

The



# IEEE Newsletter

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

*NJ Section PACE & GOLD:*

## Engineers Meet:

### American Engineering Association – Introduction

On Wednesday, March 8, 2006, the North Jersey Section Professional Activities Committee and Graduates of the Last Decade will host a meeting with members of the American Engineering Association (AEA).

They will provide an introduction and answer questions. See [www.aea.org](http://www.aea.org) for pre meeting information.

#### About the Meeting

AEA is not just another engineering organization. A preview of [www.aea.org](http://www.aea.org) will prepare you for the introduction and give you an idea of their involvement and capabilities.

Our speakers will be Mark Carangi and Paul Ward. Both are involved in Section IEEE PACE and AEA.

Subjects of the meeting will be AEA's purpose, goals structure, plans, membership, jobs, action, and more.

This event is especially of interest to students, recent graduates and those looking for a career and support for their profession.

You are encouraged to attend and invite your associates. Special attention should be directed to the IEEE-USA web: [www.ieeeusa.org/policy/care/](http://www.ieeeusa.org/policy/care/).

CARE is the Congressional Advocacy Recruitment Effort CARE is a voluntary network of IEEE members who are interested in public policy. To HELP go to [www.ieeeusa.org/policy/care/](http://www.ieeeusa.org/policy/care/).

#### About the Speaker

Mark Carangi is a Senior Member of the IEEE with over 25 years experience in digital design and product test. Mark has an MSEE from Ohio University and an MBA from FDU. He has curious desire to enhance the profession.

Mark participates on the IEEE-USA Workforce Committee as a corresponding member and supports the North Jersey Section PACE activities.

Mark believes the engineering profession needs help if it's going to offer a viable career and profession for current and future Engineers. The old status quo

will not work.

#### All Welcome

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

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

**Time:** 6:30 to 9:00 PM, Wednesday, March 8, 2006. 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).

## North Jersey Spring 2006 Student Presentation Contest Set for Late March

This year's North Jersey Section Contest will be open to graduate and undergraduate student and the first/second/third place prizes will be awarded in both categories of \$100/\$75/\$50. The contest is not accepting abstracts and the required registration of student talks. The only registration form can be found on the website:

[http://ewh.ieee.org/r1/north\\_jersey/sac/iee.html](http://ewh.ieee.org/r1/north_jersey/sac/iee.html).

Additional topic and contest information is also available. Feel free to email any questions to the organizers.

**Time:** Tuesday, March 21, 2006 (free dinner at 5:30PM).

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

**Registration** is now open, all presenters must register. Winners from the section contest can progress to the regional competition in Maine. Details are at the Region 1 Student Activities Website.

**MARCH 2006**

# March 2006

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### IEEE NJ SECTION HOME PAGE

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

### IEEE NJ SECTION NEWSLETTER HOME PAGE

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

### REPORT ADDRESS CHANGES TO:

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*The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7:00 PM. Meetings are open to all members. For information on meeting agenda contact Secretary Seth Jakel at (973) 731 1902, sgjakel "AT" comcast.net.*

## NJ Signal Processing Chapter: Seminar - Learning and Mining from Multimodality Signals

On March 24, 2006, the IEEE North Jersey Section Signal Processing Society Chapter along with NJIT will host a seminar on " Learning and Mining from Multimodality Signals." The speaker will be Dr. Ching-Yung Lin.

### About the Talk

The main objective is to advance progress on making machines to process and learn from enormous amount of multimodality sensing data, similar to or beyond what human beings can do. In order to organize, realize and extract intelligence out of the huge amount of continuous multimodality streams that a person, a company, or a community receives, we consider real-world machine learning and distributed signal processing as the keys. Real-world machine learning focuses on multimodality machine learning from imperfect and continuous sensing data. Distributed signal processing allows machines to classify large-scale data based on the learned models. Future machine cognition techniques have to be scalable, autonomous, and general enough to be able to handle diverse types of data, such as video, text, speech, sensor signals, human activity logs, etc.

First to be presented will be recent progress on autonomous learning, whose goal is to avoid human involvement on learning concept models. A step beyond the semi-supervised learning, the approach is to explore the weak correlations between multimodality representations of an instance, event or an activity. In experiments, this approach demonstrated comparable results with the supervised learning methods in the application of visual concept learning.

One of the other goals is to build a distributed system to semantically monitor large-scaled of multimodality streams. A key design requirement is the ability to handle tens of gigabytes of multimedia data per second. A distributed framework will be introduced which includes the hardware implementation of smart video camera, the algorithmic improvement of speeding up SVM classification in the order of 10s to 1000s, and the software improvement on the feature extraction.

### About the Speaker

Dr. Ching-Yung Lin received his PhD Degree from Columbia University in Electrical Engineering. Since October 2000, he has been a Research Staff Member in IBM T. J. Watson Research Center, New York, where he is currently leading projects on the IBM Large-Scale

Video Semantic Filtering System. He is also an Adjunct Associate Professor at Columbia University and an Affiliate Associate Professor at the University of Washington, Seattle.

His research interest is mainly focused on multimodality signal processing and understanding, with applications on distributed computing, embedded vision system, social computing, and security. Dr. Lin led the first large-scale video semantic annotation project, which includes 23 worldwide research institutes in 2003. His multimedia semantic mining project team has performed best in the US National Institute of Standards and Technology (NIST) semantic video concept detection benchmarking since 2002. Dr. Lin is the Editor of the Interactive Magazines (EIM) of the IEEE Communications Society (2004-2006), an Associate Editor of the IEEE Trans. on Multimedia (2004-), and an Editorial Board Member of the Journal of Visual Communication and Image Representation (2005-). He served as a Guest Editor of the Proceedings of IEEE - Special Issue on Digital Rights Management, June 2004, a Guest Editor of the EURASIP Journal on Applied Digital Signal Processing -- Special Issue on Visual Sensor Network, 2006, and the Technical Program co-chair of IEEE ITRE 2003. Dr. Lin is a recipient of 2003 IEEE Circuits and Systems Society Outstanding Young Author Award and IBM Invention Achievement Awards in 2001 and 2003. He is the (co-)author of 100+ journal articles, conference papers, book, book chapters and public release software. Dr. Lin is a Senior Member of IEEE, and a member of ACM, INSNA and AAAS.

**Time:** 11:00 AM to 12:00 PM (refreshments and pizza available at 10:45 AM), Friday, March 24, 2006.

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

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

# IEEE North Jersey Section Activities

## March 2006

**Mar. 1** – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Seth Jakel at [sgjakel@att.comcast.net](mailto:sgjakel@att.comcast.net).

**Mar. 8** – “Engineers Meet: American Engineering Association – Introduction” by Mark Carangi, NJ PACE & GOLD, 6:30 – 9:00 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward, (973) 790-1625 ([PWard1130@att.com](mailto:PWard1130@att.com)) or Richard F. Tax, (201) 664-6954 ([rtax@att.bellatlantic.net](mailto:rtax@att.bellatlantic.net)).

**Mar. 8** – “An Integrated Total Quality Management Approach to Innovative Product and Process Design with Practical Case Studies: Process Modeling, Customer Requirements Analysis, and Risk Analysis with 3D Multimedia” by Dr. Paul G Ranky, NJ EMS Chapter, 7:00 PM, New Jersey Institute of Technology (NJIT), Room TBD, ECE Center, Newark, NJ. Dr. Moncef Elaoud, (201) 841-0072, [moncef@ieee.org](mailto:moncef@ieee.org).

**Mar. 8** – “A Non-linear Method for Increasing the Wide Band Efficiency of Electrically Small Antennas” by Joseph T Merenda and Richie J Kumpfbeck, NJ MTT-S/AP-S Chapter, 6:30 – 8:30 PM, BAE Systems, first floor meeting room, 164 Totowa Road, Wayne NJ. Har Dayal, (973) 633-4618, [har.dayal@baesystems.com](mailto:har.dayal@baesystems.com), or Kirit Dixit, Microcom Sales, (201) 669-7599, [kgdixit@att.com](mailto:kgdixit@att.com). Pre-registration required.

**Mar. 14-May 9** – “Project Management” by Dr. Donald Hsu, North Jersey Section, Tuesday Evenings, 8 sessions, 6:30-9:00 PM, NJ International Bulk Mail Center, 80 County Rd, Jersey City, NJ. Bhanu Chivukula ([b.chivukula@att.computer.org](mailto:b.chivukula@att.computer.org)).

