



2010

ANNUAL REPORT

IEEE-USA's Strategic Focus for 2010

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IEEE-USA joined with other scientific and engineering organizations, corporations, universities, trade associations, government agencies, and others in supporting various activities designed to promote scientific and technical literacy, framed as the *Educate to Innovate* initiative. The goal of this exercise was to improve the participation and performance of America's students in science, technology, engineering and mathematics (STEM).

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2010 continued to be a challenging year for U.S. IEEE members, who were affected by pockets of high unemployment, slow economic recovery, and continued offshoring trends. IEEE-USA responded with a strong emphasis on supporting members' careers, with coordinated approaches designed to address the employment assistance needs of displaced members, webinar and e-book offerings on topics designed to build workplace skills, and efforts to promote entrepreneurship and consulting as career alternatives and for job creation.

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Working within the constraints of an election-year shortened, legislative session, IEEE-USA advanced a priority agenda focused on promoting innovation, patent reform, energy policy, broadband deployment and STEM-related education. Members were enlisted as grassroots advocates to help carry key messages to decision-makers. Emphasis was also placed on educating and informing our members and policy-makers of key issues and technology trends, through webinars, congressional briefings, fellowships, internships, and our policy communications.

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In 2010, IEEE-USA began to strengthen its focus on member engagement and public outreach to help promote membership revitalization, increase awareness of IEEE-USA's products and services, and to advance our other strategic goals. Particular emphasis was placed on enhancing our communications to members with the launch of the new *IEEE-USA in Action* interactive periodical.

A Message from 2010 IEEE-USA President Evelyn H. Hirt



2010 was a year of challenges and opportunities for IEEE's U.S. members and the profession as a whole. A lagging economy, continuing elevated levels of unemployment, and increasing international competition and offshoring were balanced in part by increased federal investments in science and technology and growing demand for engineers and computer professionals in select sectors such as power engineering, green jobs, and software.

IEEE-USA responded with a continuing focus on shaping public policy and supporting Members careers. We increased our offerings of career-related webinars and e-books, set a record for member participation in the 2010 Salary Survey, saw continued growth in U.S. consultants networks, and engaged more than 3500 student members through student professional awareness conferences. Work continues on efforts to support entrepreneurship and IEEE-USA provided career survival and employment assistance programs and services to affected IEEE communities.

On the policy front, IEEE-USA worked to help achieve the successful reauthorization of the America COMPETES Act, which extended authority for increased federal investments in science and technology. Patent reforms opposed by IEEE-USA ran aground in Congress. Efforts continued to advance energy legislation, skilled immigration reforms, and integration of engineering concepts into K-12 education. IEEE members supported these efforts by participating in 149 legislative visits on IEEE-USA's behalf.

Scientific and technical literacy became a national priority in 2010, as IEEE-USA joined with other organizations under the "Educate to Innovate" umbrella in efforts improve the awareness, participation and performance of America's students in science, technology, engineering and mathematics (STEM). A personal highlight was participating in the inaugural U.S. Science and Engineering Festival on the National Mall in Washington, DC, which drew an estimated half-million participants including over 15,000 young visitors to IEEE-USA's hands-on exhibit.

The Presidency of IEEE-USA has a one-year term, making it important for me to work closely with my predecessor Gordon Day and my successor Ron Jensen to ensure the continuity of IEEE-USA's overall focus on enhancing membership engagement and diversifying IEEE-USA's revenue sources. One of our 2010 engagement highlights was the successful launch of the IEEE-USA in Action, a new interactive periodical designed to increase member awareness of IEEE-USA's products and services and engage them in career-enhancing activities.

I hope that you will share my pride in what IEEE-USA accomplished for you in 2010, the highlights of which are summarized in the following pages.

Enjoy,

A handwritten signature in black ink that reads "Evelyn H. Hirt".

Evelyn H. Hirt
2010 President, IEEE-USA



Educating to Innovate

IEEE-USA joined with other scientific and engineering organizations, corporations, universities, trade associations, government agencies, and others in supporting various activities designed to promote scientific and technical literacy, framed as the Educate to Innovate initiative. The goal of this exercise was to improve the participation and performance of America's students in science, technology, engineering and mathematics (STEM).

On 23 Nov. 2009, President Obama announced the *Educate to Innovate* campaign, a nationwide effort to help reach the goal of moving American students from the middle to the top of the pack in science and math achievement over the next decade. IEEE-USA

joined nearly 200 other science, engineering, corporate, educational, and other groups in a letter to the President pledging our support. Highlights of our 2010 activities include:

Public Policy

To advance the goals of the Educate to Innovate campaign within the public policy/legislative sphere, IEEE-USA joined with the American Society of Mechanical Engineers and the Boston Museum of Science in a successful effort to recruit Congressional sponsors to introduce the *Engineering Education for Innovation (E2) Act* (S. 3043 & HR. 4709). The bill was introduced in the House and Senate, but failed to achieve final passage before the 111th Congress adjourned. We will continue to promote this legislation in the 112th Congress.

