



# THE POCKET SCOPE



The Institute of Electrical and Electronics Engineers, Inc.

Volume 56, Number 12

August 2006

## SCOPE NOTES

### August Houston Section News

**Where:**  
HESS (Houston Engineering and Scientific Society)  
5430 Westheimer@Yorktown

**When:**  
Thursday, September 28, 2006  
6:00 - 6:30 p.m. Social  
6:30 - 7:30 p.m. Dinner  
7:30 - 8:30 p.m.

**Cost:**  
\$15.00 - IEEE Members with 48-hour advance reservations.  
\$20.00 - non-members  
\$5.00 - students  
Call (713) 207-IEEE to make your reservations.

See Page 3  
for the Continuing  
Education  
Schedule!

IEEE WEB  
ADDRESS  
[http://  
\(www.ieee-  
houston.org\)](http://www.ieee-houston.org)

IEEE Houston Section  
P.O. Box  
460443  
Houston, Texas  
77056-8014



## The Chairman's Message

**Donald G. Dunn**

### The Chairman's Message

Beginning the second half of the year, our first Section Meeting will be on September 28, 2006. The speaker for the September meeting will be **Rakesh Verma** who received a BSEE in 1977. Mr. Verma worked for Siemens and then for control systems integration companies in the Houston area. Following that he began working for Parijat Controlware in 1989 and has been helping companies worldwide with their control systems, communications, HMI and SCADA needs. The topic of discus-

sion at the section meeting is titled "**Large-scale Electrical SCADA System Using Microsoft .NET.**" A detailed synopsis can be found on the section website.

The Houston Section 2006-2007 CED Seminar Schedule will start up in October with several courses that cover new and exciting topics. **We are moving again this year with all seminars are held at Jacobs Engineering.** For more details, visit the IEEE Houston Section website <http://www.ieee-houston.org/>.

This year I am serving on the IEEE Admission & Advancement (A&A) Committee, which holds ten meetings each year to review applications for IEEE Senior Member Grade. The Review Panel meetings are held in various locations throughout the world. A panel of reviewers is recruited among Senior Members and Fellows in the Section where the meeting is to be held. This full-day session is presided by the A&A Committee Chair and facilitated by a staff member from the IEEE Membership Development Group. As there was not an A&A meeting in July we did not have any new Senior Members elevated this month in the Houston Section. We are always looking for members interested in becoming a Senior Member in the IEEE. The following criteria are required for elevation to Senior Member status: ten years of professional practice including five years of significant performance, and references (see the nominator letter and application form for clarification on the IEEE website). If you know an IEEE member who qualifies for Senior Membership, I would like you to nominate him or her by forwarding their nomination to one of the Houston Section EXCOM members. If you qualify and are not a Senior Member, please reply to one of the Houston Section EXCOM members.

Our 5<sup>th</sup> Annual IEEE-Houston Scholarship Golf Tournament has been rescheduled for October 6 at the Southwyck Golf Club. We hope to see you all out there. We need your support! Come join us for a wonderful time. Remember that proceeds from this event will go to providing \$1,000 scholarships to Section member's family and children.

Remember the Executive Committee and I look forward to your feedback comments. If you are interested in getting involved in the local IEEE section, let us know,

## Chair Message - Cont.

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volunteer members are always needed. We have plenty of opportunities. I encourage all of you to become more active, and see the rewards and benefits your membership gives you. It is a great way to network with professionals within the electrical engineering community. Join us at one of the upcoming meetings; we look forward to meeting you.

Donald G. Dunn  
**Houston Section Chair**

## Houston Section Meeting

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Thursday, September 28, 2006

### **Topic: Large-scale Electrical SCADA System Using Microsoft .NET**

Synopsis: The presentation shall show a very large point-count SCADA system (several thousands) recently designed and deployed for Centerpoint Energy. The system communicates to various IEDs (Eaton Cutler-Hammer relays, Allen-Bradley PLCs, etc.) via dial-up, leased line, fiber optic, and TCP/IP. It also supports viewing live data, historical trip buffer data, waveform capturing/archiving, and diagnostics data. It is a .NET managed application, whereby there is no legacy technology content of COM/DCOM, OPC, DDE. It is configurable by the user so that future additions of electrical networks, does not require any software configuration/programming, other than database data update. The key point is that no 3<sup>rd</sup> party special software was procured and the complete application was built using off-the-shelf Microsoft Visual Studio and Microsoft SQL Server 2000 database.

