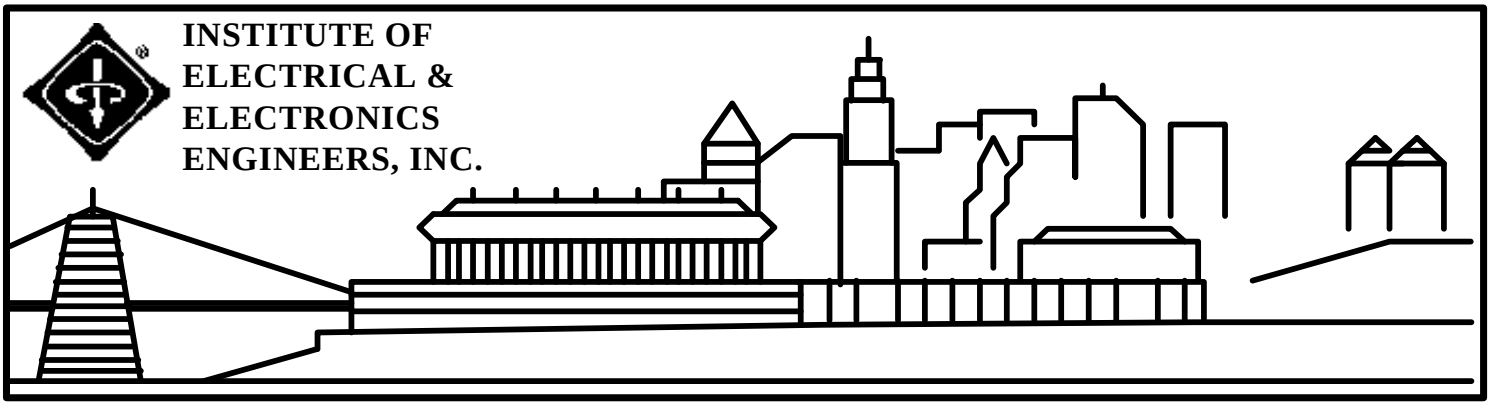

NOVEMBER/DECEMBER 1998

IEEE CINCINNATI SECTION NEWSLETTER

DECEMBER MEETING

Toyota's Advanced Technology Vehicles

DATE : December 3, 1998

PLACE : Cincinnati Bell Conference Center at the Crowne Plaza Hotel.

TIME : 5:30 PM (Social Time)
6:00 PM (Dinner)
7:00 PM (Program)
8:30 PM (Approx.- Adjournment)

COST: $10.00 (Members)
$5.00 (Students)
$18.00 (Non-Members)

RESERVATIONS ARE REQUIRED FOR DINNER ONLY !!!

THE CINCINNATI SECTION NOW HAS ITS OWN VOICE MAILBOX for making reservations for meetings or for providing comments or suggestions to **YOUR** Executive Committee.

Please call the new, Cincinnati Section Voice Mailbox at 629-9380, by **Noon**, **Tuesday, December 1, 1998** if you plan to attend. Please leave your **Name** and **IEEE Member Number**.

ABOUT THE MEETING: The presentation, by Mr. Brent Crary of Toyota Technical Center - USA (TTC) in Gardena, California, will provide an overview of Toyota's current development of advanced technology vehicles. Two battery electric vehicles, the RAV4-EV and the e-com, will be discussed. Next, Toyota's most recent fuel cell vehicle using a methanol reformer will be reviewed. Finally, the world's first mass market hybrid vehicle, the Toyota Prius, will be reviewed. Additional technical detail will be provided for the Prius.

ABOUT THE SPEAKER: Mr. Brent Crary majored in Mechanical Engineering (and East Asian Studies) at The University of Wisconsin - Madison. He holds a Master of Science degree in Mechanical Engineering from Hokkaido University, Sapporo, Japan. Mr. Crary began his employment with Toyota in Japan in 1993, transferring to TTC in 1996. He currently in responsible for technical research and liaison work related to advanced powertrain topics.

MEETING LOCATION: The meeting will be held in the Cincinnati Bell Conference Center at the Crowne Plaza Hotel. The Crowne Plaza Hotel (formerly the Terrace Hilton) is on 6th Street between Vine and Race

Streets. When you enter the hotel, you must go to the bank of elevators closest to Race Street. This elevator bank is in a corridor near an exit to Race Street. Take the elevators to the second floor. You will see the Cincinnati Bell Conference Center to your left. We will be in Room 206.

Suggested parking: Fountain Square Garage. (Entrance on Vine between 5th and 6th). Rate is $1 for 3 hours.

CHAIR'S MESSAGE

by Randy Holt, Section Chair

Talk about coincidence! Take a look at the November 1998 issue of IEEE Spectrum, turn to page 48, and you'll find an article ("Hybrid electric vehicles take to the streets") written by our speaker at this month's meeting! In preparation for the presentation, you might want to read this issue that is highlighting EVs. Obviously, this is a topic of real interest to many of us, and I'm hoping you'll be able to attend the meeting. Please remember that it will be at a different location!

