (hhleach "AT" aol.com), Vivek Shaiva (908) 229-6125 (vshaiva "AT" computer.org), or Arthur Greenburg (973) 386-6673 (ahg1 "AT" lucent.com). **Registration in advance is recommended** with full name, affiliation and nationality so that an admission badge will be available for you on arrival.

NJ Section PACE & GOLD:

Engineers Meet: September Meeting - Refreshments, Pizza & Social

On Wednesday, September 14, 2005 the North Jersey Section Professional Activities Committee and Graduates of the Last Decade will host a meeting to network, socialize, enjoy refreshments and discuss the professional side of engineering.

About the Meeting

All will have an opportunity to present their views about the profession, the job market, review past meetings and discuss pressing issues for PACE.

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

www.aea.org/chapters/nj/

www.ieeeusa.org

web.njit.edu/~ieeenj/

www.asme.org/sections/northjersey

Time: 6:30 to 9:00 PM, Wednesday, September 14, 2005. Refreshments will be served.

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

Information: Paul Ward, (973) 790-1625 (PWard1130 "AT" aol.com) or Richard F. Tax, (201) 664-6954 (rtax "AT" bellatlantic.net).

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Deadline for receipt of material is the 1st of the month preceding the month of publication. All communications concerning editorial and business matters, including advertising, should be sent to the Business Manager via e-mail at *k.saracinello "AT" ieee.org* or to *The IEEE Newsletter, c/o Keith Saracinello, 25 Messenger Ln, Ringoes, NJ 08551, (908) 791-4067*.

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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Gary Hojell (gary.hojell "AT" itt.com)
Dr. Richard Snyder (r.snyder "AT" ieee.org)

The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7:00 PM. Meetings are open to all members. For information on meeting agenda contact Secretary Russell Pepe at (201) 960-6796, rpepe "AT" att.net.

NJ EDS/C&S & MTT-S/AP-S Ch: Quantum Engineering of Nanoelectronic Devices

On September 21, 2005, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with MTT/S/AP-S and the New Jersey Institute of Technology will host a talk on "Quantum Engineering of Nanoelectronic Devices." The speaker will be Professor Vijay K. Arora.

About the Talk

Quantum (digital-type) concepts are gaining prominence over and above classical (analog-type) ones in miniaturized devices where nanometer size can be less than or equal to the de Broglie wavelength of an electron in any of the three Cartesian directions. An electric field driving electrons in these devices can be extremely high. This converts random carrier motion to a streamlined one, thereby limiting the velocity to thermal velocity or Fermi velocity depending on the degeneracy of the sample. This re-organization of the carrier velocities makes familiar Ohm's law invalid, thereby enhancing the role of high-field velocity saturation in performance evaluation and characterization of nanostructures. Further, a free flight of a carrier may be interrupted by an emission of a quantum of energy in the form of a phonon or photon. This emission further limits the saturation velocity and also degrades the diffusion coefficient. The seminar will demonstrate that a higher mobility does not necessarily lead to a higher saturation velocity showing independence of the saturation velocity on mobility-limiting scattering mechanisms. A review of quantum-mechanical and high-field effects that have impact on the design of optoelectronic devices and other nanocircuits is presented.

About the Speaker

Vijay K. Arora, a tenured Professor of Electrical Engineering and Engineering Management at Wilkes University, held distinguished visiting appointments at the University of Illinois (1981-82), the University of Tokyo (1989-90), National University of Singapore (1991-93), Nanyang Technological University (1999-2000), and the University of Western Australia (2000-2001). In addition to his long-term visiting appointments, Professor Arora visits several international institutions on short-term consulting assignments and enjoys the privilege of knowing the cultures and educational methods being practiced around the globe. In recognition of his research, he was invited to give

presentations at several international scientific gatherings. His research interests include mobility limiting mechanisms in high-speed devices, including quantum and high-field effects. Professor Arora has authored or co-authored over 150 papers on scientific and educational issues. As past chair of the International Division of American Society for Engineering Education (ASEE), he organized several international events. As chair of the 1996 ASEE Mid-Atlantic Conference, he edited and published the proceedings entitled *Re-Engineering Education and Training for a Competitive Global Economy*. Professor Arora is on the Distinguished Lecturer Program of the IEEE Electron Devices Society and APS Forum on Industrial and Applied Physics and is listed in several biographies. He was recently named Leading Educator of the World 2005.

