IEEE President-Elect Candidates Respond to Questions on Governance Issues

The IEEE Computer Society has established a reputation for excellence within the computing field. As a component of the IEEE, the Computer Society’s activities parallel those of 44 other societies and councils serving the computing and engineering disciplines. Representing by far the largest IEEE society contingent, the Computer Society has 82,418 members, approximately 59 percent of whom are full IEEE members.

Recognizing the influence and control the IEEE wields over the Society and in turn the power of Society members’ votes to influence the selection of the IEEE leadership, we posed questions to this year’s IEEE president-elect candidates. Because this election determines who will serve as president-elect in 2007, president in 2008, and past president in 2009—vital positions within the IEEE’s governing body—our members must cast informed votes.

Our volunteer leaders have identified the following questions as essential to the Society, the IEEE, and the Society’s relationship with the IEEE. The first response to each question states the Computer Society’s position. These positions synthesize the views of our most senior leadership: the Society’s current, past, and incoming presidents.

We present these questions and answers (limited to 150 words each) to help you make your decision in the IEEE election, which closes on 1 November 2006. Only ballots received by 12 noon, Central Standard Time USA (18:00 GMT) on 1 November 2006 will be counted.

We also remind and encourage you to cast your vote for Computer Society leaders by 2 October 2006 in our Society election.

—Michael R. Williams, IEEE Computer Society President-Elect

LEWIS TERMAN
Lewis Terman (PhD, Stanford) recently retired from IBM after 45 years in semiconductor devices, technology, digital and analog circuits, and processor and memory design. He is an IEEE Fellow, received the IEEE Solid-State Circuits Technical Field Award, and is a member of the US National Academy of Engineering.

An IEEE volunteer for more than 30 years, Terman served on the IEEE Board of Directors and TAB as TAB VP (2001) and Division I Director (2004-2005); on TAB from 1990 to 2005, he also was president of the Electron Devices Society, president of the Solid-State Circuits Society, TAB treasurer for two terms, and Technical Meetings Committee Chair. Off TAB in 2003, he was PSPB treasurer.

JOHN VIG
John Vig was born in Hungary. He and his family escaped from Hungary in 1956 and emigrated to the US. From 1969 until his retirement in February 2006, Vig worked in US government laboratories as an electronics engineer, researcher, and R&D program manager, developing frequency control and sensor devices. He considers founding the highly successful IEEE Sensors Council to be his premier IEEE accomplishment.

Vig has published more than 100 papers and nine book chapters and has been awarded 55 patents. He serves as a volunteer in his hometown as an Environmental Commissioner and as Web editor of the town’s Web site. In his spare time, he and his wife of 43 years enjoy ballroom dancing.
## Question 1: TAB Structure

The IEEE Technical Activities Board (TAB) is a very large board consisting of representatives from a variety of disparate groups: small societies, large societies, presidents, and division directors. The IEEE TAB structure has been criticized as unwieldy and unproductive.

### In your opinion, are there any alternative structures that would make the IEEE TAB more effective and productive? Why or why not? Please explain any changes you would encourage and how you would persuade TAB to embrace these changes.

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The Society supports developing alternative structures to accommodate the broad range of groups within TAB and to create a more effective decision making process.

In the current model, TAB’s voting membership includes 44 society/technical council presidents and 10 division directors, plus TAB committee chairs and officers. With such a large body, the decision making process is slow and cumbersome. The equal votes of each TAB member do not always result in good business decisions for the entire IEEE.

The TAB voting process has produced more societies, some with questionable financial viability. The TAB process has also increased the financial subsidies to inefficient societies.

Travel support and general infrastructure costs have grown as a result of the ever-expanding TAB structure. These actions create financial burdens on societies that are striving to manage their finances prudently and efficiently.

Unless TAB identifies an alternative model, these trends will continue to weaken TAB, the societies, and the IEEE.

TAB’s size and structure do hinder its agility and responsiveness, and TAB needs to reach consensus on the problems of its present organization and develop appropriate responses. The structure discussed at the TAB series in February has promise; it has a smaller representational body for operational issues and an all-presidents body for strategy and discussion. TAB should continue to study it and other alternatives and definitively move toward selecting and voting on the best structure.

TAB is making operational changes to improve responsiveness. Holding the TAB committee meetings a month or more before the TAB/BoD series will allow e-mail discussion and vetting of proposals before the TAB meeting; this, plus more efficient conduct of TAB meetings through more focused discussion, will make these meetings more effective.

I would challenge TAB to come back with an evaluation of its problems and their solutions, and then to develop an implementation plan.

Yes, new structures—for example, a bicameral TAB—have been proposed but failed to be adopted by TAB. Small societies fear large society domination; small societies are a majority in TAB; hence, the impasse.

The CS has approximately 80,000 members and three votes in TAB. The smallest society has approximately 500 members and one vote. This makes no sense! Bismarck said, “Politics is the art of the possible.”

