



# THE POCKET SCOPE



The Institute of Electrical and Electronics Engineers, Inc.

Volume 56, Number 6

February 2006

## SCOPE NOTES

### February Houston Section News

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

**When:**  
Thursday, February 23, 2006  
6:00 - 6:30 p.m. Social  
6:30 - 7:30 p.m. Dinner  
7:30 - 8:30 p.m.

**Cost:**  
\$10.00 - 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

Our next section meeting is on February 23, 2006, at the HESS building. Don Bammes of Strongwell-Quazite will give a presentation on new ANSI/NEC 2005 code changes with regard to Underground Enclosures. We are looking forward to an interesting presentation, pay close attention to our website ([www.ieee-houston.org](http://www.ieee-houston.org)) for future announcements.

The Houston Section CED program is back in full swing starting this month with several courses. If there is subject material that you would like to see included in our CED program, please email the suggestions to Paul Barrett ([paulbarrett@double-e-engineering.com](mailto:paulbarrett@double-e-engineering.com)) for consideration.

The Houston Section will be manning booths at the SWEE-April 2006 and OTC-May 2006 this year promoting the IEEE. We need volunteers to help us man these booths and promote the IEEE. If you are interested contact P.J. Donner ([PJDonner@ieee.org](mailto:PJDonner@ieee.org)) or one of the other Excom members.

The IEEE Houston and Galveston Bay Sections will be holding a joint section meeting with Congressman Tom Delay to discuss the following topics pertinent to IEEE members.

- Federal Government's Research and Development Budget
- NASA Funding
- H1-B and L-1 Visas
- Offshore Outsourcing

The purpose of this meeting is to discuss the state of the engineering profession and high-tech economy in Texas with respect to the above mentioned projects. This will be a unique opportunity to have a candid conversation between Congressman Delay and our local IEEE community. *This meeting is only open to IEEE members and their spouses. RSVPs will be required.* If you are interested in attending an evening meeting with Congressman Tom Delay on Monday, March 6, 2006 between 6-8 PM at

## Chair Message-Cont.

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the HESS Club, please RSVP to Donald G. Dunn by February 20, 2006. He can be reached at [donald.dunn@ieee.org](mailto:donald.dunn@ieee.org) or 281-862-5533.

The Houston Section is seeking new volunteers, as you all are aware the IEEE is a volunteer organization. If you are interested in becoming active, please take the time to consider volunteering in some capacity; the return on time invested is well worth it. Contact one of the individuals within the section Excom committee and attend one of our planning meetings. The Excom meets at the HESS building the 4<sup>th</sup> Thursday of each month with the exception of a few summer months. We have many opportunities for you to contribute and to develop a larger network of professionals from which to draw.

As always we look forward to seeing you at our meetings and hope to provide opportunities for you to expand your activities within the IEEE Houston Section. All the section Excom members are available to help at any time.

Donald G. Dunn  
**Houston Section Chair**

## Houston Section Meeting

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Thursday, February 23, 2006

### Topic:

The presentation will cover a variety of information with regard to Underground Enclosures and the new ANSI/NEC 2005 code changes.

### Speaker: Don Bammes, Strongwell-Quazite

Received a Bachelors Degree from Ottawa University, a MBA from the University of Phoenix, and a Masters in Marketing from Webster University, St. Louis, MO. He has been employed by Strongwell-Quazite as a Regional Sales Manager. Prior to that he was with MP Husky Cable Tray also as a Regional Sales Manager and prior to that with B-Line Systems as their Product Manager Bolted Framing as well as Regional Sales Manager Electrical Division.

**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**

**2005-2006 REGISTRATION FORM**

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
 \_\_\_\_\_ City/State:  
 Zip: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Telephone: \_\_\_\_\_

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

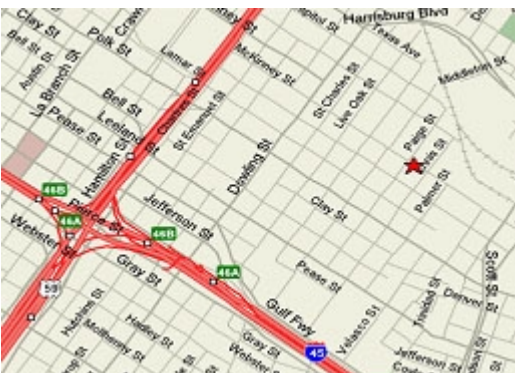
Instructors are application engineers, manufacturing specialists and expert  
 consultants who provide a blend of diverse engineering perspectives.

The cost of each seminar is \$70.00 for IEEE members. Non-members \$140.00.  
 The **check must be received the Friday before** the seminar start date. "Pay  
 at the door" is discouraged due to many "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.

