building careers & shaping public policy
A Message from 2004 IEEE-USA President John W. Steadman

At the beginning of 2004, I set as my highest priority communicating effectively with all U.S. IEEE members. I also consider this to be one of our greatest assets thanks to the desire of IEEE-USA Board members and staff to make IEEE-USA responsive.

In 2004, one of our continuing priorities was to combat unprecedented levels of unemployment among U.S. IEEE members. While there are many causes of this problem — many beyond the control of IEEE-USA or any other organization — IEEE-USA took action to address the issue, such as encouraging the hiring of more U.S. citizens and supporting U.S. funding of a study on the impact of offshoring on employment.

In the government relations area, I was also pleased with our support for protecting copyrighted works and technology with significant “non-infringing” uses, an approach which has been incorporated in a filing with the Supreme Court early in 2005. We have also spearheaded an Advisory Committee for the Congressional R&D Caucus, comprised of U.S. Representatives with an interest in science and technology research. Further, we have assumed the leadership of the Aviation Coalition, an ad hoc committee dedicated to advancing the cause of U.S. aviation and aerospace R&D.

In the career and member services area, we conducted the 2004 salary survey using a new, Web-account-enabled instrument in preparation for the launch of our new salary service in the spring of 2005; released two new career publications; revamped our consultants webpage; initiated a program designed to help U.S. IEEE members start their own businesses; supported a K-12 mentoring program; and presented our first award recognizing outstanding collaborations between teachers and engineers in precollege education!

Our enhanced member communications program now allows us to communicate with each U.S. IEEE member in print and electronically. Through our coordination of the IEEE’s lead society role in Engineers Week 2004, we helped launch the first international celebration of the event and received the first international public relations award for EWeek. And we continue to participate in outreach activities to promote engineers and engineering, such as our support of engineering content in prepackaged news feeds sent to U.S. television stations, and our Mass Media Science and Engineering Fellow.

My successor, 2005 IEEE-USA President Gerard A. Alphonse, looks forward to adding to and expanding on these efforts. For example, he plans to gather technical workers and major stakeholders from government, industry and academia to look at innovation and offshoring in an effort to discover equitable solutions that satisfy the needs of all parties. In addition, Gerry and others will be working with volunteer members from around the world on IEEE-USA programs they can model and adopt. I look forward to continuing my service with Gerry as IEEE-USA’s past president. And please read on for more details of our 2004 efforts.

John W. Steadman
2004 IEEE-USA President
IEEE-USA is an organizational unit of The Institute of Electrical and Electronics Engineers, Inc. IEEE-USA was established in 1973 to support the career and public policy interests of the IEEE’s U.S. members.

Our mission is to recommend policies and implement programs specifically intended to serve and benefit the members, the profession, and the public in the United States in appropriate professional areas of economic, ethical, legislative, social and technology policy concerns. Our strategic vision is to serve the U.S. IEEE member by becoming the technical professional's best resource for achieving lifelong career vitality and by providing an effective voice on policies that promote U.S. prosperity.

In 2004, IEEE-USA was primarily supported through a $32 assessment charged to U.S. higher grade members residing in IEEE Regions 1-6.

This report highlights IEEE-USA’s accomplishments and progress in each of our five major program areas — career and member services, professional activities, government relations, communications and public awareness. For more information on our programs and services, visit the IEEE-USA website at www.ieeeusa.org.
IEEE-USA's career and member services are designed to help the IEEE’s U.S. members sustain and advance their careers. Highlights in 2004 included:

**New IEEE-USA Salary Service:** In 2004, we conducted our salary survey using a new, Web-account enabled instrument in preparation for the launch of our new enhanced salary service in the spring of 2005. The survey data will populate an extensive salary database with web interface that will be marketed to Human Resource professionals and engineering managers as an analytical tool for compensation planning and reports.