All Welcome!

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

Time: 7:00 PM, Wednesday, September 21, 2005. Free buffet will be starting at 6:15 PM.

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

Information: Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), Har Dayal (973) 633-4618 (har.dayal "AT" baesystems.com), or Kirit Dixit (201) 669-7599 (kdixit "AT" ieee.org).

Conference Rooms Needed!

The North Jersey Section (Education Committee) is looking for conference room facilities to hold their training seminars. The seminars are being held on one weeknight from 6:30 PM to 9:00 PM. In return for providing the conference facility for free, the organization can get free registration up to three members in the course/seminar. Please contact Bhanu Chivukula, Education Committee Chairman, at b.chivukula "AT" computer.org for suggestions or discussions, if interested.

IEEE North Jersey Section Activities

September 2005

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

Sept. 14 – “Engineers Meet: September Meeting - Refreshments, Pizza & Social” - NJ PACE & GOLD, 6:30 – 9:00 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward, (973) 790-1625 (PWard1130 “AT” aol.com) or Richard F. Tax, (201) 664-6954 (rtax “AT” bellatlantic.net).

Sept. 20 – “Introduction to Capability Maturity Model Integration (CMMI)” - NJ Computer Chapter, 7:00 PM (pre-meeting buffet at 6:00 PM), Lucent Technologies, 67 Whippany Road, Room TBA, Whippany, NJ. Seth Jakel (973) 731-1902 or (908) 243-8715 or (973) 820-1865 (sgjakel “AT” comcast.net), Howard Leach (973) 540-1283 (hhleach “AT” aol.com), Vivek Shaiva (908) 229-6125 (vshaiva “AT” computer.org), or Arthur Greenburg (973) 386-6673 (ahg1 “AT” lucent.com).

Sept. 21 – “Quantum Engineering of Nanoelectronic Device” – EDS/C&S, & MTT-S/AP-S Chapters, 7:00 PM (buffet at 6:15 PM), NJIT, 202 ECE Center, Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), Har Dayal (973) 633-4618 (har.dayal “AT” baesystems.com), or Kirit Dixit (201) 669-7599 (kdixit “AT” ieee.org).

Sept. 29 – “Experiences in Accounting” - NJ Consultants' Network, 7:30 PM, Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. Robert Walker (973) 728-0344 or www.TechnologyOnTap.org.

Upcoming Meetings

Oct. 5 – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Russell Pepe at rpepe “AT” worldnet.att.net.

Oct. 6 – “2005 MTT/AP Symposium and Mini-Show” – MTT-S/AP-S Chapter, 9:30 AM - 5:30 PM, Prime Hotel & Suites (formerly Radisson Hotel Fairfield), 690 Route 46 East, Fairfield, NJ. Kirit Dixit (201) 669-7599 (kdixit “AT” ieee.org), Art Greenberg (973) 386-6673 (ahg1 “AT” lucent.com), Har Dayal (973) 633-4618 (har.dayal “AT” baesystems.com), or George Kannell (973) 386-4170 (gkk “AT” lucent.com).

Oct. 11-Nov. 29 – “Project Management” – North Jersey Section, North Jersey Section, Tuesday Evenings, 8 sessions, 6:30-9:00 PM, NJ International Bulk Mail Center, 80 County Rd, Jersey City, NJ. Bhanu Chivukula (b.chivukula “AT” computer.org).

Oct. 20– “Life Grade Luncheon” - 11:30 AM, Hamilton Park Conference Center, 175 Park Ave, Florham Park, NJ 07932. Ken Oexle (973) 386-1156.

Oct. 21 – “Oracle Database Concepts Including SQL for Programmers” - NJ Section, 9:00 AM to 1:00PM, Radisson Hotel - Saddle Brook, 129 Pehle Ave, Saddle Brook, NJ. Bhanu Chivukula b.chivukula “AT” computer.org.