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 2005 - 2006

**Summit Electric**  
**2929 McKinney**  
**Houston, TX. 77003**



Seminar Title	Code	Date	Amount
Grounding Techniques, Industrial Power Sys	402	Oct. 4 / 5	\$
Electrical Safety in the Workplace	921	Oct. 18/19	\$
API Motor Standards Update	620	Nov. 1/ 2	\$
Protective Relay 5 ABB Relays	315	Nov 15/16	\$
HV Substations For Industrial Applications	125	Feb. 7/ 8	\$
MV Cable Considerations Thru 69kV	130	Feb. 21/22	\$
Protective Relaying for Large Generators	306	Mar. 7/ 8	\$
IEC Standards for Large Power Transformers	950	Mar. 21/22	\$
IEEE 1584 Arc Flash Calculations	340	Apr. 4 / 5	\$
Residual Bus Auto Transfer Schemes	140	Apr. 18/19	\$
Total Paid:			\$

Enter amount for each seminar:

IEEE member early signup: \$ 70.00  
 Non-member registration: \$140.00

**Fall of 2005 IEEE Seminar Schedule**  
**Grounding Techniques—Industrial Power Sys (402)**

**Jack Woodham, Jedson Engineering**  
**Tony Locker, Post Glover Resistors**  
 Oct. 4/5, 2005 6:00-8:50PM  
 Reviews and explores the four types of grounding for industrial power systems 480 – 4160 V. **[0.5 CEU]**

**Electrical Safety in the Workplace (921)**  
**Danny Ligget, E.I. DuPont Co.**  
 Oct. 18/19, 2005 6:00-8:50PM  
 A detailed focus is on electrical workplace safety coupled with comprehensive safety training. **[0.5 CEU]**

**API Motor Standards Update (620)**  
**David Rains, WEG & Doug Gehring, Siemens**  
 Nov. 1/2, 2005 6:00-8:50PM  
 An overview of large motor design considerations for compliance with latest API 541 and API 546. Review and comparison of IEEE 841 and API 541. **[0.5 CEU]**

**Protective Relay 5 – ABB Relays (315)**  
**Robert Wilson, ABB**  
 Nov. 15/16, 2005 6:00-8:50PM  
 Review of ABB protective relay design fundamentals and special application considerations. **[0.5 CEU]**

**Spring of 2006 IEEE Seminar Schedule**  
**HV Substations for Industrial Applications (125)**  
**Allen Xi & Charles Pulay, Burns & McDonnell Engrs**  
 Feb. 7/8, 2006 6:00-8:50PM  
 An overview of industrial substation design considerations, layout, protection, grounding and controls. Testing and commissioning considerations. **[0.5 CEU]**



**IEEE**  
**Houston**  
**Section**

**2005-2006**

**Continuing**  
**Education**  
**On Demand**



**MV Cable Considerations thru 69 KV (130)**  
**H.R. Stewart HRS Consulting**  
 Feb. 21/22, 2006 6:00-8:50PM  
 Review of design application considerations related to MV power cable projects. **[0.5 CEU]**

**Protective Relaying for Large Generators (306)**  
**Wayne Hartman, GE Multilin**  
 March 7/8, 2006 6:00-8:50PM  
 Reviews large generator design characteristics, application problems and reliable protective schemes. **[0.5 CEU]**

**IEC Standards for Large Power Transformers (950)**  
**Tom Malone & Martyn Hildreth. Areva T&D**  
 March 21/22, 2006 6:00-8:50PM  
 Detailed review of current IEC standards related to large power transformers. **[0.5 CEU]**

**IEEE 1584 Arc Flash Calculations (340)**  
**Jim Bowen, Powell Electrical Manufacturing Co. & Daleep Mohla, DCM Consulting**  
 April. 4/5, 2005 6:00-8:50PM  
 A two part study focuses on NFPA 70E flash hazard analysis requirements and IEEE 1584 formulas to satisfy 70E requirements. **[0.5 CEU]**

**Residual Bus Auto Transfer Schemes (140)**  
**Roy Cosse, Powell Electrical Systems Inc. & Robert Spiewak, PolAmex Engineering**  
 April 18/19, 2005 6:00-8:50PM  
*A focused review of the residual bus auto transfer schemes. examples, why they work and do not work. Traditional and modern applications.* **[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 Officer Nominations

### EXECUTIVE OFFICERS NOMINATIONS FOR 2006

The following Houston Section members have been nominated by the Nominations Committee to serve as Executive Officers during the year 2006

**Past Chairman - Scott Ballew**  
**Chairman - Donald Dunn**  
**Vice-Chairman - Polo Gutierrez**  
**Secretary - Justin McCaskill**  
**Director - Charles Benard**  
**Treasurer - Gil Dolor**

Be sure to attend the December 1, 2005, IEEE Houston Section Meeting to participate in the election of the Officers. Nominations for these positions can also be made from the floor that evening.