**Employment and Career Services Community:** IEEE-USA Employment and Career Services Community (ECSC) celebrated its first anniversary in August 2004. The IEEE’s largest virtual community, the ECSC has grown to nearly 1,800 members, who use the site to engage in a lively dialogue about current employment trends, as well as to share advice on job hunting and career skills. Go to the site at https://www.ieeecommunities.org/ecs.

**New Career Publications:** At the end of 2004, IEEE-USA released The Beyond Job Satisfaction Fieldbook; and a web-based Career Planning Guide. IEEE-USA’s Employment and Career Services Committee is currently updating the Engineers Guide to Lifelong Employability for publication in 2005.

**Professional Development Conferences:** In September 2004, IEEE-USA organized a Professional Development Workshop at the GSPX Conference in Santa Clara, Calif.; and, in November, ran a Professional Development workshop for the Rochester, N.Y. Section.

**Consulting Services:** IEEE-USA’s Alliance of IEEE Consultants Networks Coordinating Committee (AICNCC) has grown to encompass 34 local networks of which 28 have become IEEE Affinity Groups. During 2004, the AICNCC organized consultants workshops in conjunction with the IEEE Region 5 Annual meeting and at WESCON. IEEE-USA also launched a revamped consultants webpage at www.ieeeusa.org/business/ with a variety of resources for U.S. IEEE members, including an online consultants directory.

**Entrepreneurial Services:** In July 2004, the IEEE-USA Board of Directors approved an ongoing pilot study to design a new program offering entrepreneurial services. Using lessons learned from IEEE-USA’s consultants’ services, the goal is to provide a resource of expert knowledge, experience and support to U.S. IEEE members interested in starting their own businesses. Possible subject matter areas are: Organization, Marketing, Intellectual Property, Employment and Human Resources Issues, Assets Demands, Growth, Venture Capital, Taxation, and Industry Best Practices. It is anticipated that this program will begin operation in 2005.
Precollege Activities: IEEE-USA’s Precollege Education Committee partners with other organizations such as the Regional Activities Board Precollege Education Coordinating Committee to improve technological literacy and to enhance the quality of precollege math and science education.

In 2004, highlights included: partnership with the National Science and Technology Education Partnership to promote the K-12 student mentoring program called TechXplore, and to sponsor the TechXplore award; distribution of IEEE-USA’s “Careers in Electrical and Computer Engineering” guidance brochure at the National Council of Teachers of Mathematics and National Science Teachers Association conferences; and participation at the Engineers Week Family Day. Also, the first IEEE-USA Teacher-Engineer Partnership Award was presented in March 2004 to William Conrad and Alan Mays of Indianapolis. The award recognizes outstanding collaborations between teachers and engineers in precollege education.

Awards and Recognitions: At our annual Awards Ceremony in March, IEEE-USA presented its Distinguished Public Service Award to Dr. Norman Neureiter, former science and technology adviser to the Secretary of State. Former IEEE-USA President John Reinert received the organization’s highest professional honor, the Robert S. Walleigh Award, for contributions to engineering professionalism. The Harry Diamond Memorial Award was presented to Gregory H. Ames for his contributions to the field of fiber optic acoustic sensors. IEEE-USA’s Distinguished Literary Awards were presented to William S. Hammack for his weekly public radio series, Engineering and

IEEE-USA President John W. Steadman (left) presents the first IEEE-USA Teacher-Engineer Partnership Award to William Conrad of Indianapolis.

Life; and to Ben Shneiderman, for his book, Leonardo’s Laptop: Human Needs and the New Computing Technologies. IEEE-USA also recognized U.S. members for their achievements in promoting professional activities at the regional and divisional levels.

