

The



IEEE Newsletter

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

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Each year many IEEE Life grade members are unnecessarily removed from active member status. Since Life grade members do not pay dues, many think they do not need to fill out the membership renewal form. By not filling out the renewal form in a timely fashion, IEEE will update your membership status to arrears and eventually remove your name from the membership list. Don't let this happen to you! Stay current, fill out your renewal form.

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Include your name and member # in all correspondence.



PES Life Luncheon – Steve Mallard (L), Max Schramm and Carl Fruehling share conversation at the recent Life Member/Senior Member/Fellow Luncheon Program sponsored by the Power Engineering Chapter for their life grade members

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IEEE NJ SECTION HOME PAGE

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

IEEE NJ SECTION NEWSLETTER HOME PAGE

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

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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 Dr. Sanghoon Shin at (973) 492-1207 Ext. 22, s.shin@iee.org.

NJ Computer Chapter:

Model Driven Architecture (MDA) - A Practical Perspective

On Tuesday, February 24th, 2004, the IEEE North Jersey Section Computer Chapter will host a presentation on "Model Driven Architecture (MDA) - A Practical Perspective" by Frank Middleton.

About the Talk

MDA has the potential to radically change the way software systems are constructed, enabling significant reuse, eliminating defects, and dramatically reducing implementation and maintenance costs. Join us for a survey of the state of the art in MDA, looking at various standards and products, some better known than others. The talk will finish up with experience from the field using one of the lesser known (but mature) tools used to implement a large commercial system.

UML based MDA is limited to real time systems today, but there is no reason it can't be used for general IT solutions, and it can be. We'll look at the primary contenders for the MDA market and discuss limitations and benefits of each, looking at UML2 and how apparently dissimilar methodologies map into each other.

This talk should be of interest to anyone who has project oversight for any system sufficiently complex to require modeling.

About the Speaker

Frank Middleton is the President and Founder of Apogee Communications Technologies, Inc., a 10-year old 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, including process management through MDA. For more information, visit <http://www.apogeect.com> and also subscribe to his newsletter by sending an email with subject "subscribe" to news-request@apogeect.com. Frank has many years of experience in IT at various companies including Citibank and AT&T, a Masters in Computer Science from the Courant Institute of Mathematics, NYU, and is a member of the IEEE, the IEEE/CS, and the ACM.

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, February 24, 2004. Pre-meeting buffet starting at 6:00

PM in the Public Meeting Room, Morris County Library.

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

Information: Seth Jakel, (973) 731-1902 (sgjakel@comcast.net) or Vivek Shaiva, (908) 229-6125 (vshaiva@computer.org).

IEEE PES/IAS Chapters Present Power Quality Technical Seminar

April 16, 2004

The PES and IAS Chapters will sponsor a one-day seminar covering various topics related to power quality. The session will be held on Friday, April 16, 2004. Details to follow in March Newsletter.



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BSEE, MSEE (system architecture and applications software). Over 10 years of patent prosecution experience with NYC intellectual property and high-tech law firms. Former in-house senior patent counsel with a multinational corporation. Patent applications, opinions, counseling, litigation support. Personal attention, high quality, reasonable fees. References upon request. For more information please visit my website.

IEEE North Jersey Section Activities

February 2004

Feb. 4 – “NJ Section Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Dr. Sanghoon Shin at (973) 492-1207 Ext. 22 or s.shin@ieee.org.

Feb. 9-10 – “TCP/IP: The Protocol Suite Driving the Internet ” - 1:00-5:00 PM, Meeting Rooms 108/109 Magill Commons, Monmouth University. Dr. Amruthur Narasimhan (732) 957 0850 (anarasimhan@ieee.org).

Feb. 11 – “Engineers Meet: Contract Engineering - An Alternate Form of Employment” - NJ PACE, 6:15-9:00 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward (973) 790-1625 (PWard1130@aol.com) or Richard F. Tax (201) 664-6954 (rtax@AEA.org).

Feb. 16-Apr. 12 – “Introduction to JAVA Programming” - North Jersey Section, Monday Evenings, 8 sessions, 6:30-9:00 PM, Wessley Inns & Suites, 265 Route 3 East, Clifton, NJ. Bhanu Chivakula (b.chivakula@computer.org).