The members of the Nominations Committee were: Gil Dolor, Justo Benitez and Dwayne Lowry.

# Protective Relay Conference

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59<sup>TH</sup> ANNUAL CONFERENCE FOR PROTECTIVE  
RELAY ENGINEERS  
Texas A&M University  
College Station, Texas  
April 4-6, 2006

The Planning Committee of the 59th Annual Conference for Protective Relay Engineers invites you to attend the conference at Texas A&M University on April 4-6, 2006. The Protective Relay Conference provides a forum for engineers to discuss protection technology and related subjects. Both tutorial presentations on fundamental concepts and papers on new technology are included. The program will include the following:

- ◆ New protection equipment descriptions
- ◆ Relay application ideas and new concepts
- ◆ Case studies and “horror stories” – when the relays worked and when they didn’t

#### Registration Information:

Pre-Registration: \$280 (begins Monday, January 9, 2006)  
After Monday, March 6, 2006: \$320

Manufacturers: For hospitality suites, please contact Lydia Godfrey at the College Station Hilton and Conference Center at (979) 694-4903.

#### Special offerings:

In conjunction with the 59<sup>th</sup> Annual Conference for Protective Relay Engineers special pre-conference offerings are available Monday, April 3, 2006, including a tutorial, ethics seminar, and manufacturers’ presentations. Please see the website for more details.

This conference offers ***Continuing Education Credits***.

**Website:** <http://engineering.tamu.edu/prorelay/>

For Registration: Ms. Sharon Loe  
Conference Registration  
238 WERC, 3128 TAMU  
Texas A&M University  
College Station, TX 77843-3128  
Phone: (979) 845-7912  
Fax: (979)458-1139  
[s-loe@tamu.edu](mailto:s-loe@tamu.edu)

For Information: Dr. B. Don Russell  
Regents Professor  
Department of Electrical & Computer Engineering  
Texas A&M University  
College Station, TX 77843-3128  
(979) 845-7912

# IEEE USA News

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News from IEEE-USA

1828 L Street N.W., Suite 1202, Washington, D.C. 20036-5104

Former NSF Deputy Director to Receive IEEE-USA Distinguished Public Service Award

WASHINGTON (12 January 2006) — IEEE Fellow Dr. Joseph Bordogna, former deputy director of the National Science Foundation (NSF), will be honored with the IEEE-USA Distinguished Public Service Award at the IEEE-USA Leadership Workshop on 4 March in St. Louis. He is one of 15 IEEE-USA award recipients.

Bordogna is being recognized “for visionary leadership in promoting multidisciplinary approaches to national research priorities and for his support of the engineering profession as assistant director for engineering and deputy director of the National Science Foundation.” Bordogna, who resigned from NSF last June and returned to the University of Pennsylvania as the Alfred Filtler Moore Professor of Engineering, was the longest-serving deputy director in NSF history. He joined the agency in 1991 as head of its Directorate for Engineering, and was appointed acting deputy director in 1996. Three years later, he was named deputy director by former President Bill Clinton. Bordogna served as 1998 IEEE president.

Eta Kappa Nu, the honor society for electrical and computer engineers, selected Bordogna to receive its Eminent Member Award in April 2005. The award is the society’s highest honor, given only to those whose achievements and leadership in electrical and computer engineering have resulted in significant benefits to humankind.

IEEE-USA award recipients are recognized for their professionalism and technical achievements, as well as literary contributions to public awareness and understanding of the engineering profession in the United States.

IEEE-USA’s distinguished awards are administered under its Awards and Recognition Committee and approved by the IEEE-USA Board of Directors. For more information, visit <http://www.ieeeusa.org/volunteers/committees/awards/>, or contact Sandra Kim at [sandra.kim@ieee.org](mailto:sandra.kim@ieee.org). Nominations are being accepted for the 2006 awards. The deadline is 31 July 2006.

For more on the 2006 IEEE-USA Leadership Workshop, go to <http://www.ieeeusa.org/calendar/conferences/2006workshop/default.asp>.

Here’s the complete list of 2005 IEEE-USA award recipients:

Professional Awards

## DISTINGUISHED PUBLIC SERVICE AWARD

Joseph Bordogna

For visionary leadership in promoting multidisciplinary approaches to national research priorities and for his support of the engineering profession as assistant director for engineering and deputy director of the National Science Foundation

## PRECOLLEGE EDUCATION COMMITTEE TEACHER-ENGINEER PARTNERSHIP AWARD

James Jensen and Robert Cornacchioli

For exemplary dedication and outstanding achievement in promoting engineering activities in precollege education

## CITATION OF HONOR

Clifford Lau

For educating congressional staff about technology issues in legislation through the Congressional Research and Development Caucus

