



THE POCKET SCOPE



The Institute of Electrical and Electronics Engineers, Inc.

Volume 55, Number 7

March 2005

SCOPE NOTES

March Houston Section News

here:
ESS (Houston Engineering and Scientific Society)
430 Westheimer@Yorktown

hen: Thursday, April 28., 2005
6:00 - 6:30 p.m. Social
6:30 - 7:30 p.m. Dinner
7:30 - 8:30 p.m. Speaker

ost:
10.00 - IEEE Members with 48-hour advance reservations.
20.00 - non-members
5.00 - students
all (713) 207-IEEE to make your reservations.

See Page 3 for the Continuing Education Schedule!

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

IEEE Houston Section
P.O. Box
460443
Houston, Texas
770568014



The Chairman's Message

Scott Ballew

The Chairman's Message

As I updated you in February, the IEEE Houston Section EXCOM will be sending representatives to the following two IEEE sponsored events in the month of March: 1) the 2005 Careers Workforce Congressional "Fly-In" March 8 - 9 in Washington,

D.C.; and 2) the PACE (The Professional Activities Committees for Engineers) 2005 Leadership Workshop in Tucson, Az. March 11 - 13. Mr. Polo Gutierrez, Houston Section Secretary, will be our Houston Section Executive Committee (EXCOM) representative in support of the IEEE-USA Career and Workforce Policy Committee which has decided to target Texas as part of their March 2005 Careers Workforce Congressional "Fly-In". This effort is to bring IEEE-USA's message on H-1B visas, offshoring and other employment issues to Congress. For more information on the Fly-In, please visit the following web address: <http://www.ieeeusa.org/policy/Careerflyin/default.asp>. And, Scott Ballew - Houston Section Chairman, Gil Dolor - Houston Section Past Chair, and Donald Dunn - Region 5 South Area Chair and Houston Section Treasurer will be attending the IEEE PACE (The Professional Activities Committees for Engineers) 2005 Leadership Workshop in Tucson, Az. March 11th thru 13th. To learn more about this workshop, please visit the following web address: <http://www.ieeeusa.org/calendar/conferences/2005workshop/default.asp>

I look forward to updating you as to the happenings and results of both of these IEEE sponsored events in my April Chairman's message.

In addition, the Region 5 Technical and Leadership Conference will be held in Denver, Colorado April 7 - 10, 2005. Your EXCOM will be attending this very important annual event. This annual conference is a very enjoyable experience, because you find out what the happenings are in IEEE Regional and National. And, I always find it very interesting at this Conference to hear what the other Sections are doing to add value to their membership, and how our Section can learn from that. I will report to you the results of the R5 Conference in May.

As we should all know by now, the Houston Section has a

Chair Message-CONT

worldwide renowned Continuing Education Seminar with presentations every month. I wanted to inform you that there are 2 seminars in March and they are as follows: 1) March 15-16 "Field Testing of Large Power Transformers" with Randy Slaybaugh (Substation Services, Inc.) presenting and 2) March 29-30 Protective Relay 4-SEL with David Costello (SEL) presenting. Please see the IEEE Houston Section Website for full details.

As a reminder to all of you, the Houston Section will be manning a booth at the the Offshore Technology Conference (OTC) May 2 - 5, 2005 promoting IEEE. We have had a couple of people volunteer to help us man these booths and promote IEEE. This is a great opportunity to meet engineers from other companies and network. We still need more volunteers. If you are interested in volunteering, contact one of your EXCOM members.

As always, the EXCOM and I look forward to your feedback and comments. If you have suggestions and/or are interested in becoming active within the section or a local society chapter, contact one of us. Your active participation and feedback is most welcome and very beneficial in ensuring that the programs and content of IEEE brings the most value.

Scott Ballew
Houston Section Chair

CED Seminar News

CED Houston announces the following revised registration fee schedule for its new 2004-2005 technical seminars.

