



## IEEE-USA PROFESSIONAL PERSPECTIVE

Promoting Professional Careers and Technology Policy Interests of Electrical, Electronics and Computer Engineers  
An IEEE UNITED STATES ACTIVITIES Supplement to THE INSTITUTE

# How IEEE-USA Serves U.S. Members

Supported by members residing in U.S. Regions 1-6, IEEE United States Activities (IEEE-USA) supports the Institute's professional goal, advancing the standing of members of the professions that the IEEE serves. IEEE-USA's efforts to achieve this goal include conducting and publishing surveys and reports on matters of professional concern, collaborating with public bodies and other societies for the benefit of all engineering professions, and establishing standards of qualification and ethical conduct.

Influencing policymaking on career and technology policy issues affecting the electrical, electronics and computer engineering professions, IEEE-USA also provides products and services to help U.S. members understand and deal with these issues. By developing positions on policy issues, IEEE-USA communicates members' concerns to government, industry and other organizations.

### Professional Careers Of U.S. IEEE Members

IEEE-USA committees handling career concerns inform and educate U.S. IEEE members about trends, issues and actions affecting their professional careers. The committees prepare positions and recommend appropriate action, communicate IEEE-USA's views to public and private decision-makers, and respond to member requests for information and assistance.

#### Engineering Employment Benefits Committee (EEBC)

This committee tracks developments in the public and private sectors, makes policy recommendations to the United States Activities Board (USAB), and educates U.S. members on pensions and other retirement savings issues. EEBC promotes legislation to improve pension portability and increase individual savings for retirement, as well as assists in developing and marketing retirement planning software.

#### Intellectual Property Committee (IPC)

IPC encourages the establishment of appropriate incentives and protection for the development and disclosure of inventions. The committee also seeks to strengthen intellectual property rights in patents, copyrights, trademarks, industrial designs, maskworks and trade secrets.

Committee activities include advising federal policymakers on intellectual property issues and the government's role in protecting technology; developing, evaluating, and proposing alternative forms of protection for rapidly changing technology; and recommending guidelines for university intellectual property rights policy.

#### Licensure & Registration Committee (L&R)

L&R represents U.S. members' interests in engineer credentialing by providing policy perspectives on developing, administering, and evaluating the Professional Engineering Exam, offered by the National Council of Examiners in Engineering and Surveying. The committee recommends procedures that will protect the public without imposing unwarranted restrictions on engineering practice.

#### Work Force Committee (WFC)

This committee monitors trends, issues and developments affecting members' employment opportunities. WFC prepares analyses and reports, makes policy recommendations, and gives testimony to Congress and government agencies on employment issues. Committee activities include analysis and reporting on major economic, educational, immigration, and trade policy issues affecting employment and educational opportunities.

#### Career Maintenance and Development Committee (CM&D)

CM&D's mission is to improve career development and satisfaction, ensure lifelong careers, and increase engineers' effectiveness as a vital

component of the nation's productivity. Committee activities include organizing careers conferences, sponsoring workshops, making presentations, and preparing educational materials.

#### Career Equality Committee (CEC)

CEC develops and communicates public policy positions on federal regulations involving discrimination against women, minorities, the disabled, and older engineers in matters of employment, utilization, compensation and career advancement. The committee advises Congress and disseminates information to U.S. IEEE members.

### Public Policy Issues Involving Technology

The technology policy committees develop policy and position statements and track legislative and regulatory activities in Washington, D.C. They also present annual symposia on timely policy issues affecting U.S. electrotechnology research, development and implementation. Such meetings educate participants about U.S. technology policy needs and provide insights on how IEEE-USA can promote effective policy through contact with policymakers and agency officials. Volunteers give testimony to policymakers, providing officials with technology experts who offer objective insights.

#### Energy Policy Committee (EPC)

EPC presents technical information and policy views on key energy issues. The committee specifically focuses on national energy policy legislation, energy transmission technology development, and energy efficiency.

#### Committee On Communications and Information Policy (CCIP)

CCIP promotes formulation of sound legislation, regulation and policies relating to communications, computer and information technology development. Committee mem-

bers have focused on such issues as electromagnetic spectrum efficiency, high-performance computing, digital high-resolution systems, personal communications systems, the national information infrastructure, and spectrum license competitive bidding and utilization.

#### Aerospace Policy Committee (APC)

APC presents views on government and private sector aerospace R&D policy programs. Committee activities focus on the Advanced Communications Technology Satellite demonstration, Earth Observing and Data Information Systems implementation, and realizing the economic promise of space.

#### Research and Development Policy Committee (R&DPC)

R&DPC disseminates positions on engineering R&D policies and programs, specifically those of the National Science Foundation (NSF), the Office of Science and Technology Policy, the Department of Defense, and the Department of Commerce's (DOC) Technology Administration, including the National Institute of Standards and Technology (NIST). The committee focuses on NIST standards and technology programs, NSF engineering programs and reauthorization, and DOC's role in technology commercialization.

