

2005 was a banner year for IEEE-USA building careers and shaping public policy – from helping the U.S. Congress enact new energy legislation to proposing a new legal standard adopted by the U.S. Supreme Court; from introducing new career publications and online courses to supporting precollege math and science teachers; from promoting engineering in national media outlets to helping shape TV news spots on IEEE technologies.

IEEE-USA ANNUAL REPORT



IEEE-USA is an organizational unit of the IEEE, created in 1973 to support the career and public policy interests of the IEEE's U.S. members. Its mission is to recommend policies and implement programs specifically intended to serve and benefit the members, the profession, and the public in the United States – in appropriate professional areas of economic, ethical, legislative, social and technology policy concern. In 2005, IEEE-USA was primarily supported through a \$34 assessment charged to U.S. higher-grade members residing in IEEE Regions 1-6.



In March in Washington at the National Medals of Science and Technology ceremony, Tammi Alphonse and IEEE-USA 2005 President Gerry Alphonse (right) pose with Internet Pioneer Vint Cerf.



This report highlights IEEE-USA's accomplishments and progress in each of the organization's five major program areas – career and member services, professional activities, government relations, communications and public relations, and public awareness.

IEEE-USA's Board of Directors, led in 2005 by Dr. Gerard A. Alphonse, provides direction and oversight for IEEE-USA's programs, activities and budgets.



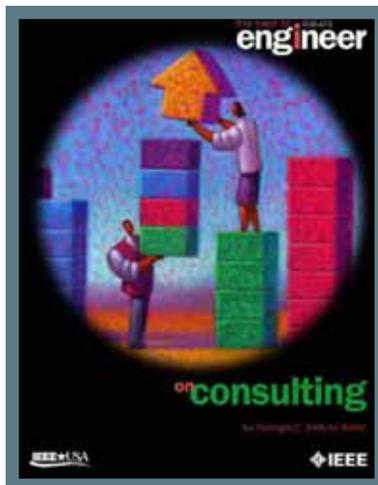
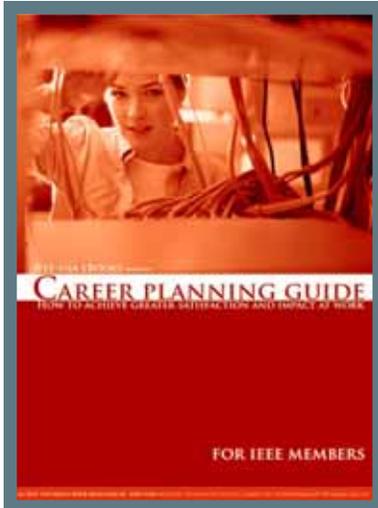
2005 IEEE-USA BOARD OF DIRECTORS: Seated left to right — Russ Lefevre, Joey Duvall, Bob Adams, Ralph Wyndrum, Gerry Alphonse, John Steadman, Bob Baldwin, Tom Tullia, Jim Howard; Standing — Chris Brantley, Gary Johnson, Ron Hira, John Meredith, Roger Sullivan, Bill Harrison, Ron Jensen, Gregg Vaughn, John Reagan, Jean Eason

CAREER AND MEMBER SERVICES/ PROFESSIONAL ACTIVITIES

IEEE-USA seeks to help the IEEE's U.S. members maintain and advance their careers. The Washington, D.C.-based organization supports efforts by the IEEE's U.S. regions, sections, divisions, societies and chapters to promote the non-technical professional interests of the IEEE's U.S. members.

In 2005, IEEE-USA continued to expand its offerings of career and employment benefits available for U.S. IEEE members, and was collaborating with IEEE Regional Activities and non-U.S. IEEE Regions 7-10 on ways to provide these benefits for non-U.S. IEEE members:

- **IEEE-USA Salary Service** – The *Salary Service* provides annual subscribers tools for accurately benchmarking technical professionals' compensation individually or organization-wide. For more information, go to <http://salary.ieeeusa.org>.
- **New Career Publications** – The *Career Planning Guide for IEEE Members* provides an online planning tool to help members achieve greater satisfaction and exert a greater impact at work. *The Beyond Job Satisfaction Fieldbook* is designed to help members set career goals and outlines steps needed to accomplish these goals. A new e-Book provides *The Best of Today's Engineer: On Consulting*.
- **Leadership Courses** – IEEE-USA has joined with AchieveGlobal, a leader in providing professional development courses, to offer 28 online "Leadership for Results" courses — discounted for members moving into managerial roles or seeking continuing education to maintain P.E. licensure. For more information, go to <http://www.ieeeusa.org/careers>.
- **Employment Navigator** – This career-development service provides tools for members to connect quickly to hiring employers, build and send effective résumés, as well as link to salary benchmarking and other career resources. For more information, go to <http://www.ieeeusa.org/careers/employmentnavigator/>.
- **Employment and Career Strategies Community** – The Community enables members to network on career and employment strategies, and is the IEEE's largest and most active virtual community with over 2,300 registered users. To sign up, go to <https://www.ieeecommunities.org/ecs>.