I'm now at the end of my two-year term as your Chair. This is the second time I've served as Chair, so I felt a little more comfortable with the job. We've done some pretty neat things, such as the Web site, and have made some significant changes to how we deliver our newsletters (via e-mail). Of all of the professional society newsletters that I've seen, I feel that ours is among the best. Thanks, Bob Morrison, for your hard work! In addition to seeing some of you at the technical meetings, I get to visit with your elected Executive Committee members. They are all terrific people with many and varied skills as well as being great human beings. Thanks to all of them for taking time to help run the IEEE Cincinnati Section!

I really won't be "gone." I'll continue to serve on the Executive Committee and be the Membership Chair.

Thanks to all of you for being IEEE members. Thanks for the comments and suggestions you've sent to me, and for the encouragement when things didn't go well. I continue to relish my time with the IEEE, and I hope all of you will find ways to be part of our work in the Section.

A MESSAGE FROM YOUR PACE CHAIRMAN

by Bill Lohner, PACE Chairman

"A Network of Professional Activities for Engineers"

Our PACE Committee is making slow but sure progress in encouraging students to continue math and science studies. We have received four slide presentations from IEEE-USA titled " What Is An Engineer? " and have ordered two more. Presently we have nine people who have volunteered to present these programs to schools in their area. The four programs we have at the present time will be presented at schools within the next few weeks. We are targeting students in grades K6, K7 and k8. We hope the long term results of programs like this will enable the United States to grow its own technical expertise and not relay on obtaining technical help from overseas. The recent success and publicity of the latest space shuttle mission ought to stimulate students interest in math and science. I want to thank those of you who are participating in our program. If more of you are interested please contact me.

I commented in the October Newsletter I would inform you of different activities we are looking at. Unfortunately our Committee has not had a meeting since the last Newsletter so I have nothing new to report. Please contact me with any suggestions or ideas.

Bill Lohner
PACE Chairman
(513) 385-7268

NEW MEMBERS

The following individuals are new IEEE members who are in our Section:

FERNANDO BENVEGNU	SALLY DUNAN	SONGSHAN LI
SHEKHAR BHANSALI	RANDE JOHNSON	MARK W. REED
CHRISTOPHER J. CORRY	CLIFFORD A. LEIGHTY	KEITH L. ROWE
LARRY DA PRATO		TODD A. STINSON

The following individuals are existing IEEE members who have moved into the Cincinnati Section:

COLLEEN B. AKEHURST	FRANK R. HITCHCOCK	JOHN W. MCCOY
CARL ALLETTO	ANH N. HUYNH	NORMAN E. NOVOTNEY
NABIL M. BOULOS	TIMOTHY M. JACOBS	MIKE A. SCHMITT
BEN C. BURKE	GARY L. JONES	FAIZ F. SHERMAN
MARK W. CRANSTOUN	MARK B. KINNEY	RUSSELL D. SPRUELL
ROBERT J. DUWORS	ADINA LAMBERT	BRYAN A. TOWNE
RON ENGLE	HANNON T. MAASE	ERICKA M. TURNER
THOMAS G. GRAU	GOPAL P. MADHAVAN	MICHAEL A. ZMUDA

We wish to extend our welcome to all of our Section's new members!!!

The Personal Computer - Part 8

by Dick Reiman, Historian

During 1977, three distinct paradigms for the personal computer emerged, represented by manufacturers Apple, Commodore Business Machines, and Tandy, each with a different outlook.

At the West Coast Computer Faire in April 1977, the Apple 11 and the Commodore Pet were introduced, and both became instant hits. The Pet was self contained with a keyboard with tiny buttons of a calculator keypad, was a closed system with no potential for add-ons such as a printer, but had a screen, cassette tape for program storage and employed BASIC for users to write their own programs, and had a low price which appealed to the educational market. By contrast, the Apple 11 was more expensive at $1298 excluding the screen, but was a true computer system for adding extras. The computer hobbyist could customize it for novel applications.

The third computer was the Tandy TRS-80 costing $399, sold through Tandy's subsidiary Radio Shack aimed at electronic hobbyists and buyers of video games. The user could hook up to a TV screen or an audiocassette recorder for program storage.

By 1976, only a handful of personal computer software offered mainly "system" software such as Microsoft's BASIC programming language and Digital Research's CP/M operating system. This software was included with the machine or "bundled" with a royalty paid by the manufacturer. The software was a small business, with Microsoft employing just five and sales of only $500,000.

With the arrival of the Apple 11, the Pet, and TRS-80, the market for software applications took off. Applications software enabled a computer to perform useful tasks such as games, education and business. Games were the biggest seller, and they played an role in early software development, especially to human/computer interaction or user-friendly characteristics. This was true of business applications also, especially for Fortune-500 companies.

Software was also in demand by schools and colleges for their personal computers in areas of math, science, language, learning and music. Research grants provided increased quality and expanded program scope.

