



Student Professional Awareness Conferences—Planning for the Future

by **Cecelia Jankowski**, Chair
Student Professional Awareness Committee

A Student Professional Awareness Conference (S-PAC) is an exciting and effective way for future engineering professionals to be introduced to non-technical career issues. Experienced, practicing engineers who are familiar with engineers' professional concerns present these issues in a forum where students can ask questions about the value of advanced degrees, about confronting ethical dilemmas in the workplace, about developing careers in technical work, management, marketing, and sales, and about the value of professional society membership. For student organizers, S-PACs provide opportunities to increase visibility, to build self-confidence, and to establish professional track records for their careers.

IEEE-USA's Student Professional Awareness Committee (SPAC, without the hyphen) is responsible for assisting Student Branches in Regions 1-6 in organizing S-PACs at their universities. Six Regional S-PAC Coordinators, one from each Region, serve as the primary contact point for student organizers. These Coordinators work closely with students to help them in determining the appropriate conference program, in selecting speakers to address topics of interest to fellow students, and in obtaining S-PAC funding. Personal contact and flexibility in dealing with students is important, since student organizers, their interests, and the university's size and culture differ from school to school.

The six Regional S-PAC Coordinators for 1992 are Leann Asselin (Region 1); Mary-Ann Boyce (Region 2); Larry Dwon (Region 3); Harry Bostic (Region 4); Bill Klos (Region 5); and Joe Wujek (Region 6). A Support Coordinator, serving on the SPAC as a Corresponding Member, assists each Regional Coordinator.

In recent years, the SPAC has included a Student Member to ensure that students' perspectives on S-PACs are incorporated into the Committee's decision-making. Karen Butterfield, IEEE Student Branch Chairman at New Mexico State University, is the SPAC Student Member for 1992. She was selected for her outstanding performance and the experience she gained as Chairman of an S-PAC at her university last year.

In addition, the SPAC schedules meetings on location at an S-PAC. In April, the SPAC will meet with student organizers at a University of Texas, San Antonio, S-PAC to be held concurrently with a Region 5 meeting.

The Student Professional Awareness Activities (SPAA) Subcommittee of IEEE's Regional Activities Board Student Activities Committee supports the S-PAC program in all Regions. Gerald Karam is the SPAA Chairman for 1992 and is an ex-officio member of the SPAC. Although S-PACs were first undertaken in the United States, the concept quickly spread to other IEEE Regions, and IEEE-USA's S-PAC reference material is made available to schools in those Regions.

Professional Activities Committees for Engineers (PACE) leaders in all IEEE units are encouraged to participate in S-PAC programs in several ways. Leaders can:

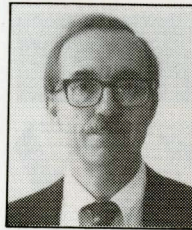
- Identify potential high-quality, local speakers who can relate to students and their concerns about professional issues. Invite these speakers to give presentations at a Section Student Night, and ask for feedback from the students attending. Since SPAC's leading objectives are to increase the number of available speakers in each Region and ensure coverage of major topics, send the names of the speakers to your Regional S-PAC Coordinator;
- Encourage Student Branches to hold S-PACs. Meet with students to discuss the importance of professionalism to their careers. Put students in contact with Regional S-PAC Coordinators who can discuss options for an S-PAC at their school; and
- Provide students with industry connections, and support their S-PAC planning and presentations; if possible, assist students with finding appropriate locations, coordinating local publicity efforts, or identifying local industry funding sources.

If you haven't participated in an S-PAC, attend the next one held at a school in your area. (Watch for announcements in your local newsletter or call your Regional PACE Coordinator, listed in this issue; see "A Minute for PACE.") Tomorrow's young engineering professionals face increasing challenges. Share their excitement about the future! ♦

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IMPACT

Communicating IEEE-USA's Strategic Objectives

As you probably know, *Impact* is designed to enhance communication among IEEE, USAB and PACE leaders throughout the United States. Enhancing communication is one of USAB's five strategic objectives. That objective doesn't change with time, nor is there any expectation that it will. Contrastingly, perhaps USAB's principal strategic objective, which is to improve the competitive stance of the United States in relation to its trading partners, may become redundant by the end of this millenium; we hope that it will.