The registration fee for IEEE members is \$70. The fee for non-members is \$140. The registration fee for student IEEE members will be \$50

Seminar registration and payment must be received the Friday before the seminar. Seminar registration closes at 5:00 p.m. the Friday before the seminar. No exceptions.

Pre-registration with "payment at the door" is acceptable under certain circumstances. Anyone promising to pay at the door and failing to show up will be debited and invoiced for the full amount of the registration fee.

IEEE CONTINUING EDUCATION ON DEMAND

2004-2005 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
 425 BLUEBERRY STREET
 HOUSTON, TX 77018
progers@swpower.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: progers@swpower.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.

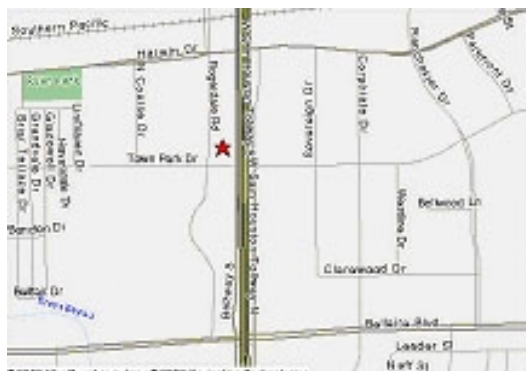
Instructors are application engineers, manufacturing specialists and expert consultants who provide a blend of diverse engineering perspectives.

The cost of each seminar is \$70.00 for IEEE members. The **check must be received the Friday before the Seminar start date**. The cost for non-IEEE members is \$140.00. The cost for student members is \$50.00.

Registration closes at 5:00pm the Friday before each seminar.

The following 2004-2005 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:
Jacobs Engineering
 5995 Rogerdale Road
 Houston, TX. 77072



Seminar Title	C code	Date	Amount
Arc Flash / Arc Resistance	705	Oct. 12/13	\$
Protective Relay 1 Beckwith	311	Oct. 26/27	\$
IEC Electrical Equipment	802	Nov. 9/ 10	\$
Protective Relay 2 Multilin	312	Feb. 1/2	\$
IEC - NEC Area Classification	803	Feb. 15/16	\$
Protective Relay 3 Basler	313	Mar. 1/2	\$
Field Testing of Large Power Transformers	904	Mar. 15/16	\$
Protective Relay 4 SEL	314	Mar. 29/30	\$
National Electric Code	920	Apr. 12/13	\$
Advanced MV Switchgear and Breaker Stds	307	Apr. 26/27	\$
Total Paid:			\$

Enter amount for each seminar:

IEEE member registration: \$ 70.00
 Non-member registration: \$140.00
 Student member registration: \$ 50.00

Fall of 2004 IEEE Seminar Schedule

Arc Flash / Arc Resistance (705)

James Bowen, Powell Electric Mfg. Co.

Oct. 12/13, 2004 6:00-8:50PM

Review of fundamentals and design theories. Post event forensic observations and lessons learned. **[.0.5 CEU]**

Protective Relay 1 - Beckwith (311)

Wayne Hartmann, Beckwith Electric Co.

Oct. 26/27, 2004 6:00-8:50PM

Review of Beckwith relay design fundamentals and application considerations **[.0.5 CEU]**

IEC Electrical Equipment (802)

Tom Malone, Areva T&D Corp.

Nov. 9/10, 2004 6:00-8:50PM

Reviews IEC guidelines and standards for electrical distribution equipment. Presentation will focus on power transformers and switchgear. **[.0.5 CEU]**

Spring of 2005 IEEE Seminar Schedule

Protective Relay 2 - GE Multilin (312)

Jackov Viko, GE Multilin -Canada

Feb. 1/2, 2005 6:00-8:50PM

Review of GE Multilin Relay design fundamentals and application considerations. **[.0.5 CEU]**

IEC / NEC Area Classification (803)

Bob Johnson, Source IEC

Feb. 15/16, 2005 6:00-8:50PM

A detailed presentation on IEC's approach to hazardous area classifications and related international standards. **[.0.5 CEU]**



IEEE

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2004-2005

Continuing
 Education
 On Demand



Protective Relay 3 - Basler (313)

Gerald Dalke, Basler Electric Co.