International Career and Professional Activities: IEEE-USA is working with the IEEE Regional Activities Board to promote professional career and member services and programs outside the United States. In April, IEEE-USA President Steadman highlighted these opportunities in a presentation to the Region 8 leadership in Poland. IEEE-USA President-Elect Gerry Alphonse made a similar presentation in the same month to IEEE Region 10 leadership in Australia. IEEE-USA has prepared a summary of U.S. programs and services that, with appropriate modifications, could be suitable for adoption in Regions 7-10.
IEEE-USA’s Professional Activities 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. Highlights include:

**PACE Network:** The PACE Network consists of Professional Activities Chairs appointed to promote career and professional programs and events in their respective IEEE U.S. regions, sections, technical divisions and society chapters. IEEE-USA provides support to the PACE Network, including funding and opportunities for training and collaboration, as well as connecting the PACE volunteers to the programs and issues of IEEE-USA. On 10 July, IEEE-USA’s PACE Committee funded and supported a Member Professional Awareness Conference (M-PAC) for the Hawaii Section on “Leadership Skills for Engineers in the Workplace”; and, on 2 October, worked with the Oregon Section to organize an M-PAC on Active Career Management.

**IEEE-USA Leadership Workshop:** The 2004 IEEE-USA Leadership Workshop, held in Atlanta on 19-21 March, attracted over 160 attendees from throughout the United States. The Workshop trains U.S. Section and PACE leaders and national committee chairs in employment and careers services, professional development, communications and government relations. The 2005 IEEE-USA Workshop will be held on 11-12 March in Tucson, Ariz.

**Student Professional Awareness:** IEEE-USA has sponsored more than two-dozen Student Professional Awareness Conferences, including those held at Rutgers, University of Maryland-College Park, Georgia Tech, Penn State, University of South Alabama, and University of California Berkeley, Irvine and Los Angeles.
IEEE-USA’s government relations program has four major components: technology policy activities, career policy activities, grassroots activities, and our government activities programs, including Fellowships and the Eye on Washington newsletter. These programs help public policymakers address complex technical issues and provide the IEEE’s U.S. members with a voice in Washington, as well as in their state capitols, on career and professional concerns. These programs also educate U.S. IEEE members about emerging issues, the public-policy process, and how members can effectively participate. Following are 2004 highlights:

**H-1B/L Visa Reforms:** In 2004, IEEE-USA stepped up its communications with key Congressional committees about the adverse impact of the always controversial H-1B and L-1 temporary work visa programs on engineering labor markets in the United States. As a result, House and Senate leaders added important reforms to a must-pass Federal agency funding bill just before Congress adjourned in December. These reforms: capped an industry-backed H-1B exemption for foreign professionals who receive advanced degrees from U.S. colleges and universities at 20,000; raised H-1B application fees paid by employers from $1,000 to $1,500; strengthened program investigative and enforcement authorities; and boosted NSF administered math, science and engineering scholarship stipends for U.S. students from $3,125 to $10,000 per year. For more information, go to www.ieeeusa.org/policy/issues/H-1bvisas.

**Offshore Outsourcing:** Throughout the year, IEEE-USA continued to communicate its concerns about the implications of offshore outsourcing, including the transfer of white-collar jobs to lower cost overseas locations, for U.S engineering employment and technological competitiveness to Members of Congress, print and broadcast journalists, and the public. In the absence of objective information needed to make appropriate policy, one important result of these efforts was the decision by Rep. Frank Wolf (R-VA) to include an earmark for a $2 million study of the impact of offshoring on the U.S. economy and employment in the FY 2005 appropriation for the Department of Commerce.

**Copyright Infringement/The Induce Act:** Earlier in 2004, Senate Judiciary Chair Orrin Hatch (R-Utah) and Ranking Minority Member Patrick Leahy (D-Vt.) introduced The Inducing of Infringement of Copyright Act (S.2560), aimed at preventing the infringement of digital copyrights through peer-to-peer networks. The stated intention of the bill was to permit copyright holders to sue corporations or persons who “intentionally induce” the infringement of copyrighted material.

In July, IEEE-USA Intellectual Property Committee Vice Chair Andrew Greenberg testified on The Induce Act before the Senate Judiciary Committee, endorsing the
concept of “active inducement” with provisions to protect technology with significant “non-infringing” uses.