In light of this objective, *Impact's* editorial policy will be to give priority to information, stories, and rejoinders that will create a better understanding of specific changes IEEE members can focus on to improve U.S. competitiveness.

While competitiveness is USAB's paramount goal during 1992, two other goals are probably of greater

immediate interest to U.S. members. To the extent that it can, *Impact* will support IEEE-USA's Employment Assistance Committee efforts to provide guidance for our unemployed members.

Finally, I am encouraging leaders again this month to write to their U.S. Representatives and Senators in support of H.R. 2390, the *Pension Coverage and Portability Improvement Act of 1991*. If engineers are ever to move closer to the elusive goal of professionalism, then this change is essential.

—Robert T. Nash
Editor in Chief

The newsletter for IEEE-USA's Professional Activities Committees for Engineers

IMPACT is designed to enhance communication among leaders of the Professional Activities Committees for Engineers (PACE) throughout the United States and among the leaderships of PACE, the United States Activities Board, and IEEE. As a medium for both opinions and news, the editorial objectives of IMPACT are to inform its readers in a timely and objective manner of newsworthy activities relative to IEEE's professional purposes; to comment on institutional professional matters, such as the actions of IEEE committees and boards; to serve as a forum for debate on professional matters of concern to PACE through publishing submitted articles, invited editorials, and letters to the editor; to provide news of USAB personalities, appointments, and awards; and to encourage member interest in professional activities.

Send contributed articles and letters to the editor to Robert T. Nash, Vanderbilt University, Sta. B, Electrical Engineering Bldg., P.O. Box 1553, Nashville, TN 37235. Address for other mail: IEEE IMPACT, 1828 L St., N.W., Suite 1202, Washington, DC 20036-5104. NOTE: Material for publication must be in hand at least 30 days prior to the first day of publication months listed below.

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Papers Competition Highlights National Standards Week

The Standards Engineering Society and IEEE Standards are holding a papers competition on the theme "Standards Promote Competitiveness" to highlight the role of standards in U.S. competitiveness during National Standards Week. This event, annually celebrated during the second week of October by the standardization community, focuses national attention on the importance of standards to commerce, industry, and government.

The competition is open to all individuals in the private sector or government who work in facilities located in the United States. Employees of nationally recognized private-sector standards developing organizations are ineligible. In addition to showing how competitiveness can be promoted through the application of standardization practices, the paper should make an important contribution to furthering the development and understanding of standardization in government, commerce, and industry.

For copies of contest rules and entry forms, write to the National Standards Week Paper Competition, Standards Engineering Society, P.O. Box 2307, Dayton, Ohio 45401-2307. Papers should be received by the National Standards Week Committee no later than **June 15, 1992**.

President's Budget Highlights Research and Development

The Bush Administration continued its emphasis on enhancing research and development as an investment in the Nation's future in its 1993 budget submission to Congress. The proposed budget would provide \$76 billion for R&D, an increase of three percent over FY 1992. This increase, which just keeps pace with inflation, is significant because of tight constraints on domestic discretionary spending mandated by the 1990 budget agreement and proposals for sharp cuts in defense spending following the collapse of the Soviet Union.

Within the FY 1993 budget request, funding for applied research would increase by three percent, to just over \$59 billion. Basic research would grow by eight percent, to approximately \$14 billion. Approximately \$3 billion is slated for R&D facilities. Total R&D for civilian programs would grow by seven percent, to \$36 billion. Key initiatives include increased investments in high-performance computing and communications, advanced materials, biotechnology, U.S. global climate change research, and the space station. Defense R&D would expand by only one percent to \$40.5 billion, of which \$4.3 billion is slated for the basic and applied research that supports the Defense technology base.

These and other highlights of the Federal R&D budget request and key issues that will help shape action in

Congress are summarized in IEEE-USA's Technology Policy Council Report "Electrotechnology in the Federal FY 1993 Research and Development Budget Request," due for release in March 1992. Complimentary copies are available on request to the IEEE-USA Office in Washington, D.C.