**Mar. 15** – “Energy Conservation Series - High Efficiency Motors & Variable Frequency Drives” by John Hyfantis, PE, NJ IAS/PES Chapters, 6:30 PM, Eaton Electrical, 690 Rahway Ave, Union, NJ. Ronald W. Quade, PE, (732) 205-2614 or [rwquade@ieee.org](mailto:rwquade@ieee.org).

**Mar. 21** – “Spring 2006 Student Presentation Contest”, free dinner starts at 5:30PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Amit Patel - NNJ SAC, [a.j.patel@att.com](mailto:a.j.patel@att.com).

**Mar. 22** – “Innovations in Light-Emitting Diodes for Solid-State Lighting Applications” by Dr. E. Fred Schubert, EDS/C&S Chapters, 7:00 PM (buffet at 6:15 PM), New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), or Dr. Durga Misra (973) 596-5739 ([dmisra@att.njit.edu](mailto:dmisra@att.njit.edu)).

**Mar. 24** – “Electric Power Transfer Switch Seminar” by Mr. Ronald Schroeder, NJ IAS/PES Chapters, 9:00 AM – 3:00 PM, Automatic Switch Co., 50 Hanover Rd, Florham Park, NJ 07932. Ken Oexle, (973) 386-1156 or [k.oexle@att.worldnet.att.net](mailto:k.oexle@att.worldnet.att.net).

**Mar. 24** – “Seminar - Learning and Mining from Multimodality Signals” by Dr. Ching-Yung Lin, NJ SP Chapter, 11:00 AM to 12:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Dr. Yun Shi (973) 596-3501 ([shi@att.njit.edu](mailto:shi@att.njit.edu)), Dr. Alfredo Tan (201) 692-2347 ([tan@att.mailbox.fdu.edu](mailto:tan@att.mailbox.fdu.edu)), Dr. Hong Man (201) 216-5038 ([hman@att.stevens-tech.edu](mailto:hman@att.stevens-tech.edu)).

**Mar. 27-28** – “2006 IEEE Sarnoff Symposium” – see [www.sarnoffsymposium.org](http://www.sarnoffsymposium.org) for details.

**Mar. 28** – “Broadband Wireless Access - The Next Wireless Revolution” by Dr. Benny Bing, NJ Communications Chapter, 6:15 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Dr. Nirwan Ansari (973) 596-3670 ([nirwan.ansari@att.njit.edu](mailto:nirwan.ansari@att.njit.edu)) or check <http://web.njit.edu/~ieeenj/comm.html> for the latest updates.

**Mar. 30** – “Professional Networking 101” by Ed McCauley, 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](http://www.TechnologyOnTap.org).

### Upcoming Meetings

**Apr. 3** – “Adaptive Pre-Distorters for Linearization of High Power Amplifiers in OFDM Wireless Communications” by Professor Rui J. P. de Figueiredo, EDS/C&S Chapters, 7:00 PM (buffet at 6:15 PM), New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), or Dr. Durga Misra (973) 596-5739 ([dmisra@att.njit.edu](mailto:dmisra@att.njit.edu)).

**Apr. 5** – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Seth Jakel at [sgjakel@att.comcast.net](mailto:sgjakel@att.comcast.net).

**Apr. 19** – “Electromagnetics and Semiconductor Device Simulations” by Dr. Ramesh K. Agarwal, EDS/C&S Chapters, 7:00 PM (buffet at 6:15 PM), New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Edip Niver (973) 596-3542 (NJIT), or Dr. Durga Misra (973) 596-5739 ([dmisra@att.njit.edu](mailto:dmisra@att.njit.edu)).

**Apr. 21** – “Lighting Seminar” by John Hyfantis, PE, NJ IAS/PES Chapters, 8:30 AM – 3:00 PM, PSE&G Training Center, 234 Pierson Avenue, Edison, NJ. Ronald W. Quade, PE, (732) 205-2614 or [RWQuade@att.com](mailto:RWQuade@att.com).

**Apr. 24** – “XML Schema” by Frank Middleton, NJ Computer Chapter, 7:00 PM, Public Meeting Room, Morris County Library, 30 E. Hanover Ave, Whippany, NJ, (973) 285-6930. Seth Jakel – home (973) 731-1902, cell (973) 820-1865, or office (908) 740-4683 ([sgjakel@att.comcast.net](mailto:sgjakel@att.comcast.net)), Howard Leach (973) 540-1283 ([hhleach@att.aol.com](mailto:hhleach@att.aol.com)).

**Apr. 27** – “Embedded Linux” by Frank Middleton, 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](http://www.TechnologyOnTap.org).

**Apr. 27** – “Microwave Applications of Metamaterial Structures” by Dr. Tatsuo Itoh, NJ MTT-S/AP-S Chapter, 6:45 – 8:30 PM (buffet at 6:15 PM), New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Har Dayal, (973) 633-4618, [har.dayal@att.com](mailto:har.dayal@att.com), [baesystems.com](mailto:baesystems.com), Kirit Dixit, Microcom Sales, (201) 669-7599, [kgdixit@att.com](mailto:kgdixit@att.com), or Professor Edip Niver, NJIT, (973) 596-2614, [niver@att.njit.edu](mailto:niver@att.njit.edu). Pre-registration required.

**May 7** – “NJ Section Awards Reception” - 3:00 to 6:00 PM at the Birchwood Manor, 111 North Jefferson Rd, Whippany, NJ. Anne Giedlinski (973) 377-3175.

**Members and Non-Members Welcome**

**PLEASE POST**

*NJ Communications Chapter:*  
**Broadband Wireless  
Access - The Next  
Wireless Revolution**

On Tuesday, March 28, 2006, the North Jersey Chapter of the IEEE Communications Society will host a presentation titled "Broadband Wireless Access - The Next Wireless Revolution" by Dr. Benny Bing.

**About the Talk**

Broadband wireless access is the third wireless revolution, after cell phones (1990s) and Wi-Fi (2000s). It is viewed by many carriers and cable operators as a "disruptive" technology and rightly so. The broadcast nature of wireless transmission offers ubiquity and immediate access for both fixed and mobile users, clearly a vital element of next-generation quadruple play (i.e., voice, video, data, and mobility) services. Unlike wired access (copper, coax, fiber), a large portion of the deployment costs is incurred only when a subscriber signs up for service. An increasing number of municipal governments around the world are financing the deployment of multihop wireless networks with the overall aim of providing ubiquitous Internet access and enhanced public services.

This presentation will provide a comparative assessment of the key issues and technologies underpinning promising broadband wireless access solutions such as 802.16 (Wi-Max), long-range/multihop 802.11 (Wi-Fi), wireless DOCSIS, 3G/4G, mobile TV, digital TV broadcast, 802.20 (mobile broadband), 802.21 (media independent handoff and interoperability), and the emerging 802.22 (wireless regional area networks) standard. Key topics include licensed and unlicensed spectrum consideration; reliable physical layer transmission using multiple antennas; multichannel medium access protocols with QoS provisioning; wireless access topologies: point-to-point, point-to-multipoint, peer-to-peer multihop (mesh); wireless multimedia services: wireless video, wireless VoIP; mobility; cognitive radio technologies; advanced wireless security; wireless/wireline integration.