### **Speaker: Rakesh Verma**

BSEE 1977. Worked for Siemens & then for control systems integration companies in Houston. He then began working for Parijat Controlware in 1989 and has been helping companies worldwide with their control systems, communications, HMI, SCADA needs.

**Where** HESS Building, 5430 Westheimer at Yorktown

**Time:** 6:00 - 6:30 PM Social - 6:30 - 7:30 PM Dinner - 7:30 - 8:30 PM Presentations

**Cost** Dinner \$15.00 for members who register 48 hours prior to the event, \$20.00 for members who do not register 48 hours prior to the event and for non-members; \$5.00 for students.

**IEEE CONTINUING EDUCATION ON DEMAND**

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
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Mail a copy of your completed registration form along with your check payable to **IEEE CED SEMINARS** at the following address:

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**PAT ROGERS**  
 SOUTHWEST POWER / HUGHES SUPPLY CO.  
 425 BLUEBERRY STREET  
 HOUSTON, TX 77018  
[patricia.rogers@hughessupply.com](mailto:patricia.rogers@hughessupply.com)

Registration receipts will be available upon request at the seminars.

For a cancellation refund, telephone Pat Rogers by the Friday before the seminar at:

Phone: 713.696.9922  
 Fax: 713.696.9983  
 Email: [patricia.rogers@hughessupply.com](mailto:patricia.rogers@hughessupply.com)

IEEE Continuing Education on Demand Completion Certificate with Continuing Education Units (CEUs) is provided after receipt of both nightly questionnaires and seminar evaluation sheets.

Please direct seminar questions to Paul Barrett at 713.598.0790

Please check the IEEE Houston Section website for the latest schedule and course information.

<http://www.ieee-houston.org>

**IEEE CONTINUING EDUCATION ON DEMAND**

The purpose of IEEE Houston Section Continuing Education on Demand is to provide modern practical industrial power application topics that supplement the daily work activities of the practicing graduate electrical engineer.

The seminars are intended to stimulate further study and discussion for learning continuance throughout the working career. Topics apply to heavy industries: oil and gas, petro-chem, cogen, pulp and paper, etc.

Instructors are application engineers, manufacturing specialists and expert consultants who provide a blend of diverse engineering perspectives.

The cost of each seminar is \$70.00 for IEEE members. Non-members \$175.00. **The check must be received the Friday before the seminar start date.** "Pay at the door" is discouraged due to numerous "no-shows". If you have a special situation contact Paul Barrett (713) 598-0790. Signing up the week of the seminar does not guarantee seminar presentation documents or meals. **Any individual with special dietary needs MUST submit their registration by the Friday before the seminar start date.**

The following 2005-2006 seminar schedule defines the topics, dates and times. A course syllabus is available on request. Minimum class size is twenty for each seminar. Seating is limited and filled on an as received basis. Presentation documents are provided. A buffet is served from 5:00PM-6:00PM.

**Seminar Location 2006 - 2007**

**Jacobs Engineering**  
 5995 Rogerdale Road  
 Houston, TX. 77072



**2006-2007 REGISTRATION FORM**

Seminar Title	Code	Date	Amount
IEEE1584 Arc Flash Calculations	340	Oct. 3 / 4	\$
Design Considerations for Industrial UPS and DC Power Systems	807	Oct. 17/18	\$
Operational Voltage Assurance - LTC Tap Changers / Motor Bus Transfer	220	Oct. 31 Nov 1	\$
Insulation Coordination in Industrial Applications	315	Nov 14/15	\$
Substation Grounding	225	Feb. 6 / 7	\$
PMCS Considerations for Industrial Applications	730	Feb. 20/21	\$
MV & HV Apparatus Doble Testing	940	Mar. 6 / 7	\$
IEC Circuit Breakers	650	Mar. 20/21	\$
Motor Starting: Equivalent Circuits, Starter Types, Load Types, and Dynamics	620	Apr. 4 / 5	\$
IEEE 1584 Arc Flash Equipment Design ANSI & IEC	341	Apr. 17/18	\$
Total Paid:			\$

Enter amount for each seminar:

IEEE member early signup: \$ 70.00  
 Non-member registration: \$175.00

**Fall of 2006 IEEE Seminar Schedule**

**IEEE 1584 Arc Flash Calculations**

**Jim Babcock, SKM Systems Analysis, Inc.**  
**Roy Cossé, Powell Electrical systems, Inc.**  
 Oct. 3/5, 2006 6:00-8:50PM