USAB Approves Position Statements

IEEE's United States Activities Board approved these position statements during its last two meetings of 1991. Copies are available from the IEEE-USA Office in Washington, D.C.

• **Engineering Utilization and the U.S. Standard of Living**—IEEE-USA recommends that the Federal Government develop programs to make more effective use of engineers in defense and non-defense industries, as well as Federal agencies, and support private sector strategies through legislative and financial means.

• **Toward an Architecture for the Interoperation of High-Resolution Systems Across Industries**—Recognizing that High Resolution Systems (HRS) development will have a significant impact on many industries, IEEE-USA encourages all entities participating in standards development to develop and adopt an open architecture where flexible standards for HRS systems can be implemented.

• **Fusion Power**—While research in fusion power is aimed at a timely demonstration of fusion as a viable, inexhaustible power source for base load electrical power generation, IEEE-USA supports Federal funding levels adequate for studying the physics of a high-gain burning plasma, in addition to physics research for the development of fusion technology.

• **Research Needs in Health Effects of Power Frequency Electric and Magnetic Fields**—IEEE-USA points out the general areas of investigation that would make the greatest contribution to understanding the interaction of relatively low-intensity, low-frequency electric and magnetic fields with living matter, in addition to identifying specific risk assessment objectives.

• **Spectrum Auctioning**—The Federal Communications Commission must continue to make spectrum allocations on a public interest basis, not subject to auction. Consideration should be given to using auctioning in the licensing process and use the process to improve spectrum utilization and management. IEEE-USA believes that these suggestions will enhance the benefits of the license auction process and help clarify where auctioning is appropriate.

• **Domestic Transfer of Federally Funded Technology**—IEEE-USA strongly supports effective transfer of Federally funded technology to the commercial sector to promote U.S. competitiveness.

—continued on p. 6

PACE CORNER

News From the Regions and Divisions



by Carl K. Kintzel, Chair
PACE Information Committee

Impact continues reporting local professional activities planned or conducted by PACE leaders. We hope you will talk with the person responsible for the specific activity, in order to learn more about it.

Please refer to your IEEE-USA Directory to contact any of the people listed for information. We would appreciate any reader response or comments on this presentation of PACE activities.

IEEE UNIT	ACTIVITY	CONTACT	IEEE UNIT	ACTIVITY	CONTACT
Region 1					
Boston	Held a Career Seminar and Job Fair; sponsored Section meeting; speakers gave talks on professional career topics; created local Consultants Network and Entrepreneurial Network; conducted lobbying activities on employment issues at national and state levels; provided monthly reports on issues affecting the professional interests of engineers.	John Densler, 508/697-1200, ext. 2476, and Fausto Molinet, 617/862-3705	New Jersey Coast	Held Section meeting on the IEEE Life Insurance Program; forming a Consultants Network.	Yael J. Assous
Buffalo	Organized an Economic Development Committee under PACE.	James Walters, 716/691-4651	New York	Supported local Consultants Network; participated in setting up Job Fairs and Employment seminars.	Peter Greco, 201/963-2728
Connecticut	Organized a Consultants' Network; created an Economic Development Committee under PACE; held Employment Assistance Seminars and Job Fairs and a Science and Engineering Education—Kindergarten through Graduate School Conference; co-sponsored National Engineers Week (NEW) activities with other engineering societies; provided judges and cash awards for the Connecticut Science Fair at junior and senior high school levels; began planning an Entrepreneurs Network, an Industry Awards program, and an Academic Awards program.	Jon Edwards, 716/726-9222	North Jersey	Held two Job Fairs; speakers discussed professional topics at monthly Section meetings; published articles on professional issues in Section newsletter.	Robert Sinusas, 201/228-3941
Long Island	Held an Employment Assistance Workshop and Job Fair; IEEE-USA's Employment Assistance Committee held meetings with guest speakers; Consultants Network conducted the activities; the Retired Engineers Group sponsored a talk by James A. Watson "Polishing Your Engineering Image" for National Engineers Week; published a PACE column in Section newsletter.	Irwin Weitman, 516/266-2428	Rochester	Conducted survey to determine professional issues of greatest interest to Section members; published results in the Rochester Engineer magazine; Edward J. Doyle spoke on U.S. competitiveness at joint meeting with Rochester Chapters; Charles Claar spoke on IEEE's position on energy issues at a Section meeting; started a videotape library on technical and professional topics; posted job opportunities on the Section's electronic bulletin board; formed a Precollege Education Committee.	Jon Edwards, 716/726-9222
			St. Lawrence International Subsection	Volunteers made National Engineers Week Discover "E" presentations to seventh graders in three local school districts.	Thomas H. Ortmeyer, 315/265-8219
			Vermont	Provided job referrals to local firms for 14 members; worked with the Vermont Department of Education's Science Consultant on developing a school volunteer program; submitted names of IEEE volunteers to the state government for service on various committees.	David Marble, 802/658-0300, ext. 365

