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ABET's Legacy: Responding to Challenges, Adapting to Change

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As ABET nears its 75th anniversary, its leaders find themselves reflecting more and more often on the legacy of the organization: its readiness to respond to challenges and its ability to adapt to change. While some may scoff at this, perhaps because they tune into the organization's activities only once a decade or so, those who have consistently contributed to ABET as program evaluators, team chairs, Board members, society liaisons, and staff members do not.

There are many, many examples of ABET's response to challenges and adaptation to change. Most notable to the audience of *The Interface* is likely the creation of EC2000. The move to outcomes-based accreditation criteria was a direct result of challenges to the conventional criteria and, at times, to the organization itself. Since EC2000 was created, the organization has adapted rapidly to the new paradigm for which it calls: Know what you do, do it well, and prove it. Beginning with grant-funded workshops—a new concept for ABET—that taught faculty how to live this paradigm, continuing with an extensive, independent, multi-year study of the impact of the move to outcomes assessment, and ending with a complete overhaul of the volunteer participation process—including recruiting, selecting, training, and evaluating program evaluators—ABET has built the spirit of EC2000 into its entire operations.

But, there is a lot more to ABET and its legacy than EC2000. For example:

- ABET signed its first mutual recognition agreement in 1979, when globalization was just beginning to surface as an issue in engineering. By 1989, ABET was already consultant to both fledgling and established international accreditation boards, a “substantial equivalency” evaluator of international programs, and a founding member of the multinational Washington Accord. In addition, under the leadership of 2001-2002 ABET President **Jerry Yeargan**, ABET initiated the Western Hemisphere Initiative, a partnership formed to promote quality assurance in engineering education throughout the Americas. Partners include
- ABET, the Council for Higher Education Accreditation (CHEA), the Consejo de Acreditación de la Enseñanza de la Ingeniería (CACEI)-Mexico, and the Quality and Accreditation Institute for Engineering and Technology Careers (ICACIT)-Peru.
- In 1983, ABET established the Related Accreditation Commission, a response to the emergence of new engineering-related disciplines. In 2001, the commission was renamed the Applied Science Accreditation Commission to reflect the broad diversity of programs the commission now accredits. ASAC continues to bring new programs and a wide variety of disciplines into the ABET fold.
- ABET recognized early on the potential for a computer science education boom, and, back in 1985, helped establish the Computing Sciences Accreditation Board, now one of ABET's largest member societies. Since 1995, the number of programs accredited by the Computing Accreditation Commission of ABET has increased by 85%. ABET also shortened its name to ABET, Inc., and adopted a new tagline to meet the cultural needs of its broader charge.
- Nearly 10 years ago, in direct support of professional mobility, ABET established Engineering Credentials Evaluation International (ECEI). Now the preferred evaluation service of more than half of state licensing boards (according to those who responded to NCEES's 2005 survey), ECEI is a model in the credentials evaluation business.
- In 2001, when the effectiveness of its new outcomes-based assessment paradigm was challenged by the U.S. Department of Education, ABET did not back down. Instead, the organization chose not to renew its recognition by the Department, despite the potential loss of its credibility. As it turns out, the organization lost no credibility from this action, and was even recently invited by the Secretary of Education's Commission on the Future of Higher Education to present the findings of the EC2000 study during one of the Commission's hearings on quality assurance and accountability in higher education.

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August 2006 TABLE OF CONTENTS

ABET's Legacy: Responding to Challenges, Adapting to Change	1
CTAA Program Evaluator Mentoring . . . 3	
The Shorter Leg	5
Balancing STEMS and Sports: A Question of Values	5
ASEE ECE Division, IEEE Activities . . . 7	
ECEDHA News	8
The 2006 Robert Maynard Hutchins Award	9
Frontiers in Education Conference . . . 10	
Building the Future	11
From your Editor	12