Mar. 1/2, 2005 6:00-8:50PM

Review of Basler relay design fundamentals and application considerations. **[.0.5 CEU]**

Field Testing of Large Power Transformers (904)

Randy Slaybaugh, Substation Services, Inc.

Mar. 15/16, 2005 6:00-8:50PM

A detailed presentation on field testing techniques and considerations for large power transformers. **[.0.5 CEU]**

Protective Relay 4 - SEL (314)

David Costello, SEL Inc.

Mar. 29/30, 2005 6:00-8:50PM

Review of SEL relay design fundamentals, set-up, programming and application considerations. **[.0.5 CEU]**

National Electric Code (920)

Eddie Guidry, Fluor Corp.

April. 12/13, 2005 6:00-8:50PM

Review and update on current NEC. Lecture will focus on design issues and application considerations. **[.0.5 CEU]**

Advanced MV Switchgear and Breaker Stds. (310)

James Bowen, Powell Electric Mfg. Co.

Apr. 26/27, 2005 6:00-8:50PM

Reviews advanced theories and application considerations related to MV Swgr and Ckt Bkr design. **[.0.5 CEU]**

Conference for Protective Relay Engineers

CONFERENCE FOR PROTECTIVE RELAY ENGINEERS TEXAS A&M UNIVERSITY College Station, Texas April 5-7, 2005

The Planning Committee of the 58th Annual Conference for Protective Relay Engineers invites you to attend the conference at Texas A&M University on April 5-7, 2005. 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: \$250 (begins January 10, 2005)
After March 7, 2005: \$300

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 58th Annual Conference for Protective Relay Engineers special pre-conference offerings are available Monday, April 4, including a tutorial, ethics seminar, and manufacturer's 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 Wisenbaker Engineering Research Center
Texas A&M University
3128 TAMU
College Station, TX 77843-3128
Phone: (979) 845-7912
Fax: (979)458-1139
s-loe@tamu.edu

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

New Senior Members

Congratulations to the recently elected Senior Members from the Houston Section (January). For a complete list of the new Senior Members see the attached link.

www.ieee.org/organizations/rab/md/smupdates.html

Joseph R. Cavallaro

Ali M. Cortez

Edward N. Johnson

Alister G. Smith

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 USA News

News from IEEE-USA

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

Congressman Rohrabacher and Former IEEE-USA Board Member Head 2004 IEEE-USA Award Recipients

WASHINGTON (9 February 2005) — Rep. Dana Rohrabacher (R-Calif.), former chairman of the House Science Committee's Subcommittee on Space and Aeronautics; and Dr. Charles P. Rubenstein, a 2003 member of the IEEE-USA Board of Directors and Operating Committee, will receive IEEE-USA professional awards.

Rohrabacher and Rubenstein join fellow IEEE-USA award recipients in recognition of their professionalism and technical achievements, as well as literary contributions to public awareness and understanding of the engineering profession in the United States.

Rohrabacher is being honored with the IEEE-USA Distinguished Public Service Award "for long-term support of IEEE-USA's Congressional Fellowship program and leadership on federal policy issues of concern to the engineering community." Steve Watkins served as an IEEE-USA Congressional Fellow last year in Rohrabacher's office, and Randall Brouwer holds the position in 2005.

Rubenstein, who lives in Massapequa, N.Y., is receiving IEEE-USA's highest honor, the Robert S. Walleigh Distinguished Contributions to Engineering Professionalism Award. An IEEE senior member and active volunteer, Rubenstein works as a tenured professor of information science at New York's Pratt Institute graduate School of Information and Library Science. He is being recognized "for sustained leadership and inspiration in professional activities within the IEEE Divisions and Regions."