Subsequently, IEEE-USA played an active role in Judiciary Committee negotiations on the bill, including participation in a marathon negotiating session convened by Sen. Hatch in early October. When the final draft proved unacceptable, IEEE-USA joined with NetCaucus and the Consumer Electronics Alliance in opposing the proposed bill, which was subsequently not introduced.

2004 Policy Communications: In addition to the priority issues highlighted above, IEEE-USA has issued some 50 policy communications to Congress and/or Executive Branch officials on a variety of subjects, including the Department of Defense’s Multidisciplinary University Research Initiative; the Science, Math and Research for Transformation (SMART) Defense Scholarship program; the Hubble Space Telescope; delivery of broadband services over power lines; and visa processing issues for foreign scholars and students. Copies of all IEEE-USA policy communications are available for review online at www.ieeeusa.org/policy/POLICY/.

New Position Statements: IEEE-USA formulates position statements on important public policy issues, which are intended to help policymakers understand the technical implications of policy issues, make policy recommendations, and/or express the views of the IEEE’s U.S. members on issues of concern. Through the end of 2004, the IEEE-USA Board of Directors approved 10 new IEEE-USA position statements including positions on surface transportation security, nuclear power plants, principles for a restructured electric power industry, voluntary healthcare identifiers, science and technology (S&T) in support of U.S. foreign policy, the Department of Homeland Security’s S&T capabilities, offshore outsourcing, the Hubble Telescope, tax incentives for continued education, the graduate student exemption to the H-1B visa cap, and visa processing. Position statements are available online at: www.ieeeusa.org/policy/POSITIONS/.

Grassroots: One of IEEE-USA’s government relations priorities is to enhance member awareness and participation in public policy making by increasing direct member involvement. Over 30 IEEE U.S. members joined 200 other participants in the 2004 Science, Engineering and Technology Congressional Visits Day in Washington on 3-4 March. In addition, presentations and workshops on grassroots advocacy were provided at 11 locations including: Georgia Tech, on 25 February; UCLA, on 28 May; and the New York City and New Jersey Sections, on 8 September. Also, a special legislative event was organized for IEEE members in New Jersey to meet with their state legislators in the state capitol on 30 September.

Conferences and Workshops: IEEE-USA’s Technology Policy Council organizes and/or cosponsors a variety of conferences, workshops and symposia to highlight specific technology policy issues. Highlights in 2004 included:

➢ “Focus on Globalization and Outsourcing: Challenges & Opportunities for Industry and the Engineering Profession,” a technology
forum held in conjunction with the IEEE Boston Section, Electro, and the IEEE Boston Northshore Subsection in Boston on 5 May

- “Addressing the Healthcare Needs of Our Aging Population With Technology,” a policy symposium held in partnership with Mitretek Systems and Intel on 4 June in Falls Church, Va.

- “Ethics and Changing Energy Markets: Issues for Engineers, Managers and Regulators,” a conference to explore the interplay of ethical, market and regulatory issues arising in the shift from regulated to competitive markets in the electric and gas utility industries, held at the University Notre Dame on 28-29 October

**Congressional R&D Caucus:** In response to a request by Reps. Rush Holt (D-N.J.) and Judy Biggert (R-Ill.) in January, IEEE-USA and the American Society of Mechanical Engineers organized an Advisory Committee for the Congressional R&D Caucus. The R&D Caucus is comprised of U.S. Representatives with an interest in science and technology (S&T) research. The Advisory Committee has grown to four regular members (including IEEE-USA, ASME, APS and FMS), and sponsors monthly briefings for Members of Congress and their staffs on subjects ranging from the state of the S&T workforce to the role of optics and photonics in medicine. In addition, IEEE-USA also created and hosts the Website for the Caucus at [www.researchcaucus.org](http://www.researchcaucus.org).