IEEE-USA also participated as a member of the STEM Education Coalition in successfully supporting the reauthorization of various federal K-12 education programs, with passage of the *America COMPETES Act Reauthorization*, (including funding for the National Science Foundation's Robert Noyce Scholarship, which encourages STEM graduates to pursue teaching careers).

Future Cities at the White House

As part of the annual National Engineers Week festivities, the Future Cities Competition Finals were held in Washington, D.C. Future City Teams from Florida, Michigan, Nebraska and North Carolina joined President Obama, and White House Science & Technology Advisor John Holdren, in a White House press event on 17 Feb., where the middle-schoolers had the chance to ask questions of NASA astronauts on the International Space Station.

Future Cities finalist, Pinnacle Academy from Oakton, Virginia, was invited back to the White House on 18 Oct. 2010, along with

winners of FIRST Robotics, FIRST LEGO League, Intel Talent Search, and others to participate in the first

Presidential "Science Fair." The White House Science Fair featured K-12 student finalists' projects from various science and engineering competitions held around the country.



National Engineer Week (E-Week) Highlights

As a co-sponsor of National Engineers Week, IEEE-USA participated in a number of programs designed to promote STEM literacy and awareness, including:

- ◎ **Introduce a Girl to Engineering Day (18 Feb.)**, a year-long effort enlisting volunteers as mentors and role models

for young women to build and sustain their interest in engineering careers, culminating in a special awareness day.

- ⊙ **E-Week Family Day (20 Feb.)**, a full day of hands-on activities and demonstrations designed to introduce kids to the excitement of engineering that drew more than 6,000 to the National Building Museum in Washington, D.C. A similar [Family Day event](#) was held in Charleston, South Carolina on 20 Feb.
- ⊙ **2010 Global Marathon (10-11 March)** was a 24-hour “conversation,” done through a combination of live Internet chats, webcasts, teleconferences and pre-recorded sessions on issues for, by and about women in engineering and technology.

National Robotics Week

National Robotics Week is a new initiative developed by the National Technology Collaborative with IEEE-USA support to raise awareness of robotics technology. The inaugural week, held 10-18 April 2010, included the celebration of over 50 affiliated events in 21 states, D.C., and Puerto Rico. More than 46,000 people participated, including over 22,000 K-12 students.

National Lab Day

IEEE-USA was a co-sponsor of a new nationwide initiative supported by more than 200 science, engineering and teacher associations, companies, universities and the White House to connect scientist and engineer volunteers with students and educators at grade-levels 6-12. The initiative seeks to improve school laboratory facilities and their use to provide

discovery-based science and engineering. Celebrated on 12 May 2010, National Lab Day looks to match teachers with scientists and engineers in the classroom on a year-round basis.



U.S. Science and Engineering Festival

IEEE-USA was an official partner in the inaugural U.S. Science and Engineering Festival (10-24 October 2010), culminating in a two-day event held on the National Mall, featuring more than 1,500 exhibitors and drawing an estimated crowd of 500,000. IEEE-USA helped promote the Festival with a series of local radio advertisements. Led by chair Dusty Fisher, IEEE-USA Precollege Education Committeemembers, helped man the IEEE-USA booth, which drew an estimated 16,000 visitors. In addition to a give-away and a special exhibit prepared by the IEEE History Center, IEEE-USA's exhibit featured an energy efficiency demonstration using different types

of light bulbs (reflecting different generations of lighting technology) powered by a hand-cranked dynamo, which illustrated efficiency in terms of relative muscle power needed to power the light. We also joined forces with several other engineering organizations in providing visitors with an "Engineering Passport," which they carried around when visiting about a dozen different "engineering" booths to collect stamps necessary to qualify for a prize.

e-MERIT Badges

IEEE-USA President-Elect Ron Jensen and members of IEEE-USA staff attended the 2010 Boy Scouts' National Scout Jamboree at Fort A.P. Hill in July to support IEEE's E-Merit badge program in electricity and electronics. At the E-Merit Badge pavilion, IEEE gave away 500 IEEE .org-branded calculators to badge participants.



Supporting Members' Careers

2010 continued to be a challenging year for U.S. IEEE members, who were affected by pockets of high unemployment, slow economic recovery, and continued offshoring trends. IEEE-USA responded with a strong emphasis on supporting members' careers, with coordinated approaches designed to address the employment assistance needs of displaced members, webinar and e-book offerings on topics designed to build workplace skills, and efforts to promote entrepreneurship and consulting as career alternatives and for job creation.