Feb. 18 – “LDMOS as Radio Frequency Power Device” - EDS/C&S Chapters, 7:00 PM (buffet at 6:15PM), NJIT, 202 ECE Center, Newark, NJ. Dr. Richard Snyder (973) 492-1207 (RS Microwave), Dr. Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver (973) 596-3542 (NJIT).

Feb. 18-Apr. 14 – “Project Management” - North Jersey Section, Wednesday Evenings, 8 sessions, 6:30-9:00 PM, Wessley Inns & Suites, 265 Route 3 East, Clifton, NJ. Bhanu Chivakula (b.chivakula@computer.org).

Feb. 24 – “Model Driven Architecture (MDA) - A Practical Perspective” - NJ Computer Chapter, 7:00 PM, Public Meeting Room, Morris County Library, 30 E. Hanover Ave, Whippany, NJ. Seth Jakel (973) 731-1902 (sgjakel@comcast.net) or Vivek Shaiva (908) 229-6125 (vshaiva@computer.org).

Feb. 25 – “Student Presentation Contest” - 5:30 PM (free dinner provided), NJIT, 202 ECE Center, Newark, NJ. Amit Patel (a.j.patel@ieee.org). Check http://ewh.ieee.org/r1/north_jersey/sac for the latest updates.

Feb. 26 – “A Modular Approach to Proposals” - 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

Mar. 3 – “NJ Section Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Dr. Sanghoon Shin at (973) 492-1207 Ext. 22 or s.shin@ieee.org.

Mar. 18 – “NJ Energy Auctions” - NJ IAS/PES Chapters, 7:00PM, Eaton/Cutler Hammer, 690 Rahway Ave, Union, NJ. Ron Quade (212) 833-0268.

Mar. 25 – “Small Power Transformer Technical Seminar” - NJ IAS/PES Chapters, 9:00 AM to 3:00 PM, JCP&L, Punchbowl Room, 300 Madison Avenue, Morristown, NJ. Ronald W. Quade, PE, (212) 833-0268 or rwquade@ieee.org.

Mar. 25 – “How an Engineer Ends Up In Court: The Expert Witness” - 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.

Apr. 16 – “Power Quality Technical Seminar” - NJ IAS/PES Chapters, time and location TBA. Details to follow in the March Newsletter.

Members and Non-Members Welcome

PLEASE POST

NJ Section PACE:

Engineers Meet: Contract Engineering - An Alternate Form of Employment

On Wednesday, February 11, 2004 the North Jersey Section Professional Activities Committee will meet to discuss Contracting Engineering and the job market. A panel of speakers from local contract firms will present their views about contract work and be available to answer questions from the audience.

About the Meeting

This meeting will bring you face to face with representatives from some of the local contract firms. Attendees will have an opportunity to discuss contract engineering, the relationship between the contract firm, client company and the contract engineer.

Topics will be: the current state of the employment market for engineers, resource tools for advertising your availability, dealing with job shops - do's and don'ts, networking - it is a contact sport, accepting positions far from home, why this is something everyone should consider, how sending jobs offshore and importing foreign workers under the H-1B and L1 legislation have affected the business.

This meeting is NOT a job fair. Resumes can be e-mailed to these firms at a later date, but will not be necessary for the meeting.

You are encouraged to attend and bring your spouse and associates.

About the Speakers

David B. du Pont, Chairman & CEO of HEPCO, will be one of our panelists. Mr. du Pont is a graduate of the University of Pennsylvania '67 (BA), US Army 1st Lt. (1967-1970), Wharton '72 (MBA Marketing). He has eighteen years corporate finance experience (Citibank 1972-1975, Goldman Sachs 1975-1983, Prudential Bache 1983-1985, and Drexel Burnham 1985-1990). He acquired HEPCO in 1992. He is involved in all aspects of the Company with particular focus on client marketing.

HEPCO is a thirty one year old company, headquartered in Rutherford, New Jersey and currently serving clients in twenty two States, with the balance of their work being done in the Connecticut to Virginia area. Their strategic hiring focus is across the entire spectrum of the engineering disciplines. This would include the major disciplines such as civil, electrical, environmental, and mechanical as well the subsets of these disciplines to include administrators, estimators, designers, facilities, inspectors, planners,

reliability, safety, schedulers, stress analysts, and structural engineers. They provide their clients with both permanent candidates and consultants, who will work on a specific client project as HEPCO employees until that project is completed.