**About the Speaker**

Dr. Benny Bing is an associate director of the Georgia Tech Broadband Institute. He is also a research faculty member with the School of ECE at Georgia Tech. He has published over 40 papers and 10 books. His publications have also appeared in the IEEE Spectrum. His books on wireless networks are highly regarded by many technology visionaries. They contain forewords from both chairmen of the IEEE 802.11 Working

Group since its inception, the inventor of Internet technology, and the inventor of the first wireless protocol. In early 2000, his groundbreaking book on wireless LANs was adopted by Cisco Systems to launch the Cisco-Aironet Wi-Fi product. The product has since enjoyed phenomenal success, dominating the corporate arena and capturing over 60% of the Wi-Fi market share. He was subsequently invited by Qualcomm Inc. in San Diego, CA to conduct a customized course on wireless LANs for its engineering executives. He was again invited to conduct a similar course for the Office of Information Technology. In 2002, his edited book on wireless LANs was extensively reviewed by the IEEE Communications Magazine, IEEE Network, and ACM Networker, the first time a book has been reviewed by all three journals. He is currently an editor for the IEEE Wireless Communications Magazine, and has also guest edited for the IEEE Communications Magazine and the IEEE Journal on Selected Areas on Communications. In addition, he was featured in the MIT Technology Review in a special issue on wired and wireless technologies as well as the Atlanta Business Chronicle and the IEEE Spectrum. He has served on the wireless networking panel for National Science Foundation (NSF) and was selected as one of the 10 best wireless designers in the United States by Building Industry Consulting Services International (BICSI), a 22,000-industry member telecommunication association based in Tampa, Florida. He was invited by NSF to participate in an NSF-sponsored workshop on "Residential Broadband Revisited: Research Challenges in Residential Networks, Broadband Access and Applications", held on October 2003. He is also a frequent presenter at several IEEE Communications Society flagship conferences such as IEEE Infocom and IEEE Globecom. He is a recipient of the Lockheed-Martin Fellowship for his PhD studies at the University of Maryland, College Park and a best paper award at the 1998 IEEE International Conference on ATM. He is a Senior Member of IEEE and has over 100 international research citations to his name. His current research interests include broadband access, wireless LANs, cognitive radio, mobile TV, and queuing theory.

**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:** 6:15 PM, Tuesday, March 28, 2006. Pre-meeting buffet starting at 6:00 PM.

**Place:** New Jersey Institute of

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

**Information:** Dr. Nirwan Ansari (973) 596-3670 ([nirwan.ansari@njit.edu](mailto:nirwan.ansari@njit.edu)) or check

<http://web.njit.edu/~ieeenj/comm.html> for the latest updates.

*NJ EMS Chapter:*

**An Integrated Total  
Quality Management  
Approach to Innovative  
Product and Process  
Design with Practical  
Case Studies: Process  
Modeling, Customer  
Requirements Analysis,  
and Risk Analysis with  
3D Multimedia**

On March 8, 2006, the IEEE NJ Section Engineering Management Society will host a talk on "An Integrated Total Quality Management Approach to Innovative Product and Process Design with Practical Case Studies: Process Modeling, Customer Requirements Analysis, and Risk Analysis with 3D Multimedia." The speaker will be Dr. Paul G Ranky.

**About the Talk**

An introduction will be made to an integrated, total quality management (TQM) approach to innovative product and process design with practical, industrial case studies. The emphasis is put on the innovation process of novel product and process designs, as well as the integration of advanced process modeling, customer requirements analysis and risk analysis, within a TQM framework. Furthermore, we will illustrate how these methods and software tools coupled with web-based 3D interactive multimedia, 2D and 3D digital videos, and other advanced methods can help throughout the entire project management cycle to increase the success of any engineering project.

The tested solution integrates object-oriented process modeling, requirements and risk analysis, statistical methods, design of experiments, and 3D interactive multimedia methods and tools, and it is 100% web-compatible. Furthermore, our methods and software tools are generic, in that they can be applied to a large variety of different industries and systems, from automobile manufacturing and assembly, to telecom, computing,

hardware and software, aerospace, process engineering, such as the oil business, and even service industries, such as product / process maintenance.

During the live demonstration of the tool-set several validated, practical examples will be shown, using the active code spreadsheets and interactive 3D models. We are pleased to state, that during the past 10 + years our method has been successfully applied by thousands of professionals world-wide, in a variety of different industries, including pharma., automotive, aerospace, IT, manufacturing/assembly, service, and other integrated engineering design management areas.

#### **About the Speaker**

Professor Paul G Ranky, PhD. Industrial and Manufacturing Engineering Department, and IT Department, NJIT, Newark Registered and Chartered Professional Engineer, Member IEEE, ASEE (USA), IEE(UK), FEANI (Europe), USA Editor IJCIM, Industrial Robot, Assembly Automation, Sensor Review, and Founding Editorial Member of IJFMS.

#### **All Welcome!**

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

**Time:** 7:00 PM, Wednesday, March 8, 2006. Free buffet will be starting at 6:15 PM.

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

**Information:** Dr. Moncef Elaoud, (201) 841-0072, moncef "AT" [iee.org](http://www.ieee.org).

#### *NJ Consultants' Network:*

## **Professional Networking 101**

On Thursday, March 30, 2006, the IEEE Consultants' Network of Northern NJ will present "Professional Networking 101", presented by Ed McCauley of Bottom Line Technologies.

#### **About the Talk**

You're an expert in your field. So how do you turn your expertise into business?

One simplistic way of solving this problem is to connect the supplier of expertise (you) with those who need your help. That's called networking.

Now if you're like me, you're probably more comfortable with Ethernet, 802.11, or SONET than the human form of the networking. In fact, while professional networking can provide incredible returns for us as business owners / consultants, obviously, it's not for everyone.

By now you may be thinking "This is definitely not for me!" If so, you're not

alone!

Many of us find dealing with the technical aspects of our consulting businesses much more comfortable than the interpersonal or business aspects. However, given that most of us enjoy learning new technologies, try considering networking as simply a systematic and repeatable process by which we, as business owners, can interact with our world. While this may be awkward for some, the horizons that networking may open for you are likely to far exceed the price of any short-term discomfort you may experience.

Sounds like fun eh? Actually, after you get the hang of it and understand some of the ground rules, yes, it can be fun, and rewarding too, and not just professionally!

So please, you're among friends and colleagues. Come out and join us for an evening of being uncomfortable together!

#### **About the Speaker**

Ed McCauley is President and Founder of Bottom Line Technologies Inc. (BLT), a 16-year old design services corporation offering FPGA, board, and complete system solutions for commercial, industrial, and military clients seriously committed to quality product development. Ed is also an associate trainer for the Sandler Sales Institute.

Ed began his career at Datatel, a datacom startup that grew from 3 to 300 people and an acquisition. Next he joined then start-up "Xilinx" as FAE covering the northeastern US. After their IPO, he left to start BLT. Ed is an alumnus of The U.S. Naval Academy, Rutgers and Drexel Universities, a longtime member of CNNNJ, and can be contacted at (908) 479-1200 or via email: [ed.mccauley "AT" bltinc.com](mailto:ed.mccauley@bltinc.com).

#### **After the Talk**

Members are invited to share their experiences with the group. Come prepared to share, in 30 seconds and, if you dare, for 3-5 minutes, what your business is all about. Why companies hire you. To kick things off, here is the bio of our first after-talk speaker:

Peter Schutz is a mechanical engineer who has been working as an independent consultant for the last 21 years. He specializes in the development of new products, especially in the areas of medical and laboratory equipment, instrumentation, prototypes, and special machinery. Some of his areas of technical expertise include: electronics packaging, fluid systems, and thermal analysis. Peter has a BSME from Lehigh University and an MSME from NJIT. He has been a member of CNNNJ for the last 7 years and is presently serving as the Vice Chairman. His company, Schutz Engineering Corp., is located in High Bridge, NJ. He can be reached at 908-638-3300 or [schutz "AT"](mailto:schutz )

[compuserve.com](http://compuserve.com).

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

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

#### **All Welcome!**

Everyone welcome. No registration needed. Free admission.

**Time:** 7:30 PM, Thursday, March 30, 2006.

**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](http://www.TechnologyOnTap.org). To download a map to KDI, go to: <http://www.mcekdi-integrated.com/directions.htm>.

## **The Grainger Foundation Gift to Benefit Power Engineering Students**

Thanks to a \$150,000 three-year pledge from The Grainger Foundation and matching funds designated from the IEEE Power Engineering Society, the Grainger-IEEE PES Student Program was established. The 2006—2008 funded program will benefit student participation at IEEE Power Engineering Society meetings, such as the Transmission and Distribution Conference, North American Power Symposium and the IEEE-PES General Meeting. The Grainger Foundation gift will create professional growth, encourage interaction between students, faculty, and practicing engineers and raise the level of interest in electric power engineering as a career among students. In addition to offering student travel grants to these activities, the Grainger-IEEE PES Student Program will fund special student program activities including energy-related facility/technical tours, project oriented poster sessions, and student/faculty/industry discussion panel sessions, and luncheons.