Oct. 27 – “The Life of SPICE” - NJ Consultants' Network, 7:30 PM, Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. Robert Walker (973) 728-0344 or www.TechnologyOnTap.org.

Oct. 28 – “Advanced Concepts in Transformer Protection Technical Seminar” - NJ IAS/PES Chapters, 9:00 AM – 1:00 PM, PSE&G Training Center, 234 Pierson Ave, Edison NJ. Ronald Quade, PE, (732) 205-2614 or rwquade “AT” ieee.org.

Oct. ? – “Field Programmable Gate Array Seminar” - NJ Section, Time, Date and Location TBA. See <http://web.njit.edu/~ieeenj/> and upcoming Newsletters for updates.

Nov. 18 – “Upgrade of Generator Protection to Comply With IEEE Guides Technical Seminar” - NJ IAS/PES Chapters, 9:00 AM – 1:00 PM, PSE&G Training Center, 234 Pierson Ave, Edison NJ. Ronald Quade, PE, (732) 205-2614 or rwquade “AT” ieee.org.

Members and Non-Members Welcome

PLEASE POST

NJ Consultants' Network:

Experiences in Accounting Panel

On September 29, 2005, the IEEE Consultants' Network of Northern NJ (CNNNJ) will host a discussion on "Experiences in Accounting". A panel of experienced independent consultants will lead the discussion.

About the Talk

Independent consultants face special problems when it comes to accounting, especially regarding taxes and insurance. Members of CNNNJ will pool their collective experience and knowledge and share it with the attendees for what promises to be an entertaining panel session.

Accounting and insurance issues will be discussed as they relate to self-employed consultants, especially IRS rules about 1099 vs. W2, (section 530 vs. 1706), when to make estimated payments, social security and Medicare, the difference between subchapter S and C, LLCs, and other options, section 179 deduction rules, depreciation, home office deductions, state specific issues, and insights into what if any liability insurance or any compulsory insurance independent consultants should have.

About the Speakers

Biographies of CNNNJ members, some of whom have more than 20 years of experience as independent consultants, may be found on our website at <http://www.technologyontap.org>, where you can also sign up for our newsletter and find information about joining CNNNJ. All attendees on the 29th are invited to participate and share their business knowledge and related anecdotes with their peers.

All Welcome!

Everyone welcome. No registration needed. Free admission.

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.

Time: 7:30 PM, Thursday, September 29, 2005.

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

Information: For directions and up-to-date meeting status, call Robert Walker (973) 728-0344 or visit our website at www.TechnologyOnTap.org. To download a map to KDI, go to: <http://www.mcekd-integrated.com/directions.htm>.

2005-2006 Student Activities Kickoff

Welcome back to the beginning of a new year of student activities for the North Jersey Section. This year promises to be filled with new activities and events. We hope you and your student branches will be participating in all of these events throughout the 2005-2006 academic year. Also since the year is just getting started, it is a good time for a refresher on what your branch must be doing to be recognized by the IEEE. Information about IEEE, student branch bylaws and forms to fill out are available on the website given below.

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

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

The MTT/AP (Microwaves and Antennas) Society of North Jersey will be holding its annual MTT Mini-show on October 6th at the Prime Hotel in Fairfield, NJ. The minishow is always looking for student volunteers to help out for the day-long conference. If you are interested, please contact Kirit Dixit at

kdixit@ieee.org.

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

Notice to NJ Section Engineers

Paul Ward, a member of the NJ Section IEEE USA and Co-chair of its PACE committee, is looking for (a donation of) electronic test equipment that can be used for teaching electronics and electricity to students with learning disabilities (LD) at the Craig Upper School in Lincoln Park, NJ. This school is a private institution that receives its operating funds from either the parents of the students or some governmental subsidy.

The Craig Upper School is a school dedicated to teaching LD students at the high school level, preparing them to continue on to college or to enter the work force. It teaches a full curriculum, i.e., English, History, Mathematics, Science, and special courses directed at LD students. The staff is limited to approximately fifteen (15) including office, nurse, and guidance with the student population that ranges in the upper fifties (50) which is expected to grow. This ratio of student-to-staff helps to keep class size small and manageable, a class rarely exceeds seven (7).