Thomas F. Rogers

For contributions to the IEEE-USA Committee on Transportation and Aerospace Technology, and for implementing IEEE-USA’s federal advocacy effort in space and aerospace policy

Ralph W. Russell, II

## IEEE USA News - Cont

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For promotion of engineering to young people through IEEE's emeritbadges.org program at the National Scout Jamboree

Martin M. Sokoloski

For long-term efforts on behalf of IEEE-USA, and for development of the Congressional Research and Development Caucus

### DIVISIONAL PROFESSIONAL LEADERSHIP AWARD

Guruprasad Madhavan

For innovative student leadership in the IEEE's Engineering in Medicine and Biology Society and outstanding professional contributions to IEEE periodicals in Division X

### REGIONAL PROFESSIONAL LEADERSHIP AWARD

Ronald A. Tabroff

For efforts in promoting PACE activities within Region 1

Ralph D. Painter

For promoting and developing teacher in-service training in support of providing technology experiences to young people in Region 3

Edward G. Perkins

For tireless efforts in developing programs for career management leadership for engineers in Region 6

### PROFESSIONAL ACHIEVEMENT AWARD

Linda Bailey Hayden

For outstanding accomplishments in cultivating student interests in engineering and supporting career development

Srinivas Katkoori

For outstanding accomplishments in cultivating student interests in engineering and providing hands-on engineering experiences for students

Technical Award

### HARRY DIAMOND MEMORIAL AWARD

G. Clifford Carter

For distinguished technical contributions and exceptional engineering leadership in the field of sonar signal processing Literary Award

### AWARD FOR DISTINGUISHED LITERARY CONTRIBUTIONS FURTHERING PUBLIC UNDERSTANDING OF THE PROFESSION

C. Stewart Gillmor

For his biography, Fred Terman at Stanford, illustrating the importance of electrical and electronics engineering, and the contributions of this transformative engineer

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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Contact: Chris McManes

IEEE-USA Senior Public Relations Coordinator

Phone: +1 202 530-8356

E-Mail: [c.mcmanes@ieee.org](mailto:c.mcmanes@ieee.org)

## IEEE USA in Action Update

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NEWS from IEEE-USA

1828 L Street, N.W., Suite 1202, Washington, D.C. 20036-5104

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.

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>.

## IEEE USA News

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NEWS from IEEE-USA

1828 L Street, N.W., Suite 1202

Washington, D.C. 20036-5104

IEEE-USA Commends Sens. 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 21st 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: + 1 202 530-8356

E-Mail: [c.mcmanes@ieee.org](mailto:c.mcmanes@ieee.org)

# IEEE CareerAlert

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IEEE CAREER ALERT for 13 Jan 2006

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

IN THIS ISSUE:

1. Wrangle a Raise
2. A More Accessible Education
3. Your Career, Take 2
4. How to Keep Your IT Job

## 1. Wrangle a Raise

Want to earn more cold hard cash? Start by making a list of the cold hard facts. If you can prove to your boss that you've made tangible contributions to the company, Forbes magazine explains, you have a better shot at a raise. You also raise your raise chances by negotiating in a thoughtful and professional way. For instance, don't ambush your boss as soon as she walks in the door on Monday morning — she probably needs to attend to more pressing matters than your paycheck. For more pointers check out:

<[http://www.forbes.com/work/careers/2006/01/04/careers-work-employment-cx\\_sr\\_0105bizbasics.html](http://www.forbes.com/work/careers/2006/01/04/careers-work-employment-cx_sr_0105bizbasics.html)>

## 2. A More Accessible Education

Pursuing a graduate research degree poses unique challenges. That's especially true for students with disabilities. For instance, deaf students may face difficulties because sign language doesn't always include gestures for specialized scientific vocabulary. Science magazine highlights a new resource for both disabled graduate students and their professors: Premia, a website run by the University of Newcastle in Great Britain. Premia provides detailed advice on negotiating conferences, funding, exams, and more. Read on at:

<[http://sciencecareers.sciencemag.org/career\\_development/issue/articles/2006\\_01\\_06/a\\_new\\_resource\\_for\\_disabled\\_researchers](http://sciencecareers.sciencemag.org/career_development/issue/articles/2006_01_06/a_new_resource_for_disabled_researchers)>

## 3. Your Career, Take 2

Maybe you can't teach an old dog new tricks, but you can teach an engineer a new career. According to the Wall Street Journal, professionals can change course without wreaking havoc on their families or finances. You can attend school part-time, or you can bypass a degree by switching to a job that builds on skills you already have. You can even change careers without changing companies by offering to take on new responsibilities for your current employer. For more transition tips check out:

<<http://www.careerjournaleurope.com/jobhunting/change/20060105-capell.html>>

## 4. How to Keep Your IT Job

The IT manager of tomorrow won't just reset passwords, according to Ireland's Silicon Republic. He or she will have to get involved in a company's core business: making money. As traditional IT departments shrink, IT professionals need to show that they're versatile employees who understand how technology drives profit. Find out what top executives have to say at:

<<http://www.siliconrepublic.com/news/news.nv?storyid=single5861>>

## IMPORTANT ANNOUNCEMENT

The IEEE Job Site, available exclusively to IEEE members, can help you locate career opportunities easily and confidentially. Just complete a profile of your qualifications and requirements, and you'll be notified via email when a suitable job becomes available. IEEE Job Site was named one of the top online recruitment sites by Weddle's Guide to Employment Web Sites. And top employers know that IEEE members are the most qualified electrotechnology and information-technology professionals in the world. Take a few minutes to register with the IEEE Job Site and check out your career options today!

<<http://www.ieee.org/jobs>>

IEEE Spectrum, the flagship magazine of the Institute of Electrical and Electronics Engineers, read by more than 360,000 people worldwide. You'll find IEEE Spectrum's homepage at <<http://www.spectrum.ieee.org>> for more information on subscribing to other

## IEEE USA EYE on Washington

The latest issue of IEEE-USA's Eye on Washington newsletter is now available on-line. For complete text and links, visit <http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp>

The issue includes the following:

### 1) CAPITOL HILL WATCH

<http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp#capitolhillwatch>

109th Congress, 2nd Session: What's Ahead in 2006? - January will be a month with little congressional activity. The Senate has returned to hold Supreme Court confirmation hearings on the nomination of Samuel Alito. The

House does not return to session until 31 January, the evening of the State of the Union address.

It shouldn't, but the fact that mid-term elections occur this November may dictate congressional behavior this year. One of the casualties? Social security reform. Despite being a cornerstone of the President's 2005 agenda, its unlikely to be tackled due to its "third rail" quality. No reform bills made it out of committee during non-election year 2005, so don't expect anyone to touch the issue during '06 and risk their re-election bids. Instead, the activity we're likely to see will involve clean-up of unfinished business such as: —PATRIOT Act reauthorization (its currently operating on a short 5-week extension); —overhaul of the federal pension system; —opening the Alaskan wildlife areas (ANWR) to drilling, (On an energy-related note, Hurricane Katrina hit one-month after the Energy Act of 2005 was passed last summer. Then came introduction of the "Second Energy Act," designed to spur construction of oil refineries. Currently, US refineries are concentrated in Gulf states making us vulnerable to supply disruptions in the wake of disasters. The second act was focused mainly on oil and gas resources but at one point, did contain a White House-backed provision to allow power plants to more easily upgrade their facilities without installing equipment to reduce pollutants. Judging by the neck-and-neck roll call votes, this second act may not be popular enough to rise again this year.); — and, tax cuts and tax code overhaul.

Later in the year look for a re-write of the 1996 Telecommunications Act, which, House Energy & Commerce-Telecommunications and the Internet Subcommittee Chairman Fred Upton (R-Mich.) says, "will take all of our attention" this year. Also likely to be on Members' minds, innovation and the U.S.'s ability to compete. Last year saw the release of one report after the other dealing with the subject of our fading world dominance and lagging competitiveness. The first major piece of legislation to deal with the issue was introduced on 15 December - The National Innovation Act of 2005 - by Senators Joseph Lieberman (D-CT) and John Ensign (R-NV). This legislation seeks to implement many of the recommendations of the National Innovation Initiative report, one of many released last year. The bill (S. 2109) includes a number of provisions. Among the highlights are a plan for creating a White House-level President's Council for Innovation as well as a series of new scholarship and fellowship programs to encourage studies in science, mathematics and engineering. The bill encourages federal agencies to spend up to 3% of their research budgets on high-risk frontier research, and it also calls for a doubling of the National Science Foundation's budget over the next five years. A summary of S. 2109, the National Innovation Act of 2005, is available at <http://lieberman.senate.gov/documents/bills/051215niasummary.doc>.

2006 Intellectual Property Activity in a Nutshell - The technology industry will continue to battle the entertainment sector in Congress over legislation designed to impose copy-protection technology. The Motion Picture Association of America and Recording Industry Association of America likely will lobby Congress to pass legislation that would authorize the FCC to mandate anti-piracy technologies in electronics equipment.