IEEE UNIT	ACTIVITY	CONTACT	IEEE UNIT	ACTIVITY	CONTACT
Region 2					
Akron	Edward J. Doyle, Chairman of IEEE-USA's Committee on U.S. Competitiveness, spoke on international competitiveness at a Section meeting; provided judges for local Science Fairs; sponsored Engineers-for-a-Day program; published PACE news in the Section newsletter.	Peter J. Allcorn, 216/384-5634	Delaware Bay	contest and provided individual awards; sponsored an award banquet for six local universities; represented IEEE in planning sessions for the IEEE/ISA Conference.	Wyman J. Priester, 302/733-8525
Baltimore	IEEE President-Elect Merrill Buckley spoke on "The Practical Aspects of Career Development"; planned a Job Search Seminar; scheduled a Career Conflicts Workshop.	Donald W. Rumer, 301/281-3727	Erie	Held a Section meeting on "The Future of Engineering," with speaker Mike Emory, Dupont Senior Vice President; held an annual Student Night at the University of Delaware.	Halit M. Kosar, 814/871-7221
Canton	Explored "The Role of Engineering in Improving Science Education Through Science Fair Competition" at Section meeting; participated in NEW activities; provided tour of high-tech fluidized bed clean coal technology for IEEE Student Members at local universities; worked with students at Stark Tech on a solar car.	Paul E. Batchelder, 216/453-5893	Lehigh Valley	Published PACE articles in the Erie Engineering Societies Council newsletter.	John M. Smith, 215/694-2511
Cincinnati	Participated in NEW activities; held Section meetings on professionalism; participated in local MathCounts contest and in Science and Engineering Fairs.	William B. Jarzembksi, 513/761-2551	National Capital Area Council	Held a Careers Phase II Workshop; published feature article about Careers Phase II Workshop in the Section newsletter.	James F. Strother, 703/751-6186
Cleveland	Organized a Careers Phase II Workshop; sponsored an Engineer-for-a-Day program during NEW; held a joint Section meeting with Case University and Cleveland State University; participated in S-PACs at Case Western Reserve and Cleveland State Universities; initiated a student paper contest; presented an Engineer of the Year Award to an outstanding IEEE Section member; participated in the Section's annual Awards Night; published articles on PACE in Section newsletter; provided judges and awards for the Northeast Ohio Science and Engineering Fair; initiated the Edison Lecture Series and a computer/electronics swap meet.	William Nappi, 216/479-3430	Northern Virginia	Co-sponsored Employment Assistance Workshops and Job Fairs; sponsored an Employment Assistance Seminar and a Consultants Network; initiated a local salary survey; participated in Washington Academy of Sciences and the Joint Board of Science and Engineering Societies activities, NEW activities, and precollege education programs; established an Industry Relations Committee and; local network of volunteers to contact Members of Congress.	Marc T. Apter, 703/602-1060
Columbus	Sponsored and staffed a booth at the Central Ohio Technology Day Exposition; provided representation on the Columbus Technical Council; co-sponsored the annual Columbus Technical Council Awards meeting for outstanding high school students in science and engineering and the Technical Person of the Year Award; held a high school student paper	O. Ray Miller, 614/451-4263	Philadelphia	Established an employment assistance network and the Virginia Coordinating Council; supported NEW activities; established a post-calculus program for high school students.	William W. Middleton, 215/687-1482
				Restructured the Section Executive Committee to incorporate several PACE positions; provided members with information on various bills being considered in Congress; held two meetings of the Section's consultants network; initiated a "Candidates Night" and an Engineer of the Year Committee; participated in NEW activities; participated in Delaware Valley Science Fairs.	
				—To be continued in future issues with programs in other Regions.	