Paul is trying to accumulate a couple of oscilloscopes, multimeters (analog or digital), oscillators, and function generators, so that a Basic EE course could be put together for a technical course and added to the present academic curriculum. The course would help the student to connect what he or she learned in Mathematics and Science into a practical experience.

The equipment does not have to be in perfect condition, just safe and usable.

If you can donate such equipment, please send it to the following address:

Craig Upper School
Attn: Paul Ward
200 Comely Road
Lincoln Park, NJ 07035

Alternatively, contact Paul Ward at (973) 790-1625 or PWard1130@aol.com. He will pick it up if needed.

NJ Consultants' Network:

The Life of SPICE

On October 27, 2005, the IEEE Consultants' Network of Northern NJ (CNNNJ) will host a discussion on "The Life of SPICE". CNNNJ is honored to present this talk by IEEE Fellow Dr. Nagel.

About the Talk

The integrated circuit industry thrives on constant change and is not particularly known for tradition. It is curious, then, that the SPICE circuit simulation program, in one form or another, has been around the industry for over thirty years. That means that many engineers entering this booming business today weren't even born when I released the first version of SPICE! In this talk, I will chart the journey of SPICE, starting as a teaching program at the University of California, Berkeley, and spreading into industry, launching a cottage industry of software houses writing and supporting "alphabet SPICE." I also will give credit to all of the early principals in this journey, and share some of my more amusing experiences during the journey. Nobody can say for sure, but I will offer my opinions on how this particular program has evolved in thirty years and yet stayed pretty much the same. I can think of no other computer program that can make that claim.

About the Speaker

Laurence W. Nagel has worked in the integrated circuit industry for about 30 years. While earning his BS, MS, and PhD degrees at the University of California, he developed the SPICE circuit simulation program and launched a cottage industry of SPICE simulation tools. Mr. Nagel then began a 20 year career at Bell Laboratories which included developing the ADVICE circuit simulation program; participating in the development of process and device simulation tools; participating in the development of the Kull-Nagel bipolar model; designing analog circuits for submicron NMOS processes; working in the AT&T Intellectual Property Division on assertion of patents and negotiation of patent licenses; and serving as project manager in the development of the Celerity circuit simulation program. Mr. Nagel joined Anadigics, Inc. in 1995, where he worked on supporting simulation of RF integrated circuits; modeling and characterization of GaAs MESFET device processes; and importing silicon CMOS design tools and foundry support. In 1998, Mr. Nagel founded his own company, Omega Enterprises, which offers consulting services in analog and RF integrated circuit design, device modeling, circuit simulation, and expert witness work in patent and trade secret litigation.

All Welcome!

Everyone welcome. No registration needed. Free admission.

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.

Time: 7:30 PM, Thursday, October 27, 2005.

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

Information: For directions and up-to-date meeting status, call Robert Walker (973) 728-0344 or visit our website at www.TechnologyOnTap.org. To download a map to KDI, go to: <http://www.mcekdi-integrated.com/directions.htm>.

The NJ Section Education Committee Requests Your Feedback

The IEEE North Jersey Section has been helping fellow engineering professionals for the last fifty years. The Education Committee has successfully conducted software and engineering training courses over the last few decades. The Committee is committed to professional development of the members and the instructors for the courses are very qualified and experienced in their respective fields. Classes are arranged on weekday evenings or on Saturdays provided at least fifteen candidates are available. Completion certificates are issued by IEEE Headquarters with CEU credits for the number of training hours.

Due to the slow growth of the economy and several other factors, registration for these courses has diminished over the last few years. I would urge members to send their feedback regarding what courses they would be interested in, the format, location, and day/time, etc., by email to [b.chivukula "AT" computer.org](mailto:b.chivukula@computer.org).

Regards,
Bhanu Chivukula
Chair, Education Committee
Vice Chair, IEEE North Jersey Section

North Jersey Section Seeks Committee Chairs and Volunteers

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

If you would like to become involved with volunteering in some of these efforts or positions or just become more informed about what is happening at the NNJ IEEE Section, please contact the persons listed below for additional information and questions. You can even attend the section business meeting held the first Wednesday of every month to find out more and other volunteer activities that require some help.