#### U.S. Competitiveness Policy Committee (USCPC)

Working with IEEE-USA's other policy committees, USCPC develops programs and advocates policies that promote the economic well-being of U.S. members and global competitiveness. The committee has developed a proposal to encourage capital investment in manufacturing.

### Linking Engineers With Government

As part of a multi-association program, the Government Fellows Committee (GFC) recruits and sup-

—Continued on p. 8D





## A Year in

IEEE-USA: A

The following pictures provide a review of some of IEEE-USA's major 1994 activities:

**IEEE-USA Previews Engineering and Employment in the New Global Economy:** On March 2, in Washington, D.C., IEEE-USA sponsored two panels on future engineering employment as part of the American Association of Engineering Societies Government Affairs Conference. In one panel on policy issues and government roles, Edith Holleman, counsel for the House Committee on Science, Space and Technology, warns that most new high-tech jobs will be found in the Third World.



**IEEE-USA Supports Industry Cooperation:** On April 11, in Washington, D.C., USAB Chair Charles K. Alexander Jr. speaks to a capacity gathering of 76 electrotechnology executives at a special meeting on supporting development of the information superhighway. The U.S. Vice President's chief of staff and the head of the Microelectronics and Computer Technology Corp. also participated in the event.



**IEEE-USA Enlists Congressional Support For Portable Pension Legislation:** On April 12, 1994 IEEE President-Elect James T. Cain (left) and Alexander (right) visit with Rep. Rick Santorum (R-Pa.), seeking support for portable pensions legislation, while the Institute's Executive Committee met in Washington.

**IEEE-USA Promotes Technology to Provide Efficient Health Care:** On April 12, in Washington, D.C., Alexander and 1994 IEEE President H. Troy Nagle (right) record a radio interview broadcast on 132 stations nationwide emphasizing how technology can help to contain health care costs and improve services.



Later, from April 27 to 29, the division co-sponsored a forum on technology's role in reducing health care costs. Nagle (right) speaks with Rep. Patricia Schroeder (D-Colo.), who announced initiatives to promote the development of promising health-care technologies, including legislation to establish a Presidential Commission on Telemedicine.

IEEE United States Activities supports the policy interests of 240,000 U.S. IEEE members. In 1994, responding to mounting concerns, IEEE-USA aggressively pursued full employment for engineers, promoting tougher standards for admitting new engineers, introducing an inexpensive job referral service; launching an electronic job listing service; Consultants' Networks; and sponsoring organizations to engineering careers, the Eighth Biennial Careers Conference. Changing employment conditions and U.S. economic conditions continued to promote retirement security. Legislation introduced by Rep. Santorum in the House Ways and Means Committee.

IEEE-USA also fostered technology development in 1994, with an early-warning mechanism to oppose amendments on the House floor. The Tokamak Fusion Experiment and General Atomics. Further, IEEE-USA convened two ground-breaking conferences. Representatives from industry, government, and the United States can use technology to provide a framework for the National Information Infrastructure.

Through its Government Fellows Program, IEEE-USA served with leading legislative and executive agencies. Needed, private-sector perspective on a technology component. 1994 Fellows were: Frank Rohrabacher (R-California); Albert D. Rose; Rep. Martin Sabo (D-Minnesota), chair of the House Committee on Commerce, Science and Technology; Henry Simon, who assisted Under Secretary of Commerce.



**IEEE-USA Sponsors Only National Conference Devoted Entirely to Engineering Careers:** On April 14-15, in Ft. Worth, IEEE-USA's Career Maintenance and Development Committee sponsored the Eighth Biennial Careers Conference. The meeting, attended by some 125 professionals, explored such topics as engineering leadership, how to create a learning organization in the engineering community, and organizational practices that build leadership in the technical ranks.



# Pictures

## OVERVIEW

professional careers and technology  
rs.  
g cutbacks in engineering jobs, IEEE-USA  
IEEE's U.S. members. Activities included  
foreign workers into the United States;  
vice with a computerized resume data  
service; forming a new Alliance of IEEE  
of the only meetings devoted entirely  
Careers Conference, which focused on  
competitiveness. In addition, IEEE-USA  
the organization pursued portable pen-  
M. Gibbons (D-Florida), acting chair of  
  
ogy policy interests. In the summer of  
place, the organization acted quickly to  
that would have terminated funding for  
s-Turbine Reactor research programs.  
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ul B. Crilly, who worked with Rep. Dana  
heck, who selected for his assignment  
he U.S. House Budget Committee; and  
for Technology Mary L. Good in the U.S.