Daniel J. Muhlfelder, another panelist, has been employed by L. J. Gonzer Associates (LJGA) since 1977. His career with LJGA has progressed from Recruiter, to Employment Manager, to Vice President of Personnel, to his current position of Executive Vice President and Chief Operating Officer.

Mr. Muhlfelder was an active member of the New Jersey Chapter of the National Technical Services Association (NTSA) for many years and was involved in national NTSA events since 1995. He served as a member of the NTSA National Board of Directors from 2001-2003.

For over 40 years L. J. Gonzer Associates (LJGA) has placed thousands of professional contractors in technical positions in small companies, large corporations, government agencies and institutions all across America.

Founded in 1961 by Lawrence J. Gonzer (BSME, PE) LJGA has held to the highest standards of quality and integrity in serving its employees and customers, forming a bond of trust that has built a reputation for performance and reliability.

LJGA's recruiting and project management staff has an average length of service of over 20 years, therefore affording both job applicants and clients the stability and professionalism they deserve. LJGA's staff knows the industries they serve and how to successfully bring the contractor and client together to produce mutually productive placements.

All Welcome!

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,
www.ieeeusa.org,
web.njit.edu/~ieeenj/
www.asme.org/sections/northjersey

Time: 6:15 to 9:00 PM, Wednesday, February 11, 2004.

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

Information: Paul Ward, (973) 790-1625. PWard1130@aol.com, Richard F. Tax, (201) 664-6954, rtax@AEA.org.

Last Call for Registration for 2004 Student Presentation Contest

If you missed the call for participants in last month's newsletter, then here is a friendly reminder of the upcoming Student Presentation Contest for Spring 2004. If you would like to read more details about the types of presentations that can be made, examples of last year's winning abstracts and topics, and other venue information, be sure to check out the SAC website

http://ewh.ieee.org/r1/north_jersey/sac

Registration for this year's contest has already begun. All participants MUST register before they can be allowed to compete in the contest. Due to the fantastic demand that we had last year, this year, the number of participants must be capped to a maximum. So if you want to be in this year's contest, you must register right away before it fills up.

On the website listed below, you will find details about the contest, some local guidelines to be used for the presentations and judging forms for the criteria upon which the contestants will be judged. The time limits given are a maximum, and the limits will be enforced to ensure fairness, so remember to practice. And of course, the registration form is there!

Note: This year's Region 1 contest will be hosted by SUNY Stony Brook in Long Island, NY on April 10, 2004. Winners from the section contest can progress to the regional competition. Details available at the Stony Brook Region 1 IEEE Conference website

<http://www.ieee.li/student/index.htm>.

Time: 5:30 PM, Wednesday, February 25, 2004. Free dinner will be provided.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Driving directions and free parking available <http://www.njit.edu/about/visiting/driving.php>.

Information: Any and all questions can be emailed to the contest organizer, a.j.patel "AT" ieee.org and check out the website:

http://ewh.ieee.org/r1/north_jersey/sac

NJ Consultants' Network:

A Modular Approach to Proposals

On Thursday, February 26, 2004, the IEEE Consultants' Network of Northern NJ (CANNJ) will host a talk on "A Modular Approach to Proposals." The speaker will be Paul Rota.

About the Talk

Paul Rota will present a proven approach for creating effective written proposals.

The techniques for writing an effective proposal are not necessarily self-evident. Some consultants acquired their proposal-writing skills from previous employers, others through trial and error. All of us who struggle through the proposal process would welcome a simple and accessible methodology or template.

Paul Rota will speak on the modular approach to proposals (MAP), a uniform and organized process for developing a document and easing the proposal-writing process.

Originated by the Defense industry to ease preparation of written proposals for Federal Government agencies, MAP has been successfully applied to technical reports, handbooks, business plans, and project plans. The methodology is highly structured but flexible enough to leave room for creativity. It reduces the time and cost to prepare a document and provides a genuine picture of what the document will look like before a single word is written. Besides easing the writing process, MAP improves readability and enhances the management of large documents.