Some of the positions currently open and available are:

- *LEOS Chapter Chair.* Contact Har Dayal ([har.dayal "AT" baesystems.com](mailto:har.dayal@baesystems.com))
- *Controls Chapter Chair.* Contact Howard Leach ([Hhleach "AT" aol.com](mailto:Hhleach@att.net))
- *GOLD Affinity Group Chair.* Contact Dick Tax ([rtax "AT" bellatlantic.net](mailto:rtax@bellatlantic.net))
- *Historian Committee* seeks help collecting IEEE historical information and specifically IEEE North Jersey Section History. Contact Al Stolpen ([a.stolpen "AT" ieee.org](mailto:a.stolpen@ieee.org))
- *Student Activities Committee* seeks new volunteers for North Jersey. Contact Amit Patel ([a.j.patel "AT" ieee.org](mailto:a.j.patel@ieee.org))

Additionally, if interested volunteers would like to get more general information about other activities in our section, visit the North Jersey Section website for newsletter information <http://web.njit.edu/~ieeenj/> or contact Har Dayal, [har.dayal "AT" baesystems.com](mailto:har.dayal@baesystems.com).

Life Grade Luncheon

The PES Chapter and the Section will sponsor a luncheon for North Jersey IEEE Life Grades (Members, Senior Members and Fellows) on Thursday October 20 at the Hamilton Park Conference Center, 175 Park Ave, Florham Park, NJ 07932. The luncheon will begin at 11:30 AM in the Terrace area. Cost is \$ 5.00 per person.

Advance registration is required prior to October 11. We can accommodate only 30 people. Registrations will be processed in the order of receipt and will be confirmed by return mail. Please complete the following registration form and include a check Payable to the North Jersey Section IEEE in the amount of \$5.00 per person.

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

IEEE Life Grade Luncheon Registration NJ Oct 20, 2005

Name _____

Address _____

Phone _____

IEEE # _____ Life Grade ____ Yes

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

Prior to October 11 and enclose a \$5.00 check payable to **NJ Section IEEE**

THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS, INC.



IEEE NORTH JERSEY SECTION

MTT-Society and AP-Society Joint Chapter



PRESENT

20TH ANNUAL SYMPOSIUM AND MINI-SHOW

FOCUS: SELECTED TOPICS IN RF AND MICROWAVE COMMUNICATION

Thursday, October 6, 2005

Prime Hotel & Suites (formerly Radisson Hotel Fairfield)

690 Route 46 East, Fairfield NJ (973) 227-9200

SCHEDULE OF EVENTS

- **9:30 AM TO 6:00 PM - MINI SHOW FEATURING LATEST PRODUCTS (Approx. 30-40 Exhibitors)**
- **9:00 AM TO 5:30 PM - TECHNICAL SESSIONS**
- **10-12 - LECTURES FEATURING SPEAKERS FROM LEADING COMPANIES WITH EMPHASIS ON MILITARY ELECTRONICS, WIRELESS TECHNOLOGIES AND MICROWAVE COMMUNICATIONS.**

(COMPLIMENTARY LUNCH SERVED)

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

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

For further information contact

Chair/Exhibition:	Kirit Dixit	(201) 669-7599	kdixit "AT" ieee.org
Publicity:	Arthur Greenberg	(973) 386-6673	ahg1 "AT" lucent.com
Event/Location Coordinator:	Ken Oexle	(973) 386-1156	
Section Chair/Coordinator:	Har Dayal	(973) 633-4618	har.dayal "AT" baesystems.com
Technical Program Chair:	George Kannell	(973) 386-4170	gkk "AT" lucent.com

THERE IS NO CHARGE TO ATTEND THE SYMPOSIUM OR SHOW

NJ Power Engineering Society/Industry Applications Society

Advanced Concepts in Transformer Protection Technical Seminar

The PES and IAS Chapters will sponsor a one-day seminar covering Advanced Concepts in Transformer Protection. The session will be held on Friday, October 28 at the PSE&G Training Center, 234 Pierson Ave, Edison, NJ.