## Promoting Professional Careers and Technology Policy Interests of Electrical, Electronics and Computer Engineers



**IEEE-USA Promotes Professional Activities Outside the United States:** On May 27, Alexander met in Copenhagen, Denmark, with Region 8 members to describe U.S. professional activities and how they might be applied as a model in other countries. Representatives of the Region, which includes the former Soviet Union, Europe and Africa, shared similar concerns about job security with their U.S. counterparts. Later, on Sept. 19 in Budapest, Hungary, Alexander (left) talks with members of IEEE's Hungarian Section.



**IEEE-USA Recognizes Professional Achievement:** Former IEEE President Charles A. Eldon accepts USAB's highest award for distinguished contributions to engineering professionalism, announced at the division's Labor Day PACE Conference. Eldon, an Institute Life Fellow, was recognized for his leadership in establishing IEEE-USA's Government Fellows program, and for improving ties between the Institute and other groups.



**IEEE-USA Promotes Retirement Security:** On Oct. 3, in the U.S. Capitol, Alexander presents USAB's Distinguished Public Service Award to Rep. Sam M. Gibbons (D-Fla.), acting chair of the House Ways and Means Committee. Alexander praised Gibbons "for his sponsorship of legislation to increase the portability of pension benefits for mobile American workers, including engineers and scientists, in each of the last two Congresses."



**IEEE-USA Briefs Clinton Administration Sci-Tech Officials:** A combined volunteer and staff delegation gathers outside the White House Conference Center, after meeting with six senior officials of the Administration's Office of Science and Technology Policy on Oct. 4. They discussed such topics as manufacturing technology, small business access to government information, space policy, information security, retraining assistance and the federal laboratories.



**IEEE-USA Readies Ramps For Information Interstate:** On May 10-11, in Arlington, Va., IEEE-USA co-sponsored a workshop on advanced digital video in the National Information Infrastructure (NII). A month later, on June 29-30 in McLean, Va., approximately 250 people attended a symposium on *The NII: What Will It Be? How Will It Be Used?* Michael Nelson (left) speaks on behalf of the White House Office of Science and Technology Policy.



**IEEE-USA Joins Engineering Societies In Hosting Sci-Tech Advisers:** On Oct. 24, in Washington, D.C., the division co-sponsored a dinner with the President's Committee of Advisers on Science and Technology (PCAST). Alexander and IEEE Professional Activities Staff Director W. Thomas Suttle (middle) chat with Presidential Science Adviser John H. Gibbons (right).



**IEEE-USA Establishes Alliance of IEEE Consultants' Networks (AICN):** At the AICN East Coast Conference, on Oct. 15 in Newark, N.J., Peter Schutz, a Garden State member consultant, discusses *Profiting from Your Inventions*. Sessions covered marketing, contracts, tax and intellectual property laws, and fee setting.



During a break in the June NII Symposium, Alexander chats with Laurel Kaleda (right), president of the IEEE's Computer Society.

**IEEE-USA Looks Ahead to New Congress:** On Dec. 1, in Washington, D.C., IEEE-USA's Energy Committee meets with William Taylor, assistant secretary of energy for congressional and intergovernmental affairs. Taylor briefed the committee on changes in energy policy expected with the 104th Congress convened in Jan. 1995.





ports U.S. IEEE members to serve one-year Fellowships as advisers on either the personal staff of a U.S. Senator or Representative or on the professional staff of a Congressional Committee.

In addition, GFC and USCPC jointly sponsor Executive Fellows in DOC's Technology Administration to promote U.S. competitiveness in electronics and manufacturing. These programs encourage more effective use of scientific and technical knowledge in national policymaking.

State Government Activities Coordinators in IEEE Regions 1-6 also promote U.S. members' involvement in state and local issues. The State Government Activities Committee provides advice and assistance in establishing and operating State Government Activities Councils and supports IEEE-USA's participation in the American Tort Reform Association.

As a member of the American Association of Engineering Societies, the IEEE has joined with more than 25 professional engineering societies to pursue common advocacy goals in technological competitiveness, pensions, sustainable development and the environment.

## Providing Services Directly to U.S. Members

IEEE-USA's volunteer committees provide career services to members, determine member needs through surveys taken at regular intervals, and recognize volunteer accomplishments in professional activities.

### Employment Assistance Committee (EAC)

IEEE-USA has been providing employment assistance services for more than 20 years. With employment taking a downturn in recent years, EAC published an updated two-volume *Employment Guide for Engineers and Scientists*. EAC provides the *Guide* and other employment information free to U.S., non-student, unemployed members. The committee has also established a series of Regional autoreponse files of job openings available via electronic mail.

Moreover, EAC conducts employment assistance workshops for U.S. Sections and distributes publications that help Sections develop local programs. It oversees and co-sponsors job fairs with commercial operators in various parts of the country and assists Sections in planning job fairs and skills banks.