Reviews NFPA 70E, arc flash fundamentals and related theories. Effective use of software tools, analysis & implementation of derived data. **[0.5 CEU]**

**Design Considerations for Industrial UPS and DC Power Systems**

**Matthias Dreier, Gutor Electronic Ltd - Switzerland**  
 Oct. 17/18, 2006 6:00-8:50PM

A detailed technical presentation on design/application considerations for industrial duty UPS systems and DC power systems. **[0.5 CEU]**

**Operational Voltage Assurance - LTC Controls and Motor Bus Transfer Technology**

**Tom Beckwith, Beckwith Electric Co. Inc.**  
 Oct 31-Nov. 1, 2006 6:00-8:50PM

An in-depth technical presentation on LTC controls and paralleling of power transformers; detailed presentation on technology of motor bus transfer schemes **[0.5 CEU]**

**Insulation Coordination in Industrial Applications**

**Dr. Kurt Ederhoff, V I Engineering**  
 Nov. 14/15, 2006 6:00-8:50PM

A technical study of basic fundamentals, theories and correlation strategies for protecting equipment from overvoltage damage and flashovers. **[0.5 CEU]**

**Spring of 2007 IEEE Seminar Schedule**

**Substation Grounding**

**Matt McBurnett, V I Engineering**  
 Feb. 6/7, 2007 6:00-8:50PM

Design principles, considerations and strategies for effective substation grounding. **[0.5 CEU]**



**IEEE**

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 Houston  
 Section**

**2006-2007**

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**PMCS Considerations for Industrial Applications**

**Randy Bouwense, GE Multilin - Automation**  
 Feb. 20/21, 2007 6:00-8:50PM

Technical presentation of basic, effective PMCS design considerations for industrial applications. **[0.5 CEU]**

**MV and HV Apparatus Doble Testing**

**Keith Hill, Doble Engineering Co**  
 March 6/7, 2007 6:00-8:50PM

A review of Doble testing techniques and procedures. Testing topics include power factor testing and Sweep Frequency Response Analysis (SFRA). **[0.5 CEU]**

**IEC Circuit Breakers**

**Roy Cossé, Powell Electrical systems, Inc.**  
 March 20/21, 2007 6:00-8:50PM

Reviews breaker basics, selection, system X/R and zero axis crossing. **[0.5 CEU]**

**Motor Starting: Equivalent Circuits, Starter Types, Load Types, and Dynamics**

**Robert Spiewak, PolAmex Eng. & Design SVC, Inc.**  
 April. 4/5, 2007 6:00-8:50PM

Review of induction and synchronous motor design, equivalent circuits for start and operation; starting, operating and breaking operating characteristics, load types, effective protection strategies. Review starting techniques, calculations, and comparison. **[0.5 CEU]**

**IEEE 1584 Arc Flash Equipment Design Considerations. ANSI & IEC Designs**

**Jim Bowen, Powell Electrical Manufacturing Co.**  
**Tom Malone, Areva T&D**  
 April 17/18, 2007 6:00-8:50PM

A technical review of IEEE 1584 compliant equipment designs from two perspectives, IEC & ANSI **[0.5 CEU]**

# Senior Members

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## Looking for Senior Member Nominations

READ THIS SECTION TO BECOME A SENIOR MEMBER IN THE IEEE.

A goal of our Region is to sponsor as many Senior Members as possible and I am asking your help. The IEEE criteria for Senior Member status is ten years of professional practice including five years of significant performance, and references. (See the nominator letter and application form for clarification on the IEEE website.) If you know an IEEE member who qualifies for Senior Membership, I would like you to nominate him or her by forwarding their nomination to one of the Houston Section Excom members. If you qualify and are not a senior member please reply to one of the Section Excom members. If your are retired and have met the criteria at one time lets get you nominated. Section meetings are the best networking tool to achieve Senior membership.

As an alternative process, you can direct the prospective Senior Member to one of the Houston Section Excom Members. We have a list of several Fellows and Senior Members which we can use for references. The Section will nominate all those qualified who provide a resume and significant performance vita.

Senior Membership in IEEE promotes the value of membership and enhances the status of the member. The is an achievement award lets honor our deserving members.