### 2) WHITE HOUSE & EXECUTIVE AGENCY WATCH <http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp#whitehouse>

NIST Creates Web Site For Health Standards State Department Preps For More Internet Governance Debate

## EYE on Washington-Cont

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NSF's 2005: Year in Review IEEE Fellows Win NAE Prize

### 3) REPORTS, SPEECHES & DOCUMENTS OF NOTE

<http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp#reports>

New Paper From Think Tanks on Fixing the US Patent System

San Francisco Federal Reserve Examines Effective Innovation Policies:

Educated Human Capital is as Important as Existence of Companies

### 4) U.S. COURTS ACTIVITY

<http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp#courts>

Judge Says Firm Can Compete For RFID Contract

### 5) US STATES WATCH

<http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp#states>

New Tech Laws In A New Year

New York & California To Be Sites for New Nano Centers

Governors Pledge to Make Their States Technological Leaders

### 6) AWARDS & GRANTS

<http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp#awards>

### 7) CONFERENCES, FELLOWSHIPS, PROGRAMS & INTERNSHIPS FOR ENGINEERS, and STUDENTS & SCHOLARS OF ENGINEERING

2007 Congressional & State Department Fellowships

WISE Program Seeks Senior Science & Technology Public Policy Advisor to

Engineering Students (Nine Week Summer Position)

### 8) LATEST IEEE-USA ACTIVITIES

<http://ieeusa.com/policy/eyeonwashington/2005/06eow01.asp#ieeusaact>

Track IEEE-USA's Progress -A full listing of IEEE-USA lobbying activities can be found on our web site at:

<http://ieeusa.com/policy/policy/index.html>

Mark Your Calendar for Congressional Visits Day - The annual CVD has been set for 28-29 March, and is expected to bring over 250 scientists, engineers, researchers, educators, and technology executives to Washington to raise visibility and support for science, engineering, and technology.

More information, visit <http://www.ieeusa.org/policy/cvd/index.html>.

### 9) U.S. COMPETITIVENESS & INNOVATION: WHO'S DOING WHAT TO ADDRESS THE ISSUE?

What's New @ IEEE-USA's Eye on Washington highlights important federal legislative and regulatory developments that affect U.S. engineers and their careers. In addition to this biweekly newsletter, subscribers receive legislative bulletins and action alerts on IEEE-USA priority issues, including:

retirement security, employment benefits, research & development funding, computers and information policy, immigration reform, intellectual property protection and privacy of health/medical information.

EDITOR: Erica Wissolik, IEEE-USA, 1828 L Street, N.W., Suite 1202, Washington, DC 20036-5104

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## IEEE USA News

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### IEEE-USA President's Column: Priority Issues for Organization

As he begins 2006 as IEEE-USA President, Dr. Ralph W. Wyndrum Jr. translates IEEE-USA's mission into four primary areas of focus: ensuring that U.S. technology policy enhances America's future and protects American workers; developing new tools and improving our career resources for members; supporting and publicizing valuable continuous education opportunities for U.S. IEEE members; and promoting fields of interest of the IEEE needed by the next generation of technical professionals. Read the IEEE-USA President's first column at: <http://www.ieeeusa.org/communications/presidentscolumn/Wyndrum/jan06.html>

### IEEE-USA President's Column

Welcome to the New Year, fellow U.S. IEEE members. I hope you enjoyed time with family and friends, while renewing your spirit.

In my years of service, I have kept the IEEE-USA mission close to my heart. As your 2006 IEEE-USA President, it is my guiding purpose. Our mission is "to recommend policies and implement programs specifically intended to serve and benefit the members, the profession and the public in the United States in appropriate professional areas of economic, ethical, legislative, social and technology policy concern."

To me, our mission translates into four primary areas of focus:

- + Ensuring that U.S. technology policy enhances America's future and protects American workers
- + Developing new tools and improving our career resources for U.S. IEEE members
- + Supporting and publicizing valuable continuous education opportunities for our members
- + Promoting IEEE fields of interest needed by the next generation of technical professionals

In 2006, we have a prime opportunity to act on our first focus, technology policy. As a participant in the National Innovation Initiative, IEEE-USA will urge Congress to pass comprehensive legislation designed to promote U.S. innovation and competitiveness, starting with the National Innovation Act (S. 2109), introduced this past December by Senator John Ensign (R-Nev.) and Senator Joseph Lieberman (D-Conn.).

In addition, IEEE-USA will continue to support immigration reforms that enable the United States to admit foreign technical talent as new Americans rather than as "guest workers," and has endorsed legislation designed to reform the flawed H-1B visa program. The Defend the American Dream Act (H.R. 4378) seeks to strengthen safeguards for affected workers, redress the weak prevailing wage requirement, require employers to actively admit American workers, as well as improve H-1B program administration and enforcement in order to reduce fraud and abuse.

We applaud Congressman Bill Pascrell (D-N.J.) for sponsoring this bill, and IEEE-USA will support this legislative effort to protect U.S. IEEE members and their careers. Other IEEE-USA policy priority issues for 2006 include retirement security, e-health-related measures, and the planned revamping of the U.S. patent system.

IEEE-USA will support our second focus by continuing to enhance the Employment Navigator with its several-million job listings, resume tools and other resources. Each day, the Employment Navigator collects more than five-million job leads from more than 170,000 Web sites, and consolidates them into a single, search-

## IEEE USA News

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able database. As many of you already know, nearly one-third of the jobs available to subscribers are not found on public job boards.