Future Skills

The IEEE-USA Innovation Institute and Employment and Career Services Committees

joined with the Georgia Institute of Technology (GIT) to promote innovation. The first in a series of events, Future MediaFest 2010, was held on 6 October 2010. IEEE-USA



organized a panel discussion focused on future engineering skills. The panel consisted of educators, industry, technical leaders and dealt with how graduating engineers and mid-career professionals can tune (or retune) themselves in this new digital era. During the hour-long panel discussion, four major pieces of advice for engineering students and mid-career professionals emerged: learn how to communicate, don't specialize, understand the business, and be collaborative.

IEEE-USA Salary Survey

The *2010 Salary Survey* was published in September and contains salary and benefits data received from over 14,000 member participants, a new survey record. The IEEE-USA Salary Calculator, a highly valued member benefit, was updated with the new data at the end of October. The IEEE-USA survey generated positive feedback from human resource professionals and engineering managers, who were impressed with the large number of responses and the granularity of the data.



Unemployment Survey

IEEE-USA conducts a biennial *Unemployment Survey* to better understand the needs of IEEE's U.S. unemployed members. The 2010 survey results were published in December, and confirmed that periods of unemployment during the current economic downturn have been significantly longer than in previous periods surveyed.

IEEE-USA Strategic Alliance with U.S. Small Business Administration

During 2010, the IEEE-USA Entrepreneurs Activities Committee leveraged a strategic alliance formed with the U.S. Small Business Administration (SBA) in 2009. SBA officials participated in three webinars organized by IEEE-USA to introduce member entrepreneurs to SBA resources. Additionally, IEEE-USA has been working with SCORE, SBA's business mentoring program, and the IEEE Life Members group, to connect IEEE Life Members, with local SCORE offices throughout the United States, in an effort to provide IEEE entrepreneur members with business mentorship from seasoned IEEE members. A mechanism has also been established to provide SBA with feedback from IEEE members who have interacted with the SBA.



Alliance IEEE Consultants Networks (AICN)

The Alliance IEEE Consultants Networks (AICN) continues to expand with more than

42 networks in the United States and four outside of the United States. It now has a quarterly newsletter that goes to all of the members of the r 42+ networks. As a service to the Network, IEEE-USA published its *2010 Consultants Fee Report* in September, using data drawn from the annual Salary Survey.

Consultants Online Database

After eight years of a very successful IEEE Consultants online directory, allowing members to post their areas of expertise and be searched by potential clients, IEEE-USA has upgraded and improved the user experience and search capabilities, giving subscribers greater visibility in outside search engines, such as Google and Yahoo.

Career Survival Workshops

Working with Region 3, the IEEE-USA Employment and Career Services and the Career Workforce Policy Committees developed workshop material for unemployed members in the Cocoa Beach, Fla. area, who were recently impacted by NASA-related budget cuts. The Cocoa Beach program was streamlined live to fourteen other sections within Region 3 and recorded for later viewing.

New Employment and Career Services Community

With the change in IEEE's online communities software, IEEE-USA relaunched its Employment and Career Services Community in 2010 to serve as a forum for career advice, mentoring, and job leads. The new ECS Community is located at: <http://ecs.oc.ieee.org>.

Software Engineering Licensure (Model Examination)

In response to a request by the National Council of Examiners for Engineering and Surveying (NCEES), IEEE-USA and IEEE's Computer Society have joined forces to coordinate the development of a model examination for computer engineering licensure. As the first major step, a *Professional Activities and Knowledge Survey* (PAKS) was conducted in Nov-Dec. 2010, with results to be evaluated in early 2011.

Globalization of Professional Activities

IEEE-USA continues to collaborate with IEEE's Member and Geographic Activities Board on efforts to provide all IEEE members with value added professional activities benefits, including eBooks, webinars on career, employment and professional development issues, and consultants' network resources.

Student Professional Awareness

IEEE-USA set a new record by sponsoring 61 Student Professional Awareness Conferences (S-PACs) and Workshops (S-PAWs) in 2010, bringing career and professional speakers and topics to more than 3,500 students at universities around the country (see event listing on pg. 11).

IEEE-USA Annual Meeting

The 2010 IEEE-USA Annual Meeting, held 4-7 March in Nashville, Tenn., focused on national efforts to restore U.S. competitiveness, since the release of the National Academies' "Gathering Storm" report. With the theme *Are You Engineering the Solutions?*, the conference featured several prestigious keynote speakers, including Norman R. Augustine and William Wulf.

