



©2007 Institute of Electrical and Electronics Engineers

www.ieee-or.org/bEEP

Features

- [UPCOMING EVENTS](#)
- [EMBS Meeting and Talk - The Optics of Biology and Medicine](#)
- [OctoberBest 2007](#)
- [OGI School of Science & Engineering \(SoSE\) Classes Fall 2007](#)
- [IEEE EMC Short Course Oct. 2007](#)
- [CPMT/CASS Workshop Sept 13th](#)
- [New Senior Member](#)
- [September EMC Chapter](#)
- [The IEEE Oregon Consultants' Network Meeting](#)
- [Call for Fellow Nominations](#)
- [IEEE NEWS](#)
- [IEEE at Ubuntu](#)
- [Capitol Hill Watch](#)
- [White House & Executive Agency Watch](#)
- [Reports, Speeches & Documents of Note](#)
- [Book Review:](#)
- [What's in Today's Engineer?](#)
- [Latest IEEE-USA & IEEE Activities](#)
- [IEEE Trans SMC-B Special Issue on Approximate Dynamic Programming and Reinforcement Learning for Control](#)
- [IEEE International Conference on RFID 2008 Preliminary Call for Papers](#)
- [Call for Special/Invited Sessions Proposals ISCAS 2008](#)
- [Titles Needed for Journal Legacy Project:](#)
- [IEEE-USA Co-Sponsoring Symposium on Plug-in Hybrid Electric Vehicles](#)
- [IEEE-USA Seeks Award Nominations](#)
- [ENERGY - Power forward . . .](#)
- [What are the Effects of Technology on Society?](#)
- [Taking Spying to a New Level](#)
- [IEEE Oregon Section Contacts](#)

UPCOMING EVENTS

EMBS Meeting and Talk - The Optics of Biology and Medicine

Date: Tuesday, 2007 September 04

Times: 6:00 pizza social
6:30-6:45 EMBS Chapter meeting
6:45 presentation

Location: Portland State University, Smith Memorial Student Union, Room 229

Maps and directions:

<http://www.pdx.edu/map.html>

Speaker: Steven Jacques, PhD

Professor, Biomedical Engineering, School of Science & Engineering. Research Assoc. Professor, Dermatology, School of Medicine Oregon Health & Science University

Title: The Optics of Biology and Medicine

The optics of biological tissues play a key role in designing (1) Therapeutic protocols where photons do something to tissues, and (2) Diagnostic imaging and sensing, where tissues do something to photons. Photochemical, photothermal and photomechanical mechanisms of light-tissue interaction are utilized for surgical and therapeutic cutting, dissecting, machining, processing, coagulating, welding, and oxidizing tissues and biomaterials. Imaging and spectroscopy are used for diagnostic characterization of tissues and monitoring of therapies. Because tissues are usually highly light-scattering media, a key task in optical design is the separation of absorption and scattering to predict the spatial distribution of light in a complex tissue for therapy and to interpret the history of photons escaping a tissue for diagnostics. Computer simulations are an important tool for optical design in biology and medicine.

OctoberBest 2007

Wednesday, September 12th PCC Rock Creek Campus

The best resource and networking opportunity for local products and services showcasing local Northwest electronics manufacturing industries.

Keynote: "**Innovation in Unmanned Aerial Vehicles - The INSITU Story**" presented by Jim Newell of Insitu. Insitu of Bingen, Washington, has led in the design, development and production of small autonomous aircraft for Unmanned Aircraft Systems. The show will have one of these UAV's on display. Sign up to attend either one of our two options to hear our keynote: 11AM and 2 PM

Technical Sessions:

Sessions focused upon current technologies. Sessions are available at very low cost and are available all day beginning at 8:30 AM. [list below]

IEEE Oregon Seminars run from 8-noon. Learn about HW/SW Systems Design and Signal Integrity for Multi-Package Modules. See www.ieee-or.org/ob2007 for details.

Exhibits:

Our theme for this event is "Thinking Globally, Acting Locally" and includes over 60 exhibitors, ALL are local northwest sourcing resources... from PCB's, PCBA's, Components, Engineering Services, Staffing and much more.

Exhibit Floor open noon until 5 PM

Enter to win one of our many DOOR PRIZES including a 32" LCD HDTV.

All attendee registration proceeds will benefit the Oregon Food Bank. Additionally, we invite you to bring nonperishable food donations.

Admission is FREE if registered BEFORE September 1st. Online registration is available at www.octoberbest.com Lunch is available for \$10 OR a bag of food for the Oregon Food Bank

OctoberBest 2007 IEEE Short Courses

Wednesday Sept. 12

PCC Rock Creek

Registration is open

See www.ieee-or.org/events/ob2007/

What Hardware Engineers Need to Know About Software and Vice Versa

Time: 8:30 AM 11:50 AM (3 hours; 0.3 CEUs)

Speaker: John Blyler, PSU and Extension Media

Cost: IEEE/ASQ/EMA/ERA \$65, non-members \$80

Signal Integrity Issues Affecting Flexible FR-4 Multi-Package Modules

Time: 8:30 AM 10:50 AM (2 hours; 0.2 CEUs)