We will also continue to promote the IEEE-USA Career and Employment Strategies Forum. With more than 2,300 members, this thriving online forum provides discussion areas, job opportunities and other useful information

for members who wish to communicate and collaborate on career topics. The Consultants Database and Salary Service are also slated for major upgrades this year.

The IEEE-USA Employment Navigator complements the IEEE Job Site, which provides access to more than 3,000 employers who are specifically looking to recruit from IEEE members. The nearly 41,000 registered members can view and apply for nearly 10,000 jobs at the site. This resource has raised approximately \$925,000 in revenue for the IEEE, which, in turn, allows us to offer more services to IEEE members.

Turning to continuous education, IEEE-USA is working with the IEEE Educational Activities Board to make available the best of the IEEE's educational content through one-hour online learning modules. Expert Now IEEE contains the latest information on emerging technologies and seminal works presented at the highest-rated IEEE conference tutorials, short courses and workshops. These unique, Web-based courses run the technical gamut from aerospace to vehicular technology, and are designed to save members time and travel costs.

In addition, IEEE-USA is offering 29 online "soft skills" courses with partner AchieveGlobal. And we'll continue to provide our members with P.E. Exam review courses in the months ahead. Further, IEEE-USA is joining with IEEE Educational Activities in promoting the IEEE Education Partners Program in which IEEE members have access to some 6,000 courses from more than a dozen providers to help members meet their continuing education, certificate and graduate needs. And savings on this program could easily offset the cost of member dues.

Finally, in 2006, IEEE-USA will be sponsoring the expansion of the IEEE Teacher In-Service Program (TISP) into Massachusetts and Indiana. And we'll be leveraging our volunteer networks to support the future of the profession by working with IEEE Educational Activities to promote pre-university initiatives such as TISP and the K-12 student mentoring program.

Both provide useful resources for U.S. IEEE members to bring technology education into their local schools. I commend and support these committed individuals who strive to enhance the level of technological literacy, science and mathematics among pre-university educators and their students. We must all renew our commitment to support the IEEE-USA mission and our careers by making our voices heard in Washington as well as in our local schools.

I look forward to sharing this exciting year ahead with you. Please share your ideas with me at [r.wyndrum@ieee.org](mailto:r.wyndrum@ieee.org).

## IEEE USA News

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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 can always be found online at:

<http://boldfish.ieee.org:80/u/1586/010606>

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- Subscription info and your member number are at the end of the email. \

#### 1. IEEE-USA President Introduces Himself, Cites Priority Issues for Organization

As he begins 2006 as IEEE-USA President, Dr. Ralph W. Wyndrum Jr. translates IEEE-USA's mission into four primary areas of focus: ensuring that U.S. technology policy enhances America's future and protects American workers; developing new tools and improving our career resources for members; supporting and publicizing valuable continuous education opportunities for U.S. IEEE members; and promoting IEEE fields of interest needed by the next generation of technical professionals. Read the IEEE-USA President's first 2006 column at

<http://boldfish.ieee.org:80/u/1587/010606>

#### 2. What Lies Ahead: Forecast for 2006 in Today's Engineer Online

Now that we're four years past the end of the last recession, what lies ahead in 2006? The latest edition of Today's Engineer Online examines changes and trends in eight categories that are likely to affect all of us in one way or another in the new year: technology, energy, climate change, workforce, employment benefits, immigration, infrastructure and the economic outlook.

Read this feature and more at: <http://boldfish.ieee.org:80/u/1588/010606>

#### 3. IEEE-USA Applauds Introduction of the "National Innovation Act of 2005"

In a statement provided to the bill's sponsors and in a letter to the U.S. Senate, IEEE-USA noted that the "National Innovation Act of 2005" (S. 2109) "represents a huge step forward in promoting policies that will sustain U.S. technological leadership and encourage the development of the skilled, creative and competitive workforce critical for U.S. prosperity."

Read IEEE-USA's letter to members of the Senate at: <http://boldfish.ieee.org:80/u/1589/010606>

Read the new release issued by Sen. Joe Lieberman's office: <<http://lieberman.senate.gov/newsroom/release.cfm?id=249800>>

#### 4. IEEE-USA Endorses "Proper" Use of Technology in Improving Health Care for Seniors

The "proper" use of technology can improve the efficiency and quality of health care for our aging population, lower costs and perhaps improve senior citizens' quality of life, according to a position recently adopted by IEEE-USA. To read the news release, visit: <http://boldfish.ieee.org:80/u/1590/010606>

#### 5. EWeek 2006 Kits Available Online

Engineers Week (EWeek) is next month, 19-25 February, and free planning kits are available to help you conduct activities in your area. The kit includes the new EWeek poster; activities such as, "How Much Time Does It Take?" and "Radioactive Ping-Pong Balls"; and other related information. To request your kit, contact Helen Hall at 202-785-0017, ext. 8354 or [h.hall@ieee.org](mailto:h.hall@ieee.org). You can also order one by visiting the Eweek Product Catalog <http://boldfish.ieee.org:80/u/1591/010606> and clicking "Engineer Volunteer Kits."