I see two “possible” ways to change TAB. One is a suggestion made by the CS’s own Jon Rokne, that is, to have a minimum of one member of TAB for each society, and one member of TAB per 10,000 society members. This would give the large societies a greater voice while protecting the small societies.

The second is to reduce the size of TAB by terminating unsuccessful societies and by providing financial incentives, and a mediator, to induce societies with similar fields of interest to merge.
The IEEE faced financial deficits when its investment returns fell short and it was no longer capable of maintaining its practice of deficit spending. The IEEE Board responded by revising its investment policies and spending practices. As a result, the IEEE returned to a positive financial position. But corporate spending is increasing, and it has a direct impact on funding allocations and infrastructure costs for societies. Several large and small societies are facing current and future deficits unless they deeply cut expenses or greatly increase revenues.

How would you ensure that the IEEE follows prudent financial management practices? How would you address society concerns about their deficits?

Question 2: IEEE Financial Management

The IEEE has a balanced operating budget requirement. In recent years, the actual results have been significantly more positive than budgeted. However, almost all expenses the Board votes in during the year increase the Infrastructure Charge, which is a serious concern for Society/Council financial health; thus, midyear requests for additional expenditures must be thoroughly vetted and justified.

Since the bottom line of both the IEEE and the aggregate S/Cs have been positive, there is no reason any entity should go bankrupt; however, redirecting expense allocations and revenue streams within TAB must be done without interfering with the entrepreneurial spirit which has served IEEE so well.

We need to control the Infrastructure Charge; TAB has passed a motion on limiting its year-to-year growth. The IEEE Infrastructure Oversight Committee must be much more aggressive in delving deeply into current expenditures and requests for increased funding; also, its members should have longer terms.

That “corporate spending is increasing” is not inherently bad, nor are deeply cutting expenses and greatly increasing revenues bad. Corporate spending has been increasing because the volunteer leaders of the IEEE have consistently voted for budgets that increase spending.

The IEEE will follow prudent financial management practices when those in charge of the budget line items do so, and when those who have the oversight, primarily the finance committees, Board of Directors, and Infrastructure Oversight Committee (IOC), thoroughly scrutinize the spending. They have rarely done so! As president, I will use my influence to restructure the IOC, and to make the IOC, FinComs, and BoD do their jobs.

In 2005, the IEEE made a $30 million surplus, most of which was distributed to the Technical Activities Board. That some societies benefited more than others is a function of how TAB distributes the surpluses and the expenses. Societies’ deficits must be addressed by TAB.

Society Position

The Society encourages the IEEE president to lead the IEEE Board of Directors in limiting corporate spending. Increases in IEEE corporate spending decrease IEEE societies’ funding allocations and therefore decrease the societies’ capacity to offer services tailored to the technical needs of members.

The IEEE president should work with volunteers and staff to ensure that spending proposals have prudent and realistic goals and are thoroughly reviewed for financial soundness.

Spending decisions should not result in a deficit budget. Each proposal should have a periodic evaluation and a final assessment report reviewed by the IEEE Board.

The IEEE president should support current efforts to have transparency in corporate financial statements so volunteers and staff can better understand IEEE revenue and expense structures and be able to establish appropriate financial controls.

Lewis Terman

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## Question 3: Outreach

The IEEE Computer Society has a presidential initiative to reach out to underserved and underrepresented communities worldwide, including women, minorities, and IT practitioners.

Explain how the IEEE can best support efforts to encourage diversity in the technical profession. What role can the IEEE play in reaching out to these communities?

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<td><strong>The most effective approach will be a collaborative, coordinated effort between the societies and the IEEE.</strong></td>
<td>The IEEE can actively reach out to members of underserved and underrepresented communities in our fields by ensuring they are aware of opportunities in the IEEE, involving them in activities, planning and governance at the various IEEE levels, and presenting role models. A major long-term approach for these communities is to fill the engineering, science and technology K-12 pipeline, reaching both students and their teachers/counselors. We need to work with other technical and national professional societies and industry, all of which have strong interest in this effort. An effective approach is personal contacts through visiting schools and counselors; chapters can be a strong enabler for local interactions. Attractive Web offerings will also be important. The IT community offers a great opportunity for the IEEE; I feel very strongly that we must proactively engage it with publications, meetings, and Web offerings. Again, our chapter structure will be invaluable.</td>
<td>One of the great strengths of IEEE is its diversity—we have approximately 360,000 members in approximately 150 countries. The membership includes not only engineers but also computer/IT professionals, scientists, men and women, and representatives of all cultures, and our activities transcend national borders. One of my accomplishments last year, as VP, TAB, was the creation of the Transnational Scorecard, which revealed good news and bad news. In 2005, 45 percent of IEEE conferences were held outside the US, but only 18 percent of the Board of Directors was from outside the US. Women and minorities are underrepresented, especially in the IEEE’s leadership. Diversity must start with the leadership, and the leadership is determined primarily by the nominations and appointments committees throughout the IEEE. If elected, I will expand the Transnational Scorecard metrics to include women, and I will urge N&amp;A committees and other leaders throughout the IEEE to correct underrepresentations where they exist.</td>
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Through their volunteer leader and member networks, societies have ties to industry leaders who can offer insights into the needs of diverse practitioners.