## IEEE Houston Section Computer Society Meeting

Friday, September 15, 2006 at 10:30 am

**Speaker:** Robert "Bob" Gezelter - Independent Consultant  
IEEE Computer Society Distinguished Visitor, His e-mail is [gezelter@rlgsc.com](mailto:gezelter@rlgsc.com)

**Title** Safe Computing in the Age of Ubiquitous Connectivity

**Abstract:** Today's workplace is anywhere there is connectivity. Many employees spend the majority of their working hours away from their offices, in an ad hoc composite of home offices, client and customer premises, and public spaces. Ubiquitous Internet access has accelerated this trend, with many parks, bookstores, and coffee shops acting as virtual extensions of the office. Employees are connected to their firm and its customers by a combination of wireless Internet access, Virtual Private Networks, wireless devices, and mobile telephones.

We will explore the privacy, security, and integrity issues raised by universal connectivity; and how technologies like wired and wireless networks, both public and private, can be used to un-tether employees from their desks while preserving the security and integrity of the systems they use. The potential for information disclosure and alteration, identity theft, misuse, and other dangers of the technology will also be explored.

Solutions will be applicable to all participants in the connected world: end-users; enterprises; access providers; or enterprises. Enterprise issues will be addressed from the emerging perspective of providing cyber-hospitality, in addition to the issues raised by providing remote access to one's own staff.

Date and Time: Friday, September 15, 2006, at 10:30 am Room: 232 PGH

Instructions on how to get to and around the UH Campus: <http://www.uh.edu/u maps/>

# Greetings from the IEEE Colombia Section

## Greetings from Colombia!

We want to share with the IEEE friends and members this important exhibition in the city of Houston:

### The Spirit of Ancient Colombian Gold

At The Museum of Fine Arts, Houston. On view through September 10, 2006 at the Caroline Wiess Law Building

The exhibition is organized by the Museo del Oro, Banco de la República, Bogotá, Colombia.

The exhibition focuses on the sublime objects created in gold by the Pre-Columbian cultures of Colombia over a period of 2,000 years, from around 500 B.C. to 1600 A.D.

<http://www.mfah.org/main.asp?target=exhibition&par1=1&par2=1&par3=320>

<http://www.mfah.org/images/art/art1248.jpg>

Thank you very much for your kind attention.

Sincerely,

Germán Cabuya Parra

Editor "Noticias Relevantes" IEEE Colombia Section

[www.ieee.org/colombia](http://www.ieee.org/colombia)

Tel. (571) 3238400 Ext. 2420 IEEE

Cel. (571)3103106704

## Call for IEEE Mentors!!!!

Topic: IEEE Mentoring Connection - an online program to foster mentoring relationships between IEEE members

Opening 14 July 2006, IEEE is offering its members the opportunity to participate in an online program which will facilitate the matching of IEEE members for the purpose of establishing a mentoring partnership. By volunteering as a mentor, individuals use their career and life experiences to help other IEEE members in their professional development. As a mentee, you lead your partnership by selecting your mentoring partner from among those who have volunteered to serve in this capacity. We ask that you review the time and effort commitment to the program to ensure a successful mentoring partnership.

Presently, IEEE is offering potential Mentors, like you, the opportunity to enter the program first. IEEE has partnered with The Training Connection, a vendor that has developed a web-based mentoring program to facilitate the matching process. Participation in the program is voluntary and open to all IEEE members above the grade of Student Member.

If you are interested, please go to <http://www.ieee.org/mentoring> for information on the roles and responsibilities of each mentoring partner, the program, as well as additional information on time and effort commitments. To access the online program site visit the IEEE Membership Benefits page listed under Core Benefits "New for 2006" at <http://www.ieee.org/web/membership/benefits/index.html>. This will then take you to the online mentoring program site. We encourage you to take advantage of the IEEE network of technical professionals and sign up for the online mentoring program today.

If you have any questions, please contact Cathy Downer, IEEE Mentoring Program Coordinator, at [c.downer@ieee.org](mailto:c.downer@ieee.org)

# IEEE USA News

Here's your monthly report from IEEE-USA on building careers and shaping public policy, from the editors of IEEE-USA Today's Engineer. The current version of Today's Engineer Online can always be found at:

<http://bmsmail3.ieee.org:80/u/3436/49386>

## IN THIS ISSUE:

- 1) IEEE-USA President's Message – Talk, and Action, on Innovation
- 2) Today's Engineer Online: Working on the \$100 Laptop
- 3) IEEE-USA's Services for Unemployed Members — How are We Doing?
- 4) IEEE Webinar Event: Ready, Set, Retire!
- 5) New Engineering Careers Brochure Unveiled for 11-13-Year-Old Students, Children's Museums
- 6) GAO Finds H-1B Visa Program Undercuts U.S. Workers
- 7) 360 Training, L&K International Division Offers IEEE Members a 10% Discount
- 8) IEEE-USA In the News: IEEE-USA President Argues Against Raising H-1B Cap in Magazine Op-Ed