*NJ PES/IAS Chapters:*

## **Energy Conservation Series - High Efficiency Motors & Variable Frequency Drives**

On March 15, 2006, as part of an ongoing series of free seminars on the topic of energy conservation, the PES and IAS Chapters will sponsor an evening discussion on High Efficiency Motors and Variable Frequency Drives by John Hyfantis, PE.

### **About the Meeting**

The first part of the presentation will focus on the performance and efficiency improvements offered by high efficiency motors (HEM). A "replace versus repair" analysis, including the NJ Smart Start incentives, will be demonstrated using the "MotorMaster +" software (free downloads are available from a USDOE website).

The second part of the presentation will focus on the application of Variable Frequency Drives (VFD) to centrifugal loads, such as fans and pumps. A VFD payback analysis will be demonstrated, including a comparison of VFD speed control versus mechanical speed control, harmonic filtering and VFD interaction with "inverter-grade" motors.

### **About the Speaker**

The presenter will be John Hyfantis, PE.

Mr. Hyfantis' first career path was in the electronic engineering field, 1961 to 1975. Employed by the Southern New England Telephone Co, US Army Electronics Command, Electronic Associates, RCA-Astro Electronics, Dow Jones and Co and Intec, Inc. With Johnson and Johnson ESDP, power distribution engineering was added to the career path.

Mr. Hyfantis is President of Energistics, LLC, since 1978. Energistics provides engineering consulting services to commercial, industrial and institutional clients in the Mid-Atlantic region. Engineering services include HVAC equipment replacement and upgrade analysis; process and space conditioning VF drive design and installation; building management system design; building commissioning; compressed air system analysis; and power allocation surveys. Energistics also provides workshops, covering the topics of motors, motor controls, energy reduction and power quality.

**Time:** 6:30 PM, Wednesday, March 15, 2006. A pre-meeting buffet will be available starting at 6:00PM.

**Place:** Eaton Electrical, 690 Rahway Ave, Union, NJ. Directions: Route 82 Morris Avenue from either Springfield or Union to Rahway Ave.

**Information:** Ronald W. Quade, PE, (732) 205-2614 or rwquade "AT" iieee.org.

*NJ EDS/C&S Chapters:*

## **Innovations in Light-Emitting Diodes for Solid-State Lighting Applications**

On March 22, 2006, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "Innovations in Light-Emitting Diodes for Solid-State Lighting Applications." The speaker will be Dr. E. Fred Schubert.

### **About the Talk**

The use of highly efficient semiconductor light-emitting diodes (LEDs) suitable for illumination applications will enable huge energy savings, reduction in green-house gas generation, and reduction of environmental pollution. Luminous source efficiencies exceeding 300 lm/W and color-rendering indices (CRIs) greater 90 are feasible with solid-state sources. This talk discusses critical issues in solid-state lighting, including practical limits to efficacy and efficiency, and scalability of chip size and current density. Possible solutions to current device-performance limitations are presented: A new type of triple-layer omni-directional reflector (ODR) with a mirror loss that is two orders of magnitude lower than the mirror losses of either metal reflectors or distributed Bragg reflectors (DBRs). One layer of the reflector consists of a new class of dielectric materials, low-refractive-index materials, with a very low refractive index, close to that of air. The low-index material is based on highly porous SiO<sub>2</sub> and is deposited by oblique-angle evaporation. We will also present results on white LEDs with remote phosphor distributions. Such phosphor distributions offer higher efficiency than conventional proximate phosphor distributions. Solid-state sources based on LEDs have advantages not offered by conventional light sources, namely tunability and adaptability. In contrast to conventional incandescent and fluorescent sources, future smart light sources based on LEDs offer control of their spectral composition, spatio-chromatic emission pattern, temporal modulation, polarization, and color temperature. This will allow for fundamental innovations in bio-imaging, communications, circadian lighting, and the optimization of light sources for specific applications. Several specific

application areas will be discussed.

### **About the Speaker**

E. Fred Schubert received his PhD in Electrical Engineering from the University of Stuttgart (Germany) in 1986. From 1981 to 1985 he worked on compound semiconductor crystal growth at the Max Planck Institute for Solid State Research, Stuttgart, as a Member of Scientific Staff. From 1985 to 1995, he was a Post-doctoral Fellow, Member of Technical Staff, and Principal Investigator at AT&T Bell Laboratories in Holmdel and Murray Hill, New Jersey. In 1995, he joined Boston University as a Professor of Electrical Engineering. He joined Rensselaer Polytechnic Institute in 2002 where he is the Wellfleet Senior Constellation Professor of the Future Chips Constellation with appointments in the Electrical Engineering Department and in the Physics Department.

Dr. Schubert has made pioneering contributions to the field of compound semiconductor materials and devices in particular to the fields of alloy broadening, delta-doping, resonantcavity light-emitting diodes, enhanced spontaneous emission in Er-doped Si/SiO<sub>2</sub> microcavities, elimination of unipolar heterojunction band discontinuities, p-type superlattice doping in AlGaIn, polarization-enhanced ohmic contacts, omni-directional reflectors, light-emitting diodes, and solid-state lighting.

He is inventor or co-inventor of 28 issued US patents and has authored and co-authored more than 200 publications. He authored the book Doping in III-V Semiconductors (1993), Delta Doping in Semiconductors (1996), and Light-Emitting Diodes (2003). He is a Fellow of the APS, IEEE, OSA, and SPIE. He received the Alexander von Humboldt Senior Research Award, Discover Award, R&D 100 Award, Boston University Provost Innovation Fund Award, and VDE Literature Award for the book Doping in III-V Semiconductors.

### **All Welcome!**

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

**Time:** 7:00 PM, Wednesday, March 22, 2006. 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), or Dr. Durga Misra (973) 596-5739 (dmisra "AT" njit.edu).

*NJ Computer Chapter:*

## **XML Schema**

On Monday, April 24<sup>th</sup>, 2006, the IEEE North Jersey Section Computer Chapter will host a presentation entitled "XML Schema" by Frank Middleton.

### **About the Talk**

XML is the lingua franca of today's computing milieu. However, XML isn't a language of itself, but merely a syntax. The semantics of the message need to be described, and one way to do this is to use a meta-language such as W3C's XML Schema, a highly complex artifact designed by committee. This talk will unravel the mysteries of XML Schema, explain why it should be used, and how a useful subset can actually make it easy to publish your XML semantics and create/manage XML, with real-world examples.

### **About the Speaker**

Frank Middleton is the President and Founder of Apogee Communications Technologies, Inc., an established IT consulting services provider based in New Jersey that specializes in reducing costs and improving productivity and security in small to midsize companies by leveraging best of breed technologies, such as LAMP, and process management through Model Driven Architecture. Current focus is on XML and XML Schema technology and creation of a tool to generate XML Schemas from XML documents and manage the results. OASIS has ratified the OpenDoc XML based document format – now you need a way to access that XML! For more information, visit <http://www.apogeeect.com> and also subscribe to his newsletter by sending an email with subject "subscribe" to [news-request@apogeeect.com](mailto:news-request@apogeeect.com). Frank has many years of experience in IT at various companies including Deloitte, Citibank and others, and holds a Masters in Computer Science from the Courant Institute of Mathematics, NYU, and has been a member of IEEE, IEEE/CS and the ACM for longer than he wants to remember. He can be reached at (973) 796-2754 or by email at [f.middleton@apogeeect.com](mailto:f.middleton@apogeeect.com).

### **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, Monday, April 24, 2006. Pre-meeting buffet starting at 6:00 PM.

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

**Information:** Seth Jakel – home (973) 731-1902, cell (973) 820-1865, or office (908) 740-4683 (sgjakel "AT" comcast.net), Howard Leach (973) 540-1283 (hhleach "AT" aol.com).

comcast.net), Howard Leach (973) 540-1283 (hhleach "AT" aol.com).

*NJ EDS/C&S Chapters:*

## **Adaptive Pre-Distorters for Linearization of High Power Amplifiers in OFDM Wireless Communications**

On April 3, 2006, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "Adaptive Pre-Distorters for Linearization of High Power Amplifiers in OFDM Wireless Communications." The speaker will be Professor Rui J. P. de Figueiredo.