In addition, EAC has negotiated discount agreements with a national resume referral service and with a copier service that creates resumes. The committee has also implemented a free national job listing service on Internet.

**Helping Self-Employed Members**  
The Alliance of IEEE Consultants' Networks (AICN) coordinates the activities of a growing number of local networks of members in private practice. AICN's Coordinating Committee produces a newsletter for private practitioners and is developing new forms of assistance for self-employed members, including a national client referral service.

### Taking Surveys

IEEE-USA periodically surveys U.S. members to obtain information about their salaries and opinions on important professional issues. The *IEEE U.S. Membership Salary and Fringe Benefit Survey* is conducted every two years. Both members and industry use the results extensively to determine competitive salary levels. IEEE-USA also conducts U.S. member opinion surveys and participates in worldwide member opinion surveys.

### Providing Peer Recognition

An awards program recognizes U.S. members and individuals outside the profession for exemplary non-technical contributions to the profession. The program includes a distinguished public service award, literary awards, and a new award for electrotechnology transfer, in addition to awards for engineering professionalism, professional achievement, and Region and Division leadership.

### Reaching Out to Local Members Through PACE

The Professional Activities Committees for Engineers (PACE) Network, established in the Regions, Divisions, Sections, Societies, and other IEEE units throughout the United States, guides professional activities at the local level and communicates members' views on other professional needs.

## Today's Students—The Future of the Profession

Through programs for engineering students, IEEE-USA fosters awareness of professional activities. The division promotes a technologically literate society at the precollege level.

### Washington Internship for Students of Engineering (WISE)

IEEE-USA and the IEEE's Technical Activities Board jointly sponsor two IEEE Student Members in a summer internship program in Washington, D.C. WISE interns study public policy issues related to engineering and technology policy.

### Student Professional Awareness Committee (SPAC)

SPAC works with IEEE Student Branches in U.S. universities to promote student awareness of professional issues. Through participation in Student Professional Awareness Conferences (S-PACs), one-day events that students organize and

conduct, future EEs hear practicing engineers discuss such career issues as professional ethics, registration and continuing education. The Student Professional Awareness Venture (S-PAVe) program offers students the opportunity to design their own professional awareness activities, with support from SPAC.

### Precollege Education Committee (PEC)

PEC increases U.S. members' awareness of a crisis in U.S. precollege math and science education and facilitates members' participation in community activities designed to enrich math and science teaching. The committee has published a *Directory of Volunteer Opportunities in Precollege Mathematics and Science Education for Engineers and Scientists*, listing enrichment programs that depend heavily on volunteer participation. PEC also urges state school boards to revise certification requirements to enable hiring engineers as math or science teachers.

## Communicating With Members and the Public

Through IEEE-USA's internal and external communications programs, the enormous task of informing the Institute's 240,000 U.S. members and the public-at-large is achieved.

### Communication Committee (CC)

The committee develops, supports and coordinates communications initiatives for IEEE-USA and its units. Working with all committees, CC assists in writing, design, production, and dissemination of publications and other communication tools addressing career and technology policy issues. The committee publishes *IEEE-USA Hot Lines*, a one-page, camera-ready news sheet circulated to the IEEE's Section and Society newsletter editors.

### Keeping Active Volunteers Up to Date

*Impact* is an eight-page newsletter issued eight times a year to enhance communication about professional activities among IEEE volunteer leaders throughout the United States.

### Informing Members Of Career and Technology Policy Issues

*Professional Perspective* is IEEE-USA's four-page centerfold insert in *The Institute* or two-page spread in *Spectrum*. Its purpose is to inform members about professional activities programs being implemented in the United States, as well as available IEEE-USA services and products. The division also releases regular information bulletins and publishes the bimonthly *IEEE-USA Legislative Report* newsletter to highlight important public policy issues and developments in Washington, D.C.

## Promoting IEEE-USA Issues Outside the Institute

IEEE-USA Communications pursues media relations as well as marketing and advertising programs promoting professional careers and technology policy issues. It also coordinates the IEEE's participation in National Engineers Week, co-sponsoring programs that call attention to engineers' achievements and their impact on society. A current information recording, (202) 785-2180, provides an overview of the division's activities.

## 1995 Salary Survey Available

The 1995 IEEE U.S. Salary and Fringe Benefit Survey offers detailed information on salaries and benefits of electrical, electronics and computer engineers, as well as employment data and demographic and occupational characteristics. Questionnaires were sent to nearly 21,000 randomly selected U.S. members. The 1995 Survey is restructured to address key issues, such as economic effects on engineering employment, salaries and benefits.

The publication date for the Survey is May 15, 1995. Members can order it now through May 15 at a special pre-publication discount of \$64.95. After this date, the member price is \$74.95. To order, call (800) 678-IEEE, and request IEEE Product Number UH0189-2. The 1993 Survey is also still available at a 50 percent discount.

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