Topics (A more detailed syllabus is available at <http://web.njit.edu/~ieeenj/NEWSLETTER.html>)

Protection of Power Transformers

1. Modes of Transformer Failure
2. Types of Protection
3. Mechanical
4. Electrical
5. Unique factors for differential electrical protection
6. Special concerns
7. Back up protection

Setting a Relay – Overcoming Engineering Challenges

1. Configure relay to “the outside world”
2. Element enabling
3. Element setting
4. Setting groups
5. Purposes and configuration
6. Input / Output Matrixing (Marshalling)
7. Programmable logic
8. Set point review & printout
9. Input / Output review & printout
10. File saving & recall (file management)

Commissioning of Transformer Differential Protection Systems

1. Phasing Issues
2. Polarity Issues
3. Injection Testing
4. Load Testing
5. Tools for Commissioning

About the Instructor

The instructor will be Chuck Mozina, Consulting Engineer with Beckwith Electric. Chuck Mozina is a Contract Consultant, Protection and Protection Systems for Beckwith Electric Company, Inc., specializing in power plant and generator protection. His consulting practice involves projects relating to protective relay applications, protection system design and coordination.

Chuck is an active 20-year member of the IEEE Power System Relaying Committee (PSRC) and is the past chairman of the Rotating Machinery Subcommittee. He is active in the IEEE IAS I&CPS committee, which addresses industrial protection system. He is the past U.S. representative to the CIGRE Study Committee 34 on System Protection and has chaired a CIGRE working group on generator protection. He also chaired the IEEE task force that produced the tutorial "The Protection of Synchronous Generators," which won the PES's 1995 Outstanding Working Group Award. Chuck is the 1993 recipient of the PSRC's Career Service Award.

Chuck has a Bachelor of Science in Electrical Engineering from Purdue University and has authored a number of papers and magazine articles on protective relaying. He has over 25 years of experience as a protective engineer at Centerior Energy, a major investor-owned utility in Cleveland, Ohio where he was the Manager of the System Protection Section. For the past ten years, he was Application Manager for Protection Products with Beckwith Electric Company. He is also a former instructor in the Graduate School of Electrical Engineering at Cleveland State University. He is a registered Professional Engineer in the state of Ohio.

If desired, IEEE Continuing Education Units will be offered for this course. A small fee of \$15 will be required for processing. A total of 0.4 CEUs will be offered. Please indicate if desired below.

The registration fee for this seminar prior to October 14th will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after October 14th must include an additional late fee of \$25. The seminar fee includes lunch, refreshments, and handouts. Non-members joining IEEE within 30 days of the seminar will be rebated 50% of the IEEE registration charge.

Time: 9:00 AM to 1:00 PM followed by lunch, Friday, October 28, 2005.

Place: PSE&G Training Center, 234 Pierson Ave, Edison NJ.

Directions: www.pseg.com/customer/business/small/facility/edison_directions.jsp

Information: Ronald W. Quade, PE, (732) 205-2614 or [rwquade "AT" ieee.org](mailto:rwquade@at.ieee.org).

Registration: *Beckwith Transformer Protection, 10/28/2005*

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 \$15 _____ No

If CEUs are chosen, please include a \$15 processing fee

Payment Enclosed \$ _____ Add \$25 late registration after October 14th

Make checks payable to North Jersey Section IEEE

NJ Power Engineering Society/Industry Applications Society

Upgrade of Generator Protection to Comply With IEEE Guides

Technical Seminar

The PES and IAS Chapters will sponsor a one-day seminar covering the Upgrade of Generator Protection to Comply with IEEE Guides. The session will be held on Friday, November 18 at the PSE&G Training Center, 234 Pierson Ave, Edison, NJ.

Topics (A more detailed syllabus is available at <http://web.njit.edu/~ieeenj/NEWSLETTER.html>)

1. Quality Issues and Standards
2. Latest Generator Protection Developments
3. Review of Grounding Techniques
4. Types of Generator Connections
5. Improved Sensitivity
6. Improved Security
7. Abnormal Frequency
8. Protections Against External Device Failure
9. Operating, Commissioning and Analysis Tools
10. Communications

About the Instructor

The instructor will be Chuck Mozina, Consulting Engineer with Beckwith Electric. Chuck Mozina is a Contract Consultant, Protection and Protection Systems for Beckwith Electric Company, Inc., specializing in power plant and generator protection. His consulting practice involves projects relating to protective relay applications, protection system design and coordination.