The market for business applications developed in 1978 to 1979 through spreadsheets, word processors, and databases. These existed in mainframe computer already and the need for these in the personal computer was not obvious.

The VisiCalc speadsheet was the first to gain wide acceptance. It was developed by Daniel Bricklin, 26 year old Harvard MBA student, and program friend Bob Frankson, who developed the program in their spare time as an application to the Apple 11.

Changes to the financial model were displayed instantaneously, rather than in a few minutes on a mainframe, and the fast response offered greater flexibility and presented the psychological freedom of one's own computer and the desk, instead of the take-it-or-leave-it service of time sharing. For $3000, the Apple 11 and VisiCalc would be purchased out of departmental budgets.

Suddenly, it became obvious to businessmen that they had to have a personal computer and spreadsheet.

JUST IN TIME FOR THE HOLIDAYS…….YOU COULD WIN $100 CASH!!!!!

Now you can help your IEEE Section and yourself:

Announcing the Cincinnati Section IEEE Newsletter Drawing!!!

In order to reduce our costs in duplicating, handling and mailing of our Newsletter, we would like to increase the number of members who choose to either receiving the newsletter via e-mail or view it on our Web site at http://ieee.cincinnati.fuse.net/. Please complete the information below and drop this insert in the mail. All responses received through **DECEMBER 31, 1998** will be eligible for a random drawing for a prize of:

$100 from the Cincinnati Section IEEE.

Winner to be announced in the **January, 1999 Newsletter**. You may also respond via e-mail to: **j.r.morrison@ieee.org.** Members currently receiving the newsletter by e-mail **must still return a response** to be eligible.

We would also appreciate your completing the enclosed election ballot for Executive Committee Officers for 1999-2000. Remember, THIS IS YOUR SECTION!!!

Name: _____

IEEE Member Number: _____

Current Newsletter Mailing Address: _____

_____

E-mail address:_____

Please mark only one box:

☐ **NO - I still want to receive our Section's Newsletter by regular mail.**

☐ **YES - I would like to receive our Section's Newsletter by E-mail or the Section Web Page**

Format preferred: _____ Microsoft Word; _____ Text; _____View over Internet
(NOTE: If Microsoft Word is selected, do you have Office 95_____ or Office 97_____?)

IEEE 1999 CINCINNATI SECTION BALLOT
Election of Officers for Term
Beginning 1/1/99 and Ending 12/31/2000

CHAIRMAN

☐ Ron Harbaugh ☐ Write - In_____

VICE - CHAIRMAN

☐ Jim Everly ☐ Write - In_____

SECRETARY

☐ Laurie Tappel ☐ Write - In_____

TREASURER

☐ Orest Melnyk ☐ Write - In_____

MEMBER - AT - LARGE

☐ Steve Olenick ☐ Write - In_____

MEMBER - AT - LARGE-*
*-Term ends 12/31/99

☐ Mark Strong ☐ Write - In_____

Please vote for only one candidate in each office. Resumes of each candidate can be found on the Page of this newsletter. Please return the ballot by:

JANUARY 1, 1999

Return the complete ballot along with your Newsletter Mailing Contest Survey to Bob Morrison (Newsletter Editor) at j.r.morrison@ieee.org or via regular mail to:

J. R. Morrison
4472 Oakville Dr.
Cincinnati, Ohio 45211

RESUMES OF CANDIDATES

CHAIRMAN (RON HARBAUGH)

University of Cincinnati, 1975, BS (Engineering Sciences). Employed by the City of Cincinnati for over 28 years. Started in the Division of Telecommunications, which was within the Safety Department, and held the position of Assistant Superintendent (Section head) for several years. Primary responsibility for technical support of radio and 911 communications equipment. Secondary responsibilities include construction and technical support of the City's fiber optic network. Advanced to position of Superintendent of Telecommunications (Division Head) in 1997. Transferred to the position of Director of Police Communications (Cincinnati 911 Center) in December, 1997. Member of IEEE for 15 years and served in various positions in the Cincinnati Section. Also, active member of the Associated Public Safety Communications Officers (APCO).

VICE-CHAIRMAN (JIM EVERLY)

BSEE and MSEE, Ohio State University; Currently Associate Professor of Electrical Engineering Technology, University of Cincinnati; Department Head of EET at UC 1985 to Spring, 1990; Prior Employment as Manager of Signal Processing/Simulation, Calspan Corp., Dayton, Ohio. And Manager, Systems Analysis Group, Cincinnati Electronics, Cincinnati, Ohio; Member Eta Kappa Nu and ASEE; IEEE Cincinnati Section Vice Chairman 1992 and Secretary 1991.

SECRETARY (LAURIE TAPPEL)

Employed by Cincinnati Bell Telephone as an Advanced Service Developer, creating custom routing solutions for clients using the AIN (Advanced Intelligent Network) platform. Started at CBT in 1986 and has worked in various departments including Outside Plant and Network Planning. Began her engineering career at Harris Government Systems in Melbourne, Florida where she developed Satellite Modems.