CAREER AND MEMBER SERVICES/ PROFESSIONAL ACTIVITIES

Also, in 2005, IEEE-USA released the results of its *IEEE-USA Unemployment Survey*, which identified offshoring as the second-highest cause of unemployment among U.S. technical professionals. The survey provides a high-level picture of unemployment trends and attitudes. It is the fifth conducted by IEEE-USA in the organization's continuing efforts to assist U.S. IEEE members during periods of high unemployment.

In another report released in 2005, the *IEEE-USA Consultants Compensation Survey* revealed that technical consultants have bucked a downward trend in hourly rates, but that annual median income continues to drop.

IEEE-USA President Gerry Alphonse and IEEE-USA Technology Policy Vice President Russell Lefevre addressed IEEE-Canada's Regional Meeting in Saskatoon on IEEE-USA's models for providing career services and technology advice to government. As part of IEEE-USA's grassroots efforts, Government Relations Staffer Russell Harrison highlighted employment issues, H-1B visas, and Congress' legislative agenda for 2005 with members and leaders in nine sections from Milwaukee to Memphis, Los Alamos to Johnstown, and Washington, D.C. to Anchorage.

In 2005, IEEE-USA sought to raise the level of functional and technological literacy of U.S. students in math and science. The IEEE-USA Board of Directors approved a \$50,000 grant to expand the IEEE Teacher-in-Service program in U.S. IEEE Regions 1 and 4. Through the program, volunteer engineers in IEEE Sections help develop technology-related curricula with teachers at in-service meetings.

In addition, IEEE-USA established a teacher-grant program to support partnerships between precollege educators and engineers engaged in classroom activities on science, engineering and technology.

IEEE-USA supported 39 Student Professional Awareness Conferences (SPACs) and Student Professional Awareness Ventures (SPAVes) – up from 28 in 2004, including SPACs and SPAVes held at the University of Hawaii-Manoa, Virginia Polytechnic and State University, Howard University and Drexel University.

In 2005, IEEE-USA sponsored 13 Member Professional Awareness Conferences – nationwide – on project management, professional ethics, public policy and career enhancement.

From 11-13 March, IEEE-USA's 2005 Leadership Workshop brought over 150 section, region, society and division PACE leaders to Tucson for a three-day program designed to help promote professional activities at the local level. During the awards banquet in Tucson, IEEE-USA presented the *Robert S. Walleigh Award* to Charles Rubenstein, for engineering professionalism; and the *Harry Diamond Award* to Robert Parker, for his work in vacuum electronics.

At the IEEE Sections Congress on 14-17 October in Tampa, Fla., IEEE-USA speakers addressed consulting, unemployment assistance, professional activities and rejuvenating inactive sections.



In July, IEEE-USA volunteer and scout at National Boy Scout Jamboree near Richmond solder an integrated circuit for the IEEE Electronics Merit Badge.



High-school students exult in successful completion of an engineering project with their engineer mentor.



IEEE-USA Vice Presidents Russ Lefevre and Jean Eason join IEEE-USA President Alphonse (right) at 2005 Leadership Workshop in Tucson.

IEEE-USA helps public policymakers address complex technical issues and lends the U.S. IEEE members a voice on career and professional concerns in Washington and in their state capitols. The organization also helps to educate U.S. IEEE members on emerging issues, the public policy process, and how members can effectively participate in the democratic process.

On 19 July, IEEE-USA Intellectual Property Committee Chair Andrew C. Greenberg (far right) was a featured panelist at a congressional briefing on “Interpreting Grokster: Protecting Copyright in the Age of Peer-to-Peer,” organized in Washington, D.C., by the Advisory Committee of the Congressional Internet Caucus.

On 27 June, the Supreme Court adopted the “active inducement” test proposed by IEEE-USA in the organization’s January friend-of-the-court brief in the *MGM vs. Grokster* electronic file-sharing case. This was the second time in five years that the Supreme Court adopted significant new legal standards proposed by IEEE-USA in landmark intellectual property cases.