Speaker: Shawn Arnold, High Speed Solutions

Cost: IEEE/ASQ/EMA/ERA \$65, non-members \$80



OGI School of Science & Engineering (SoSE) Classes Fall 2007

Department of Computer Science and Electrical Engineering

www.ogi.edu/register

Class Number	Fall 2007 SCHEDULE OF CLASSES	Days	Time
CS 560/660	Artificial Intelligence	M W	4:30 PM - 5:59 PM
CS 564/664	Introduction to Human-Computer Interaction	S	2:00 PM - 4:59 PM
EE 550/650	Introduction to Electronics and Instrumentation	T R	5:00 PM - 6:59 PM
EE 561/651	Analog Integrated Circuit Design	M W	7:00 PM - 8:59 PM
EE 564/664	High Speed Interconnect Design	M W	5:00 PM - 6:59 PM
EE 570/670	Advanced Logic Design	M W	5:00 PM - 6:59 PM
EE 573/673	Computer Organization and Design	T R	5:00 PM - 6:59 PM
EE 580/680	Signals and Linear Systems	T R	4:00 PM - 5:29 PM
EE 584/684	Introduction to Image Processing	T R	12:00 PM - 1:30 PM
OMSE 500	Principles of Software Engineering	T	6:00 PM - 8:50 PM
OMSE 513	Professional Communication Skills for Software Engineers	W	6:00 PM - 8:50 PM
OMSE 535	Software Implementation Testing	M	6:00 PM - 8:50 PM

IEEE EMC Short Course Oct. 2007

EMC for the Working Engineer, will be held here in Portland, Tuesday, October 9th, 2007, in Room 163 on the first floor of the Buckley Center on the University of Portland Campus.

This full-day Course will run from 8:00 AM to 5:00 PM, with 15 minute mid-morning and mid-afternoon breaks and an hour break for lunch at noon. Lunch and CD copies of the presentation materials will be provided to all registered participants.

This informative and enjoyable all day EMC course will be taught by Bruce Archambeault, an IEEE EMC Society Distinguished Lecturer; well known and respected throughout the EMC Community.

Here to further whet your appetites, is a brief description and Outline of the EMC Short Course Content:

October 2007 EMC Short Course

EMC for Working Engineers (Electromagnetic Compatibility is NOT Magic!)

Dr. Bruce Archambeault
IBM barch@us.ibm.com

Course Description and Rationale

Proper EMC design for printed circuit boards (PCB) can make a significant difference in the final product's performance in the EMC measurement laboratory. Implementing the proper EMC practices during the design phase of the product is critical and can have little or no impact on the product cost when done correctly.

This course focuses on the basic causes of EMC problems, the latest research results for new design approaches, and how to overcome EMC / EMI problems. This short course is not just a list of EMC "rules or thumb" but rather focuses upon helping the student understand why EMC problems happen, and what can be done to eliminate them.

Morning Session

Introduction to General EMC

What is Inductance?

- Full Definition
- Partial inductance
- Incomplete Inductance

The Ground Myth

Where Does the Current Flow?

- Plane discontinuities
- Vias
- Mother/Daughter Cards

Pseudo-Differential Nets

Return Current Spread

I/O Filter Design

Afternoon Session

Decoupling Power/Ground planes

- Source of Noise
- Board resonance issues
- Decoupling capacitor values
- Timely Charge delivery

-- Decoupling capacitor connection inductance

-- Predicting Noise source levels

Mixed mode PCB design

--RF, digital and analog

Shielding

-- How does shielding really work?

EMC issues for high speed differential cables

-- Skew

-- rise/fall time mismatch

-- Weak link

Using Signal Integrity tools for EMC design

EMC Short Course Costs:

Nominally zero with IEEE and EMC Society Membership, as follows:

Free to all IEEE EMC Society Members who register for the course.

Free to all Student IEEE members who become members of the EMC Society register for the course: Free Student Membership in EMC Society for 2008 plus balance of 2007 plus Registration for Short Course

Free IEEE and EMC Society membership for 1 year for the first 20 new Student members who register for the course: \$43.00 cost otherwise for Student Membership in IEEE and EMC Society for 2008 plus balance of 2007 plus Registration for Short Course.

Not presently a member of the IEEE or of the EMC Society? No problem. We will be there to help you join, before or at the Short Course.

Non-EMC Society Member of IEEE: \$25.00 cost for Membership in EMC Society for 2008 plus balance of 2007 plus Short Course Registration.

Not a member of IEEE or the EMC Society: \$186.00 cost for Membership in IEEE for 2008 plus balance of 2007 plus Registration for the Short Course.

CPMT/CASS Workshop Sept 13th

IEEE Component Packaging and Manufacturing Society (CPMT) and Circuits and Systems Society (CAS) Oregon chapter is sponsoring a full-day workshop on recent advances in microprocessor and communication platform design technology. The workshop is intended to bring together northwest technical professionals to exchange ideas and raise awareness to the latest developments in component, packaging, and platform design technologies. The workshop is scheduled for Thursday, September 13, 9:00 a.m. to 5 p.m. at the Kingstad Meeting Center in Beaverton.

New Senior Member

DiTommaso Vincenzo Oregon Section

September EMC Chapter

Meeting (Wednesday September 26th)

Guest Speaker at the September EMC Chapter Meeting will be Brent DeWitt, now with Hewlett-Packard, speaking on the European Union's Medical Equipment EMC Directive. That Meeting is scheduled to be held at the University of Portland, Franz Hall, Room 216, at 6:30 PM.

The IEEE Oregon Consultants' Network Meeting

Thursday night, 6PM for dinner, Meeting at 7 PM
Location: International House of Pancakes at SQL 158th and Walker Road in Beaverton 23 August 2007

Contact Pat Barrett for details

Call for Fellow Nominations

Nominations are being accepted for the IEEE Fellows class of 2009. The rank of IEEE Fellow is the institute's highest member grade, bestowed on IEEE senior members who have contributed "to the advancement or application of engineering, science and technology." The deadline for nominations is 1 March 2008.

Senior members can be nominated in one of four categories: application engineer/practitioner, research engineer/scientist, educator or technical leader. The Fellows Web site contains additional information on the nomination process including access to the Fellows Nomination Kit, lists of Fellows who may be available as references as well as the history of the IEEE Fellows program. Please visit the Fellows website at <http://www.ieee.org/fellows>.