IEEE-USA's distinguished awards are administered under its Awards and Recognition Committee and approved by the IEEE-USA Board of Directors. They will be presented at a 12 March awards ceremony held in conjunction with the IEEE-USA Leadership Workshop in Tucson, Ariz.

(<http://www.ieeeusa.org/calendar/conferences/2005workshop/default.asp>).

Here's the complete list of 2004 award recipients:

Professional Awards

ROBERT S. WALLEIGH DISTINGUISHED CONTRIBUTIONS TO ENGINEERING PROFESSIONALISM AWARD

Charles P. Rubenstein

"For sustained leadership and inspiration in professional activities within the IEEE Divisions and Regions"

DISTINGUISHED PUBLIC SERVICE

Dana Rohrabacher

"For long-term support of IEEE-USA's Congressional Fellowship program and leadership on federal policy issues of concern to the engineering community"

PRECOLLEGE EDUCATION COMMITTEE TEACHER-ENGINEER PARTNERSHIP

Mark R. Rognstad & William G. Speed, Jr.

"For providing mentorship, support, and encouragement to students interested in science, technology, and mathematics through engineering competitions at the local, regional and national levels"

CITATION OF HONOR

Donald W. Hill

"For sustained leadership in PACE activities at the national level"

Philip Holmer

"For leadership in providing analysis and guidance regarding technology policy to Congress"

IEEE USA News-Cont

as Chair of IEEE-USA's Committee on Transportation and Aerospace Technology Policy"

Glenn S. Tenney

"For increasing the visibility of the IEEE-USA Intellectual Property Committee, and contributing to testimony presented to the Senate Judiciary Committee regarding the Inducing Infringement of Copyrights Act of 2004"

George W. Zobrist

"For enthusiastic service on behalf of the professional needs of U.S. members and students as Editor of IEEE Potentials Magazine and Member Activities Editor for IEEE-USA Today's Engineer and News & Views"

REGIONAL PROFESSIONAL LEADERSHIP AWARD

Parviz Famouri (Region 2)

"For organizing and executing PACE training sessions for Sections in Region 2 having limited PACE activities"

Robert H. Gauger (Regional)

"For efforts to improve professional standards, integrity and business practices of U.S. IEEE consulting engineers"

Tarek Lahdhiri (Region 4)

"For providing professional training to Sections, Chapters and PACE leaders within Region 4"

William Marshall (Region 3)

"For championing new programs within the Atlanta Section, in areas such as PACE, GOLD, K-12 Outreach, and Industry Relations"

Winnfort J. Myles (Region 6)

"For effectively communicating professional ideas, and educating and training other leaders in Region 6"

Hamid Vakilzadian (Region 4)

"For efforts in promoting PACE activities within the Nebraska Section and the West Area of Region 4"Hamid

PROFESSIONAL ACHIEVEMENT AWARD

Luke R. Maki

"For significantly improving the IEEE-USA Committee on Communications and Information Policy's effectiveness and image in the technology policy areas of broadband communication and improved spectrum use"

George F. McClure

"For pioneering the research and dissemination of information concerning the outsourcing of engineering jobs to other countries, and its effects on U.S. engineers"

C. Lee Stogner

"For reestablishing the IEEE-USA Government Activities Committee, and focusing its activities on member interaction with state legislatures and Congress"

IEEE USA News-Cont

Technical Awards

HARRY DIAMOND MEMORIAL AWARD

Robert K. Parker

"For leadership in radio frequency vacuum electronics, and pioneering technical contributions in the fields of intense relativistic electron beam technology, free electron lasers and gyro-amplifiers"

ELECTROTECHNOLOGY TRANSFER AWARD

David O. Patterson

"For spearheading development of advanced lithographic approaches and tools that foster exceptional advances in Department of Defense system capabilities and their transfer to commercial application"