### 1) IEEE-USA President's Message – Talk, and Action, on Innovation

Competing successfully in this new global environment is essential for our national and economic security and to ensure that the United States is able to create high-value jobs and maintain a vital national engineering capability. No one questions the seminal role that innovation plays in attaining this edge, yet somehow our innovation process has become mired in a confluence of factors. In his July column, IEEE-USA President Ralph Wyndrum discusses the innovation challenge and IEEE-USA's role. Read on at: <http://bmsmail3.ieee.org:80/u/3437/49386>

### 2) IEEE-USA Today's Engineer Online: Working on the \$100 Laptop

Mary Lou Jepsen's humanitarian mission to develop and mass produce a \$100 laptop to be used by the world's children is nearing fruition. The ambitious project's CTO describes how a 10-minute interview with MIT Media Labs' Nicholas Negroponte for a faculty position turned into a three-hour discussion about the need for a low-cost computer and the sort of organization that could make it happen. Jepsen shares a progress report on the organization and the computer that promises to transform education around the globe.

Read this article and others at: <http://bmsmail3.ieee.org:80/u/3438/49386>

### 3) IEEE-USA's Services for Unemployed Members — How are We Doing?

The IEEE offers a number of resources to aid U.S. IEEE members during periods of unemployment or involuntary career transition, including job listings, insurance, reduced membership dues, quick-response workshops, consultants networks and fee surveys, online legislative action center, local Section and PACE Network presentations, the IEEE-USA Salary Service and more. IEEE-USA needs your help evaluating its career resources for unemployed U.S. IEEE members. If you are or have recently been unemployed: (1) Were you aware of the the aforementioned resources; (2) Did you make use of them (if yes, which ones); and (3) How was your experience? Please send your candid responses to <mailto:ieeusa@ieee.org>. All comments will be kept confidential.

### 4) IEEE Webinar Event: Ready, Set, Retire!

The IEEE Financial Advantage Program, in partnership with Grogan Advisory Services, is offering a retirement strategies webinar on Friday, 14 July 2006. The free webinar will address critical retirement planning issues, including: how to avoid common IRA mistakes; in-service distributions; early retirement options; legacy planning; and tax-efficient income streams. Space is limited to the first 200 registrants.

For more information, view the webinar flyer at: <http://bmsmail3.ieee.org:80/u/3439/49386>

To register, fill out the online registration form at: URL to come <http://bmsmail3.ieee.org:80/u/3440/49386>

### 5) New Engineering Careers Brochure Unveiled for 11-13-Year-Old Students, Children's Museums

IEEE-USA has unveiled a new six-panel engineering careers brochure that is designed for 11-13-year-old, sixth-to-eighth-grade U.S. students. Titled "My Science, My Math, My Engineering! How Am I Ever Going to Use This Stuff in the Real World?," the brochure: (1) lists courses youngsters should take to get ready for engineering; (2) shows how they can figure out "if engineering is interesting"; and (3) asks "what could \*you\* do if you were an engineer?" In one of the brochure panels, James Michener, the novelist and short story writer, is quoted: "Scientists dream about doing great things, engineers do them."

For more information, visit: <http://bmsmail3.ieee.org:80/u/3441/49386>

## IEEE USA News - Cont

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To view a PDF online of the brochure, visit: <http://bmsmail3.ieee.org:80/u/3442/49386>

### 6) GAO Finds H-1B Visa Program Undercuts U.S. Workers

According to IEEE-USA, a new General Accountability Office (GAO) report affirms what independent observers and the government already know: the H-1B program has little oversight, and statutory changes are necessary to ensure the program serves the national interest. Read more at: <http://bmsmail3.ieee.org:80/u/3443/49386>

### 7) 360 Training, L&K International Division Offers IEEE Members a 10% Discount

The IEEE has continued its partnership with 360 Training, L&K International Division to provide members access to online learning based on the generation, transmission, distribution and safety sectors of the power industry. Online courses are 100 percent online and self-paced, featuring digitized video presentations and interactive quizzes. You can login and return to your last point of study at any time. Courses are geared to help you improve your plant operations, profitability and productivity. Each interactive course takes about four hours to complete. Students taking courses can interact with consultants via phone and e-mail. Since 1971, L&K International Training has provided technical skills training to the electric power industry around the globe. For more information, to access courses by 360 Training, L&K International Division, or to review other partners, visit <http://bmsmail3.ieee.org:80/u/3444/49386>

### 8) IEEE-USA In the News: IEEE-USA President Argues Against Raising H-1B Cap in Magazine Op-Ed

Arguing against raising the H-1B visa cap in "Optimize" magazine, IEEE-USA President Dr. Ralph Wyndrum said Congress "should pass legislation that protects U.S. technology workers from displacement by foreign professionals, [and] ensures market wages and other workplace protections for H-1B holders."