IEEE NEWS

CALL FOR PAPERS ISQED 2008

9th International Symposium & Exhibits on QUALITY ELECTRONIC DESIGN (ISQED08) www.isqed.org
Leading Conference in Design for Quality & Manufacturability March 17-19, 2008 San Jose, CA, USA
<http://www.isqed.org>

Paper Submission Deadline: September 30, 2007
Acceptance Notifications: November 23, 2007
Final Camera-Ready paper: January 3, 2008

PAPERS ARE REQUESTED IN THE FOLLOWING AREAS: A pioneer and leading multidisciplinary conference, ISQED accepts and promotes papers related to Electronic Design, EDA, and Semiconductor Manufacturing. Authors are invited to submit papers in the various disciplines of high level design, circuit design, test & verification, design automation tools; processes; flows,

device modeling, semiconductor technology, and advance packaging.

The details of various topics of paper submission and the procedure is explained in ISQED web site at <http://www.isqed.org>

IEEE at Ubuntu

The IEEE Oregon Section had an informational booth in the exhibit area for both the OSCON 2007 Open Source and Ubuntu Live Conventions. Many people stopped by to discuss what the IEEE is. We told them that yes, the IEEE does make great standards, but we are much more. And when we came to the "much more," we tried to listen more than we talked. Does our local IEEE have a role in the local opensource community? It's that dialog that we hoped to start up. We set up a prototype blog (fully functional but prototype in the sense that its name and design do not indicate that it is maintained by the local section) on our website (<http://www.ieee-or.org/home>) to discuss this issue.

Capitol Hill Watch

Its officially summer in Washington, and Congress has left until after labor day. Prior to the recess, they came close to completing work on many big items, including an energy bill and patent reform. The first competitiveness legislation actually made it all the way to the White House where it became law this week. Both energy and patent legislation now await full House and Senate action. While there was talk of wanting to quickly move patent reform legislation to completion, too many stakeholders - from universities and associations to small companies - object to substantial aspects of the bills. IEEE-USA is currently working on a statement that will convey our concerns for several sections as well as the hope that Congress will take some more time to explore the impact of current patent reform legislation on individual inventors and small businesses. On another note, immigration reform legislation seems to have died another death this year and any hopes of a new law will most likely need to wait until 2008 or even after the presidential election cycle.

President Signs Competitiveness Legislation - After overwhelmingly passing the House and unanimously passing the Senate, a comprehensive package of legislation " H.R. 2272, the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Science Act (COMPETES) finally became law this week. The COMPETES ACT is consistent with the goals of the White House's American Competitiveness Initiative (ACI) which was unveiled in January 2006 after several years worth of reports warning that the U.S. was falling behind in its ability to compete globally.

Among other things, the COMPETES Act: authorizes \$33.6 billion over FY 2008-2010 for STEM education programs; establishes the Advanced Research Projects-Agency (ARPA-E) under the Department of Energy (DOE); and creates of a new Technology Innovation Program at the Department of Commerce, replacing the Advanced Technology Program. As IEEE-USA's Managing Director reported to our Board of Directors, I am pleased to report that IEEE-USA realized one of its major public policy priorities for the 110th Congress ... with the President's signature of the America COMPETES Act (H.R. 2272)

(<http://thomas.loc.gov/cgi-bin/bdquery/z?d110:h.r.02272>.)

IEEE-USA directly helped to champion two provisions: reauthorization of the Noyce Scholarships, and inclusion of a title strengthening the federal focus on high-performance computer research and development. IEEE-USA was one of many organizations working proactively over the past three years in support of this legislation, both directly and in coalition. IEEE-USA sent numerous letters to Congress, marshaled our members for over 150 grassroots visits in support of the bill (many as part of our annual Congressional Visits Days), issued grassroots alerts, co-sponsored congressional briefings (including the initial November 2005 briefing to Congress on the NAS' Gathering Storm report and its recommendations), written articles, issued press releases, and provided testimony to Congress earlier this April on competitiveness and the importance of basic research. IEEE-USA was also a signatory to the American Innovation Proclamation and worked in partnership with other organizations through the Task Force on the Future of American Innovation, the Computer Research and Innovation Coalition, the Science, Technology, Engineering and Math (STEM) Coalition, and the Council on Competitiveness, to support this legislation.

House Passes Energy Bill Containing Renewable Energy Benefits - Just before recessing for the month-long summer break, the House passed a comprehensive energy bill (H.R. 3221) including a renewable portfolio standard (RPS, sometimes called RES or renewable electricity standard). The federal RPS mandates that 15 percent of retail electricity come from renewable resources by 2020. Many states and localities already have an RPS. In 1999, then Texas Governor George W. Bush engineered and signed an RPS mandate for Texas. The President is continuing his support by pushing for the alternative-fuels mandate.

White House & Executive Agency Watch

National Science Foundation to Host Reception Honoring 2005 and 2006 Medal of Science Laureates - For more information on the National Medal of Science, and for photographs and biographical information on its 2005 and 2006 laureates,

visit:<http://www.nsf.gov/od/nms/medal.jsp>.

Science Secretary Vows No Cost Overruns While Discussing ITER Project - During a recent briefing to the Fusion Energy Sciences Advisory Committee on ITER's status, Energy Under Secretary for Science Ray Orbach vowed, "The Office of Science will not have cost overruns." ITER is an experimental fusion reactor to be built in France by China, the European Union, India, Japan, Korea, Russia, and the United States. The Interim ITER Council recently held a meeting in Tokyo attended by both Orbach and former IEEE-USA President and current Chair of the IEEE-USA Government Fellows Committee, Ned Sauthoff. Dr. Sauthoff serves as the director of the U.S. ITER Project Office.