Literary Awards

DISTINGUISHED LITERARY CONTRIBUTIONS FURTHERING PUBLIC UNDERSTANDING OF THE PROFESSION

William J. Mitchell

"For increasing public understanding of information technology in everyday life through his book, Me++: The Cyborg Self and the Networked City"

Terri Spitz, Steven Cooper and Scott Schroeder

"For increasing public understanding of the impacts on engineering employment due to the H-1B and L-1 visa programs through their TV news series, Stolen Jobs"

For more information, visit the IEEE-USA Awards and Recognition Web page at <http://www.ieeeusa.org/volunteers/committees/awards/>, or contact Sandra Kim at sandra.kim@ieee.org. Nominations are being accepted for the 2005 awards. The deadline is 31 July 2005.

IEEE-USA is an organizational unit of the IEEE. It was created in 1973 to advance the public good and promote the careers and public policy interests of the more than 220,000 technology professionals who are U.S. members of the IEEE. The IEEE is the world's largest technical professional society.

For more information, go to <http://www.ieeeusa.org>.

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Contact: Chris McManes

Senior Public Relations Coordinator

Phone: + 1 202 785 0017, ext. 8356

E-Mail: c.mcmanes@ieee.org

IEEE Career Alert

NEWS from IEEE-USA

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

U.S. Technical Employment Falls by More Than 220,000 Workers from 2000 to 2004

WASHINGTON (3 March 2005) — The number of employed U.S. technical workers has fallen by 221,000 in six major computer and engineering job classifications from 2000 to 2004, according to data compiled by the U.S. Department of Labor's Bureau of Labor Statistics (BLS).

The largest drops occurred among computer programmers, followed by electrical and electronics engineers, then computer scientists and systems analysts. These declines were offset by substantial employment increases for computer and information systems managers, computer hardware engineers and computer software engineers.

"The drop in computer programmers and rise in managers reflects the trend toward offshoring of programming jobs and the resulting need for professionals to manage outsourced projects," IEEE-USA President Gerard A. Alphonse said.

According to the BLS, computer programmers have taken the biggest hit, with a drop of more than 24 percent — from 745,000 in 2000 to 564,000 in 2004. In addition, the number of employed electrical and electronics engineers shrunk by 101,000, from 444,000 in 2000 to 343,000 last year, a decrease of nearly 23 percent. Computer scientists and systems analysts have experienced similar losses, dropping more than 16 percent, from 835,000 in 2000 to 700,000 in 2004.

However, employed computer and information systems managers have jumped from 228,000 in 2000 to 337,000 last year, a dramatic increase of almost 48 percent. Computer hardware engineers rose from 83,000 in 2000 to 96,000 in 2004, a nearly 16 percent increase. Employed computer software engineers have risen by 74,000, from 739,000 in 2000 to 813,000 in 2004, a 10 percent increase.

The table below summarizes the BLS data:

Job Classification	2000	2004	Change	Pct.
Computer Hardware Engineers	83,000	96,000	+13,000	+15.7
Computer & Info. Systems Managers	228,000	337,000	+109,000	+47.8
Computer Programmers	745,000	564,000	-181,000	-24.3
Computer Scientists & Systems Analysts	835,000	700,000	-135,000	-16.2
Computer Software Engineers	739,000	813,000	+74,000	+10.0
Electrical & Electronics Engineers	444,000	343,000	-101,000	-22.7
Total	3,074,000	2,853,000	-221,000	-7.2

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Contact: Chris McManes
 Senior Public Relations Coordinator
 Phone: + 1 202 785 0017, ext. 8356
 E-Mail: c.mcmanes@ieee.org

IEEE-USA Needs Help!

IEEE-USA Needs Help!

Early this year, Congress will begin debating legislation that could profoundly effect American engineering professionals. We Need IEEE Members to Come to Washington on March 8th and 9th to Help Us Defend Your Profession!