A Minute for PACE

by Carl K. Kintzel, Chair
PACE Information Committee

Impact continues "A Minute For PACE," a column presenting brief announcements and news bulletins that local PACE leaders can read at Section or Chapter meetings. Our purpose is to give higher visibility on the local level to current concerns of IEEE United States Activities and its PACE network. Here is this issue's PACE Minute, contributed by Region 6 PACE Coordinator Wayne E. Amacher.

The PACE Regional Activities Committee has provided audio training tapes to each U.S. Region for the use of members. The tapes contain material similar to what many companies use in management training programs.

Titles of tapes available on loan from your Regional PACE Coordinator are *Self Esteem and Peak Performance* (particularly helpful to members who have experienced layoffs); *How to Deal with Difficult People*; *Team Building*; *Getting Things Done*; *How to Delegate Work and Ensure That It's Done Right*;

Assertiveness Training for Professionals; *How to Set and Achieve Goals*; *Stress Management for Professionals*; *Tom Peters—Live*; *Thriving on Chaos—Tom Peters*; *Negotiate Like the Pros*; *How to Get Results with People*; *The Winning Attitude*; *Confident Public Speaking*; and *The One-Minute Manager*.

The tapes offer you an opportunity to learn and at the same time make maximum use of your valuable time. Listen to them while commuting, for example, or while doing chores around the house. To borrow a tape, contact your Regional PACE Coordinator:

Region 1	Edward B. Farkas	(718) 533-3518
Region 2	Gerald W. Gordon or Michael D. Patena	(609) 428-5883 (216) 295-5078
Region 3	Carl L. Hussey	(407) 684-7116
Region 4	Max B. Goldberg	(612) 588-2535
Region 5	Joseph V. Lillie	(318) 261-4704
Region 6	Wayne E. Amacher	(508) 732-0810

WASHINGTON—continued

- **Dual Use of Technologies**—Noting the growing importance of leveraging Federal research dollars through investment in dual-use technologies, which contribute to national security and economic competitiveness in the United States, IEEE-USA supports efforts to stimulate the development and effective transfer of technologies having both military and commercial applications.
- **Medical Device Evaluation**—IEEE-USA recommends that the U.S. Food and Drug Administration consider using failure-mode analysis in evaluating medical devices, in order to reduce risks to patients, operators, and other medical staff, and for developing standards and pre-market approval.
- **U.S. Government Advisory Entities Concerned With Health-Related Issues**—To promote safety, efficacy, and reasonable cost, IEEE-USA urges that the selection process for membership on U.S. Government commissions, committees, and advisory panels involving health care technology include consideration of engineers with a biomedical specialty.
- **U.S. Government Management Positions Responsible for Engineering Decisions in the Field of Health Care**—IEEE-USA recommends that all government positions responsible for engineering decisions affecting health care be filled by biomedical professionals skilled in engineering disciplines or computer sciences appropriate to the technical matters involved in the decision-making process.
- **United States Competitiveness**—To improve the U.S. competitive edge over other major countries, especially in critical electrical and electronics industries, IEEE-USA strongly advises that the U.S. manufacturing process and total quality of its products be improved; the economics of the manufacturing business be changed; the quality of U.S. education, particularly in Grades K-12 be enriched; U.S. R&D efforts be re-focused in more practical areas; antitrust laws be modified; a realistic trade policy be

developed; tort reform be implemented; and a coherent national policy be adopted.