Reports, Speeches & Documents of Note

Technology Trends and Small Business - Access the Intuit Future of Small Business report on technology trends. <http://www.intuit.com/futureofsmallbusiness/>

The Economist's IT Industry Competitive Index Ranks 64 Countries, U.S. on Top

Student Results Show Benefits of Math and Science Partnerships - For a full press release, visit: http://www.nsf.gov/news/news_summ.jsp?cntn_id=109725

NESTA Report: Hidden Innovation

GAO Reports - Federal Support for Small Manufacturers
NSF Reports - Family-Related Issues Top List of Reasons for Migration of Immigrant Scientists and Engineers to the U.S. URL:

http://www.nsf.gov/publications/pub_summ.jsp?ods_key=pr07073

Book Review

Welcome to Biotech Nation: My Unexpected Odyssey into the Land of Small Molecules, Lean Genes, and Big Ideas

by Moira A. Gunn, PhD.

\$24.95 Amacom ISBN 0-8144-0923-7

Review by Allen G. Taylor

For a number of years, Moira Gunn has hosted at technology oriented interview program on National Public

Radio, named Tech Nation. The program has international reach, airing weekly on 200 public radio stations, on Sirius Satellite Radio, and to 133 nations on Armed Forces Radio. With a PhD in Mechanical Engineering and a Masters degree in computer science, Ms. Gunn has the chops to ask the important questions to the tech luminaries that she interviews. In 2004 she decided to leap out of her comfort zone and to add a biotechnology component to her program. It was evident then and is even more evident today that biotechnology was growing in importance and was without a doubt THE NEXT BIG THING in technology. The only problem was Moira's total lack of background in biotech. Undeterred by her inexperience, she launched a new segment of her program named Biotech Nation.

Perhaps you have heard some of the Biotech Nation broadcasts, which, until recently, aired on OPB on Friday evenings. OPB has shaken up its schedule and Tech Nation was one of the shows that disappeared. As one of the few programs on public radio, or any radio for that matter, that discusses technology, Moira's program deserves to be heard. If you feel so inclined, you might contact OPB management and ask that Tech Nation be reinstated.

Moira's new book, Welcome to Biotech Nation, is the story behind the program. It describes how Moira got pulled into biotech, almost without realizing what was happening. It talks about the interesting characters she has met in the biotech industry, the hurdles she had to leap over to interview them, and some of the startling facts she learned about biotechnology and about human health and disease. Moira's breezy style makes the book a fast read as well as an informative one. Each chapter is a story that shows a side of biotechnology that we do not often see. Moira describes those parts of her encounters with her interviewees and with other industry bigwigs that never showed up on the radio program. For engineers who have always wondered what a career as a broadcast journalist would be like, Welcome to Biotech Nation relates one engineer's experience.

NEWS from IEEE-USA

IEEE TECHNOLOGY-RELATED NEWS STORIES AIRED IN MORE THAN TWO-DOZEN U.S. TV MARKETS; VIEW LATEST, ARCHIVED SPOTS

Beginning in 2005, in collaboration with the American Institute of Physics (AIP) and other technical professional organizations, IEEE-USA has helped to underwrite almost 300 local television news stories on engineering and science.

Since January 2006, stories about IEEE-related technologies aired in more than two-dozen U.S. TV markets, in-

cluding New York, Chicago, Philadelphia, San Francisco, Tampa-St. Petersburg, Phoenix and Miami -- broadcast on ABC, CBS, NBC, Fox, Univision, cable and independent TV affiliates. The average number of household views for these markets is estimated at more than 70 million.

Recent IEEE technology-related stories included: "Preparing for Disaster"; "Movie Magic"; "Engineers Invent Doppler-Based Stethoscope"; "RFID-based Recycling Technology Makes Philadelphia Greener"; and "Automotive Engineers Team Up to Improve Energy-Saving Technology."

The stories are aired as part of AIP's "Discoveries & Breakthroughs" news service that delivers a dozen vetted 90-second spots (in English and Spanish) to the top 66 television markets in the United States -- with a potential reach of 75 million viewers.

A limited number of DVDs of the IEEE technology-related TV spots can be obtained by sending an e-mail to p.mccarter@ieee.org.

To view the latest 90-second stories as well as almost 100 archived spots -- all on IEEE-related technologies, go to <http://www.aip.org/dbis/IEEE/>.

CONTACT: Pender M. McCarter, Senior Public Relations Counselor, IEEE-USA, +1 202 530 8353

What's in Today's Engineer?

1) IEEE-USA President's Column: Encouraging a New Generation of Engineers

One of IEEE-USA's strategic objectives is to encourage youngsters to become engineers to help ensure the nation's competitiveness and to help solve the long-term challenges facing the nation and the global community. In his latest president's column, John Meredith calls on today's engineers to bring the next generation of young people into the profession.

To read the full column, visit:

<http://bmsmail3.ieee.org:80/u/6663/11913>

2) Teaching Today's Engineering Students to Be Tomorrow's Entrepreneurs

IEEE-USA Today's Engineer sat down with G. Kemble Bennett, Ph.D., P.E., vice chancellor of engineering for The Texas A&M University System and dean of the Dwight Look College of Engineering at Texas A&M University, where he leads one of the largest and highest ranked engineering programs in the nation. Dr. Bennett shared with TE insights on the importance of entrepreneurship, and what Texas A&M is doing to make it part of

its engineering curriculum. Read the interview, and much more at: <http://bmsmail3.ieee.org:80/u/6664/11913>

3) Register Now for 19 September PHEV Symposium

IEEE-USA is co-sponsoring a one-day Symposium, "Plug-In Hybrids: Accelerating Progress" on 19 September 2007, at the Omni Shoreham Hotel, Washington D.C. The symposium will cover: plug-in hybrids on the road today; fuel economy; efficiency and economics of plug-in hybrids; technology challenges; the electric grid and plug-in hybrids; legislative needs; and more.