About the Speaker

Paul Rota has been an independent computer consultant for 25 years, serving Fortune 500 companies and smaller organizations. He recently completed a six-year assignment with the NYSE and AMEX helping develop wireless LAN systems. He specializes in systems analysis, discrete system simulation, and in documenting user requirements, functional requirements, and general design specifications. He has presented papers at national symposia and private seminars. Mr. Rota previously worked in the defense industry.

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, February 26, 2004.

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>.

NJ PES/IAS Chapters:

NJ Energy Auctions

The Power Engineering and Industrial Applications Chapters will sponsor a technical meeting on March 18th concerning forces that are affecting the cost of electric energy in New Jersey. The speaker is Peter Yochum of New Jersey Board of Public Utilities.

About the Talk

In 1999 New Jersey enacted deregulation legislation to make the retail natural gas and electric markets competitive. The New Jersey Board of Public Utilities ("BPU") was charged with the responsibility of implementing this legislation. There were two basic aspects of implementation. The process portion: enrollment, metering, billing and consumer protection produced what is generally considered a workable framework for competition. However in the area of rate design, fixed retail commodity rates during a period of rising wholesale costs hindered the ability of retail suppliers to compete.

The Board is now implementing new initiatives including an internet-based auction process to secure market-based prices, and pricing certain larger customers on an hourly basis. The Board will be conducting its third electric supply auction in February 2004. Peter Yochum's presentation will focus on the outcome of the latest auction, the reasons behind and the future of hourly pricing.

Time: 7:00 PM, Thursday, March 18, 2004. A pre-meeting buffet will be available at 6:30 PM.

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

Information/Map: Ron Quade (212) 833-0268.

2004 North Jersey Section Election Results

The votes have been tabulated and the North Jersey Section Officers elected for 2004 are:

Chairman Dr. Durga Misra
Vice-Chairman-1 Har Dayal
Vice-Chairman-2 Bhanu Chivakula
Treasurer Dr. Edward (Ted) Byrne
Secretary Dr. Sanghoon Shin

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To sign-up for this service, visit

<http://elecomm.ieee.org/personal-aliases.shtml>

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Check out more than 8000 products, including the latest semiconductor, interconnect, power, and other system technologies at the largest systems design event in North America, ElectronicaUSA, which will be combined with the Embedded Systems Conference from 29 March to 1 April in San Francisco, CA. Or attend one of the more than 300 tutorials, classes, and panel discussions focused on the practical challenges in designing processor-based systems. IEEE members can use code UX45 to receive a 25 percent savings in the conference fee when registering at

<http://www.electronicausa.com>

NJ EDS, C&S Chapters: **LDMOS as Radio Frequency Power Device**

On February 18th, 2004, the IEEE NJ Section Electron Devices, Circuits and Systems Chapters together with the New Jersey Institute of Technology will host a talk on "LDMOS as Radio Frequency Power Device." The speaker will be Distinguished Lecturer, Dr. M. Ayman Shibib.

About the Talk

This lecture will focus on the DMOS devices applied in RF power amplifiers mainly in cellular base stations. DMOS devices are well established as discrete and integrated high voltage and power devices and find numerous applications in analog and mixed signal. DMOS devices are made in vertical and lateral configurations, each having specific advantages. For RF applications, Lateral DMOS offers unique advantages prime amongst them is a very low, gate to drain, or Miller capacitance. The structure and characteristics of typical RFLDMOS devices will be reviewed from a device and technology perspective.

About the Speaker

M. Ayman Shibib is a Consulting Member of Technical Staff at Agere Systems in Allentown, PA, involved in the design and development of silicon based RFLDMOS devices for base station power amplifier applications. After receiving his PhD in electrical engineering, he was an adjunct assistant professor at the University of Florida, Gainesville, and in 1980 he joined Bell Laboratories as a Member of Technical Staff.

He has been involved for over 23 years in the device and technology development of analog and power integrated circuits. He developed and introduced to manufacture the first 600 V IC for the #5ESS™. He also developed several generations of analog and mixed signal Bipolar-CMOS-DMOS technologies used in several applications including Analog Line Cards for telecommunications switching systems. All those technologies were introduced to high volume manufacturing and used the DMOS device as the workhorse for these technologies.