IEEE engineers face an unprecedented challenge, and an equal opportunity, this year. Done right, pending legislation could strengthen America's long-term competitiveness and prosperity. Done wrong, these proposed reforms could undermine job opportunities and retirement security for many American professionals, including engineers and scientists. It all depends on what Congress decides to do.

Among the many important issues that Congress will debate this year the most important for engineers include proposals to:

- Expand the country's temporary work visa program. Although it will target low-skill workers, this proposal could substantially increase the number of temporary visas available for foreign professionals.
- Partially privatize Social Security and strengthen the nation's defined pension system.
- Change the processing of visas international students need to study in the U.S. Some proposals would make the student admissions process more restrictive. Others will expedite student admissions.
- Make it easier foreign engineers and scientists to permanent residents of the U.S.

IEEE-USA will be working aggressively to protect the interests of IEEE members, but we can't do it alone. We need help from individual IEEE members who are concerned about the future of their profession.

On the afternoon of March 8th, 2005 we invite all concerned engineers to meet us on Capitol Hill for an intensive training session on key professional careers issues. Then on March 9th, you will visit with your legislators to discuss the state of engineering in America and practical ways Congress can improve it.

All IEEE members in Regions 1 - 6 are encouraged to participate, including students and retired engineers. No experience is necessary. All you need is a willingness to try to make the country better. IEEE-USA will provide you with background on pending legislation and tips on holding successful meetings with members of Congress.

IEEE-USA held a very successful similar event last year. Only two of the participants had ever met a lawmaker before, yet all were able to successfully communicate personal concerns and practical recommendations to their legislators.

More information on the 2005 IEEE-USA Careers Fly-In, including how to register, can be found here: www.ieeeusa.org/policy/Careerflyin. Limited support for a few IEEE members from key legislative districts will also be available.

Questions? Contact Vin O'Neil or Russ Harrison at (202) 785-0017 or e-mail Russ at r.t.harrison@ieee.org.

IEEE USA Files Amicus Brief

News from IEEE-USA

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

IEEE-USA Supports Reverse Engineering in Brief Before Eighth Circuit Court of Appeals

WASHINGTON (9 February 2005) — IEEE-USA filed an amicus curiae brief on 24 January in support of reverse engineering for interoperability in the U.S. Court of Appeals for the Eighth Circuit in the case of *Blizzard Entertainment v. Internet Gateway* (No. 04-3654).

IEEE-USA's "friend-of-the-court" brief seeks reversal of a September 2004 Federal District Court decision in favor of Blizzard, a computer game company. The Court basically ruled that by opening the shrink wrap of a software package, or clicking on a button during installation, the end user gives up fair use rights, including reverse engineering, granted under Section 107 of the Copyright Act.

Reverse engineering is a common and recognized practice, particularly in computer software, and is extremely important to technological advancement. IEEE-USA defines reverse engineering as the discovery by engineering techniques of the underlying ideas and principles that govern how a machine, computer program or other technological device works.

"Ultimately, the greatest benefits from reverse engineering are reaped by the public at large," IEEE-USA's brief said. "The positive exploitation of ideas expressed in copyrighted works over the past two decades is readily apparent: advanced, competitive computer software industries have fueled the explosive and enlightening development of the Internet as well as many technology-based modern products."

According to IEEE-USA, by exploiting shrink-wrap and click-wrap agreements, software publishers have attempted to use state-based contract law to trump fair-use rights granted under federal law. The organization believes that such agreements pose a danger to "the nation's intellectual property system" and will chill innovation.

IEEE-USA is an organizational unit of the IEEE. It was created in 1973 to advance the public good and promote the careers and public policy interests of the more than 220,000 technology professionals who are U.S. members of the IEEE. The IEEE is the world's largest technical professional society. For more information, go to <http://www.ieeeusa.org>.