For more information and to register, visit: <http://bmsmail3.ieee.org:80/u/6665/11913>

4) Two IEEE Members Named First NSF CISE Distinguished Education Fellows

On 13 July 2007, the National Science Foundation (NSF) announced the first annual Computer and Information Science and Engineering (CISE) Distinguished Education Fellows at a ceremony at NSF's Arlington, Va., headquarters. Owen Astrachan of Duke University and Peter Denning of the Naval Postgraduate School, both IEEE members, were each recognized for their outstanding efforts to revitalize undergraduate computing education in the United States.

As part of the fellowships, Astrachan and Owen will receive funding from NSF to continue their work over the next two years.

The fellowships are made to individuals who have achieved distinction in the computing profession, who are committed to transforming undergraduate computing education, and who have innovative ideas on how to do so. The fellowships allow recipients to spend significant time and effort on projects focused on innovative, original and possibly untested ideas that will benefit undergraduate computing education on a national scale.

For more information on the CISE Distinguished Education Fellows, visit: <http://bmsmail3.ieee.org:80/u/6667/11913>

5) IEEE UCE/SPAM Filtering Service To Change From "Opt-In" To "Opt-Out" In

An Effort To Reduce Unsolicited Messages Sent To IEEE Member E-mail Aliases

To help reduce the increasingly large volume of unsolicited commercial e-mail messages - commonly known as spam - being sent to ieee.org e-mail addresses from outside sources, the IEEE UCE/spam filtering service will be changing from the current "opt-in" policy to an "opt-out" policy.

On 20 August 2007, a default spam filtering level, expected to reduce the volume of e-mail sent to ieee.org addresses by 30 percent, will be applied to all IEEE e-mail aliases. It is designed to filter out e-mail that is extremely likely to be UCE/spam. In the past, this filtering service had to be individually activated by each user.

Those who do not wish to have the default spam filtering level applied to their IEEE e-mail alias can select to "opt-out" at <https://uce.ieee.org> and choose the "No UCE/Spam filtering" option, or select a more aggressive filter level. After choosing this option, click on "Set UCE/Spam Filtering Level" button to save the changes. If no action is taken by 20 August, the default spam filtering level will be activated. Subscribers can opt-out of the filtering service at any time.

For more details on why the new policy was implemented, how the policy will improve e-mail delivery through internet service providers and the aggressiveness of the service, visit <https://uce.ieee.org/opt-out-info.html>. Questions can be directed to member-services@ieee.org.

6) The IEEE Mentoring Connection (TM) Seeks New Members

The IEEE Mentoring Connection is seeking additional "online" mentors to help guide younger professionals in career planning and professional development. Mentor participation is open to all higher grade IEEE members.

The program is connecting members around the world. For example, currently a mentor in Florida is partnered with members in Hong Kong and China, and a mentor in Ireland is partnered with a member in Saudi Arabia. Other mentors in the United States are currently matched with individuals in Japan, Nigeria and India. A total of 854 mentees and 379 mentors have registered for the program to date. Since its inception, 166 mentor/mentee pairs have been established, with several other partnerships in the process of being finalized.

Potential mentors are asked to review the time and effort commitment to the program necessary to ensure a successful mentoring partnership. Currently, mentors are asked to dedicate a minimum of two hours a month.

Interested members can visit <http://www.ieee.org/mentoring> for more information on the roles and responsibilities of each mentoring partner, including additional program information and an FAQ page. To join the program, visit <http://bmsmail3.ieee.org:80/u/6668/11913> and use the IEEE Group ID "IEEE2006" to open the site, followed by a password and user ID set-up process. Members with questions can contact Cathy Downer, Regional Activities, at c.downer@ieee.org.

7) Rochester Institute Of Technology To Provide Discounted Tuition To Members As Part Of IEEE Education Partners Program

IEEE members are now eligible for a 10 percent tuition discount on online courses offered by the Rochester Institute of Technology (RIT) by enrolling through the IEEE Education Partners program. RIT currently offers more than 45 certificate and degrees online, and has an office dedicated to supporting students enrolled in online programs.

Students taking RIT online courses are afforded all of the same functions of a traditional university including admissions, financial aid services, registration, tuition payment, a comprehensive library and a bookstore.

Consistently ranked as one of the United States' leading comprehensive universities by U.S. NEWS & WORLD REPORT, RIT is recognized as a world leader in career-oriented and professional education. With more than 20 years of experience in distance learning, RIT offers advanced certificates and masters degrees online in areas such as imaging science, information technology, microelectronics, networking and systems administration, software development, and management and telecommunications.

To review RIT's course offerings or to review other IEEE Education Partners, visit <http://bmsmail3.ieee.org:80/u/6669/11913>.

Latest IEEE-USA & IEEE Activities

IEEE-USA Co-Sponsoring Symposium on Plug-in Hybrid Electric Vehicles - On September 19th, IEEE-USA is co-sponsoring with the IEEE New Technology Directions Committee, the Set America Free Coalition, the IEEE Power Electronics Society, the IEEE Society on Social Implications of Technology, the IEEE Vehicular Technology Society, the IEEE Computational Intelligence Society and the IEEE Power Engineering Society a symposium on the technology and policy challenges of commercializing PHEVs at the Omni Shoreham Hotel in Washington, DC. Plug-in Hybrids: Accelerating Progress 2007 will bring together leaders in the manufacturing industry, electric utilities, universities, national laboratories and non-profits to explore what is needed to accelerate commercial use of plug-in vehicle technology. Demonstration vehicles will be on display. In July, IEEE-USA also co-sponsored a congressional briefing on PHEVs.