Dr. Shibib is an IEEE Fellow, an Editor of the IEEE Transactions on Electron Devices, and EDS Distinguished Lecturer. He is the Chairman of the North America East Subcommittee for Regions and Chapters of the Electron Devices Society that includes Regions 1,2,3 and 7. He holds 22 U.S. patents and has several

others pending. He was awarded the IEEE Third Millennium Medal Award and received several Bell Labs awards. Dr. Shibib has also served as the Lehigh Valley Electron Devices Society Chairman from 1993 to 1998 and the Lehigh Valley Section Vice-Chairman and Chairman for 1987-1989, and on the AdCom of EDS from 1996-2000. He has been on the advisory and technical committees of many IEEE sponsored technical meetings including IEDM, PESC and ISPSD and has presented numerous papers in these meetings.

He also has more than 40 technical publications in the archival literature.

All Welcome!

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

Time: 7:00 PM, Wednesday, February 18, 2004. 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. Durga Misra (973) 596-5739 (dmisra@njit.edu) or Dr. Edip Niver (973) 596-3542 (NJIT).

NJ Consultants' Network:

How an Engineer Ends Up In Court: The Expert Witness

On Thursday, March 25, 2004, the IEEE Consultants' Network of Northern NJ (CNNNJ) will host a talk on "How an Engineer Ends Up In Court: The Expert Witness." The speaker will be Laurence W. Nagel.

About the Talk

Intellectual property is a critical asset that technology companies safeguard through a combination of patents, copyrights, and trade-secret protections. If a company suspects that its intellectual property is being misappropriated, it may seek recourse through a lawsuit charging patent infringement, trade secret misappropriation, or copyright misuse. The technological aspects of the issues involved in these lawsuits are often beyond the grasp of a judge or jury, calling for testimony of an expert witness to interpret matters of fact, but not matters of law.

Mr. Nagel will explain the tools for protecting intellectual property – patents, copyrights, and trade secrets – and the crucial role of the expert witness in litigation.

About the Speaker

Laurence W. Nagel, an expert witness in patent and trade secret litigation and a 29-year veteran of the integrated circuit industry, is proprietor of Omega Enterprises, consultants in analog and RF integrated circuit design, a company he founded in 1998. Mr. Nagel previously served a distinguished career at Bell Laboratories, where he asserted patents and negotiated patent licenses on behalf of the AT&T Intellectual Property Division. Among other accomplishments at Bell Labs, he developed the ADVICE circuit simulation program and served as project manager for development of the Celerity circuit simulation program.

Mr. Nagel earned BS, MS, and PhD degrees at the University of California, where he launched the cottage industry of simulation tools by developing the SPICE circuit simulation program.

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, March 25, 2004.

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>.

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 lieu of providing the conference facility for free, the organization can get free registration up to three members in the course/seminar. Please contact Bhanu Chivakula, Co-chair, Education Committee at b.chivakula@computer.org for suggestions or discussions, if interested.

How Engineers Communicate

By Erica Vonderheid

If you spend half your workday communicating with colleagues about your project and must have face-to-face meetings to get the information you need, then you're typical of most engineers, according to a new book from Wiley-IEEE Press.

Communications Patterns of Engineers by Carol Tenopir and Donald W. King, published in December, looks at all aspects of engineering communication, including how much time engineers spend reading for their jobs and the kind of information they produce as a result of their work.

"It's clear that engineers communicate differently from [people in] other professions," King says. "Engineers tend to use scholarly literature less but use technical reports, standards, and manuals more. They communicate orally more than others."

When engineers do turn to scholarly sources for a technical article, they're careful to hone in on the facts and information they really need.

"Engineers' ultimate purpose often is to create or build something, and so, when they're seeking information, it's usually specific documents [they're after], such as procedures and instructions," Tenopir says.

The authors estimate that engineers spend approximately 55 percent of their workday communicating, most often with colleagues on the same project. To arrive at this number, the authors extracted data from more than 30 surveys they conducted on the communications patterns of engineers and scientists between 1977 and 2003. In their analysis of those surveys, the authors evaluate the strengths and weaknesses of the ways engineers communicate. Where engineers are strong, for example, is in interpersonal communication while they tend to fall off in writing skills.

Their findings should be useful not only to technical professionals, but also to teachers, professional associations, and book publishers. For instance, Tenopir adds that librarians and publishers need to know how engineers use information that can help them design better products and services. And to improve their instruction of engineering students, educators need to know how engineers work and learn.