**Aviation Coalition:** In mid-2004, IEEE-USA assumed the leadership of the Aviation Coalition, an ad hoc committee of nearly 20 aviation and aerospace industry groups and engineering professional organizations dedicated to advancing the cause of U.S. aviation and aerospace R&D. Plans are under way to hold a congressional workshop, conduct visits to congressional staff, and develop a website to highlight the importance of maintaining a healthy and robust domestic aviation research and development program in the United States.

Left to Right: Defense Department’s Dr. Ron Sega, IEEE-USA’s Bill Williams and Rep. Rush Holt (D-N.J.) at a Congressional R&D Caucus luncheon in April.

Government Fellowships: During 2004, IEEE-USA sponsored three IEEE U.S. members in Congressional Fellowships, serving one-year appointments as technical advisers to members of the U.S. Congress: Martin Sokoloski (Rep. Rush Holt); Steven Watkins (Rep. Dana Rohrabacher); and Peter Winokur (Sen. Harry Reid). IEEE-USA also sponsored three members as 2004 Engineering & Diplomacy Fellows in similar roles at the U.S. State Department: Emily Sopensky, E-Diplomacy Initiative; Richard Lamb, international communications/information policy; and Sajjad Durrani, non-proliferation.

Washington Internships for Students of Engineering: Each year, IEEE-USA, IEEE Technical Activities and the IEEE Life Members Committee sponsor three IEEE student members for participation in the Washington Internships for Students of Engineering (WISE) program, a nine-week summer program during which the Interns interact with Washington decision makers to learn how technology policy is made and how engineers can contribute to legislative and regulatory public-policy decisions. For an overview, go to www.wise-intern.org.

The 2004 IEEE WISE interns were (left to right): Jacob Scott (University of California-Berkeley); Jeremy Tunnell (University of Tennessee-Knoxville); and Samuel Schoofs (Calvin College). Schoofs focused his research on proposals for a federal renewable energy portfolio standard. Scott explored the role of public policy in combating spam. Tunnell evaluated tiered patent systems used in Europe and elsewhere, and assessed the implications for U.S. patent reform. Their papers, along with those of the other WISE Interns, are available at www.wise-intern.org/journal04/index.html.
IEEE-USA’s communications program helps to keep IEEE U.S. members and others informed of IEEE-USA program, activities and achievements, as well as support our government relations efforts through media outreach. 2004 program highlights:

**Member Communications:** IEEE-USA’s member communications effort includes publishing 12 monthly issues of the *IEEE-USA Today’s Engineer* webzine, with an average of 23,000 visitor sessions per month; four issues of *IEEE-USA News & Views*, the quarterly publication devoted to IEEE-USA activities, distributed to all 225,000 U.S. IEEE members with *IEEE Spectrum* and *The Institute*; and 12 monthly issues of *IEEE-USA News & Views E-Mail Update*, distributed to more than 205,000 U.S. IEEE members with valid e-mail addresses. In addition, IEEE-USA placed two two-page “advertorial spreads” in *IEEE Spectrum* providing a review of 2003 activities and accomplishments, and a look at planned activities for 2004.

**Media Penetration:** IEEE-USA communicates its viewpoints and activities to the general public and opinion leaders through outreach to print, radio and other media. In 2004, IEEE-USA was cited in more than 400 news clips, and helped to coordinate almost 100 media requests. 2004 highlights include:

- IEEE-USA’s contributions to unemployment statistics appearing in a 9 March *New York Times* article on “Lingering Job Insecurity of Silicon Valley”

- IEEE-USA citation in 22 March *USA Today* article on “As Jobs Go Overseas, Reading, Penn., Struggles to Reinvent Itself”

- IEEE-USA Career & Workforce Policy Committee Chair Ron Hira’s participation in an online chat organized on 2 April by *The Washington Post* on the subject of offshoring and its effect on U.S. high-tech workers


**The Northeast Blackout of August 2003:** IEEE-USA received a 2004 Silver Prize Award in the “Bulldog Newsletter Awards for Excellence in Media Relations and Publicity,” presented for our role as part of an overall collaborative effort with IEEE Corporate Communications in helping the media understand the causes and implications of the 14 August 2003 blackout.