IEEE Trans SMC-B Special Issue on Approximate Dynamic Programming and Reinforcement Learning for Control

New deadline for paper submission: September 1, 2007

Neural networks and fuzzy logic systems possess highly attractive mathematical and adaptive learning properties that have been exploited in numerous fields including signal processing, sensor fusion, decision-making and classification, pattern recognition and clustering, multimedia processing, and elsewhere.

Man-made feedback controllers are responsible for many of the recent developments in engineered systems including aerospace, ship, vehicle, industrial, robotic, and process control systems. Applications of neural networks and fuzzy logic in feedback control systems are intriguing because they potentially allow the control of complex engineered systems whose dynamics are unknown a priori.

Most applications of neural networks for feedback purposes explored by the Control Systems Community have been to extend the capabilities of controllers designed via traditional tools by augmenting them with neural networks employed as nonlinear function approximators for unknown system dynamics. So far, these applications have not focused on optimal or efficient control.

In nature, biological and ecological systems operate on various principles of optimality, efficiency, or economy, based on constrained resources. It is known that the solution of various optimal and inverse optimal controller design equations can potentially provide optimal controllers for any form of nonlinear system. Problems related to determining a control input that minimizes various prescribed cost or value functionals can be confronted by solving so-called Hamilton-Jacobi-Bellman equations. These HJB equations are generally nonlinear and impossible to solve analytically.

A large and highly successful body of work exists in reinforcement learning and Adaptive Dynamic Programming (ADP), also called Neurodynamic Programming (NDP), which approximately solves the HJB equations using efficient forward-in-time techniques based on using neural networks for value functional approximation. Much work has been done in this area to develop various ADP algorithms, prove convergence, determine effective solution procedures, and design practical control systems for aerospace systems and elsewhere.

ADP holds out the promise of providing a new class of Adaptive Controllers that directly converge to optimal control designs.

The purpose of this Special Issue is to showcase the state-of-the-art in ADP, NDP, and reinforcement learning for feedback control applications.

Topics of Coverage: Including but not limited to

- Adaptive dynamic programming
- Reinforcement learning for system control
- Approximately optimal control
- Value function approximation for control systems design
- Q learning (action-dependent learning)
- Neural network applications in dynamic programming for feedback systems
- Fuzzy logic systems and fuzzy-neural systems for dynamic programming
- Direct policy search
- Actor-critic methods
- Learning rules and architectures for ADP
- Partially observable Markov decision processes
- Approximate solutions to nonlinear controller design equations
- Approximation-based optimal control systems
- Applications of ADP

Guest Editors

F.L. Lewis, Univ. of Texas at Arlington, Texas
George G. Lendaris, Portland State University, Portland, Oregon
Derong Liu, University of Illinois at Chicago

Submission

Papers for the special issue must be submitted electronically through Manuscript Central at <http://smcb-ieee.manuscriptcentral.com>. Information regarding electronic submission can be found at <http://www.eecs.wsu.edu/~cook/smcb>. Each submitted paper must indicate that the paper is submitted to the special issue on ADP. Submitted manuscripts will be screened for topical relevance, and those relevant to the special issue will undergo IEEE SMC-B standard review procedures.

The paper submission deadline is: 1st September 2007

IEEE International Conference on RFID 2008 Preliminary Call for Papers

March 17-19, 2008
Las Vegas, Nevada, USA
www.ieee-rfid.org/2008

The IEEE International Conference on RFID – IEEE RFID – is the premier international conference series bringing together leading researchers, developers, integrators, and visionaries to discuss and expand their knowledge of technologies, systems, networks, algorithms, and applications that support the development and adoption of RF-based wireless communications and identification systems. IEEE RFID 2008 is the second annual conference dedicated to addressing the technical and policy challenges in the areas of radio frequency identification

(RFID) technologies, their supporting large-scale distributed information systems, and their applications.

IEEE RFID 2008 is a highly selective conference focusing on wireless identification and sensing systems, security features and approaches appropriate for these systems, technical and policy-related research and solutions on the technologies, design, manufacture, deployment, and application of RFID systems and their supporting information systems and application infrastructures. This conference is ideal for addressing the challenges facing the design, manufacture, deployment, use, and fundamental limits of wireless identification and sensing systems. The conference will feature keynote speeches from leading visionaries, presentations of groundbreaking technology advances, panel discussions on pressing topics, poster sessions reporting preliminary results and works in progress, and, of course, benefit from being co-located with the RFID World 2008 tradeshow.

Authors are invited to submit full 8 page papers in the IEEE conference format presenting new research, innovations, and implementations related to the theory and practice of RFID systems, sensor technologies, and related information system support. All submissions must describe original work not previously published or currently under review for publication in another conference or journal. Papers must be submitted by November 21, 2007. Topic areas of interest include, but are not limited to: Antennas and Propagation: Antenna theory and designs, channel measurements and modeling Circuits, Devices, and Sensors: Building block system components, integrated sensors, energy harvesting, low-power design, non-silicon-based structures RFID System Architecture and Implementation: Novel system designs for mobile devices, reader system architecture, scalable deployment technologies, system architectures Deployment: System deployment and operation, ranging and localization Security: Features for security, system security solutions Policy and Regulatory Issues: Spectral management, data access and privacy issues, co-existence of RFID systems, government oversight, social implications of RFID technology Application Issues & Concerns: EMC/RF radiation, testing, reliability, interoperability; issues in patient safety, system-on-a-chip, and frequency Accepted and presented papers will be published in the IEEE conference proceedings and in IEEE Xplore. Visit the conference website for complete submission instructions and current information on the program and activities: www.ieee-rfid.org

Call for Special/Invited Sessions Proposals ISCAS 2008
Seattle, Washington 18-21 May 2008
www.iscas2008.org

SUBMISSION DEADLINE: 07 September 2007

The ISCAS 2008 technical program will include Special (Invited) sessions. Their objective is to complement the regular program with new or emerging topics of particular interest to the circuits and systems community that may also cut across and beyond disciplines traditionally represented at ISCAS.