Chuck is an active 20-year member of the IEEE Power System Relaying Committee (PSRC) and is the past chairman of the Rotating Machinery Subcommittee. He is active in the IEEE IAS I&CPS committee, which addresses industrial protection system. He is the past U.S. representative to the CIGRE Study Committee 34 on System Protection and has chaired a CIGRE working group on generator protection. He also chaired the IEEE task force that produced the tutorial "The Protection of Synchronous Generators," which won the PES's 1995 Outstanding Working Group Award. Chuck is the 1993 recipient of the PSRC's Career Service Award.

Chuck has a Bachelor of Science in Electrical Engineering from Purdue University and has authored a number of papers and magazine articles on protective relaying. He has over 25 years of experience as a protective engineer at Centerior Energy, a major investor-owned utility in Cleveland, Ohio where he was the Manager of the System Protection Section. For the past ten years, he was Application Manager for Protection Products with Beckwith Electric Company. He is also a former instructor in the Graduate School of Electrical Engineering at Cleveland State University. He is a registered Professional Engineer in the state of Ohio.

If desired, IEEE Continuing Education Units will be offered for this course. A small fee of \$15 will be required for processing. A total of 0.4 CEUs will be offered. Please indicate if desired below.

The registration fee for this seminar prior to November 4th will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after November 4th must include an additional late fee of \$25. The seminar fee includes lunch, refreshments, and handouts. Non-members joining IEEE within 30 days of the seminar will be rebated 50% of the IEEE registration charge.

Time: 9:00 AM to 1:00 PM followed by lunch, Friday, November 18, 2005.
Place: PSE&G Training Center, 234 Pierson Ave, Edison NJ.
Directions: www.pseg.com/customer/business/small/facility/edison_directions.jsp
Information: Ronald W. Quade, PE, (732) 205-2614 or [rwquade "AT" ieee.org](mailto:rwquade@at.ieee.org).

Registration: *Beckwith Generator Protection, 11/18/2005*

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 \$15 _____ No

If CEUs are chosen, please include a \$15 processing fee

Payment Enclosed \$ _____ Add \$25 late registration after November 4th

Make checks payable to North Jersey Section IEEE

IEEE North Jersey Section Course Oracle SQL Programming 101

Seminar Objective

This 4 hour course will teach you how to work with data within an Oracle Database using SQL and SQL*Plus.

Seminar Design Outline

- Principal features of the Oracle database
- Query and manipulate an Oracle database using Structured Query Language
- Code sophisticated query operations such as join, grouping, case and more
- Update data with insert, update, delete, and merge operations
- Create database tables with the major data types such as NUMBER, VARCHAR2
- Create B-Tree indexes to improve the performance of query operations
- Query Oracle data dictionary tables such as USER_TABLES
- Utilize transaction control statements such as Commit, Rollback and Savepoint
- Create database objects such as tables, views, indexes, synonyms and sequences
- Grant and Revoke object privileges
- Utilize SQL*Plus to query, update and create database objects
- Use SQL*Plus scripting and report generation features

About the Speaker

The speaker is scheduled to be Raj Agarwal, DBA.

Early registration is recommended. Phone reservations will NOT be accepted. No reservations will be accepted after October 7, 2005.

WHERE: Radisson Hotel - Saddle Brook, 129 Pehle Ave, Saddle Brook, NJ, (201) 845-7800.
(Checks **should not** be mailed to this address)

WHEN: 9:00 AM to 1:00PM, Friday, October 21, 2005 (breakfast included).

COST: IEEE (& affiliate) members \$75; Non-IEEE members \$95.