The authors also looked at how engineers find the information they need. Naturally, with the advent of the Internet and online technical journals, the way all professionals, especially engineers, do this has changed.

"In recent years, when engineers need a specific article from a peer-reviewed journal, they rely more on library-provided, electronic subscriptions than in the past," Tenopir says. While most publications are available electronically, engineers continue to get some printed publications for their personal use, though they subscribe to far fewer than in the past, King notes.

To order the book, visit www.wiley.com. For members, the price is US\$67.95; use promotion code #38011. List price is \$79.95. The ISBN number is 0-4714-8492-X.

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<http://www.theinstitute.ieee.org/portal/pages/tionline/legacy/inst2004/jan04/1w.fap.xml>

National Engineers Week 2004 Goes International

By Chris McManes

As the lead society for National Engineers Week (EWeek), the IEEE has created many activities with the Eweek committee that will make the 22-28 February celebration much more than just a U.S. event.

Founded by the National Society of Professional Engineers, Eweek celebrates the engineering profession and the engineers whose creative work improves people's lives. Its programs and activities are designed to instill pride among all engineers, increase public awareness of the key role engineers play, and spark an interest in the profession among youngsters.

"We live in an increasingly global world, so it just makes sense to expand EWeek concepts worldwide," says Joseph V. Lillie, IEEE member and EWeek 2004 chair. "We think the EWeek model we have established can serve as a blueprint for engineers around the world."

An EWeek program that has been arousing interest outside the United

States is the Future City competition, which challenges seventh- and eighth-grade students to build a city of the future using engineering skills. Through the participation of 36 U.S. IEEE sections, the competition reaches more than 30,000 middle-school students in the United States. Three teams will compete in the national finals of the Future City Competition in Washington, D.C., thanks to IEEE-USA funding. Initiated by IEEE-USA in 1993, Future City has inspired pilot programs in Egypt, India, Japan, and Sweden.

Another international outreach effort includes expansion of the recognition program, "New Faces of Engineering," to include engineers living outside of the United States. A grant from the IEEE Foundation is paying for an ad featuring these engineers in the International Herald Tribune.

The IEEE through a grant from its Life Member Committee also is funding a study to see what past Future City winners are doing professionally, and is conducting a demographic analysis of current participants to help gauge the program's success [learn more at www.futurecity.org]. In parallel, IEEE-USA and IEEE Spectrum magazine have commissioned a survey of members and student members to find out what they like about engineering; the findings will be reported in Spectrum's February issue.

Meanwhile, the IEEE Women in Engineering affinity group is promoting "Introduce a Girl to Engineering Day," on 26 February. Women engineers, along with their male colleagues, will encourage an estimated one million girls that day and throughout the year to consider engineering. The following month, on 25 March, a United Nations event in New York City will recognize programs that get more girls interested in the engineering profession [see http://www.eweeek.org/site/News/Eweek/real_benefit.shtml].

For more information on how to get involved in EWeek events, visit www.eweeek.org or www.ieeeusa.org/eweeek. Kits for volunteers are available at <http://www.eweeek.org/site/Engineers/kit.shtml>.

IEEE North Jersey Section Newsletter Advertising

The “NEWSLETTER” is the non-profit professional publication of the North Jersey Section of the Institute of Electrical and Electronics Engineers, Inc.

Published monthly except June (electronic only) and July, it is distributed to approximately 5,000 qualified members of the section.

Editorial content is pertinent and timely. It contains current information and details about special meetings, field trips, and seminars scheduled during the month and for future dates.

NEWSLETTER readers are influential in the Electrical and Electronics industries. They are in decision-making positions or can influence decisions in this important field.

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Classified job advertisements are welcome!

Amrutek Services Inc.
Presents a 2-day tutorial on

TCP/IP: The Protocol Suite driving the Internet

by
Dr. N.D. Prabhakar
CEO of Total Systems Consultants Inc.

Sponsored
by
IEEE NJ Coast, PACE & Consultants Network

Abstract

The Internet is undoubtedly the modern day Global Information Superhighway enabling communication among people and organizations across the globe and supporting all types of services and applications. The ubiquity and enormous success of the Internet are based on the open communication architecture and its constantly evolving and adaptable suite of communication protocols collectively referred to as TCP/IP. This 2-day course will provide a clear understanding of the architecture and major protocols of the TCP/IP suite, and how they work.