Special (Invited) sessions dealing with industrial applications, including mobile communications, digital communications, multimedia systems, biosystems, sensor interface, mmwave circuits and systems, design methodologies and modeling of CMOS advanced technologies devices and circuits, management and optimization of circuit power and energy are especially welcome. The first paper in a Special (Invited) session should serve as an introduction to the field, aimed at outsiders. This paper may be presented by the organizer, or by another presenter.

Prospective organizers of Special (Invited) sessions should submit proposals indicating:

- title of the session
- rationale of the need for the Special (Invited) session at ISCAS. The rationale should stress the novelty of the topic and its multidisciplinary flavor (if any)
- short biography of the organizers
- list of five (5) contributed papers (including titles, authors, contact information of the corresponding author, and a short abstract of each contribution). Organizers should not contribute with more than one paper.
- preliminary full version of the overview paper is desirable. If submitted, it enhances the chances of proposal acceptance.

Endorsement of the proposal by at least one CAS technical committee is encouraged, but not required for consideration. Proposals are due on or before 7 September 2007 and should be sent via e-mail (in either pdf or plain ascii text form) to the Special (Invited) sessions chairs, Jenq-Neng Hwang (hwang@u.washington.edu) and Karti Maram (karti@eecs.oregonstate.edu).

Proposals will be evaluated based on the timeliness of the topic, the qualifications of the organizers and the authors of the papers proposed in the sessions, the balance of the topics across the technical areas represented in CAS, and the presence and quality of the overview paper. Note that Special (Invited) session proposals on topics that clearly belong to well acceded (sub) tracks of ISCAS will not be accepted.

Notification of acceptance will be sent to the organizers by 21 September 2007. Authors of papers included in

successful proposals should submit a manuscript on or before 2 November 2007. Manuscripts should conform to the formatting and electronic submission guidelines of regular ISCAS papers. They will undergo peer review. It is the responsibility of the organizers to ensure that their Special (Invited) session meets the ISCAS quality standards. If, at the end of the review process, less than four (4) papers are accepted, the session will be cancelled and the accepted papers will be moved to regular sessions.

Important deadlines:

Proposals due: 7 September 2007

Notification of acceptance: 21 September 2007 Submission of full four-page papers for Special (Invited) sessions: 2 November 2007

Notification of paper acceptance: 4 January 2008 Deadline for submission of final papers: 8 February 2008

Titles Needed for Journal Legacy Project:

The IEEE Legacy Project is an effort to digitally convert the entire back-file for each IEEE periodical beginning with the first issue. These digital archives will be loaded into IEEE Xplore improving the depth of information available to members and customers. Currently about 50,000 articles have been converted and loaded into IEEE Xplore. There are about 30,000 additional articles in the queue for scanning and digitization.

However, there are gaps in the back-file materials. The following list contains all the periodical issues still being sought for this legacy project. We first published this list in April 2007, and since then the files of 4 publications have been obtained. If you have copy of any of these issues, please contact Karen McLean, Senior Product Manager, Electronic Products at +1 732 562 6333 or k.mclean@ieee.org.

IEEE Aerospace and Electronic Systems:

Transactions of the Institute Technical Group on Aerospace of AIEE (1962) IEEE Transactions on Aerospace and Navigational Electronics (1965) IEEE Aerospace & Electronic Systems Newsletter (1961-1985)

IEEE Computer Society:

Annals of the History of Computing (1979-1987) IEEE Computers in Physics (1987) IEEE Computer Group News (1966-1970)

IEEE Engineering Management:

Transactions of the IRE Professional group on Engineering Management(1953-1954)

IEEE Industry Applications:
IEEE Industry Applications Newsletter (1967-1987) IEEE Transactions on Applications and Industry (Mar 1963-Nov 1964) Transactions of the American Institute of Electrical Engineers, Part 2:

Applications/Industry (1952-Jan 1963)
Instrumentation and Measurement:
IRE Professional Group on Instrumentation Society Newsletter (1958-1962)

Power Engineering:
Power Apparatus and Systems (1952-1963)
Transactions of the American Institute of Elec. Engineers, Part 3:Power Appar. & Systems (1952-1962)

Social Implications of Technology:
IEEE Technology and Society Magazine (1986-1987)
Technology and Society (1977-1982) IEEE CSIT Newsletter (1972-1976)

IEEE-USA Co-Sponsoring Symposium on Plug-in Hybrid Electric Vehicles

WASHINGTON -- Plug-in hybrid electric vehicles could greatly reduce U.S. gasoline consumption and carbon emissions if adopted on a large scale.

IEEE-USA is co-sponsoring a symposium on the technology and policy challenges of commercializing plug-in hybrid electric vehicles at the Omni Shoreham Hotel in Washington on 19 September. Plug-in Hybrids: Accelerating Progress 2007 will bring together leaders in the manufacturing industry, electric utilities, universities, national laboratories and non-profits to explore what is needed to accelerate commercial use of plug-in vehicle technology.

Demonstration vehicles will be on display.

Advances in power electronics, controls, computer systems, sensors, high-performance permanent-magnet electric motors and new battery technology are converging to create the opportunity to make the plug-in vehicle practical, said Tom Schneider, general chair of the symposium and past chair of the IEEE-USA Energy Policy Committee. If not today, then in the immediate future.