Contact: Chris McManes
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IEEE Career Alert for March 2 2005

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

IN THIS ISSUE:

1. The Battle Over Product Development *WEB SPECIAL*
2. Incomes of U.S. Technical Professionals Fall
3. Telecom Job Market Upbeat Despite Mergers
4. Fiji Goes High-Tech

1. The Battle Over Product Development *WEB SPECIAL*

In Part 5 of his series "Here Be Dragons: Managing a Tech Startup," Frans M. Coetzee discusses the myths and realities of product development. "The development cycle in textbooks presents a calm, orderly process of gathering input, specifying appropriate functionality, developing the product, testing it, and then rolling it out," he notes. Rarely does it work this way in a tech startup. "The technical staff will be developing a product that has to be rapidly completed for the company to survive, while the sales staff will be doggedly trying to sell the fugitive whiff of undeveloped functionality." The process can generate unrelenting friction between the technical and sales sides of the business. For advice on how to better coordinate product development and ease the friction, read on at <http://www.spectrum.ieee.org/careers/careerstemplate.jsp?ArticleId=m021405>

2. Incomes of U.S. Technical Professionals Fall

Median income for electrotechnology and IT professionals declined for the first time in 31 years, according to the latest IEEE-USA Salary & Fringe Benefit Survey. Median incomes for U.S. IEEE members working full-time in their area of professional competence decreased from \$101,000 in 2002 to \$99,500 in 2003. The Internet-based survey of the IEEE's U.S. membership was conducted in late 2004, based on 2003 data from 12,584 respondents. For more survey results, go to <http://www.ieeeusa.org/communications/releases/2004/122204pr.asp>

3. Telecom Job Market Upbeat Despite Mergers

The impending mergers of several big U.S. telecom will likely trigger thousands of layoffs, the Christian Science Monitor notes, but "employment specialists don't think the job prospects for all those supervisors, engineers, accountants, and personnel specialists will be as bleak" as in the telecom collapse of four years ago. "Unlike 2001, those out of work won't be fighting for jobs with unemployed dot-comers. The layoffs also come at a time when the economy is growing, not in recession. And online bulletin boards report they have job postings for people in the business." Read on at <http://www.csmonitor.com/2005/0217/p02s01-usec.html>

4. Fiji Goes High-Tech

It's still an island paradise, but Fiji will also soon be home to a new technology park - its first ever. The park's flagship company will be Bangalore-based United Telecoms Limited, which plans to locate some of its consultancy work there. The government hopes to make the park an outsourcing hub, for data processing, call centers, and data warehouses. According to the Fiji Times, the new park will create 6000 jobs. The government announcement of the new park is here: http://www.fiji.gov.fj/publish/page_4139.shtml

IEEE Career Alert is prepared weekly by the editors of 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>

IEEE Career Alert is part of the What's New @IEEE email news service. For more information on subscribing to other What's New newsletters, visit <http://whatsnew.ieee.org/>

IEEE USA-NEWS

NEWS from IEEE-USA

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

California Middle School Wins IEEE-USA Future City Competition Award

WASHINGTON (25 February 2005) — Martin Luther King Jr. Middle School of Oceanside, Calif., won the fifth IEEE-USA Best Communications System Award at the national finals of the National Engineers Week Future City Competition on Wednesday. The honor, one of 31 special awards presented at the Hyatt Regency Crystal City in Arlington, Va., was for the most "efficient and accurate communications system."

Students Karina Coscuna, Alisa Wyman and Peter Vo comprised the team with King teacher sponsor Joanne Norlander and engineer mentor Paul Vo. The team advanced to Washington by winning the Southern California regional competition last month. Its city, Constante Fonte (Portuguese for "Constant Source"), is set in the Amazon rain forest in 2150.

The city's "NET" communications system, which stands for "Nano Ear and Teeth," consists of a nanotechnology-based chip embedded in a person's eardrum and tooth. A wireless voice signal is transmitted to a communications tower, then to the "head end" at city hall, back to a tower and out to the recipient. The system, as described by the students, can translate any language into the hearer's native tongue.