IEEE Members Receive AAES Awards

On 19 April, IEEE members Gerald Posakony and Karen Panetta were honored at the 31st Annual Association of American Engineering Societies (AAES) Awards Banquet and Ceremony held at the National Academy of Engineering. Posakony received the 2009 Fritz Medal, referred to as the highest award in the engineering profession, for pioneering

contributions to the fields of ultrasonics, medical diagnostic ultrasound, and Nondestructive Evaluation (NDE) technologies. Panetta received the 2009 Norm Augustine Award, presented annually to an engineer who has demonstrated the capacity for communicating the excitement and wonder of engineering, so that the public may have a better understanding of engineering, and a better appreciation for how engineers improve our quality of life.

2010 Student Professional Activities Conferences, Workshops and Events

01/20	Ohio University	04/28	California State - Long Beach
01/30	University of Dayton	04/28	University of Washington – Seattle
01/30	Central Michigan University	04/30	University of Texas at Arlington
02/02	Valparaiso University	05/01	University of Hawaii at Manoa
02/05	Cleveland State University	05/06	University of Washington – Seattle
02/12	Christian Brothers	05/19	Ohio State University
02/12	University of Southern California	06/10	DeVry University Columbus
02/15	Michigan State University	09/10	Texas Tech University
02/18	Rowan University	09/22	Youngstown State University
02/26	The University of Akron	09/23	University of Kentucky
03/02	University of Florida	09/28	Capitol College
03/03	University of California – Berkeley	10/09	University of the District of Columbia
03/04	Youngstown State University	10/11	Norwich University
03/09	Georgia Tech University	10/23	The University of Cincinnati
03/09	Ohio University	10/27	West Virginia University
03/09	Texas Tech University	10/28	West Virginia University Institute of Technology
03/22	Ohio Northern University	10/28-10/29	Drexel University
03/25	Louisiana Tech University	10/29	University of Rhode Island
04/01	George Mason University	11/02	Ohio Northern University
04/01	Utah State University	11/04	DeVry University, Columbus
04/07	Cleveland State University	11/09	Ohio University
04/07	Rutgers, The State University of New Jersey	11/11	Penn State Erie, The Behrend College
04/07	University of Massachusetts at Dartmouth	11/15	Cleveland State University
04/09	Capitol College	11/18	University of Akron
04/09	University of Houston-Clear Lake	11/18	University of South Florida
04/10	Embry-Riddle Aeronautical University	11/22	Case Western University
04/14	Ohio State University	11/29	Zane State College
04/15	City College of New York	11/29	University of Rhode Island
04/17	The University of Texas at Dallas	11/30	Richard Stockton College
04/20	University of New Orleans	12/03	Georgia Tech University
04/24	Wayne State University		

Career Webinars

IEEE-USA offered 21 webinars on career and professional topics in 2010, including collaborations with Dr. Dileep Rao, IEEE Spectrum's Job Site, Women in Engineering, and GOLD to produce well-attended webinars (see listing below).

2010 IEEE-USA Webinars	
21-Jan	Lessons from Bootstrap to Billions
28-Jan	There is no Crying in Business: How Women Can Succeed in Male-Dominated Industries
4-Feb	IEEE-USA: What Has It Done for You Lately?
9-Feb	Pre-Annual Meeting: Tools for Making the Short List: Getting the Job You Want
16-Feb	Pre-Annual Meeting: IEEE/IEEE-USA Career Products & Services
23-Mar	How can the SBA /IEEE-USA Partnership Help Engineering Entrepreneurs
20-May	Lessons from Bootstrap to Billions: Link Your Business Plan to Your Financing Needs
10-Jun	Harrison: High Skills Immigration Reform Update
17-Jun	Consulting 102: How to Find Clients
24-Jun	Lessons from Bootstrap to Billions: Financing Needs to the Right Financing Structure
15-Jul	Risk Management for Engineering Professionals
22-Jul	Lessons from Bootstrap to Billions: Fine-Tune Financing: Find the Right Sources Instruments
27-Jul	SBTDC Innovation
3-Aug	Creative Thinking and Innovation
5-Aug	Lessons from Bootstrap to Billions: Reduce the Agony: Learn How to Find Financing
16-Sep	Lessons from Bootstrap to Billions: After the Financing: Better Decisions and Control
27-Oct	Engineering Business Savvy
2-Nov	What's Gender Got To Do With It? Gender Inclusive Engineering Education
9-Nov	Patents vs. Infringements, and Where They Fit with Other IPS
18-Nov	TechMatch (for entrepreneurs)
9-Dec	Antitrust Basics

E-Books

IEEE-USA published 23 e-Books in 2010, including 14 original titles and nine public domain government documents (GovDocs). IEEE-USA's *Engineers Can Write!* e-book received an Award of Merit from the Society of Technical Communications (STC) for writing and editing. Other original offerings include the 2009 and 2010 Salary Surveys and Consultants Profiles, as well as titles on Career Survival, Survivor Planning, Writing for Engineers, and a series on technical presentations. See complete list of 2010 IEEE-USA e-Book titles below.