Wyndrum cites numerous government reports that have found major flaws in the H-1B program, and research by the "San Jose Mercury News." The newspaper concluded, "the program gives U.S. citizens virtually no protection from being replaced by a foreign worker," and "employers are not required to prove American workers were not available for those jobs." Stuart Anderson, executive director of the National Foundation for American Policy, argues for raising the annual H-1B quota in the dueling op-eds.

See <http://bmsmail3.ieee.org:80/u/3445/49386>.

IEEE-USA was also cited in a recent H-1B article by the "Los Angeles Times." In addition, IEEE-USA Vice President Ron Hira spoke about L-1B Visa abuses in "HR Magazine."

See L.A. Times: <http://bmsmail3.ieee.org:80/u/3446/49386>.

See HR Magazine: <http://bmsmail3.ieee.org:80/u/3447/49386>.

For more IEEE-USA in the News items, go to <http://bmsmail3.ieee.org:80/u/3448/49386>.

### REMINDERS, RESOURCES & RECOGNITIONS

What's New @ IEEE-USA Eye on Washington <http://bmsmail3.ieee.org:80/u/3450/49386>

For the latest postings on the IEEE Job Site <http://bmsmail3.ieee.org:80/u/3451/49386>

IEEE-USA In the News <http://bmsmail3.ieee.org:80/u/3452/49386>

IEEE-USA Promoting Public Awareness of Engineering brochure (PDF) <http://bmsmail3.ieee.org:80/u/3453/49386>

What's New @ IEEE Newsletters <http://bmsmail3.ieee.org:80/u/3454/49386>

### Managing Your Subscription to IEEE-USA Today's Engineer E-mail Update:

IEEE-USA Today's Engineer E-mail Update is prepared monthly in Washington, D.C., by the staff of IEEE-USA Today's Engineer, a multimedia source for helping the IEEE's U.S. members build careers and shape public policy. U.S. members who have provided an e-mail address are automatically subscribed to the Today's Engineer Update as a member benefit. The Today's Engineer Update is mailed in accordance with the IEEE E-mail Policy at: <http://elecomm.ieee.org/email-policy.shtml> and IEEE E-mail Acceptable Use Practices at: <http://elecomm.ieee.org/email-aup.shtml>

## IEEE Career Alert

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IEEE CAREER ALERT for 5 Jul 2006

Your weekly report on jobs, education, management, and the engineering workplace, from the editors of

IEEE Spectrum

IN THIS ISSUE:

1. How to Diagnose a Company's Culture
2. Vacation Time: How to Leave Your Work at the Office
3. How Important Are Certifications?
4. Australia Surveys the Popularity of IT Careers

### SPONSORED ANNOUNCEMENT

Electrical Engineering Career Placement Services

At Aerotek(r) Contract Engineering, we take the time to really know you. To find the person behind the resume. Hey, we already know you're smart. But can you be a leader? Can you inspire? Can you be inspired? Our 20 years of success are proof — the better we know you, the better we can place you. Aerotek...People. Fit. Perfectly. 1-800-524-1537. <<http://engineering.aerotek.com/jobs-employment/?source=IEEE-CA>>

#### 1. How to Diagnose a Company's Culture

You've been invited to interview for a job that seems a perfect fit for you. But a dream job could turn out to be a nightmare if you and the company are not a good match. You can ask the interviewer about things that are

important to you, but a Wall Street Journal article provides some tips for sizing up a company's office culture on your own. If the hiring process drags on, it could be a sign of an internal power struggle. One person

interviewed for the article says that, "If you have 10 interviews [for the same job] in three months, [you can conclude that] decision making at the company is a tortuous process." And seeing the handwriting on the wall is not just a cliché. The article advises prospective employees to "Look to see if there are pictures of families, especially children, in [the] offices."