For more information on EWeek, visit: <http://boldfish.ieee.org:80/u/1592/010606>

## IEEE USA News - Cont

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### 6. IEEE-USA Meets With Senators to Discuss Challenges to U.S. Science & Technology Leadership

IEEE-USA Vice President for Technology Policy, Dr. Russell Lefevre, and IEEE-USA legislative representatives met on Capitol Hill with the staff of Senators Lamar Alexander (R-Tenn.), Jeff Bingaman (D-N.M.) and Pete Domenici (R-N.M.) to discuss the Senators' plans to introduce comprehensive innovation and workforce legislation. In 2005, Senators Alexander and Bingaman requested a study from the National Academies of Science and Engineering to identify the top 10 actions, in priority order, that federal policy makers can take to enhance the science and technology enterprise so the United States can successfully compete, prosper, and be secure in the Global Community of the 21st Century. The study's other goal is to formulate an implementation strategy with several concrete steps that can be used to implement the study's recommendations.

To read on, visit: <http://boldfish.ieee.org:80/u/1593/010606>

### 7. IEEE-USA Public-Awareness Program Designed to Enhance the Image of Engineers

At meetings on 29 October and 11 November 2005, IEEE-USA's Operating Committee and Board of Directors, respectively, endorsed a 2006 public-awareness program that reaches out to youngsters, adults and the public-at-large through targeted media and events. The approved \$73,000 in expenditures, plus related support for the 2006 program, will provide support for six components:

- Adding IEEE technologies to TV engineering news spots through AIP's "Discoveries & Breakthroughs"
- Supporting two IEEE-USA Media Fellows in 2006, as part of an overall AAAS program
- Backing the Chicago-based Engineers Without Borders-USA (EWB-USA) program
- Supporting the EWeek 2006 Discover Engineering Family Day in Washington, D.C.
- Pursuing a second United Nations EWeek Girl Day in New York City
- Distributing a precollege engineering education brochure to a cross-section of children's museums nationwide

To read more about IEEE-USA's efforts to promote the image of the engineer, visit: <http://boldfish.ieee.org:80/u/1594/010606>

### 8. IEEE-USA Fund to Support Expansion of Teacher In-Service Training in IEEE Regions 1 and 4

The Teacher In-Service Program (TISP) features IEEE Section volunteers sharing their technical acumen through the development and demonstration of technologically oriented subject matter to local pre-university educators in an in-service or professional development setting. IEEE Educational Activities, the program's administrator, estimates that TISP has already benefited more than 59,000 students. Thanks to a \$50,000 grant from the IEEE-USA Fund, administered by the IEEE Foundation, TISP will be expanded to IEEE Regions 1 and 4 in 2006, tripling the number of students reached by the program.

For more on TISP and IEEE-USA's participation, visit: <http://boldfish.ieee.org:80/u/1595/010606>

### 9. IEEE Computer Society Celebrates 60 Years in 2006

The IEEE Computer Society this year kicks off its celebration of the 1946 invention of the first general-purpose electronic digital computer, ENIAC, and (in the same year) the formation of the Subcommittee on Large-Scale Computers of the American Institute of Electrical Engineers, one of the two IEEE predecessor societies. The Computer Society is marking the event by running monthly articles on the history of computing in Computer Magazine, awarding the "Technology of the Decade Award" at a joint meeting of the society's Board of Governors and the IEEE Education Society's board, and a 60th Anniversary History Competition for undergraduates who design and build a Web site on the history of computing. Information on the 60th anniversary events will be posted throughout the year at <http://boldfish.ieee.org:80/u/1596/010606>

### 10. RFID Technical Institute Joins IEEE's Education Partners Program

Radio frequency identification (RFID) is a growing field with job opportunities in many disciplines, all of which require an understanding of various technologies and applications. RFID Technical Institute (RTI) has partnered with the IEEE to provide IEEE members with access to practical instruction in (RFID) at a discount.

For more information, visit: <http://boldfish.ieee.org:80/u/1597/010606>

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.

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**Newsletter Staff**

Editors: Lisa Nichols-Dunn, 281-426-4784  
E-mail: [lnicholsdunn@aol.com](mailto:lnicholsdunn@aol.com)

Advertising: 281-426-4784



THE POCKET SCOPE  
IEEE Houston Section  
P.O. Box 460443  
Houston, TX 77056-8014

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