Unlike gasoline-electric hybrids on the road now, which charge their batteries from an on-board engine while the vehicle is running, plug-in hybrid batteries can charge from an ordinary electric outlet. Thus, your battery can be charged from home while the engine is off.

By getting power from the electric grid, plug-in hybrids can increase the security of the United States by reducing dependence of foreign oil.

Drivers can save money by purchasing off-peak electricity and using less gasoline, and the environment benefits from reduced carbon emissions.

The symposiums four panel sessions will explore: Electrification, Fuel Economy and the Environment; Plug-in Vehicles and the Electric Grid; New Technology Challenges and Opportunities; and the Need for Federal Action Now.

The registration fee is \$200 for industry and \$100 for government employees and students. Continental breakfast, lunch and coffee breaks are included. After 2 September, the fees jump to \$250 and \$125, respectively. For more information and to register, see <http://www.ieeeusa.org/policy/phev/default.asp>.

IEEE-USA is co-sponsoring the event with the IEEE New Technology Directions Committee, the Set America Free Coalition, the IEEE Power Electronics Society, the IEEE Society on Social Implications of Technology, the IEEE Vehicular Technology Society, the IEEE Computational Intelligence Society and the IEEE Power Engineering Society.

Go to <http://www.ieeeusa.org/policy/positions/PHEV0607.pdf> for more on plug-in hybrid vehicles.

IEEE-USA Seeks Award Nominations

IEEE-USA's Awards and Recognition Committee is seeking nominations for its 2007 awards for professionalism, technical achievement and literary contributions to public awareness and understanding of the engineering profession. Because of our Web site's technical difficulties earlier in the year, the deadline for nominations has been extended to 14 September 2007.

IEEE-USA Awards are given to recognize, professionalism, technical achievement and literary contributions to public awareness and understanding of the engineering profession in the United States.

Professionalism is characterized by efforts which advance the standing of members in the professions served by IEEE. Example activities are:

- Promotion of science and math education in precollege education
- Promotion of professional awareness with college students
- Educating members on non-technical skills to advance and maintain their careers

- Educating the public on the positive impact of the professions served by the IEEE

IEEE-USA awards include:

Professionalism

Robert S. Walleigh Distinguished Contributions to Engineering Professionalism Award
Award for Distinguished Public Service
Citation of Honor
Precollege Education Committee Teacher-Engineer Partnership Award
Regional/Divisional Professional Leadership Award
Professional Achievement Award:

For individuals

For organizations

Technical Achievement

Harry Diamond Memorial Award
Electrotechnology Transfer Award

Literary Contribution

Award for Distinguished Literary Contributions Furthering Public Understanding of the Profession

Award for Distinguished Literary Contributions Furthering Engineering Professionalism

For detailed information and nomination forms please see <http://www.ieeeusa.org/volunteers/awards/forms.html>

Don't see an award that fits your nominee here? The IEEE has many other award categories available. Check out the following links for listings:

<http://www.ieee.org/portal/pages/about/awards/index.html>

<http://www.ieee.org/portal/pages/about/awards/othawd.html>

For more information, contact Sandra Kim at <mailto:s.kim@ieee.org> or 202-530-8330.

ENERGY - Power forward . . .

The recently-opened Dell Regional Children's Medical Center in Austin, Texas, is demonstrating the future in self-sufficient power, with the help of Oak Ridge National Laboratory. Working with researchers in ORNL's Buildings Technology Center, the medical facility has installed a combined heat and power system that delivers power to the facility at greater than 70 percent efficiency compared to electric grid-based systems that operate at about 30 percent efficiency. The system does so by using a high-efficiency gas turbine to produce about 4.5 megawatts of electricity, then capturing the waste heat to produce steam and cooling for the hospital. The system operates in parallel with the grid, selling back excess power. This technology has the potential of lessening demand on the power grid by creating self-sufficient systems for large commercial facilities and even apartment and housing develop-

ments of the future. [Contact: Larisa Brass (865) 574-4163; brasslm@ornl.gov]

What are the Effects of Technology on Society?

Become part of the discussion as the Oregon Section forms a new chapter of the Society on Social Implications of Technology (SSIT). You are encouraged to become a co-founder and help decide the future direction of this important roundtable.

The Society on Social Implications of Technology (SSIT) of the IEEE has about 2000 members worldwide. The scope of the society includes such issues as environmental, health and safety implications of technology; engineering ethics and professional responsibility; history of electrotechnology; technical expertise and public policy; peace technology; and social issues related to energy, information technology and telecommunications.

Take this opportunity to become a founding member and share your ideas for our SSIT chapter. Please email Jeffrey Drummond at jeffrey_drummond@ieee.org.

Taking Spying to a New Level

A recent issue of Technology Review describes a miniature flying spy drone that looks like an insect. You have heard people say, "I would like to have been a fly on the wall at that meeting." Now you can actually do it. Here's a link to the article:

<http://www.technologyreview.com/Infotech/19068/?a=f>

IEEE Oregon Section Contacts

Gary Hinkle	Section Chair
Jeffrey Drummond	Vice Chair
Kevin DeAngelis	Secretary
Jesse Inkpen	Treasurer
Allen Taylor	BEEEP Editor
John Vinson	Pre-College Activities Chair
Ed Perkins	Professional Activities Chair
Kim Janik	Communications Cmtee Chair
Christopher Jacobs	Public Relations Chair

Editorial submissions are welcome and should be made by the 25th of the month preceding publication. Send all items to the Editor,

Allen Taylor, 503-656-0831

email: allen.taylor@ieee.org

Administrative inquiries should be directed to Section Chair,

Gary Hinkle,

email: gary.c.hinkle@auxilium-inc.com

To contact us, see www.ieee-or.org/contact_us