2010 IEEE-USA E-Books	
March	2009 IEEE-USA Salary & Fringe Benefits Survey
March	2009 Profile of IEEE Consultants
March	Report and Recommendations from the Scholarly Publishing Roundtable (GovDoc)
March	Science and Engineering Indicators 2010 (GovDoc)
May	Technical Presentations (#1) – Strategy, Preparation and Planning
May	National Patterns of R&D Resources: 2008 Data Update (GovDoc)
May	Report to the President and Congress on the Third Assessment of the NNI (GovDoc)
July	Engineers Can Write! Thoughts on Writing from Contemporary Literary Engineers
July	Survivor Planning – What Every Spouse Should Know – 2010 Update
July	Spectrum Policy in the Age of Broadband: Issues for Congress (GovDoc)
July	Nanotechnology: A Policy Primer (GovDoc)
July	Quadrennial Defense Review Report (GovDoc)
July	Cyberspace Policy Review (GovDoc)
August	2010 Salary & Fringe Benefits Survey
August	2010 Consultants Profile
August	The Best of Today's Engineer: On Career Survival (Vol. 2)
August	Technical Presentations (#2) -- Structure & Anatomy of a Successful Presentation
October	The PERSI Report: Planning Infrastructure to Sustain America
October	Building A Stronger and Smarter Electrical Energy Infrastructure (GovDoc)
November	Technical Presentations (#3) – Dynamic Delivery Techniques
November	Communicating with Congress – 2010 Update
December	IEEE-USA Unemployment Survey - 2010 Edition
December	Technical Presentations (#4) – Effective Visual Aids



Shaping Public Policy

Working within the constraints of an election-year shortened, legislative session, IEEE-USA advanced a priority agenda focused on promoting innovation, patent reform, energy policy, broadband deployment and STEM-related education. Members were enlisted as grassroots advocates to help carry key messages to decision-makers. Emphasis was also placed on educating and informing our members and policy-makers of key issues and technology trends, through webinars, congressional briefings, fellowships, internships, and our policy communications.

Public Policy Priorities & Outcomes

IEEE-USA focused its advocacy efforts during the 2nd session of the 111th Congress on five specific priority issues. Despite partisan

wrangling and an abbreviated election-year calendar, progress was achieved on all five. Specific legislative highlights include:

- © **Innovation:** The *America COMPETES Reauthorization* (Public Law 111-358) was

passed at year end just before Congress adjourned. The legislation provides three-year authorizations for key federal S&T programs, funds new innovation/manufacturing programs, and supports K-12 science, technology, engineering and mathematics education.

- ⊙ **Patent Reform:** The IEEE-USA-opposed *Patent Reform Act* (S. 515) was reported out of the Senate Judiciary Committee without vote, but failed to obtain Senate approval.
- ⊙ **Skilled Immigration Reform:** Working with former U.S. Representative Bruce Morrison, IEEE-USA was able to craft draft legislation outlining proposals for Employment-Based Immigration Reform that were favorably received by leadership of the House Immigration Subcommittee. Plans to introduce an employment-based immigration bill during the fall were side-tracked by the early election recess, and the failure of Congress to move comprehensive immigration legislation prior to adjournment.
- ⊙ **K-12 STEM Education:** Working with the ASME and the Boston Museum of Science, IEEE-USA helped secure House and Senate sponsors to introduce the *Engineering Education for Innovation (E2) Act* (H.R. 4709/S. 3043), which would provide federal incentives for states to incorporate engineering and engineering concepts into K-12 teaching and curricula. Work on this bill will continue in 2011, including advocacy for inclusion of the *E2 Act* in legislation anticipated next year (112th Congress) to reauthorize the

Elementary and Secondary Education Act (ESEA).

- ⊙ **Energy:** Several energy bills were introduced containing IEEE-USA-favored provisions related to the Smart Grid, green electricity, energy efficiency and electric vehicles. However, in the wake of electoral politics over the issues of carbon trading and climate change, compounded by the Gulf oil spill, neither the House nor the Senate was able to act on comprehensive energy legislation.