The award, funded by the IEEE-USA Precollege Education Committee, was judged by IEEE members Lowell Smith of Fairfax, Va., Lee Stogner of Greenville, S.C., and Ananthram Swami of Silver Spring, Md.

"The students' ideas were practical and they had a good grounding in what was possible," Stogner said. "They recognized they had to build on an existing technology to provide a communications infrastructure that people could use in the office and on a personal level."

IEEE Senior Member Michael Andrews, co-regional coordinator of the Phoenix area competition, presented each team member with a plaque. Each student will also receive a \$100 U.S. Savings Bond. King also garnered the Most Innovative Power Generation System Award from the U.S. Navy Nuclear Propulsion Program.

Other IEEE members serving as regional coordinators included Jean Eason (Dallas/Fort Worth); Todd Hiemer (Oklahoma); Osama Mohammed (Florida); and Zafar Taqvi (Houston).

The Future City Competition, which IEEE-USA introduced to Engineers Week in 1993, is designed to encourage the future generation of engineers. Seventh and eighth grade students create their own vision of a city of tomorrow, working first on computer and then constructing three-dimensional scale models. About 30,000 students competed this past year. A longitudinal study of the Future City Competition, funded by the IEEE in 2004, found that half of the respondents who had participated in the competition said they would like to pursue engineering in high school and college.

Louisiana regional champion St. Thomas More School won the overall competition Wednesday.

Go to http://www.eweek.org/site/News/Eweek/2005_FC_champions.shtml for more information.

IEEE USA -NEWS - CONT

Four U.S. IEEE Members Begin IEEE-USA Government Fellowships

WASHINGTON (24 February 2005) — Randall Brouwer, Gordon Day, Norman Schneidewind and Nick Zayed began their IEEE-USA Government Fellowships in January. Each is advising government leaders on key technology policy issues and helping them understand the key role engineers play in national security, innovation and economic prosperity.

Brouwer, professor and former chair of the engineering department at Calvin College in Grand Rapids, Mich., is advising Rep. Dana Rohrabacher (R-Calif.). The congressman is a member of the House Science Committee, chaired its Space and Aeronautics Subcommittee for the past eight years, and authored the IEEE-USA-supported Commercial Space Launch Amendments Act that President Bush signed into law on 23 December 2004. (See related story at <http://www.todayseengineer.org/2005/Jan/x-prize.asp>.) Rep. Rohrabacher is also a member of the Congressional Research and Development Caucus, of which IEEE-USA is an advisory committee member.

Day, a retired division chief for the National Institute of Standards and Technology in Boulder, Colo., is advising Sen. Jay Rockefeller (D-W.Va.) on science and technology issues, particularly communications and homeland security. Sen. Rockefeller serves on the Senate Commerce, Science and Transportation Committee, and is ranking member of the Aviation Subcommittee.

Schneidewind is a professor of information sciences at the Naval Postgraduate School in Monterey, Calif. He's supporting Sen. Daniel Akaka (D-Hawaii) and will act as the science adviser to the Senate Homeland Security and Governmental Affairs Committee's Subcommittee on Financial Management, the Budget and International Security.

Zayed is a communications systems engineer with the Northrop Grumman Corp. in Redondo Beach, Calif. He is working in the State Department's Office of Science and Technology Cooperation. The mission of the office is to provide, promote and facilitate policy coordination and international science and technology cooperation among federal technical agencies and their overseas counterparts.

For more information on IEEE-USA's Government Fellowship program, visit <http://www.ieeeusa.org/policy/govfel/index.html>, or contact Erica Wissolik, IEEE-USA program manager, government activities, at e.wissolik@ieee.org.

IEEE-USA is an organizational unit of the IEEE. It was created in 1973 to advance the public good and promote the careers and public policy interests of the more than 220,000 technology professionals who are U.S. members of the IEEE. The IEEE is the world's largest technical professional society.

For more information, go to <http://www.ieeeusa.org>.

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