### **About the Talk**

Orthogonal Frequency Division Multiplexing (OFDM) has several desirable attributes which makes it a prime candidate for a number of emerging wireless communication standards. However, one of the major problems posed by OFDM is its high Peak-to-Average-Power Ratio (PAPR), which seriously limits the power efficiency of the High Power Amplifier (HPA) because of the nonlinear distortion resulting from high PAPR. The present paper provides a new mixed computational/analytical approach for adaptive compensation of this nonlinear distortion for cases in which the HPA is a Traveling Wave Tube Amplifier (TWT) and Solid State Power Amplifier (SSPA). TWTAs are used in wireless communication systems when high transmission power is required as in the case of the digital satellite channel, and SSPAs are generally used in mobile communication systems. Compared to previous pre-distorter techniques based on LUT (Look-Up Table) or adaptive schemes, our approach relies on the analytical inversion of the Saleh's TWT model and Rapp's SSPA model in combination with a nonlinear parameter estimation algorithm. This leads to a sparse and yet accurate representation of the pre-distorter, with the capability of tracking efficiently any rapidly time-varying behavior of the HPA. Computer simulations results illustrate and validate the approach presented.

### **About the Speaker**

Professor Rui J. P. de Figueiredo, BS and MS (Electrical Engineering), MIT, and PhD (Applied Mathematics), Harvard University, is Research Professor (Above Scale) of Electrical Engineering and Computer Science at the University of California, Irvine (UCI). Prior to joining UCI in 1990, Dr. de Figueiredo served as

Professor of Electrical Engineering and Mathematical Sciences at Rice University, Houston, Texas (1965-90). Professor de Figueiredo has won numerous honors for his fundamental contributions to the theory and applications of nonlinear signal/image processing and communications, and for his role as an educator and as a leader in his field and in his profession. These honors include: election to the UN-sponsored International Informatization Academy (2003), the 1999 IEEE Circuits and Systems (CAS) Society Golden Jubilee Medal, the 2000 IEEE Tri-Millennium Medal, the 2003 Gh. Asachi Medal from the Technical University of Iasi (TUI), Romania, from which he also received the title of Honorary Professor (2003), the IEEE Fellow Award (1976), the 1994 IEEE CAS Technical Achievement Award, the 2000 IEEE Neural Networks Transactions Best Paper Award, the 2003 IEEE Circuits and Systems Transactions Guillemin-Cauer Best Paper Award, the 2002 IEEE CAS Society M. E. Van Valkenburg Society Award, the 1988 NCR Educator-of-the-Year Award, his election to President of IEEE CAS Society in 1998, and, last but not least, his selection by IEEE to be one of its fifty leaders, among its nearly 350,000 members, to present the IEEE vision of the new century in the book ENGINEERING TOMORROW: Today's Technology Experts Envision the Next Century, Janie Fouke, Editor, IEEE Press, 2000.

### **All Welcome!**

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

**Time:** 7:00 PM, Monday, April 3, 2006. 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), or Dr. Durga Misra (973) 596-5739 (dmisra "AT" njit.edu).

NJ EDS/C&S Chapters:

## Electromagnetics and Semiconductor Device Simulations

On April 19, 2006, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "Electromagnetics and Semiconductor Device Simulations." The speaker will be Dr. Ramesh K. Agarwal.

### About the Talk

In recent years, there has been considerable thrust toward the development of finite-difference time-domain (FDTD) and finite-volume time-domain (FVTD) methods for the numerical solution of Maxwell equations for electromagnetic scattering from complex three-dimensional objects. Maxwell equations are written in conservation form and solved on a three-dimensional grid both inside and outside the scattering body. Higher-order spatial and temporal discretization are generally employed to obtain accurate solutions efficiently especially for large scattering bodies. An important aspect of the calculations is the formulation and implementation of the boundary conditions – both the radiation boundary condition (RBC) and the material interface boundary conditions in discretized form. Recent developments in boundary conditions formulations and implementations will be reviewed and critically examined. Three-dimensional examples including complete aircraft configurations will be presented to demonstrate the power of the FVTD approach.

### About the Speaker

Professor Ramesh K. Agarwal is the William Palm Professor of Engineering and the director of Aerospace Research and Education Center at Washington University in St. Louis. From 1994 to 2001, he was the Sam Bloomfield Distinguished Professor and Executive Director of the National Institute for Aviation Research at Wichita State University in Kansas. From 1978 to 1994, he was the Program Director and McDonnell Douglas Science and Engineering Fellow at McDonnell Douglas Research Laboratory (MDRL) in St. Louis. Dr. Agarwal obtained his PhD from Stanford University in 1975. Since then, he has worked in Computational Fluid Dynamics (CFD), Computational Magneto-hydrodynamics and Electromagnetics, and Semiconductor Device Simulation.

Dr. Agarwal is a Fellow of eight societies - American Association for Advancement of Science (AAAS), American Institute of Aeronautics and

Astronautics (AIAA), American Physical Society (APS), American Society of Mechanical Engineers (ASME), Royal Aeronautical Society (RAeS), Society of Manufacturing Engineers (SME), Society of Automotive Engineers (SAE), and the Institute of Electrical and Electronics Engineers (IEEE). He has served as a distinguished lecturer of AIAA (1996-1999), ASME (1994-1997), and IEEE (1994-2006). He has received many honors and awards for his research contributions including the ASME 2001 Fluids Engineering Award and AIAA 2002 Sustained Achievement Award.

### All Welcome!

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

**Time:** 7:00 PM, Wednesday, April 19, 2006. 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), or Dr. Durga Misra (973) 596-5739 (dmisra "AT" njit.edu).

### NJ Consultants' Network:

## Embedded Linux

On Thursday, April 27th, 2006, the IEEE Consultants' Network of Northern NJ is pleased to present "Embedded Linux", by Frank Middleton of Apogee Communications Technologies, Inc.

### About the Talk

Linux has become a popular and robust platform for hosting embedded applications on a variety of hardware. Such hardware has become very inexpensive and makes it practical to use a general purpose O/S for many uses. One such hardware/software platform is the Gumstix, a \$200 box with serial and USB ports, using the Strong ARM processor. The talk will cover experiences with this device, and the GNU tool chain used to develop applications for it using a cross-platform development kit that itself runs on Linux, in this case an AMD based laptop running Fedora that will also be used to give the presentation.

### About the Speaker

Frank Middleton is the President and Founder of Apogee Communications Technologies, Inc., an established IT consulting services provider based in New Jersey that specializes in reducing costs and improving productivity and security in small to midsize companies by leveraging best of breed technologies,

such as Linux/Apache/MYSQL/Perl (LAMP). For more information, visit <http://www.apogeeect.com> and also subscribe to his newsletter by sending an email with subject "subscribe" to [news-request@apogeeect.com](mailto:news-request@apogeeect.com). Frank has many years of experience in IT at various companies including J&J, Deloitte, Citibank and others, and holds a Masters in Computer Science from the Courant Institute of Mathematics, NYU, and has been a member of IEEE, IEEE/CS and the ACM for longer than he wants to remember. He can be reached at (973) 796-2754 or by email at [f.middleton "AT" apogeeect.com](mailto:f.middleton@apogeeect.com).

### After the Talk

Members are invited to share their experiences with the group. Come prepared to share, in 30 seconds and, if you dare, for 3-5 minutes, what your business is all about. Why companies hire you. This month - Pat Banker.

Pat Banker spent 23 years designing firmware and managing engineering projects for various companies in NJ and NY before founding Banker Coté in 1995 with her "partner in all things", Art Coté. Since then they have had the good fortune to assist many clients in meeting their technical and business goals. Specializing in embedded firmware development for 8/16 bit DSPs and microcontrollers, the company's technical portfolio includes signal processing, real time control, user interfaces, and data communications in many forms. Pat is passionate about producing high quality code - well organized, cleanly structured, thoroughly tested, and fully documented. She holds BSEE and MSEE Degrees from Rutgers and Stevens Tech. Pat is a Senior Member of CNNNJ and has served as both Secretary and Chair in prior years. Contact at (201) 307-9212 or [pbanker "AT" bankercote.com](mailto:pbanker@bankercote.com).

### About the Consultants' Network

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

### All Welcome!

Everyone welcome. No registration needed. Free admission.

**Time:** 7:30 PM, Thursday, April 27, 2006.

**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](http://www.TechnologyOnTap.org). To download a map to KDI, go to: <http://www.mckedi-integrated.com/directions.htm>.