Smart Grid and Standards

IEEE-USA offered its support to the IEEE Smart Grid Committee and IEEE Standards Association by monitoring and reporting on legislative and regulatory developments of concern. Key efforts included:

- ⊙ **Smart Grid Workforce:** IEEE-USA approached House and Senate appropriators to garner support for funding of the DOE's RE-ENERGYSE energy workforce training program. Legislative opposition, however, prompted the Department of Energy to employ previously authorized funds to support the goals of RE-ENERGYSE.
- ⊙ **Interconnection of Distributed Generation Standards:** Rep. Ben Lujan (D-NM) introduced legislation in the 111th Congress to establish uniform national standards for the interconnection of certain small power production facilities (under 2MW), which calls for FERC consideration of the IEEE's P1547 interconnection standard. IEEE-USA worked with Rep. Lujan's staff in an effort to incorporate this provision into Senate energy legislation.

Government Appointments

IEEE-USA indicated its support for the appointment of Dr. Subra Suresh (MIT Engineering Dean) as Director of the National Science Foundation. Dr. Suresh's appointment was confirmed by the Senate on 18 Oct.

Grassroots Advocacy

IEEE-USA supports its policy advocacy efforts by enlisting U.S. IEEE members as grassroots advocates. In 2010, IEEE-USA's CARE Network of member advocates grew to 19,583 participants. IEEE-USA coordinated 149 member visits with Members of Congress or their staffs. Our annual S&T Congressional Visits Day in April drew 40 IEEE participants, who joined more than 250 other engineers on Capitol Hill. Despite a winter storm that shut down most of Washington, nine members participated in our Career Fly-In in February,



and 27 members joined in the Energy Fly-In held in May. IEEE-USA's *Eye on Washington* e-newsletter continues to reach over 11,000 opt-in subscribers.

IEEE-USA also agreed to extend its participation with **Discover** magazine, the National Science Foundation, and the American Society of Mechanical Engineers on a joint congressional briefing series, *The Road to the New Energy Economy*. The next three **Discover** energy briefings are scheduled for 2011, and will include briefings on electricity in transportation and energy from biomass.

Washington Internships for Students of Engineering

In partnership with IEEE-Technical Activities and the IEEE Life Member Committee, IEEE-USA sponsored two IEEE student members in the 2010 Washington Internships for Students



Congressional Briefings

During 2010, IEEE-USA sponsored or organized nine congressional briefings designed to educate Members of Congress and their staffs on technical issues of policy interest (see listing below). IEEE-USA provided the secretariat and hosted the websites for the U.S. Congressional Caucuses on Research and Robotics.

2010

19 Jan.	Defense Basic Research
15 April	Rescue Robotics
21 April	ARPA-E (Engineering Energy Policy Alliance member)
28 April	Lasers in Medicine
23 June	Patent Reform Implications for Small Business (IEEE-USA & AIMBE)
15 July	Innovation Choke Points (ASTRA)
23 Sept.	On the Road to Exascale Computing
30 Sept.	Robotics in Space Exploration (Robotics Caucus)
30 Sept.	Small Modular Nuclear Reactors (with Discover, ASME)

of Engineering. Students participating in the multi-society WISE program spend nine weeks in Washington learning how government makes S&T policy and researching and presenting a paper on a specific technology policy topic of interest to their sponsorship society. IEEE's WISE Interns were Kristi Brooks (Brown University) and Levi Lyons (University of Kansas). Brooks explored the topic of Smart schools (i.e., using K-12 school infrastructure to support a wholly-integrated system of education). Lyons looked

at issues regarding interstate siting of electric transmission lines in the Smart Grid context. Their papers appear in the 2010 WISE Journal of Engineering and Public Policy.

Public Access

IEEE-USA provided support to IEEE by monitoring and reporting on legislative and regulatory developments related to public access to peer reviewed publications derived from federally-funded R&D.

Government Fellowships

Through the Government Fellowships Program, IEEE-USA awards Fellowships to U.S. IEEE members to spend a year in Washington as technical advisors to Members of Congress (or congressional committees) and at the U.S. State Department. IEEE-USA's 2010 Fellows (pictured left-to-right) were:

- Dr. John "Jack" Cederquist (Ann Arbor, Mich.), worked in the office of Senator Jon Tester of Montana on energy and environmental issues.
- Dr. L. Jean Camp (Bloomington, Ind.) spent her fellowship as an S&T advisor to U.S. Representative Bob Etheridge of North Carolina.
- Dr. Norman Lerner (Arlington, Va.) served his fellowship with the U.S. State Department, as a Senior Advisor to CITE/Organization of American States (Inter-American Telecommunication Commission), and took an active role in supporting OAS' Engineering for America initiative. The OAS has requested an extension of his Fellowship, which IEEE-USA is currently considering.



2011 Government Fellows

During 2010, IEEE-USA also selected and oriented its 2011 Government Fellows: Dr. Patrick E. Meyer (Newark, Del.); Dr. Umesh Thakker (Washington, D.C.); and Rebecca Taylor (Austin, Texas). Taylor will serve as a Senior Advisor for Innovation and Entrepreneurship. Thakker will also be working with the State Department. Dr. Meyer will be working for U.S. Representative Jay Inslee of Washington State.