TREASURER (OREST MELNYK)

BSEE, University of Cincinnati 1980 and MBA, University of Cincinnati 1985. Employed at Cincinnati Bell for over 19 years holding various technical and managerial positions. I am currently Director - Business Development at Cincinnati Bell. Previous association offices held include: ESC Board Member; IEEE Cincinnati Section Chairman, Vice-Chairman, Member-at-Large, Treasurer (Incumbent).

MEMBER-AT-LARGE - TWO YEAR TERM (STEVE OLENICK)

BSEE 1972, Youngstown State University; MSEE 1976, Fairleigh Dickinson University; Graduate courses at NJIT; Research and Development Manager, Cincinnati Electronics Corp.; Member of AFCEA and the IEEE; Organized Professional Development Seminars for the Fort Monmouth AFCEA Chapter; Published/Presented at MILCOM 86 and TCC 92; One Patent; Prior employment includes CMC Electronics, ITT Avionics and the U. S. Army CENCOMS lab.

MEMBER-AT-LARGE - ONE YEAR TERM (MARK STRONG)

BSEE Purdue University 1990, Co-op Program, Cincinnati Bell ComQuest Co., Telecom Test Engineer 1986-90. Upon graduation, began career with ComQuest testing telephone carrier equipment and related plug-ins to Bellcore specifications for various manufacturers. Moved to Cincinnati Bell Telephone's Service Cost department and performed switching systems service cost studies for PUCO tariff filings. Since 1995, has been an Advanced Intelligent Network Service Developer for CBT's Network Architecture Planning Group responsible for design, development, and deployment of AIN services on the Lucent AINet platform.

IEEE NEWS

HIGH-TECH LAYOFF, UNEMPLOYMENT RATES MULTIPLY AS CONGRESS VOTES ON H-1B INCREASE

WASHINGTON, Oct. 9, 1998 -- Data released this week reveal a vulnerable and underutilized U.S. high-tech workforce -- even as Congress considers a dramatic expansion of the H-1B high-tech guestworker program that would leave nearly all U.S. technical workers subject to legal displacement, charged IEEE-USA on the eve of final Congressional action on H-1B visa legislation.

IEEE-USA cited new statistics showing that high-technology industries in 1998 have cut four times as many jobs nationally as last year, creating more layoffs than almost every other sector of the economy, according to Challenger, Gray and Christmas, an international outplacement firm. The electronics, computer and telecommunications industries alone logged 143,000 layoffs and constituted three of the top five industries in total 1998 job-cut announcements.

In addition, third-quarter data from the Bureau of Labor Statistics released today reveals that electrical-engineering unemployment jumped to 3.4 percent -- more than an eight-fold increase since the beginning of 1998 and the highest rate since the record-high levels of 1994.

Moreover, a new National Science Foundation report found that nearly 50 percent more U.S. high-technology degree holders are working outside of their fields than the total number of professionals in the U.S. technical workforce.

"Congress is fiddling with an H-1B visa hike while our high-tech workforce burns," stated IEEE-USA President-Elect Paul J. Kostek. "It's bizarre policy to give the industries laying off the most U.S. workers special access to an expanded foreign guest-worker program -- while millions of trained U.S. technical professionals toil outside their chosen fields."

"But the most damaging aspect of this bill is that it strips away layoff protections from the U.S. workers who will become vulnerable to displacement by low-cost H-1B workers in a newly glutted labor market," added Kostek. "This legislation was clearly bought by industry leaders and paid for with campaign contributions; Congress should stamp it, 'Return to Sender.'"

Action in the Senate on the bill passed in the House on Sept. 24 was delayed when it was discovered that the language voted on did not include all provisions in the hastily brokered Sept. 22 agreement on H-1B legislation between the White House and Congressional leaders. The Senate is now expected to vote on a "corrected" version of the bill today, which, if passed, will be brought to another House vote under suspension of rules. Under suspension of rules, the bill will require two-thirds approval for passage.

IEEE-USA's Kostek added**:** "The current version of the bill eviscerates worker safeguards contained in the original House bill that was approved by the Judiciary Committee in a bipartisan 23-4 vote." Those safeguards -- which would have prevented all U.S. employers from displacing U.S. employees in order to hire H-1B workers and required them to recruit first in the United States -- now would cover only so-called "H-1B-dependent employers," a tiny fraction of the overall high-tech sector.

According to data released Oct. 6 by the National Science Foundation, the science and engineering (S&E) workforce reached nearly 3.2 million in 1995; at the same time, however, about 4.7 million people whose highest degrees were in S&E fields were working in non-S&E occupations. Most of the latter were working in sales and marketing, management and administration, and non-S&E-related teaching. "It's absurd to contemplate

approving 150,000 additional guestworkers while legions of displaced U.S. engineers are working as computer salesmen and tech-support staff," said Kostek.