## **CARE - Congressional Advocacy Recruitment Effort**

### **Calling All IEEE Members!**

In 2004 over 2,000 American IEEE members contacted their elected officials on behalf of their profession. In 2005, IEEE-USA needs you to join them.

CARE is a voluntary network of IEEE members who are interested in public policy. Each year Congress and state legislatures debate hundreds of bills that could, if passed, directly impact technology engineers. From promoting broadband to regulating our electrical grid; from funding basic research to providing scholarships to engineering students, the legislative decisions impact engineers' careers in an unlimited number of ways.

CARE gives you an opportunity to influence your legislator's decisions before bills become law. By joining CARE you are giving IEEE-USA permission to contact you when legislation affecting you is being considered. When necessary, IEEE-USA will send you Legislative Action Alerts containing information on what's being discussed, how it will affect technology engineers, and what you can do about it. We then give you an opportunity to quickly make your views known through an e-mail system that automatically links you to your state and federal legislators.

CARE members are not obligated to respond to Action Alerts sent by IEEE-USA. The Alerts just tell you what is happening. Doing something about it is your decision.

Joining CARE is easy. Just go to our Legislative Action Center and sign in using your IEEE web accounts log-in. All you have to do is respond to one of our active Action Alerts, and you will automatically listed as a CARE member. As new Alerts are posted, you will be notified by e-mail and given a easy way to respond.

<http://www.ieeeusa.org/policy/care/>

Contact:  
Russ Harrison  
IEEE-USA  
(202) 785-0017  
[r.t.harrison@ieee.org](mailto:r.t.harrison@ieee.org)

## **NEWS from IEEE-USA: IEEE-USA Commends Senators Ensign, Lieberman for Introducing "National Innovation Act of 2005"**

Washington (15 December 2005) - IEEE-USA commends Sens. John Ensign (R-Nev.) and Joseph Lieberman (D-Conn.) for introducing the "National Innovation Act of 2005" today on Capitol Hill. The legislation includes provisions that will strengthen U.S. competitiveness in the 21<sup>st</sup> Century.

The "National Innovation Act" responds to recommendations in the National Innovation Initiative Report "Innovate America," published by the Council on Competitiveness in 2004. The Act focuses on three primary areas: increasing investment in basic research; improving science and technology talent; and developing a robust innovation infrastructure.

The legislation would, among other things, establish a President's Council on Innovation; make permanent the Research and Experimentation Tax Credit; nearly double research funding for the National Science Foundation by FY 2011; authorize funding for new and existing Professional Science Master's Degree Programs; and encourage the development of regional clusters of technology innovation.

For a summary of the legislation, go to <http://lieberman.senate.gov/documents/bills/051215niasummary.doc>.

IEEE-USA advances the public good and promotes the careers and public policy interests of the more than 220,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. IEEE-USA is part of the IEEE, the world's largest technical professional society with 360,000 members in 150 countries. For more information, go to <http://www.ieeeusa.org>.

Contact: Chris McManes  
Senior Public Relations Coordinator  
Phone: (202) 530-8356  
E-Mail: [c.mcmanes@ieee.org](mailto:c.mcmanes@ieee.org)

## **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](mailto:PWard1130@aol.com). He will pick it up if needed.

NEWS from IEEE-USA:

## Trends Likely to Affect Us All in 2006: IEEE-USA Today's Engineer Online Article

Washington (13 January 2006) - Changes and trends in eight major areas likely to affect how we live, work and play are examined in the latest issue of IEEE-USA Today's Engineer Online.

In "What Lies Ahead: Forecast for 2006," Today's Engineer author George McClure examines technology, energy, climate change, work force, employment benefits, immigration, infrastructure and the economy. McClure, a noted expert on technology careers and retirement benefits, looks at where things are today and where they're likely headed. A sampling:

- The United States has the lowest savings rate among developed nations, implying a lack of savings for retirement and children's college costs. McClure points out the trend of greater consumer spending than consumer income "works for only so long, and will cease to be a source of consumption funding as interest rates rise to combat inflation."
- Significant upgrades are needed to repair the United States' crumbling infrastructure, including \$50 billion to improve the national power grid over the next five years. "As power demand increases by 50 percent in 20 years," McClure writes in Today's Engineer, "so will the problem of getting it to the user, as well as the prospect for further blackouts, if reliability is not improved."
- Retirement security is gaining more societal importance as the first baby boomers approach full retirement age in five years. Concerns about fewer workers to replace those retiring, and retirees wondering about having enough money to live comfortably in retirement point toward more older Americans working at least part-time past age 65. The prospect of partial retirement -- in which a person works reduced hours while drawing a partial pension -- could help alleviate these concerns, "but requires changes in the law," according to McClure.

To read the entire article, go to [www.todaysengineer.org](http://www.todaysengineer.org). To subscribe to Today's Engineer Online, IEEE members can go to <http://ewh.ieee.org/enotice/options.php?LN=IEEEUSA>. Non-members can visit <http://www.todaysengineer.org/emailupdates/index.html>.

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Contact: Chris McManes  
IEEE-USA Senior Public Relations Coordinator  
Phone: (202) 530 8356  
E-Mail: [c.mcmanes@ieee.org](mailto:c.mcmanes@ieee.org)

*NJ MTT-S/AP-S Chapter:*

## A Non-linear Method for Increasing the Wide Band Efficiency of Electrically Small Antennas

On March 8, 2006, the IEEE NJ Section MTT/S/AP-S will host a talk on "A Non-linear Method for Increasing the Wide Band Efficiency of Electrically Small Antennas." The speakers will be Joseph T Merenda and Richie J Kumpfbeck.

### About the Talk

The limitations on bandwidth and efficiency of electrically small antennas are well known. However, those limitations are based on linear circuit theory. In this lecture a radiating system is described where electronic switches are embedded in the radiating structure. The switches operate at a rate significantly higher than the RF carrier frequency and are used to digitally synthesize the radiating current waveform. In this non-linear radiating system both the operating bandwidth and efficiency are not limited by antenna size. The efficiency of this approach is determined by switch characteristics and the synthesis algorithm. This non-linear method offers significant efficiency improvement compared to a passive electrically small antenna of the same size when operating over a multi-octave bandwidth. The theory and fundamental limitations of this approach are discussed. In addition, the design and performance of prototype small antenna systems that operate over multi-octave instantaneous bandwidths up to 120 MHz are described.

### About the Speakers

Joseph T Merenda and Richie J Kumpfbeck both work in the Antenna Technology Department at BAE SYSTEMS-CNIR, Green Lawn, NY.

### All Welcome!

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

### Pre-Registration Required

Please register in advance to attend the meeting by contacting Har Dayal or Kirit Dixit as listed below.

**Time:** 6:30 to 8:30 PM, Wednesday, March 8, 2006. Free buffet will be starting at 6:00 PM.

**Place:** BAE Systems, first floor meeting room, 164 Totowa Road, Wayne NJ.

**Information:** Har Dayal, (973) 633-4618, [har.dayal@baesystems.com](mailto:har.dayal@baesystems.com), or Kirit Dixit, Microcom Sales, (201) 669-7599, [kgdixit@att.net](mailto:kgdixit@att.net).

## Memorial Gift Encourages Girls to Follow Their Dream

In an effort to both encourage girls with an aptitude for science and engineering to pursue their dreams, and honor her Aunt's memory, Gale Hannigan recently donated \$25,000 to the IEEE Foundation. Thanks to Dr. Hannigan's generosity, female students attending John Adams High School, Queens, NY, USA now have the Edith Hannigan-McHale Scholarship to aid them in attaining their dream.

Annually, the IEEE Women in Engineering Committee (WIE) will oversee the selection of the Edith Hannigan-McHale Scholarship winner. Female students in their senior year at John Adams High School, who have enrolled in, and been accepted to, an accredited four-year college or university, are eligible to apply. Applicants must present evidence of academic accomplishments, two letters of referral, a personal statement that reflects the candidate's career goals and designate a major or program of study in a field of engineering, physics or math.

To learn more about the Edith Hannigan-McHale Scholarship or to discuss how you too can set up a scholarship program in your area of interest, contact the IEEE Development Office at (732) 562-3915 or email [supportieee@ieee.org](mailto:supportieee@ieee.org).