Technical Conferences

IEEE-USA works to diversify its revenue sources and promote policy (legislative and regulatory) content in selected IEEE technical conferences by serving as a sponsor or technical sponsor. In 2010, IEEE-USA partnered with the IEEE Green Technologies Conference (15-16 April) and the IEEE Conference on Technologies for Homeland Security (8-10 Nov.), and served as technical co-sponsor of SmartGridCom, IEEE's first international conference on Smart Grid Communications, held 4-6 October at NIST headquarters. IEEE-USA also joined with a collaboration of eight engineering societies ("The Founder Societies"), who are planning a multi-disciplinary Carbon Management Technology Conference, to be held in early 2012.

FCC, NTIA and Wireless Interference

In May, IEEE-USA provided input to the Federal Communications Commission and the National Telecommunications Information Administration (NTIA) offering suggestions to improve spectrum allocation decisions related to "harmful interference", which prompted a positive response from NTIA. IEEE-USA also joined with Silicon Flatirons, the Information Technology and Innovation Foundation, and others, to sponsor a half day conference on *Empowering Wireless Innovation: New Approaches to Interference Management*, held on 12 Nov. in Washington, D.C.

The Internet Protocol

IEEE-USA's 2009 whitepaper on *IPv4 Address Exhaustion, Mitigation Strategies and Implications for the United States* was extensively cited in an FCC staff working paper entitled *Potential Impacts on Communications of IPv4 Exhaustion and IPv6 Transition*, released in December 2010.



Enhancing Member Engagement and Public Awareness through Communications

Each year, IEEE-USA engages in a number of media and programmatic outreach efforts designed to increase the visibility of IEEE/IEEE-USA, encourage public participation in IEEE-USA programs, and/or enhance public awareness of science and technology. Special emphasis was placed on increasing engagement through enhanced member communications for 2010, including the following highlights:

IEEE-USA in Action

In 2010, IEEE-USA launched *IEEE-USA in Action*, a new, interactive quarterly publication designed to keep members better informed

about the programs, products, services and activities that



IEEE-USA has to offer, and raise aware of what IEEE-USA is doing to serve IEEE's U.S. members.

Today's Engineer

IEEE-USA's monthly *Today's Engineer* e-journal reached over a million readers for the second year running. *Today Engineer's* articles address issues affecting U.S. IEEE members' careers, including articles and commentary on the topics that are shaping legislation, the technology workplace, and the engineering world. The e-journal is supported by a monthly e-mail update to all U.S. IEEE members.

Media Outreach

IEEE-USA issued 45 media releases in 2010, highlighting IEEE-USA programs, products and newsworthy activities. IEEE-USA was featured in 32 original stories in trade and national publications, and other media outlets. IEEE-USA also derived visibility from 229 syndicated placements on online news services. One of the media highlights for the year was arranging for Washington FOX5 TV reporter Holly Morris to do a series of early morning TV spots featuring the 2010 National Engineers Week Family Day at the National Building Museum. IEEE-USA's journalism awards were also featured in a radio piece that was broadcast around the world on the Voice of America.

Discoveries & Breakthroughs News

IEEE-USA partnered with the American Institute of Physics *Discoveries & Breakthroughs Inside Science* TV news

service by helping to produce more than two dozen 90-second TV news reports featuring IEEE technologies. *The Discoveries and Breakthroughs* program reaches a U.S. and International audience estimated at 250 million views per month. Since 2008, IEEE-USA has helped to underwrite more than 800 local TV news reports on engineering and science through this partnership.

Engineering Media Fellowship

IEEE-USA sponsored U.S. IEEE graduate student member Smitha Raghunathan as a 2010 Engineering Mass Media Fellow. The AAAS Mass Media Fellow program places young engineers in media outlets, where they communicate to the public on science, engineering and technology topics. Raghunathan worked at Voice of America in Washington, D.C., delivering stories delivered through the VOA network on such topics as computer modeling of water pollution, artificial intelligence, and electronic controllers for wheel chairs for use by the severely disabled.

Student Video Contest

IEEE-USA presented a \$2,500 scholarship award to Zachary Phillips, an undergraduate electrical engineering student at LeTourneau

University in Longview, Texas, for his first-place entry in the fourth IEEE-USA *How Engineers Make a World of Difference* online video competition. This annual competition enlists IEEE student members to develop short videos targeted at a pre-teen audience



to illustrate *How Engineers Make a World of Difference*. The IEEE-USA video competition was featured as a program furthering the National Academy of Engineering's *Changing the Conversation* Public Messaging Initiative at a special workshop on Nov. 30.