**Traveling Display:** IEEE-USA’s three traveling displays help to communicate with U.S. IEEE members about our programs, services and issues. IEEE-USA displays appeared in more than a dozen venues, including EWeek Family Day, PLANS 2004 Conference, Wescon and ITSC 2004.

**New Communications Tools:** In October, IEEE-USA Today’s Engineer (TE) launched a Real Simple Syndication (RSS) feed at www.todaysengineer.org/RSS/te.xml to better reach the growing number of Web "netizens" who rely on Web logs (or blogs) as a primary news source. By using RSS feeds, IEEE-USA expects to reach a broader
Public Awareness

IEEE-USA’s Communications program also supports a number of specific initiatives designed to increase public awareness of engineering and engineers’ contributions to society, as well as to encourage diversity in the engineering workforce. Highlights in 2004 include:

**National Engineers Week 2004:** IEEE-USA coordinated the IEEE’s role as lead society for National Engineers Week 2004 (22-28 February), supporting a number of programs and activities designed to celebrate engineers and their contributions in this annual observance. Among the highlights, IEEE-USA:

- Placed “New Faces of Engineering” ads in *USA Today* and *The International Herald Tribune*
- Released IEEE-USA “New Faces of Engineering” calendar, which received a *Communicator Award* in international competition for outstanding work in the communications field
- Released image surveys coordinated with AAES-Harris and *IEEE Spectrum*
- Achieved record-breaking attendance at the EWeek “Family Day” event at the National Building Museum in Washington, DC
- Enhanced the Future City Competition, including support of additional national teams and a longitudinal study of the impact of the competition on its participants.

As an outcome of its EWeek efforts, IEEE-USA won first prize in the special event and observance category of the International Public Relations Association Golden World Awards, awarded for global excellence in planning, coordinating and fundraising activities associated with EWeek 2004.

**AAES Council on Public Awareness:** As a member of the American Association of Engineering Societies’ Council on Public Awareness (COPAE), IEEE-USA collaborated with other engineering societies to promote public awareness of the profession. In
February 2004, COPAE released the results of the AAES-Harris public opinion survey of American perspectives on engineering and engineering at www.aaes.org/harris_2004.htm, which confirmed that the public has a high opinion of engineers, but still does not consider itself well informed about engineering.

Additional Public Awareness Support for 2005: IEEE-USA also contributed to additional public awareness activities through an EWeek 2005 “Introduce A Girl to Engineering” movie ad campaign, hosting of EWeek’s 2005 Family Day, and support for electrotechnology topics in prepackaged news feeds distributed by the American Institute of Physics to 108 U.S. television stations reaching a potential audience of 80 Million.


Mass Media Fellowship: IEEE-USA’s fourth Mass Media Science & Engineering Fellow, Sarah Harris, spent 10 weeks at WOSU-AM radio in Columbus, Ohio, on a summer assignment reporting on science, technology, engineering and math. IEEE-USA participates in the AAAS program that seeks to promote technological literacy.
IEEE-USA’s Board of Directors provides direction and oversight to IEEE-USA, its programs, activities and budgets.

2004 Board of Directors

In April, Tom Suttle retired from IEEE-USA after 27 years of dedicated service to the organization. Suttle served as IEEE-USA’s staff manager and managing director from 1993 until his retirement. During his tenure, he helped lead a volunteer and staff team that produced retirement security reforms for the engineering profession and established IEEE-USA’s Government Fellowships programs.

Chris Brantley (left), a 15-year government relations veteran with the IEEE, was named as IEEE-USA’s managing director. Brantley was previously IEEE-USA’s Director of Government Relations and Operations. Prior to joining the IEEE in 1989, he served as Assistant to the Executive Director of the American Association of Engineering Societies.