NEWS from IEEE-USA:

## IEEE-USA Applauds President's American Competitiveness Initiative

Washington (1 February 2006) - IEEE-USA commends President George W. Bush for the American Competitiveness Initiative announced during his State of the Union address Tuesday night. The initiative is designed to spur U.S. innovation and better equip our nation to compete in the global marketplace.

"We are at a crucial crossroads in our nation's future," IEEE-USA President Ralph W. Wyndrum Jr. said in response to the initiative. "The United States can no longer take for granted the competitive edge that our scientific and technological capabilities have provided us in the past. The President's remarks indicate that he understands this, and plans to take definitive steps towards protecting and preserving our global leadership in innovation and competitiveness."

President Bush mentioned several key proposals Tuesday that IEEE-USA endorses, including doubling federal spending on basic physical science and engineering research over the next 10 years; permanently extending the research and development tax credit; and significantly improving math, science and technological education in our nation's schools. Similar bipartisan legislation addressing American competitiveness has been introduced in the U.S. Senate. Sens. Pete Domenici (R-N.M.), Jeff Bingaman (D-N.M.), Lamar Alexander (R-Tenn.) and Barbara A. Mikulski (D-Md.) introduced the "Protecting America's Competitive Edge (PACE) Act" last week; and Sens. John Ensign (R-Nev.) and Joseph Lieberman (D-Conn.) introduced the National Innovation Act in December.

IEEE-USA has endorsed both the PACE Act and National Innovation Act, and continues to offer guidance and counsel to Senate staff as the bills work their way through Congress.

For more on the American Competitiveness Initiative, go to <http://www.whitehouse.gov/news/releases/2006/01/20060131-5.html>.

According to the White House, the American Competitiveness Initiative commits \$5.9 billion in FY 2007 and more than \$136 billion over 10 years. Other key points include encouraging up to 30,000 math and science professionals to become adjunct high school teachers; fostering a business environment to encourage entrepreneurship and protect intellectual property; and providing self-managed Career Advancement Accounts of up to \$3,000 that workers and

prospective workers can use for training and other employment services.

IEEE-USA advances the public good and promotes the careers and public policy interests of more than 220,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. IEEE-USA is part of the IEEE, the world's largest technical professional society with 360,000 members in 150 countries. For more information, go to <http://www.ieeeusa.org>.

Contact: Chris McManes  
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NEWS from IEEE-USA:

## IEEE-USA Commends Sens. Domenici, Bingaman, Alexander, Mikulski for Introducing "Protect America's Competitive Edge (PACE) Act"

Washington (24 January 2006) - IEEE-USA commends Sens. Pete V. Domenici (R-N.M.), Jeff Bingaman (D-N.M.), Lamar Alexander (R-Tenn.), and Barbara A. Mikulski (D-Md.) for introducing the "Protect America's Competitive Edge (PACE) Act," to be introduced tomorrow (25 January) on Capitol Hill. The legislation includes a package of three bills aimed at helping the U.S. maintain its leading edge in science and technology.

The "PACE Act" will implement 20 recommendations contained in the National Academies of Science and Engineering report, "Rising Above the Gathering Storm," released last October. The National Academies warned that "the scientific and technical building blocks of our economic leadership are eroding at a time when many other nations are gathering strength." According to the report, "because other nations have the competitive advantage of a low-wage structure, the United States must compete by optimizing its knowledge-based resources, particularly in science and technology."

Provisions in the bills include: doubling federal funding for basic research; competitive, merit-based scholarships for future math and science teachers; visa reform for foreign science and math students; and an extension of the research and development tax credit.

In a letter to be released tomorrow, on

25 January, commending Sens. Domenici, Bingaman, Alexander and Mikulski for introducing the "PACE Act," IEEE-USA President Ralph W. Wyndrum, Jr. states: "With the PACE package, we are encouraged to see Congress not only solicit the advice of the engineering and science community, but also to adapt that advice into a comprehensive legislative initiative. IEEE-USA believes

technological leadership is one of the most important issues facing our country today, and as such, we urge the Senate, the House of Representatives, and the Bush administration to act on this package during this session of Congress."

IEEE-USA advances the public good and promotes the careers and public-policy interests of more than 220,000 engineers, scientists and allied professionals who are U.S. members of the IEEE. IEEE-USA is part of the IEEE, the world's largest technical professional society with 360,000 members in 150 countries. For more information, go to <http://www.ieeeusa.org>.

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## New Public Announcements - Mailing for North Jersey Section!

A new North Jersey Section non-IEEE members mailing list for public announcements has been created. The purpose of this mailing list is to disseminate to the North New Jersey section information pertinent to their professional and technical enhancement. It also provides information about IEEE membership services, benefits, social events, networking opportunities, technical and professional meetings, and contests. All events are open for the benefit of the membership and potential new membership. Basic mailing list commands for subscribing and unsubscribing to the mailing list are initiated by email:

TO: [listserv@listserv.ieee.org](mailto:listserv@listserv.ieee.org)  
JOIN BODY: subscribe northjerseypublic  
firstname lastname  
LEAVE BODY: signoff northjerseypublic

# IEEE AWARDS RECEPTION

*North Jersey Section  
May 7, 2006  
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 7, 2006** 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 27, 2006.** 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.

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Use this form for Reception reservations. **ENCLOSE A SELF-ADDRESSED STAMPED ENVELOPE to receive tickets in advance. Reservations are required by April 27, 2006.**  
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

# Call For Papers

## 9<sup>th</sup> International Conference on Information Technology (CIT 2006) Bhubaneswar, India, December 18-21, 2006

<http://www.citconference.org>  
<http://www.cs.unt.edu/~smohanty/CIT2006/>



CIT (Conference on Information Technology) is a premier international forum for high quality research in the areas of Information Technology. CIT2006 is being jointly organized by the Orissa Information Technology Society (<http://www.oits.org>) and the Institute of Technical Education and Research, Bhubaneswar, India (<http://www.iterindia.com>). Researchers, developers, and practitioners from academia and industry are invited to present their research findings on various topics of IT and its Applications. Four types of submissions are solicited: regular papers, short papers, poster papers and tutorials.

**Conference Tracks:** CIT encourages submissions in all the areas of information technology. However, the papers in the following 6 tracks will be primary focus of this year conference (CIT2006). The submissions in each track could be on any of the topics listed, but are not limited to them.

- **Bioinformatics and Computational Biology:** Novel applications in Bioinformatics, Data Mining and Statistical Modeling of biological data, Visualization of Biological Processes and Data, Management, Migration and Integration of Biological Databases, Biological Database search/indexing.
- **Communication Networks and Protocols:** Broadband Multimedia Communications, Wireless Ad hoc/Sensor Networks, Network Security, Wireless and Mobile Communications, Emerging IT Networks.
- **Language Processing:** Character recognition, text to speech conversion, speech synthesis, Signal and Image Processing.
- **Security, Content Protection, and Digital Rights Management:** Watermarking, Steganography, Cryptography, Biometrics, Digital Libraries.
- **Databases, Information Warehousing and Data Mining:** Intelligent Databases, Query and Constraint-based Data Mining, Mining Spatial and Temporal Data, Mining of Data Streams, Feature Extraction, Collaborative filtering/personalization, Cost-based Decision making, Visual Data Mining, Privacy Sensitive Data Mining.
- **Application Specific Software and Hardware Systems:** Embedded Information Systems, Hardware/Software/Firmware issues, Nano-technology and Applications, Quantum Information Processing.

**Paper Submission:** Online submissions of original and unpublished papers are encouraged. Three types of papers of papers will be considered: regular papers (6-pages), short papers (4-pages), poster papers (2-pages). Regular papers will be published in Lecture Notes in Computer Science (by Springer-Verlag). Short/poster papers and 1-page tutorial-abstracts will be printed by Tata-McGraw-Hill (TMH). All submitted papers will undergo DOUBLE-BLIND-REVIEW by a strong team of reviewers and program committee members consisting of leading researchers around the globe. Authors of papers need to prevent identity disclosure in many ways: (1) not list names and affiliations of authors, (2) not say "my work" or "our work" in the text while citing self references, and (3) not write acknowledgments such a way that identity of authors are implied. Author information should ONLY be included in the submission form.