- **Nuclear Fuel Cycle in the United States**—IEEE-USA recommends that a comprehensive nuclear fuel cycle plan be developed and implemented on a timely basis by the Federal Government in consultation with utilities, the nuclear industry, and the public to include mining, enrichment, utilization, temporary storage, reprocessing, and waste disposal.
- **Space Station**—IEEE-USA believes that with consistent budgetary support, a revised space program balancing automated and manned projects, including a redesigned space station focused on NASA's life science research mission, will help re-establish U.S. technological preeminence.
- **National Energy Policy**—To ensure an environmentally sound, continuous and reliable supply of all energy, IEEE-USA strongly urges the development of a National Energy Policy.
- **Tax Policy and Technological Competitiveness**—Because tax policies have a powerful influence on business investment decisions, IEEE-USA encourages and supports stable Government tax initiatives that stimulate the U.S. industrial community to invest in engineering R&D and to act aggressively in commercializing resulting technological developments.
- **Employment Discrimination by Employers of Engineers**—IEEE-USA's position is that employers of IEEE's U.S. members should manage in a manner that encourages high productivity and morale among all employees; provide equal opportunity to all levels of employees to receive continuing education as well as training through seminars and challenging assignments; give recognition and promotions based on merit; provide employment opportunities that enhance the pursuit of engineering as a lifetime career; and recognize that experience acquired during a career has continuing value to the enterprise.

—G. C. Stelluto, G. Aukland



IEEE United States Activities Board

USAB Chairman's Message

How Well Do We Communicate?

If asked, most IEEE members would say they know how to communicate. Most of us know about matching transmitter and receiver impedance for best efficiency—about frequency, bandwidth, data rate, and modulation—and we can rattle off a host of other technical attributes. We might even say we know the difference between data and information. At least, we probably know about Shannon's theorem, coding, entropy, and that sort of thing. Is that all there is to communications and information transfer?

Most of us might also say we know something about communicating information—about the world of communications majors and professional communicators. There, communications is not very technical. People on that side of the business often say we engineers don't know much about communications, and when we do it, we do it poorly. From this perspective, most of us would perhaps agree that we do not always do it all that well. Yet we must continually communicate our message to our peers, among our acquaintances, to the public, and to the decision-makers. Indeed, we may really know a lot about communications technology, but how well do we communicate? Aren't such communication skills essential to public understanding of our profession and of our role as engineers within U.S. society?

Last month I asked you, as IEEE-USA leaders, to consider our many activities and "what it all meant." Now I ask you to add to this continuous challenge the corresponding challenge of improving communications. Getting our message across is essential to the effectiveness of all IEEE-USA operations and our work as dedicated volunteers.

IEEE-USA has developed many vehicles for communicating our message to many target audiences at many levels. Most of these vehicles should be familiar to you, such as *Impact*, which you are now reading, our *Professional Perspective* inserts in *The Institute*, and *IEEE-USA Hot Lines*. Other vehicles, such as our many position statements, press releases, public testimony to Congressional and Executive branch officials, and a literal mountain of internal IEEE-USA memos and correspondence are visible perhaps only as they touch your activities. Are these communications of value? How well do they work?

We really need your assistance and feedback in the communications process. I need to know how well we communicate to you and how we might support your communications to others. From theory, we know that feedback is an essential aspect of communications. Your

feedback is thus essential to letting us understand how well we communicate. We often solicit your feedback through surveys, such as the recent Impact Readership Survey, but your comments are encouraged at all times. How well do we get the message across to your peers, to the public at large, and to the decision-makers? What should be done to improve this process? We need to hear from you!

Communicating is so much more than the information transfer technology we know so well. We believe our message is important, and it is certainly worth our effort to do all we can to ensure our intended audience understands what we are saying. We must overcome our "poor communicators" image. We must get our message across in such a way that it is both well-received and understood.

Beyond improvements to our current communication vehicles, new ideas to improve our communication processes must be tried. Along this line, something new this year will be a series of open meetings with IEEE's U.S. members. These meetings, called Members' Open Forums, will be held by IEEE-USA around the country. We are planning three in 1992, to be held in the Baltimore-Washington area on April 4, Southern California on June 27, and St. Louis on October 24. We will work with Regional Directors and Regional, Council, and Section PACE leaders to publicize these forums and encourage member participation.

We ask you who live in these areas to make every effort to attend and to bring your colleagues. You can interact not only with IEEE-USA Council Chairmen and other IEEE-USA leaders, but also with IEEE President Merrill Buckley and President-Elect Martha Sloan. Our goal is to improve our two-way communications with U.S. members. Forum attendees will hear of our many IEEE-USA activities, but most importantly, we really want to hear how we are doing and how we can do better. We will try to tell our members what it all means. In turn, we hope to hear what it is all worth.