This is a signal of how companies view their employees' lives outside the office. Read on at:

<[http://www.careerjournaleurope.com/jobhunting/strategies/20050203-wsj.html?cjepos=home\\_whatnews\\_minor](http://www.careerjournaleurope.com/jobhunting/strategies/20050203-wsj.html?cjepos=home_whatnews_minor)>

#### 2. Vacation Time: How to Leave Your Work at the Office

Your vacation is your reward for months of hard work and is meant to recharge your batteries and help you avoid burnout. But a recent survey reported that nearly one-fourth of U.S. workers have succumbed to the ugly

hybrid known as the working vacation. Worried that things are going awry in their absence, or that co-workers are conspiring against them, they keep one foot on the beach and one in the office. But a careerbuilder.com article provides seven tips for enjoying your time off. One way to avoid worrying about work piling up is cross-training a co-worker so he or she can take over your duties in your absence. And you can return the favor when they are away. More tips for a work-free vacation are at:

<<http://www.careerbuilder.com/JobSeeker/careerbytes/CBArticle.aspx?cbsid=d20f46600cd4c878e03df0f0dcf1cc1-205429436-W7-2&articleID=515>>

## IEEE Career Alert -Cont

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### 3. How Important Are Certifications?

IT professionals often wonder whether technology certifications will enhance their standing at their companies and in the field at large. Or more specifically, they worry that someone with a certification they lack will have a leg up in the hiring or promotion process. Hiring managers interviewed for a Computerworld article acknowledge that certifications provide an advantage, but usually in situations where two or more candidates have equivalent job experience. A candidate with a laundry list of certifications but only a two-year track record of applying this knowledge is unlikely to beat out the candidate with a successful ten-year track record and practically no certifications. Read on at: <<http://www.computerworld.com/action/article.do?command=viewArticleBasic&taxonomyName=careers&articleId=9001413&taxonomyId=10>>

### 4. Australia Surveys the Popularity of IT Careers

A recent report produced by the Australian government says, “There is an urgent need to address the negative perception of IT careers in [Australia] as it is turning many young people away from considering a career in this dynamic sector.” The report found that a big part of the misperception about IT careers was the lack of access to information about the availability of IT jobs. The ICT Skills Foresighting Working Group’s report, “Building Australian ICT Skills,” is at: <[http://www.dcita.gov.au/ie/ict\\_skills](http://www.dcita.gov.au/ie/ict_skills)>

### SPONSORED ANNOUNCEMENT

Join General Dynamics C4 Systems for an Engineering Open House on Tuesday, July 18th & Wednesday, July 19th, 2PM - 7PM (both days) at the Dallas/Fort Worth Airport Marriott, 8440 Freepoint Parkway, Irving, Texas.

For a complete list of openings and requirements we will be interviewing for, visit <<http://www.gdc4s.com/careers>> and submit your resume. Please select the “Job Fair — Dallas — July 2006” as the source.

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# IEEE Career Alert

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IEEE CAREER ALERT for 12 Jul 2006

Your weekly report on jobs, education, management, and the engineering workplace, from the editors of IEEE Spectrum

## IN THIS ISSUE:

1. Are You Ready for Retirement?
2. Keeping Your Salary History in the Past
3. IT Managers Must Maintain Technical Chops
4. Crisis in India's Engineering Education Programs

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### 1. Are You Ready for Retirement?

After years of toil, you're finally ready to consider retirement. Whether you're daydreaming of a life of leisure and adventure, or simply a less demanding work schedule, this article from Today's Engineer is a must read. It offers the most important bit of advice for handling your retirement savings (secure the services of a reputable financial advisor) and other tips such as reducing or eliminating your credit card debt before calling it quits. Read on at:

<<http://www.todaysengineer.org/2006/Jul/retirement.asp>>

### 2. Keeping Your Salary History in the Past

It is well known that companies routinely ask about applicants' salary histories and use them to determine the salary they will offer. But a Wall Street Journal article says that divulging how much you earn could probably hurt you. Any answer too far out of the range the recruiter has in mind could doom your candidacy because it suggests to them that despite what your resume says, you are either over- or underqualified.

The article offers tips for delaying the point at which you answer the question or avoiding it altogether. These include answering the question with a question of your own, such as what is the budgeted salary range of the job. You can find all these tips at:

<<http://www.careerjournal.com/columnists/theorypractice/20060201-theorypractice.html>>

### 3. IT Managers Must Maintain Technical Chops

What happens to a work team when one of its key members leaves? Well, that depends on whether the team's manager has kept up with the technical aspects of the job and is prepared to step in. In this article from Computerworld, one IT manager notes that the costs in time and money of obtaining certifications relevant to the tasks regularly handled by his team are a pittance com-

## IEEE Career Alert -Cont

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pared with what it would cost to hurriedly hire a replacement or to deal with a dip in productivity while an important role goes unfilled.