**Best Paper Awards:** Three awards will be conferred with due recommendations from the program committee from the papers presented in the conference. Each award will carry cash prize and citations. Amiya K. Pujari Award is provided for the Best Paper of the conference. Narayan Misra Award is given to the best paper from Orissa. One student best paper award will be awarded from the papers with students as the leading authors.

**Fellowships:** The Steering Committee will award limited number of fellowships to students based on need and merit, to partially cover expenses of attendees from India. Applications must be submitted before the fellowship application deadline using the conference website.

### Important Deadlines

- Papers/tutorials submission: June 15, 2006
- Notifications of review status: August 15, 2006
- Camera ready papers or tutorial-abstracts: September 15, 2006

# NJ Power Engineering Society/Industry Applications Society

## Lighting Seminar

The PES and IAS Chapters will sponsor a technical seminar covering lighting sources, systems, and performance. The session will be held on Friday, April 21, 2006, at the PSE&G Training Center, 234 Pierson Avenue, Edison, NJ.

### Topics

- Efficient Lighting Practices
- The Nature of Light
- Determining Lighting Levels
- Comparison of Lamps (incandescent, fluorescent, metal halide, sodium and LED)
- Ballast Performance and Rating
- Commercial office fixtures, Low Bay and High Bay Luminaires
- Lighting Controls (occupancy, daylighting, dimming)
- Lighting Maintenance
- Lighting Surveys

### About the Instructor

The instructor will be John Hyfantis, PE.

Mr. Hyfantis' first career path was in the electronic engineering field, 1961 to 1975. Employed by the Southern New England Telephone Co, US Army Electronics Command, Electronic Associates, RCA-Astro Electronics, Dow Jones and Co and Intec, Inc. With Johnson and Johnson ESDP, power distribution engineering was added to the career path.

Mr. Hyfantis is President of Energistics, LLC, since 1978. Energistics provides engineering consulting services to commercial, industrial and institutional clients in the Mid-Atlantic region. Engineering services include HVAC equipment replacement and upgrade analysis; process and space conditioning VF drive design and installation; building management system design; building commissioning; compressed air system analysis; lighting system analysis; and power allocation surveys. Energistics also provides workshops, covering the topics of motors, motor controls, lighting, energy reduction and power quality.

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The registration fee for this seminar prior to April 7th will be \$150 for non-IEEE members, \$100 for IEEE Members, \$75 for GOLD Graduates (last 1-10 years) and \$25 for students with valid ID. The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after April 7th must include an additional late fee of \$25. The seminar fee includes lunch, refreshments and handouts. Non-members joining IEEE within 30 days of the seminar will be rebated 50% of the IEEE registration charge.

If desired, IEEE Continuing Education Units will be offered for this course - a small fee of \$15 will be required for processing. A total of .6 CEUs will be offered. Please indicate if desired below

**Time:** 8:30 AM to 3:00 PM, Friday, April 21, 2006.  
**Place:** PSE&G Training Center, 234 Pierson Avenue, Edison, NJ  
**Directions:** See [www.pseg.com/customer/business/small/facility/edison\\_directions.jsp](http://www.pseg.com/customer/business/small/facility/edison_directions.jsp)  
**Information:** Ronald W. Quade, PE, (732) 205-2614 or RWQuade "AT" ieee.org

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### Registration: Lighting Seminar 4/21/2006

Register via US mail to: Ronald W. Quade, PE  
Eaton Electrical  
379 Thornall St, 8<sup>th</sup> Floor  
Edison, NJ 08837

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

IEEE # \_\_\_\_\_ Student @ \_\_\_\_\_ Non IEEE \_\_\_\_\_ Life Member \_\_\_\_\_

Continuing Education Units: \_\_\_\_\_ Yes \$15 \_\_\_\_\_ No

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

Payment Enclosed \$ \_\_\_\_\_ Add \$25 late registration after April 7, 2006

**Make checks payable to North Jersey Section IEEE**

# NJ Power Engineering Society/Industry Applications Society

## Electric Power Transfer Switch Seminar

The PES and IAS Chapters will present a technical seminar on the design, operation and application of industrial grade low – medium voltage (120 thru 15000 volt) Power Transfer Switches and Power Control Systems. The session will be held at Automatic Switch 50 Hanover Road in Florham Park, NJ 07932 on Friday, March 24, 2006 beginning at 9:00AM.

### Topics

- Power Transfer Switch Design and Construction
- Transfer Switch Ratings
- Power Switching Applications
- Controls and Communication Systems for Transfer Switching
- Power Control Systems
- Connectivity
- Tour of ASCO/Emerson Switch Assembly and Test Facility

### About the Instructor

Mr. Ronald Schroeder, Director – Product Management, Power, Switching and Controls, will lead the seminar and be assisted by other members of the staff at ASCO Power technologies (a Division of Emerson Electric). Ron has over 34 years of experience in the design and application of power transfer switches to meet specific project requirements. A graduate of Union College and Kean University, he is a Senior Member of IEEE.

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The registration fee for this seminar prior to March 10, 2006 will be \$175 (non-IEEE members), \$125 (IEEE Members), and \$50 (students with valid ID). The fee will be waived for IEEE Life Member Grades with verification at the seminar. Registrations after March 10<sup>th</sup> 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 3:00 PM, Friday, March 24, 2006  
**Place:** Automatic Switch Company, 50 Hanover Road, Florham Park, NJ 07932 (973-966-2000)  
**Directions:** From Route 80 Take I-287 to Exit 37 (NJ 24 East - Springfield). Take NJ 24 East to Exit 2B (Columbia Turnpike). Proceed 2.2 miles to Hanover Road (6th set of traffic lights). Turn left on Hanover Road (AAA Building). Automatic Switch will be on the right (0.4 mile). Enter first driveway-marked shipping/receiving and proceed to visitor parking lot on the left. Follow sidewalk to office entrance door.  
**Information:** Ken Oexle, (973) 386-1156

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### Registration: *Electric Power transfer switch Seminar 3/24/2006*

Register via US mail to: K. Oexle  
11 Deerfield Rd  
Whippany, NJ 07981

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

IEEE # \_\_\_\_\_ Student @ \_\_\_\_\_ Non IEEE \_\_\_\_\_ Life Member \_\_\_\_\_

Payment Enclosed \$ \_\_\_\_\_ Add \$25 late registration after March 10, 2006.

**Make checks payable to North Jersey Section IEEE**

# IEEE North Jersey Section Course Project Management

Tuesday Evenings, March 14, 2006 through May 9, 2006

Eight weekly classes (March 14, 21, 28, April 4, 18, 25, May 2, 9, 2006)

USPS, NJI & BMC, 80 County Road, Jersey City, NJ 07097-9998 (Checks should not be mailed to this address)

## IEEE North Jersey Section appreciates USPS, BMC for sponsoring these courses at their premises

The North Jersey Section IEEE is offering an evening course entitled "Project Management". Dice.com lists 3200+ 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 300+ people in *IT Project+*, *MS Project 2003*, and *Project Management* courses in eight organizations. **Effective Project Management:** Traditional, Adaptive, Extreme, Third Edition (Paperback) by Authors: Robert Wysocki and Rudd McGary – would be given in the class.

**(This is not an exclusive PMP-PMI examination prep course even though project management processes and concepts are discussed in the class. No PDUs are issued for PMP eligibility. CEU credits would be given by IEEE)**

### 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. 5% Discount for the first 10 registrations. Phone reservations will NOT be accepted. Reservations accepted after March 3, 2006 will require a late fee of \$25. No reservations will be accepted after March 9, 2006.

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

**WHEN:** 8 Tuesdays, March 14, 21, 28, April 4, 18, 25, May 2, 9, 2006, 6:30-9:00 PM.

**COST:** IEEE (& affiliate) members \$400; Non-IEEE members \$480.

**CONTACT:** Bhanu Chivakula -email b.chivakula "AT" computer.org

### REGISTRATION: Project Management

Please mail the registration form with the check (**Checks payable to "North Jersey Section IEEE"**) to **Bhanu Chivukula, PMP, Chair Education Committee, IEEE North Jersey Section, 19 Prestwick Way, Edison, NJ 08820.**

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 emailed after March 10, 2006. 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: \_\_\_\_\_