As we go along through 1992, I ask each of you to tell me how well you feel IEEE-USA communicates and how we can do it better. Speak up, loud and clear! After all, aren't we engineers only as effective as our communications?

—Arvid G. Larson, Ph.D.

Rivers Predicts Longer Engineering Employment Difficulties

by **Frank E. Lord**, Editor
Career Activities Council

This forecast is sixth in a series of quarterly engineering unemployment forecasts produced by Robert A. Rivers. Each quarter, he refigures projections for the next seven quarters. Compared to last quarter's figures, the projections in this table are higher. Rivers concludes that the result will be a longer period of employment difficulty for engineers than he previously predicted.

For comparison purposes, actual unemployment statistics from the Bureau of Labor Statistics (BLS) for previous quarters are included. The latest BLS figure of 2.5 percent unemployment equates to 48,000 engineers. Rivers forecasts that a significant improvement cannot be expected until the fourth quarter of this year.

The three main parameters that Rivers employs in deriving his projections are the Federal Funds rate, the level of U.S. exports, and the extent of defense spending. Of the three variables, the Federal Funds rate is the most significant, influencing the overall results by 50 percent.

At present, Rivers is concerned that the U.S. banking system is not responding to the current state of the economy as it has in past recessions. Bankers have grown more conservative about granting small business loans in response to increasingly zealous regulators. The regulators have become more stringent about forcing banks to charge off bad loans against capital, which reduces reserves and allowable new loans.

In banking parlance, this action is referred to as classifying, a term you may see in a newspaper's financial pages. When you read articles about how lower interest rates will stimulate the economy, you may not be getting the whole story. ♦

Rivers' Engineering Unemployment Forecast

Year	Quarter	Engineering Unemployment Percent	
		Forecast	Actual*
1989	4	1.49	1.3
1990	1	1.48	2.0
	2	1.53	2.1
	3	1.84	1.9
	4	2.18	2.2
1991	1	2.22	2.6
	2	2.23	2.4
	3	2.20	2.1
	4	2.08	2.5
1992	1	2.21	
	2	2.12	
	3	2.06	
	4	1.67	
1993	1	1.51	
	2	1.45	
	3	1.26	

*from Bureau of Labor Statistics (BLS) data

NOTE: Transition engineering unemployment rate at times of full engineering employment = 0.3 to 0.4 percent

Job Fairs Update



Job Fairs Update

IEEE co-sponsored job fairs are planned (although all contracts have not been finalized) in these locations in the first half of 1992:

DATE	LOCATION
March 2-3	Dallas Section (LG)
March 9-10	Nat'l. Capital Area Council (LG)
March 23-24	Boston Section (LG)
April 6-7	Twin Cities Section (BPI)
April 6-7	Chicago Section (LG)
April 13-14	North Jersey Section (LG)
April 13-14	Houston Section (LG)
April 13-14	Bay Area Council (W)
May 4-5	Nat'l. Capital Area Council (LG)
May 11-12	Detroit Section (LG)
May 11-12	Orlando Section (BPI)
May 18-19	Bay Area Council (LG)
June 8-9	Boston Section (LG)
June 8-9	Bay Area Council (W)
June 15-16	Nat'l. Capital Area Council (LG)
June 22-23	Dallas Section (LG)
June 22-23	Chicago Section (LG)
June 22-23	North Jersey Section (LG)

Job fairs are open to all engineers. For more information concerning the locations of the job fairs marked (LG), please call (800) 562-2820; Virginia residents should call (800) 533-1827. For those fairs marked (W), call (510) 866-8566, and for those marked (BPI), call (800) 328-4032. At each number, ask for the IEEE Career Fair Coordinator. ♦

Reminder...

Nominations for IEEE United States Activities Board Awards are due by **March 31.**

Call (202) 785-0017 or Fax (202) 785-0835 your request for information and nomination forms to the IEEE-USA Office in Washington, D.C. ♦