Kostek cited the case of Bard-Alan Finlan, a 43-year-old Californian with a 1992 bachelor's degree in computer engineering, as an example of the human cost of expanding the H-1B program. Finlan and several departmental colleagues were laid off from their jobs at a major technology corporation last week while the company applied for two H-1B visas in the same department.

"Here's a bright guy who's gotten himself retrained in the latest technology -- and now he's being left behind in the stampede to sign up low-cost, indentured guest-workers," stated Kostek. "Is this the way to develop the high-tech workforce we need to stay competitive after the guest-workers have gone home?"

Earlier, on Sept. 23, IEEE-USA announced data that showed usage of the high-tech permanent immigration system has declined 20 percent in the past five years as guest-worker admissions have increased more than 80 percent. And on Sept. 17, IEEE-USA released a Harris poll that found fully 82 percent of Americans opposed to an expansion of the H-1B program.

H-1B BILL HANGS IN THE BALANCE -- YOUR CALL OR FAX CAN HELP DETERMINE THE OUTCOME

WASHINGTON, Oct. 12, 1998 -- The H-1B visa bill that seemed certain of passage last week has hit a snag as time is running out in the congressional rush to adjournment, according to an IEEE-USA legislative alert issued today.

The legislation needed clarifications and technical corrections to reconcile differences in the H-1B measures the House and Senate passed. The House can't vote on a concurrent resolution to approve final passage until the Senate is able to approve the revised measure. Using a collegial rule, Sen. Tom Harkin (D-Iowa) has put a hold on consideration of the Republican leadership's H-1B bill in the Senate. Unless pressured to withdraw his hold, the H-1B measure is unlikely to pass unless it can be tacked on to some other legislation.

It's likely that supporters of the H-1B measure will try to attach it to the omnibus appropriations bill that the Senate will take up as early as this afternoon but probably not until Tuesday or possibly Wednesday. Legislators must pass this bill before leaving, as otherwise large portions of the federal government will be forced to shut down. Therefore, IEEE-USA believes it is imperative that the H-1B provisions not be tacked onto this bill.

Following is the text of today's IEEE-USA Legislative Alert:

"Senate and House leaders, especially members of the Appropriations Committee involved with the omnibus appropriations bill, need to hear from individuals who oppose tacking H-1B provisions on to the omnibus measure.

"Calls, faxes or telegrams are needed as soon as possible. Don't use e-mail, as it will have no impact. You can reach your Senator or Representative through the Capitol Switchboard at 202-224-3121. Contact information for key Members is provided below.

"Or, for a quick, free, easy way to send faxes to members of Congress on this issue, go to NumbersUSA at URL <http://www.numbersusa.com>. Register by inputting your name, address and zip code; select a fax from a menu of messages, and click on send.

"Our message is simple. Urge the Democratic majority leaders -- Sen. Tom Daschle and Rep. Richard Gephardt -- to oppose any effort to attach the H-1B visa increase bill to the omnibus appropriations bill.

"1. Tell them that increasing the number of temporary high-tech workers allowed in through the H-1B program artificially suppresses wages, upsets the normal processes of supply and demand, and discourages our best and brightest U.S. students from pursuing technical careers.

"2. Tell them the proposed legislation does not provide realistic safeguards to prevent the great majority of employers from laying off U.S. workers in favor of H-1Bs or ignoring applications of qualified U.S. workers.

"3. Tell them that unemployment among electrical engineers has jumped eight-fold since the beginning of 1998 and is at the highest rate since the record-high levels of 1994.

"4. Tell them that an August survey of 100 contracting and consulting firms by the Information Technology Association of America (ITAA) showed that the "overwhelming majority" have more programmers than they can use. ITAA, who initiated claims of widespread shortages last year, now says the anticipated programmer shortage is "a marketplace failing to live up to its prior billing."

"5. Tell them that recently released National Science Foundation data shows that more than 50 percent of those with science and engineering degrees are not working in technical fields. This pool of underutilized high-tech professionals could easily be retrained to meet industry needs.

"6. Tell them that according to a recent study by Challenger, Gray and Christmas, an international outplacement firm, high-tech industry is laying off workers at four times the rate of other industries, and that the electronics, computer and telecommunications industries alone logged 143,000 layoffs in 1988.

"7. Tell them a recent Harris Poll found that 82 percent of Americans are opposed to this proposed expansion of the H-1B program.

"Send the same message to the Chairs and Ranking Minority Members of the Senate and House Appropriations Committees: Sens. Ted Stevens and Robert Byrd, and Reps. Bob Livingston and David Obey. They are the key players in the negotiations about what does and does not get added to the omnibus bill. They have a variety of priorities and concerns and may not care too much about adding an H-1B rider. (Byrd voted no on final passage of the Abraham bill (S.1723) and Obey voted no on final passage of the Smith compromise in the House)."