The particular protocols covered in the course, at appropriate levels of details, include the network/internet layer protocols IP, ICMP, the transport layer UDP and TCP, and the protocols supporting various applications: DNS for name translations, Telnet for remote sessions, FTP for file transfer, SMTP and MIME for e-mail, HTTP for web surfing, and SNMP for network management.

The details of how TCP/IP can operate with different networking technologies ranging from point-to-point links, various types of LANs and WANs (e.g., Ethernets, X.25, ISDN, Frame Relay, ATM, SONET/SDH) will be provided. A brief discussion of Internet routing will conclude the discussion. The emphasis will be on protocol concepts and operations, rather than on their software implementations.

Details on the Seminar Speaker

Dr. N.D. Prabhakar has a PhD in Operations Research from Indian Statistical Institute, and has 25+ years of teaching and research experience in academic universities and in industrial R&D organizations in the U.S., e.g., Wayne State University, Central Michigan University, New Jersey Institute of Technology, Monmouth University, General Motors Research Labs, AT&T Bell Labs, and Lucent Technologies. While working for AT&T, he developed several graduate courses for the Information Communication Institute of Singapore. Later Lucent Technologies selected him to develop and teach two graduate level communication courses at the Multimedia University of Malaysia. He is currently the CEO of Total Systems Consultants, Inc., an IT consulting company.

What you will Learn: <http://mywebpages.comcast.net/anarasimhan3/seminar/tcp/tcp-WillLearn.htm>

Date & Time: February 9-10, 2004; 8:00 AM to 5:00 PM. Meals will be provided.

Place: Meeting Room 107, Magill Commons, Monmouth University. For directions, see <http://www.monmouth.edu/about/atagance/directions.asp>

Information: Dr. Amruthur Narasimhan, anarasimhan@ieee.org, (732) 957-0850.

Registration: Go to go to www.amrutek.com and click on SEMINAR

Cost:

	Before January 26, 2004	After January 26, 2004
IEEE Member	\$450.00	\$550.00
Non IEEE Member	\$550.00	\$650.00
Student	\$250.00	\$300.00

* Volume discounts are available for 5 or more persons. Registration fee covers meals and presentation material.

Small Power Transformer Technical Seminar

The PES and IAS Chapters will sponsor a one-day seminar covering the basics of Medium Voltage Small Power Transformers. The session will be held on Thursday, March 25th at JCP&L, 300 Madison Avenue, Punchbowl Room, Morristown, NJ.

About the Seminar

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

Topics to be covered include:

9:00 - 9:45	Comparison of Transformer Technologies, Dry Type and Liquid filled Technologies
9:45 - 10:30	Transformer Overload Capability and System Coordination Transformer Thermal Characteristics ANSI C57.12.96 and C57.12.92
10:30 - 10:45	Break
10:45 - 11:30	Testing, Commissioning and Maintenance Transformer Diagnostics Available Gauges and the Importance of Each Reading and Understanding Gas in Oil Test Results Field Testing Insulation Age Expected Remaining Life Power Upgrade

11:30 - 12:00	Fluids: Oil, Less Flammable, Biodegradable
12:00 - 1:00	Lunch
1:00 - 1:45	Short Circuit Withstand Capability Round and Rectangular Construction ANSI Test Requirements Reliability Expectations
1:45 - 2:30	Total Ownership Costs: Initial Cost Energy Cost Maintenance Cost Retirement Cost

About the Instructors

The instructors will be Tommy Nunn and Leon Plaster, ABB.

Tommy Nunn has a BS degree in Electrical Engineering and comes to us with 26 years experience in the medium voltage power equipment industry specializing in Small Power Transformers. His experience in the industry includes ITE, Gould, Brown Boveri Corporation, PEMCO and presently he is the Commercial Operations Manager for ABB's Small Power Transformer Division.

Leon Plaster is now retired but was the Westinghouse/ABB Engineering Manager for their Small Power Transformer manufacturing facility in South Boston, VA. Leon is a Senior Member of IEEE, a IEEE Working Group Chairman for C57.12.40 Network Transformers and Co-Chairman new working group of IEEE C57.12.36 Distribution Substation Transformers. Leon brings 40 years of experience in Transformer Design and manufacturing. He has forgotten more about transformers than most of us will ever know.