WAMU Ad Campaign

IEEE-USA sponsored 50 promotional announcements on WAMU 88.5, the National Public Radio news station in Washington, highlighting E-Week Family Day and other pre-college science, technology, engineering and mathematics activities. The 15-second announcements appeared on Kojo Nnamdi's Tech Tuesday and Ira Flatow's Science Friday programs, and were designed to raise IEEE-USA's public visibility among opinion leaders and decision-makers in the nation's capital.

New Face of Engineering

Sampathkumar Veeraraghavan was recognized as the IEEE-USA's 2011 New Face of Engineering during National Engineer Week for developing technological solutions that improve the lives of disabled and impoverished women and children in India. Veeraraghavan was one of 14 young professionals recognized for this international honor, and he was featured in a full-page ad in **USA Today**, which appeared on 21 February 2011.



2010 IEEE-USA Awards and Recognitions

Each year, IEEE-USA recognizes both technical and professional achievements through its Awards and Recognitions Program. The 2010 IEEE-USA Awards and Recognitions were presented during a special ceremony during the 2011 Annual Meeting on 5 March 2011 in Austin, Texas. The Awards presented and their recipients were:

Robert S. Walleigh Distinguished Contributions to Engineering Professionalism Award

John Meredith -- For passionate leadership in promoting lifelong learning for IEEE members

Harry Diamond Memorial Award

Rabinder Nath Madan -- For leadership in the development of high-resolution tracking sensors for defense systems

Award for Distinguished Public Service

Bart Gordon -- For promoting science and engineering in the U.S. Congress

Precollege Educator-Engineer Partnership Award

Percy F. Shadwell, Jr. & Marion Zeiner -- For instilling enthusiasm in engineering and technology by mentoring students at Episcopal High School in Jacksonville, Fla.

Entrepreneur Achievement Award

Dileep Rao -- For contributions in the areas of entrepreneurship, innovation and development of future engineering businesses

Award for Distinguished Literary Contributions Furthering the Public Understanding of the Profession

William Kamkwamba & Bryan Mealer -- For telling the inspiring story of how engineering can change the world with their book, *The Boy Who Harnessed the Wind*

Colonel Mason -- For increasing public understanding of the profession through the weekly radio program, *The Promise of Tomorrow*

Award for Distinguished Literary Contributions Furthering Engineering Professionalism

Robert Kanigel -- For his substantial body of work on science, technology and engineering and their place in the world

Citation of Honor

Harold Adams, Thomas J. Gentile and A. Mayer Sasson -- For leadership in creating the IEEE-USA National Energy Policy position statement

CJ ChanJin Chung -- For creating Robofest to inspire interest in engineering among precollege students

Regional Professional Leadership Award

Ashutosh Dutta -- For fostering industry relations in Region 1

Jignasa Ray -- For revitalizing student activities in Region 1

Professional Achievement for Individuals

Mohamad H. Berri -- For leadership in recruiting students and promoting IEEE membership

Russell J. Lefevre, Veronika A. Rabl and Saifur Rahman -- For leading the collaboration between IEEE and other engineering societies to form the Technologies for Carbon Management Initiative

Robert C. Parro -- For precollege mentoring through the U.S. FIRST Robotics Competition

Dorota Temple -- For mentoring early career engineers in technical excellence and professional ethics

Abby Robinson -- For leadership in the design and launch of the new *IEEE-USA in Action*, an interactive, online publication

Christos Zahopoulos -- For sparking precollege interest in technology and engineering careers through the RE-SEED program

Professional Achievement for Organizations

Rockwell Collins, Inc. -- For sustained support of IEEE professional development activities

For more information on IEEE-USA's Awards and Recognition's program, see: <http://www.ieeeusa.org/volunteers/awards/>

2010 IEEE-USA Board of Directors



Seated front row (L to R): Sandra "Candy" Robinson, David Pierce, Gordon Day, Evelyn Hirt, Ron Jensen, Emily Sopensky, Chris Brantley

Middle row (L to R): Lee Stogner, Leonard Bond, Charles Rubenstein, Jim Jefferies, James Howard, Cathy Strickland

Back row (L to R): Gary Blank, Don Bramlett, Winnfort Myles, William Walsh

About IEEE-USA

IEEE-USA advances the public good and promotes the careers and public policy interests of 200,000 engineering, computing and technology professionals who are U.S. members of IEEE. With over 400,000 members in 160 countries, IEEE, the world's largest technical professional association, is dedicated to advancing technological innovation and excellence for the benefit of humanity. More information about IEEE-USA can be found online at: www.ieeeusa.org.

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