According to IEEE-USA, key Representative and Senator contacts include the following:

Sen. Tom Daschle (D-S.D.)
att: Peter Rouse, Chief of Staff
Office of the Senate Minority Leader
S-221 Capitol Building
Washington, DC 20510
T: 202/224-5556
F: 202/224-2047

Rep. Richard Gephardt (D-Mo.)
att: Cassandra Betts
Office of the House Minority Leader
H-204 Capitol Building
Washington, DC 20515
T: 202/225-0100
F: 202/225-7452

Sen. Ted Stevens (R-Alaska)
Chair - Senate Committee on Appropriations
att: Mitch Rose, Chief of Staff (Personal Office)
522 Hart Senate Office Building
Washington, DC 20510

Sen. Robert C. Byrd (D-W.V.)
Ranking Minority Member
Senate Committee on Appropriations
Att: Barabara Videnieks, Chief of Staff (Personal Office)
311 Hart Senate Office Building

T: 202/224-3004
F: 202/224-2354

Washington, DC 20515
T: 202/224-3954
F: 202/224-8070

Rep. Bob Livingston (R-La.)
Chairman, House Committee on Appropriations
Attn: Paul Cambon, Legislative Assistant (Personal Office)
2406 Rayburn House Office Building
Washington, DC 20515
T: 202/225-3015
F: 202/225-0739

Rep. David Obey (D-Wis.)
Ranking Minority Member
Att: Patricia Schlueter, Staff Assistant
House Committee on Appropriations
1016 Longworth House Office Building
Washington, DC 20515
T: 202/225-3481
F: 202/225-9476

POLL SHOWS ENGINEERING REMAINS U.S. 'STEALTH PROFESSION'

by Chris Currie, IEEE-USA staff

Amid concerns that not enough of America's brightest students are pursuing technical careers, a new Harris Poll survey shows that the U.S. public feels uninformed about the engineering enterprise and betrays a startling lack of knowledge about engineers' involvement in key areas of American endeavor.

Louis Harris and Associates conducted the telephone survey in late July. The American Association of Engineering Societies (AAES) commissioned the study, with additional funding provided by The Institute of Electrical and Electronics Engineers - USA (IEEE-USA) and other societies. An objective of the study is to determine the impact of public awareness of engineering upon the size and quality of the U.S. engineering workforce, particularly given the changing demographics of the overall domestic workforce.

Although the survey of "American Perspectives on Engineers and Engineering" found that Americans believe that engineers are to be credited with creating economic growth and preserving national security, the general public is less clear on how and why that is so. The survey revealed that 45 percent of Americans believe that they are "not very well informed about engineering and engineers" while another 16 percent stated that they are "not at all well informed about engineering and engineers." Among women, however, the percentages increased to 55 percent and 23 percent, respectively. Even a majority of college graduates (53 percent) reported that they are "not very well informed or not at all well informed" about engineering and engineers.

The responses to other questions demonstrated that the respondents were not guilty of false modesty. On one question that asked which professionals -- scientists, technicians, or engineers -- respondents "mostly associated" with various technical activities, engineers were frequently underestimated in their roles. In areas where there exists a strong or dominant engineering element such as "working in space," "developing new forms of energy" and "creating new materials," scientists were cited more than engineers.

"The poll manifests both a subjective and objective American ignorance about the work of engineers," said IEEE-USA President John R. Reinert. "Observers have often pointed to engineers' allegedly 'nerdy' image as a turn-off to students considering engineering careers. However, these results may have identified the stealth character of our profession as the real challenge in attracting the nation's best and brightest young people -- including women and minorities -- to technical fields."

A more encouraging result for engineers is that ignorance apparently doesn't translate into bad feelings toward the profession. Many parents suggested they would encourage their children to pursue careers in engineering. When asked the question, "Using a scale of 1 to 10 with 1 being extremely displeased to 10 being extremely

pleased, if your son or daughter or other family member said they wanted to be an engineer, how pleased would you be?" the mean response was 9.

Furthermore, an earlier Harris Poll conducted in June revealed that engineers hold relatively high prestige compared to other professions -- although they fall considerably below scientists, teachers and physicians. And a Gallup poll last November found that engineers ranked seventh among surveyed professions in honesty and ethics.

Americans may be laying the blame for their own lack of engineering awareness at the feet of the news media. When asked to rate the quality of media coverage of science, technology, engineering, and medical discoveries, more than 69 percent of the survey respondents assigned "fair" or "poor" grades to engineering reporting while less than 3 percent gave the media an "excellent" score. Among college graduates and those with incomes of $75,000 or more, 85 percent and 80 percent of the respondents respectively assigned scores of "fair" and "poor" to the media's job in covering engineering.

"Other professionals -- such as doctors, lawyers and teachers -- can inform the public more easily because they work directly with the public," said Reinert. "We speak mostly through our products, and even those are increasingly difficult to understand. So it's imperative that we do a better job of speaking directly to the public through the media and our professional societies in order to bridge the awareness gap. The health of the engineering workforce and, ultimately, the American quality of life may be at stake."