The registration fee for this seminar prior to March 11th 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 March 11th 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, Thursday March 25, 2004.

Place: JCP&L, 300 Madison Avenue, Punchbowl Room, Morristown, NJ.

Directions: Route 287 to Route 124 Exit in Morristown. Follow signs toward Madison, JCP&L is about 1.5 mi on the left side.

Information: Ronald W. Quade, PE, (212) 833-0268 or rwquade@ieee.org.

Registration: Small Power Transformers Seminar 3/25/2004

Register via US mail to: Ronald W. Quade, PE
Eaton Electrical
830 Third Avenue
Suite 920
New York, NY 10022

Name _____

Address _____

Phone _____ Email _____

IEEE # _____ Student @ _____ Non IEEE _____ Life Member _____

Payment Enclosed \$ _____ Add \$25 late registration after March 11th

Make Check payable to North Jersey Section IEEE

IEEE North Jersey Section Course Project Management

Wednesday Evenings, February 18, 2004 through April 14, 2004 (No class on March 3) 8 weekly classes (February 18, 25, March 10, 17, 24, 31, April 7, 14 2004) at Wellesley Inn & Suites, 265 Route 3 East, Clifton, NJ 07014
(Checks should not be mailed to this address)

The North Jersey Section IEEE is offering an evening course entitled "Project Management". Dice.com lists 1500+ 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 2002 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 finished this 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, Ph.D., has been a corporate manager for 11 years and is an experienced trainer. Since 1999, he has trained 150+ people in *IT Project+*, *MS Project 2002*, and *Project Management* courses in five organizations.

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 February 4, 2004 will require a late fee of \$25. No reservations will be accepted after February 11, 2004.

WHEN: 8 Sessions, Wednesdays, February 18, 25, March 10, 17, 24, 31, April 7, 14, 2004, 6:30-9:00 PM.

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

CONTACT: Bhanu Chivakula -email b.chivakula@computer.org

REGISTRATION: Project Management

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

Bhanu Chivakula, 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 mailed after February 11, 2004. 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: _____

IEEE North Jersey Section Course Introduction to Java Programming

Monday Evenings, February 16, 2004 through April 12, 2004 (No class on March 1- eight weekly classes (February 16, 23, March 8, 15, 22, 29, April 5, 12 2004) at Wellesley Inn & Suites, 265 Route 3 East, Clifton, NJ 07014
(Checks should not be mailed to this address)

The North Jersey Section IEEE is offering an evening course entitled "Introduction to Java Programming." Java Programming has gained enormous popularity in corporate Information System applications as well as in advanced Webpage Design since 1997. About 2.5 million Java Programmers are currently working on all types of commercial projects in the world, ranging from cell phone applets, to UNIX server, to business intelligence and mainframe data-warehouse access.

Java is an easier transition for C++ Programmers. This course, however, will be for anyone who *never took* a programming course. The instructor will provide the necessary software (compiler and editor) for you to get started immediately!

Instructor: Donald Hsu, Ph.D., has been a corporate manager for 11 years and is an experienced trainer. Since 1997, he trained 350+ people in Java Programming and Advanced Java Programming courses in eight organizations.

TOPICS

1. Explain the dynamic growth in Java Programming
2. Contrast the importance of AWT, CGI, JavaScript and HTML
3. Classify the different types of Java applets vs Java applications
4. Identify the control structures, arrays and classes
5. Construct character strings and graphics tools
6. Define multithreading, files and streams
7. Draw multimedia, animation and Swing images
8. Build audio files, JavaBeans and networking applications
9. Distinguish Java utilities, error handling, serialization and reflection
10. Analyze real-world projects using SDK 1.4 development tools

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 February 2, 2004 will require a late fee of \$25. No reservations will be accepted after February 9, 2004.

WHEN: 8 Sessions, Mondays, February 16, 23, March 8, 15, 22, 29, April 5, 12, 2004, 6:30-9:00 PM.

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

CONTACT: Bhanu Chivakula -email b.chivakula@computer.org

REGISTRATION: Introduction to Java Programming

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

Bhanu Chivakula, 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 mailed after February 9, 2004. 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: _____