CONTACT: Bhanu Chivukula -email b.chivukula "AT" computer.org

REGISTRATION: Oracle SQL Programming 101

Please send the checks in the name of **North Jersey Section IEEE** with filled in registrations to:
Bhanu Chivukula, 19 Prestwick Way, Edison, NJ 08820. Please email inquiries to b.chivukula "AT" computer.org

Name: / Mr. / Mrs. / Miss / Ms. / _____

Non-member

email address

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**

Registration status will be mailed after October 7, 2005. Phone inquiries concerning registration will NOT be honored. In general, the effective date of the application corresponds to the date when BOTH a fully completed application/registration and payment are received.

Tuition receipt will be mailed only if this box is checked

Signature: _____

North Jersey Section
Field Programmable Gate Array Seminar

Seminar overview

FPGA stands for Field Programmable Gate Array. FPGAs are becoming the de facto standard in digital design. They are found in control, DSP and general purpose computing. They offer designers the ability to go to layout before committing to the full design.

This seminar will introduce FPGAs and provide a road map on how to learn and become productive in the use of FPGAs. Development will be used by the instructor to execute labs.

Seminar Design Outline

- **Introduction to FPGA**
- **FPGA architecture**
- **Xilinx Design Flow**
 - ↳ **Architecture Wizard and Pace**
 - ↳ **Reading Reports**
 - ↳ **Global Timing Constraints**
- **Synthesis Techniques**
 - ↳ **XILINX CORE Generator**
 - ↳ **Floorplanner: Effective Layout**
- **FPGA Editor: Viewing and Editing a Routed Design**
 - ↳ **HDL Bencher**
- **FPGA Design Techniques**
- **Synchronous Design Techniques**

About the Speaker

Mr. Chibane Cherif, is a practicing engineer, speaker and lecturer in telecommunications, wireless communication and Voice Over IP technology, business and market issues.

Pre-requisite

Basic Digital design

Time: TBA, October 2005.

Place: TBA – see <http://web.njit.edu/~ieeenj/> and upcoming Newsletters for updates.

Information: see <http://web.njit.edu/~ieeenj/> and upcoming Newsletters for updates.

IEEE North Jersey Section Course Project Management

*Tuesday Evenings, October 11, 2005 through November 29, 2005
Eight weekly classes (October 11, 18, 25, November 1, 8, 15, 22, 29, 2005)*

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

The North Jersey Section IEEE is offering an evening course entitled "Project Management". Dice.com lists 2500+ 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 2003 software, you will learn to accomplish various project plans. In addition, it will greatly enhance your business, communications and interpersonal skills.

The IEEE certificate of completion will be given to you when you complete the course. You may wish to take two Certification exams, one in Project Management administered by Project Management Institute and the other in IT Project+ by CompTIA Inc.

Instructor: Donald Hsu, PhD, has been a corporate manager for 11 years and is an experienced trainer. Since 1999, he has trained 270+ people in IT Project+, MS Project 2003, and Project Management courses in seven organizations. Bhanu Chivukula, PMP, will also share his PMP (PMI) examination preparation strategies and experiences including the details of the new PMP examination (starting September 2005 based on PMBOK 2004 version).

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

Class size will be limited to a maximum of 25 with a minimum of 15. Early registration is recommended. Phone reservations will NOT be accepted. Reservations accepted after October 2, 2005 will require a late fee of \$25. No reservations will be accepted after October 6, 2005.

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

WHEN: 8 Tuesdays, October 11, 18, 25, November 1, 8, 15, 22, 29, 2005, 6:30-9:00 PM.

COST: IEEE (& affiliate) members \$375; Non-IEEE members \$475.

CONTACT: Bhanu Chivukula (b.chivukula "AT" computer.org)

REGISTRATION: Project Management

Please email details to **b.chivukula "AT" computer.org** and upon confirmation, the address where to mail a check with details as described under, would be replied (**Checks payable to "North Jersey Section IEEE" with registration form should be mailed to this address**)

Name: / Mr. / Mrs. / Miss / Ms. / _____

Non-member

☞ email address ☞

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**

Registration status will be mailed after October 6, 2005. Phone inquiries concerning registration will NOT be honored. In general, the effective date of the application corresponds to the date when BOTH a fully completed application/registration and payment are received.

Tuition receipt will be mailed only if this box is checked

Signature: _____