In addition to IEEE-USA, survey cosponsors included The American Institute of Mining, Metallurgical, and petroleum Engineers (AIME), the American Society of Civil Engineers (ASCE), the American Society of Mechanical Engineers (ASME), SPIE – the International Society for Optical Engineering, and the United Engineering Foundation.

CAPITOL HILL INSIDERS PRAISE IEEE-USA ACTION

Although Congress defeated an IEEE-USA-backed amendment that would have established domestic recruitment and retention requirements for all employers who plan to hire H-1B temporary workers, the organization's efforts have been noticed by those in the know. Capitol Hill observers credited IEEE-USA's "major role" and last-minute grass-roots legislative blitz with forcing Congress to cut a deal that provides more money for training U.S. workers, some improvements in enforcement, and a shorter duration of increased visa levels.

In a House Science Committee staff newsletter, a Democratic legislative director cites "a major role has been played by IEEE in ground-breaking work of an S&E (science and engineering) professional society to get in the middle of a major controversial legislation. Action alerts sent in August have resulted in a flood of mail opposed to lifting the caps and the pulling of the bill off the schedule is partially in response to the release of an IEEE-USA poll done by Lou Harris showing 82 percent of the public opposed. Regardless of your views on this issue, the IEEE activity is certainly something to be studied as setting new thresholds for policy involvement by an S&D professional society."

H-1B PROGRAM REPLACES PERMANENT IMMIGRATION, ACCORDING TO INS/IEEE-USA DATA

Permanent admissions of high-tech professionals have significantly declined in recent years even as temporary admissions have skyrocketed, according to data IEEE-USA released on Sept. 23. From 1992 to 1996, immigrant admissions of foreign engineers and computer scientists declined 21 percent from 19,036 annually to 15,029, while guest-worker admissions in those occupations rose 87 percent from 42,500 to 79,400. IEEE-USA

compiled the data from information in the INS Statistical Yearbook covering a period from shortly after the inception of the H-1B program through the last year for which statistics are available.

"As access to lower-paid, indentured guest-workers increases, employers have less incentive to sponsor permanent immigrants -- who have the freedom to negotiate a fair market value for their labor," said IEEE-USA President John R. Reinert. "There are now 40,000 unused slots annually for admissions of skilled foreign professionals, and that number will undoubtedly increase (with the expansion of the H-1B program)."

"These numbers prove that the H-1B expansion bill is both anti-immigrant and detrimental to the health of the U.S. technical infrastructure," Reinert said. "When temporary workers supplant the permanent high-tech workforce -- both native and foreign-born -- the United States is destroying not only lifelong careers for its permanent residents, but also the engine of innovation that has produced the greatest high-tech industry in the world."

IEEE-USA CIRCULATES DRAFT POSITION ON Y2K INFORMATION SHARING

IEEE-USA has released a draft position statement on Year 2000 (Y2K) Information Sharing. The organization's Committee on Communications and Information Policy developed the statement, which requires approval by the IEEE-USA Board of Directors. This position calls for passage of legislation to "facilitate the free flow of Year 2000-problem-critical information by protecting such cooperation and sharing of information from legal liability." See the position statement at URL <http://www.ieeeusa.org/usab/FORUM/POSITIONS/y2k.html>.

IEEE-USA ISSUES CALL FOR PAPERS FOR PROFESSIONAL DEVELOPMENT CONFERENCE

IEEE-USA has issued a Call for Papers for its 1999 Professional Development Conference in Dallas. Previously the Professional Activities Conference, the new "development" structure kicks off with the theme "Entering the New Millennium." IEEE-USA is seeking papers on a variety of topics including Career Planning, Personal Economic Management, Entrepreneurial Skills, Mentorship, Strategic Planning, Ethics, Diversity and Public Policy. See the conference Web site at URL <http://www.ieeeusa.org/usab/PRODEVCON/> for details.

ENGINEERS AND EDUCATORS COLLABORATE TO REACH SOLUTIONS FOR TECHNOLOGICAL LITERACY ENHANCEMENTS

BALTIMORE, MD, October 14, 1998 - One hundred engineers and educators gathered on October 9-10, 1998, at the Harbor Court Hotel, in Baltimore, MD to collaborate and reach solutions for the enhancements of technological literacy for primary- and secondary-level students worldwide. The educators and engineers were part of the Technological Literacy Counts! (TLC) workshop sponsored by the IEEE (The Institute of Electrical and Electronics Engineers, Inc.).

The delegates represented a cross section of math, science, and technology teachers; school administrators; curriculum developers; practicing engineers and other engineering professionals; technological literacy advocates; and community leaders from the United States and other countries. During the workshop sessions, the delegates focused on the following technological literacy issues:

· definition of technological literacy
· the processes involved in technological learning
· the effects of technological changes on the society
· the initiatives necessary to promote technological literacy

"When we began organizing this workshop, we knew that we wouldn't be able to solve the issue of technological literacy in one sitting," says Arthur Winston, Ph.D., Vice President of IEEE Educational Activities. "Our goal in bringing these individuals together, was to put the issue on the table, let them discuss it, present their suggestions and solutions, so a global TLC network can be established."