The IEEE should take the lead to coordinate the activities of different societies and other entities within the IEEE and provide resources to assist outreach projects. The IEEE can also support the societies’ efforts by allowing more flexibility in membership requirements, particularly to attract IT practitioners who aren’t engineers.

IEEE societies should take the lead in reaching out to underserved and underrepresented communities. Societies are well equipped to do so as they have traditionally had strong ties to their technical communities.

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Question 4: Presidential Priorities

What are your three most important priorities for your presidential year? What specific leadership skills do you have to help accomplish these priorities?

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<td>No IEEE Computer Society position.</td>
<td>Membership: Retain GOLD members, learn from the increase in membership in Regions 7-10, and reverse the membership loss in Regions 1-6. We need a flexible set of membership benefits. We must move into new areas, like services, software, and applications—areas of major growth worldwide. Finances: With reserves at an all-time high, we need to develop a long-term policy on their growth and wise use. We must control Infrastructure Charges, avoid bankruptcy of organizational units, and allow OUs with adequate reserves to access them. Governance: IEEE and TAB governance needs to be more efficient and responsive, and more global—with present trends, Regions 7-10 membership will be half of IEEE membership within 10 years. With three years on the BoD and 15 years in TAB, I have been in leadership positions at all levels of the IEEE. I understand the IEEE, will listen, develop consensus, and work to reach our goals.</td>
<td>My priorities are: 1. Improve the cost-benefit ratio of membership, for everyone. 2. Invest more in new products, services, membership benefits, and experimentation. In 2005, we added $30 million to our financial reserves while investing less than $3 million in the development of new products and services. Today, our reserves are $169 million (approximately $500 per member)! So, we can definitely afford to invest more in the IEEE’s future! 3. Make innovation a hallmark of the IEEE—it is not that now. I have demonstrated my leadership skills via my accomplishments as conference chair, society president, council president, journal editor, standards committee chair, IEEE VP of Technical Activities, and during my service on the IEEE Board of Directors for three years. I am an innovator, as evidenced by my 55 patents. I am also an entrepreneur, as evidenced by my having founded the IEEE Sensors Council and my numerous other IEEE initiatives, as detailed at <a href="http://www.JohnVig.org">www.JohnVig.org</a>.</td>
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Question 5: Membership Challenges

Association trends indicate that members want greater return for their dues investment and are moving from “one size fits all” toward unbundled member services. IEEE 2006 President Michael Lightner has focused IEEE leadership on the “membership challenge” to improve membership value and expand the traditional IEEE member base. President Lightner created a committee to deconstruct the current IEEE membership model, evaluate alternatives, and make recommended changes to the IEEE Board of Directors.

What is your view of IEEE’s membership challenge, and what new membership models would you propose?

Society Position

The Society endorses efforts to evaluate membership alternatives in an effort to increase the IEEE’s membership worldwide and improve the member value proposition.

The IEEE’s traditional member benefit of quality technical information faces increasing competition from commercial organizations and from the Internet. If it does not offer more flexibility in its member options, enabling members to select benefits tailored to their needs, the IEEE will find its share of membership continuing to decline.

Because the IEEE cannot continue to rely only on its traditional sources of revenue, it will need to develop new products and services to meet the needs of practitioners and to attract and retain young professionals.

Lewis Terman

The “cafeteria model” membership challenge from President Lightner has been a valuable exercise, but results indicate it would disrupt IEEE dramatically, with major funding difficulties for many valuable current activities. We do need to increase member benefits, with a flexible menu of benefits—one size does not fit all. A major ongoing study is addressing membership models, and we should await its conclusions.

The IEEE should never become an elitist organization; it should be open to the widest spectrum of those interested in our fields of interest. We already have limited dues for countries with low incomes; to further lower dues would increase the subsidies for membership, increasing the Infrastructure Charge and adding stress to OU finances. However, I do favor a bridge to retain recent graduates during their first years after graduation, such as through a subsidized three- to four-year membership at graduation.

John Vig

The challenge is a useful exercise. It is forcing the leadership to think about the costs of services and how those costs could be covered by “other” means, or, possibly, eliminated. Will the challenge result in significant changes? That remains to be seen.

IEEE’s membership peaked in 2002. We have lost approximately 50,000 society memberships since the peak. I would start a variety of experiments aimed at increasing the value of membership and lowering the dues, at least for certain segments of the membership. For example, we have approximately 100,000 members and one million potential members whose institutions provide them with “free” access to the IEEE’s publications and standards. These people are saying, “I get everything I want from the IEEE for free, so, why should I join (or renew)?” I would experiment with new membership and dues models for such members, measure the impacts, and then make informed decisions.