In August, President Bush signed into law the *Energy Policy Act of 2005*, which contains electric reliability, interconnection standards, and net metering standards actively advocated by the IEEE-USA since 2000.

In September, IEEE-USA volunteers and staff participated with other science and technology groups in a campaign to call key senators opposing an amendment to the Fiscal Year 2006 Commerce Appropriations Bill that would have terminated the National Institute of Standards and Technology Advanced Technology Program and shifted its funding to local law enforcement assistance programs. The Senate subsequently rejected the amendment by a 68-29 vote.

On 22 September, by a vote of 394 to 24, the House of Representatives passed IEEE-USA-backed legislation designed to strengthen the nation’s manufacturing sector. In December, along with other groups, IEEE-USA lobbied successfully for the adoption of an amendment to the Defense Department Fiscal Year 2006 appropriations bill to add \$40 million to Defense Department basic research accounts.

IEEE-USA’s four Government Fellows began their Fellowships in January 2005: Randall Brouwer (with Representative Dana Rohrabacher); Gordon Day (with Senator Jay Rockefeller); Norman Schneidewind (on the Senate Government Affairs Subcommittee on Financial Management, the Budget and International Security); and Nick Zayed (with the State Department Office of Science and Technology Cooperation).

Shown at the Jefferson Memorial in Washington, D.C., are left to right: IEEE-USA Government Fellows Norman Schneidewind, Nick Zayed, Randall Brouwer and Gordon Day.





In December, 2005 IEEE-USA President Gerry Alphonse delivers an IPv6 keynote address in Tysons Corner, Va.



IEEE-USA volunteer and staff member meet with congressional aide on Capitol Hill during Congressional Visits Day in May.



2005 IEEE-USA President Alphonse (right) presents IEEE-USA's public service award to Rep. Rohrabacher in the congressman's Capitol Hill office.

IEEE-USA joined with IEEE Technical Activities and the IEEE Life Members Committee to sponsor three IEEE student members who participated in the 2005 Washington Internships for Students of Engineering (WISE) program: Matthew Ezovski, of Rensselaer Polytechnic Institute, studied issues related to biometric passports. Elizabeth Johnston, of University of Alaska-Fairbanks, analyzed policy issues related to widespread deployment of hybrid-electric vehicles. Patrick Stokes, of University of Texas-Austin, investigated privacy issues related to development of the *National Health Information Network Energy Policy Act of 2005*.

During 2005, IEEE-USA volunteer leaders presented testimonies and briefings to lawmakers and other decision makers at such forums as the U.S.-China Economic Security Review Commission on the offshoring of software and high-technology jobs; the first meeting of the President's Council on the National Innovation Initiative; the Federal Energy Regulatory Commission on technical issues associated with reactive power; a workshop organized by the National Science Board on "Engineering Workforce Issues and Engineering Education"; and the IPv6 Technology Deployment Summit.

On 8-9 March, IEEE-USA's *Third Annual Careers Fly-In* welcomed 33 U.S. IEEE members to Washington to participate in visits with their senators and representatives. The event was designed to raise congressional awareness on offshoring and related policy issues affecting engineers and their careers. On 10-11 May, the *2005 Science, Engineering and Technology Congressional Visits Day* gathered more than 200 scientists and engineers in Washington for congressional visits to emphasize strong federal investments in R&D.

IEEE-USA collaborated with other advocacy groups to sponsor a congressional forum on energy independence; the *Third Annual Engineering R&D Symposium* on Capitol Hill; a tutorial for congressional staff on "Power System Basics for Non-Engineering Professionals"; a congressional forum on cybersecurity, highlighting the final report of the President's Information Technology Advisory Committee; and the *Accelerating Innovation 2005 Summit*.

IEEE-USA volunteer leaders also presented industry awards to U.S. Rep. Vernon Ehlers (R-Mich.) as a leading Congressional advocate for science and engineering; and to U.S. Rep. Dana Rohrabacher (R-Calif.) "for long-term support of IEEE-USA's Congressional Fellowship program and leadership on federal policy issues of concern to the engineering community."

COMMUNICATIONS/PUBLIC RELATIONS/ PUBLIC AWARENESS

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IEEE-USA is collaborating with the American Institute of Physics in Discoveries and Breakthroughs Inside Science television spots, such as this one, called "Screens of the Future."