The objective of this workshop was to open communication lines between engineers and teachers for a high-quality primary and secondary math, science, and technology education. "We hope that these 100 people will go back to their communities and convey the message about the importance of technological literacy for the future of our society," adds Dr. Winston.

The TLC workshop is designed to serve as a forerunner for future events related to the issue of technological literacy. For more information on how to become involved in promoting technological literacy among pre-college students, please contact Barbara Coburn, IEEE Educational Activities, 445 Hoes Lane, Piscataway, NJ 08854; Phone: 732.562.5498; Fax: 732.981.1686; E-mail: b.coburn@ieee.org.

This workshop was supported by Baltimore Gas and Electric Company; Ford Motor Company; S.U.N.Y. Binghamton; University of Texas at Austin; IEEE Educational Activities Board; IEEE Regional Activities Board; IEEE United States Activities; IEEE Foundation; and the following IEEE Societies: Communications Society; Education Society; Electromagnetic Compatibility Society; Electron Devices Society; Engineering in Medicine and Biology Society; Power Electronics Society; Power Engineering Society; Systems, Man and Cybernetics Society; Ultrasonics, Ferroelectrics Society; and Vehicular Technology Society.

1998 IEEE ANNUAL ELECTION RESULTS ANNOUNCED

The following are the results of the 1998 Election, validated by the IEEE Tellers Committee on 5 Nov, 1998. Please note that the results of this election are unofficial until the IEEE Board of Directors accepts the Report of the IEEE Tellers Committee at its meeting on 15 Nov, 1998.

OFFICE OF PRESIDENT-ELECT, 1999: Bruce A. Eisenstein

VICE PRESIDENT, TECHNICAL ACTIVITIES, 1999: Michael S. Adler

VICE PRESIDENT-ELECT, TECHNICAL ACTIVITIES, 1999: Robert A. Dent

OFFICE OF DIVISION DELEGATE/DIRECTOR, 1999-2000
- Division II: Barry C. Brusso
- Division VI: Luis T. Gandia
- Division X: Janie M. Fouke

OFFICE OF DIVISION DELEGATE-ELECT/DIRECTOR-ELECT
- Division V, 1999: Doris L. Carver

OFFICE OF REGION DELEGATE-ELECT/DIRECTOR-ELECT
- Region 2, 1999-2000: Marc T. Apter
- Region 4, 1999-2000: Myron F. Wilson
- Region 5, 1999: Joseph V. Lillie
- Region 6, 1999-2000: Lawrence M. Hamerman

OFFICE OF IEEE-USA PRESIDENT-ELECT, 1999: Merrill W. Buckley, Jr.

OFFICE OF IEEE-USA MEMBER-AT-LARGE, 1999-2000: Michael C. Mulder

CONSTITUTIONAL AMENDMENT
A vote of at least two-thirds of all ballots cast, provided the total number of those voting is not less than 20 percent of the total number of members eligible to vote, in favor of an amendment is necessary for adoption.

The total number of ballots mailed: 237,556
The total number of ballots returned: 51,483
The percentage of ballots returned: 21.67 percent

A two-thirds majority of 20 percent of those ballots returned: 31,675
Number of Votes FOR amendment: 42,475
Number of Votes AGAINST amendment: 5,846

All requirements for the Constitutional amendment have been met.

For more information about these results, call Fern Katronetsky, Corporate Activities, ext. 3932.

IEEE-USA Introduces Consultants' Directory Online Submission Form

WASHINGTON, Nov. 9, 1998 – IEEE-USA's Alliance of IEEE Consultants' Networks (AICN) has announced a new client-development opportunity for electrotechnology and information-technology consultants who are not listed in the print version of the 1998 IEEE-USA Consultants' Directory. To be included in the updated searchable 1998 database (until the 1999 directory is released in the spring), members can submit their information on-line at: <http://www.ieeeusa-consultants.org/submissions/submit.html>. The deadline for submission is Sept. 15, 1998, and the cost is $40.00 for IEEE members ($50.00 non-members).

The database is the online version of the 1998 national directory. The third annual edition includes a listing of more than 400 electrical, electronics, software and management consultants and their services alphabetically, by state and by category -- with a listing of specialties. It also supplies readers with a roster of IEEE Consultants' Networks, providing contact information for local referrals, as well as for the coordinating committee. Although local consultants' network directories are also available, this national directory serves as another useful tool in assisting prospective clients looking for qualified consultants.

The 1998 Directory of Electrotechnology and Information Technology Consultants is available free by contacting IEEE-USA's William Anderson at 202-785-0017, ext. 330; 202-785-0835 (fax); or <w.anderson@ieee.org>. Prospective clients can also access the database of consultants on IEEE-USA's Web site at URL <http://www.ieeeusa.org/consultants>. Users can search the data base by name, technical specialty or state.

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