Read on at: <<http://www.computerworld.com/action/article.do?command=viewArticleBasic&taxonomyName=careers&articleId=112319&taxonomyId=10>>

### 4. Crisis in India's Engineering Education Programs

India faces a growing problem related to the quality of engineering education its universities provide. While the government estimates that there are now roughly 60,000 out-of-work engineers there, the country is experiencing a shortage of qualified technical personnel. "We have a large number of engineers, but we also produce many unemployable ones," says Pratap Bhanu, president of India's Center for Policy Research and a member

of the National Knowledge Commission. The problem most often cited by recruiters is the lack of standards that are accepted by industry. The imprimatur of India's main accreditation body for engineering education is

considered meaningless by industry. Unlucky graduates can't find jobs, and those who are more fortunate are hired and then receive extensive training from their employers. Read on at:

<[http://www.hindustantimes.com/news/181\\_1681393.0035.htm](http://www.hindustantimes.com/news/181_1681393.0035.htm)>

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# IEEE Career Alert

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IEEE CAREER ALERT for 26 Jul 2006

Your weekly report on jobs, education, management, and the engineering workplace, from the editors of IEEE Spectrum

## IN THIS ISSUE:

1. Is It Time to Leave Your Job?
2. Righting Your Writing
3. UK Businesses Miss R&D Tax Breaks
4. IT Students Need to Get Down to Business

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<<http://engineering.aerotek.com/jobs-employment/?source=IEEE-CA>>

### 1. Is It Time to Leave Your Job?

When you look around your office, do you see signs telling you to head for the door? A Wall Street Journal article notes that while there is no surefire way to know when it's time to start looking elsewhere, there are four red flags that you shouldn't ignore. Among these is a sense that the company's financial picture is hazy. A former account manager at a small marketing and communications firm near Chicago became wary when the company began missing payments and began to lay off employees. When her paycheck bounced, she immediately began her search for a new job. Find out about the other red flags at:

<<http://www.careerjournal.com/myc/climbing/20060221-needleman.html>>

### 2. Righting Your Writing

You may never write a book, but the advice offered in a Chronicle of Higher Education article titled "What Are Book Editors Looking for?" is useful for the writers of scholarly papers, magazine articles, and even speeches. According to the author, an editor at a large book company, you should identify, and continually remind yourself of, your thesis. In other words, what is it about? Just as important is creating a narrative structure that helps you get your point across while keeping the reader or listener engaged. These and the other tips for becoming a better writer can be found at:

<<http://chronicle.com/jobs/news/2006/07/2006072101c/careers.html>>

### 3. UK Businesses Miss R&D Tax Breaks

The UK government may indeed meet its goal of spending 2.5 percent of the nation's gross domestic product on R&D by 2014. But one tactic it has employed in an effort to increase R&D has thus far failed to reach its intended targets. According to a recent survey by research firm Deloitte, 55 percent of small and medium sized enterprises eligible for a government tax break related to R&D expenditures have yet to apply for the tax incentive. The survey also revealed that the heads of

## IEEE Career Alert -Cont

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nearly one-fourth of eligible businesses don't even know the incentive program exists. "It's ironic that the firms that can benefit most are the ones that are missing out," says David Cobb, head of R&D tax services at Deloitte. "Any company developing new products, materials, processes or services may be eligible to claim tax relief." Read on at:

<<http://www.theengineer.co.uk/Articles/295246/Small%20firms%20missing%20RD%20tax%20breaks.htm>>

#### 4. IT Students Need to Get Down to Business

The next generation of computer science graduates will not have the business background to fill rapidly changing IT jobs. So say educators who acknowledge that having a solid technical background is not enough. "Maybe part of our problem is we're not educating people correctly," says Ken Rau, an adjunct professor at the University of North Carolina Wilmington who teaches a management of information systems class. "Graduates are quickly thrown into managing contracts and dealing with [the legal ramifications of the technologies they implement]—jobs for which they haven't been adequately trained." Rau says his class is often the only course on management issues that his students will ever take.

There is definite demand for job candidates with technical and business skills. Graduates of a computer science and business program at Lehigh University in Pennsylvania — said to be the only one of its kind in the United States — are highly sought after, says a professor in the program. "They all have offers; most have multiple offers." Still, enrollment in the program is at about half of capacity. Read on at:

<<http://www.networkworld.com/research/2006/071006-tech-identity-crisis-side2.html>>

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