IEEE-USA strives to keep U.S. IEEE members and others informed of the organization's activities and achievements.

Through media outreach, the organization also promotes its advocacy efforts and increases the public understanding of engineering.

During 2005, IEEE-USA provided a multimedia news service with IEEE-USA messages communicated to all U.S. IEEE members in eight *Spectrum/Institute* polybags, 12 monthly online webzines, and 12 monthly e-mail updates. *IEEE-USA Today's Engineer Digest*, distributed to all members in the *Spectrum* polybag, received its second industry award for publication excellence in 2005.

The organization placed an estimated 300 articles on IEEE-USA products, services in IEEE print publications. It also mounted three tabletop exhibits in more than 20 venues, including section and society meetings with a combined attendance of approximately 25,000 members and non members.

During 2005, IEEE-USA spokespersons or news items were featured in 120 news stories. IEEE-USA President Alphonse appeared on CNN TV's *Lou Dobbs Tonight*. Dr. Alphonse was interviewed on the IEEE-USA Salary Survey, which showed a decline in median EE wages for the first time in 31 years, and discussed the causes and implications. In addition, he was quoted in an article on "Bangalore's Big Dreams" in *U.S. News and World Report*: "Because innovation tends to follow jobs, key drivers of our economic prosperity could be lost."

IEEE-USA Career Activities Vice President Ron Hira also appeared on CNN's *Lou Dobbs Tonight* commenting on the U.S. Citizenship and Immigration Service's approval of H-1B visas in the 2005 fiscal year that exceeded the congressional limit. In addition, IEEE-USA President-Elect Ralph W. Wyndrum, Jr. and Dr. Hira were quoted in *Time* magazine on the impact of offshoring U.S. high-tech jobs. And IEEE-USA's latest unemployment survey results were highlighted in a *Fortune* magazine article, "Fifty and Fired."

In a special message to IEEE U.S. members in September, IEEE-USA President Alphonse announced steps being taken by IEEE-USA following Hurricane Katrina, including a \$5,000 donation to the American Red Cross. The message was followed by creation of an IEEE Katrina Communications Center, managed by IEEE-USA.

During 2005, in collaboration with the American Institute of Physics, IEEE-USA helped to shape 144 television news spots about IEEE technologies distributed to the top 108 U.S. TV markets with a potential audience of more than 80-million households. News feeds encompassed such IEEE-related technologies as a robotic arm for stroke victims, a mouse adapter for tremors, and an oxyride battery.

In 2005, IEEE-USA approved funding for two IEEE-USA Mass Media Fellows, part of the AAAS program to promote technological literacy that produced 250 news stories on science and technology in 2005.



2005 IEEE-USA Mass Media Fellow Abby Vogel wrote several front-page articles for The Richmond Times Dispatch.

COMMUNICATIONS/PUBLIC RELATIONS/ PUBLIC AWARENESS



Past IEEE Galveston Bay Section Chair Julian Morales (far right) presented IEEE-USA recognitions to Engineers Without Borders-USA students and faculty sponsor at 2006 EWB-USA international conference in Houston.

The organization also presented its *Award for Furthering Public Understanding of the Profession* to C. Steward Gillmor for his biography, *Fred Terman at Stanford*.

The organization spearheaded IEEE support for Engineers Week through the United Engineering Foundation and obtained voluntary contribution fund support for IEEE-USA sponsorship of a student recognition award presented at the *2006 Engineers Without Borders-USA Conference* in Houston.

During National Engineers Week from 20-26 February, IEEE-USA co-hosted the annual Family Day at the National Building Museum, which attracted nearly 7,000 parents and children who joined engineers working on engineering projects. IEEE-USA also funded an "Introduce a Girl to Engineering" ad campaign, which was featured in over 160 cinemas in eight cities with large concentrations of high-tech employees and U.S. IEEE members.

And the organization coordinated the first IEEE/IEEE-USA Presidents' media training in New York City, followed by training with IEEE-USA volunteers.



IEEE-USA volunteers and youngsters collaborate at Engineers Week 2005 Family Day at National Building Museum in Washington

CONCLUSION

In 2005, from the U.S. Capitol to the U.S. Supreme Court, from CNN to *Fortune*, from Main Street to Pennsylvania Avenue, IEEE-USA helped to build careers and shape public policy for more than 220,000 U.S. IEEE members — in career, member and professional services; in government relations; in communications and public relations; and in public awareness.

For more information on our programs and services, visit the IEEE-USA website at <http://www.ieeeusa.org>.



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