- In 2002, when remote delivery methods for college programs began to raise questions about the role of laboratories in engineering education, ABET initiated a groundbreaking project to identify the learning objectives of the engineering lab. With the leadership of **Lyle Feisel**, past IEEE Board representative to ABET, a grant from the Alfred P. Sloan Foundation, and the input of more than four-dozen experienced developers and teachers of engineering laboratories, ABET was able to develop and publish a comprehensive list of laboratory learning objectives. This list has helped countless faculty and administrators design quality engineering programs.
- Three years ago, ABET faced a challenge that claimed a disparity existed between the accreditation status of some programs and the quality of the graduates they produced. This claim was unsubstantiated. However, ABET responded to the challenge directly, initiating a joint task force to investigate, demanding to see the data behind the claim, attempting to work with society leadership on an amiable resolution, and cleanly dismissing the issue when it could not be substantiated.
- Recently, the ABET leadership became aware that eight different ABET member societies were evaluating systems engineering programs. This is unusual, as ABET's traditional approach to program accreditation is to assign each discipline a single lead society. ABET decided the eight societies needed to come together to discuss systems engineering accreditation, so a workshop was held. During the Systems Engineering Workshop, representatives from all eight member societies worked together to achieve a shared vision for SE program accreditation.

Today, ABET continues to respond to challenges and adapt to change. For example, two very large endeavors are currently underway within the organization and have been for many months:

The development of a new financial model: Since fall 2005, individuals appointed by the ABET leadership have been working to develop a new financial model for the organization. Several factors led to the call for a new model:

- ABET is undertaking new initiatives at a rate that no longer allows them to be "special projects" under the current model. These initiatives—like revamping the volunteer participation process and studying the impact of EC2000—are essential to the success of ABET's business.
- The existing financial model calls for ABET's member societies to support approximately 66% of its operations, while institutions with accredited programs are to support approximately 33% of operations. In reality, the split is much closer to 50/50, and continuing attempts to increase society assessments have been met with resistance.
- ABET was established by and is a federation of professional and technical societies, of which IEEE is a founding member. This partnership among more than 25 disparate societies, forged for the good of the professions they serve, has been extremely beneficial for everyone involved. However, it is becoming clear that ABET may be missing opportunities for partnerships with other entities and may not be receiving adequate representation and financial support from the full spectrum of the profession— industrial, governmental, and academic, both U.S. and international. In order to change its organizational structure, ABET must change its financial model to accommodate that structure.

ABET's Financial Model Task Force, which includes **Mike Lockerd** of IEEE, a past member of ABET's Finance Committee, is charged to "develop and propose a financial model for ABET that allows for management of financial resources in a fiscally responsible manner and for sustained domestic and international quality assurance, equitably distributes costs among our constituencies, and anticipates and prepares for the changing environment and needs of our con-

stituencies.” The new financial model is expected to be proposed to the ABET Board of Directors this fall.

The development of a plan to implement international accreditation: As mentioned earlier in this article, ABET has been involved in international accreditation activities for nearly three decades and is fully aware of the current globalizing market forces. One of its six mission areas is to “consult and assist in the development and advancement of education worldwide.” Further, its strategic plan mandates that ABET will “assist educational institutions in the U.S. and internationally” and “promote international mobility of technical professionals.” All of these statements are directly in line with the move to international accreditation.

At this time, a highly qualified task group is developing an implementation plan that will respect ABET’s nine existing memoranda of understanding and two mutual recognition agreements, as well as include a phase-in period for its more than 100 substantially equivalent international programs. The task group is also considering a laundry-list of other issues ranging from cost, cultural considerations, and language barriers to staff capacity, volunteer qualifications, and how to handle the already-overwhelming demand for visits. Among IEEE representatives on the task group are **Mario Gonzalez** and **Ed Parrish**.

Pilot international accreditation visits will be conducted this fall.

ABET is a 74-year-old organization that today is stronger

than it has ever been at any other moment in its history. There have never been more volunteers in the process nor more individuals seeking to volunteer than there are today. There has never been more industry and government involvement in the organization than there is now. And there has never been more respect and understanding exchanged between ABET and its programs ever before.

ABET’s strategic planning process is dynamic and relies heavily on the member societies to surface challenges before they become intractable problems. This is key to our ability to respond and adapt; the organization is only as enterprising and agile as its societies allow it to be.

With a new financial model and organizational structure on the horizon and new opportunities to collaborate globally and facilitate professional mobility worldwide, ABET’s future does look challenging and full of change. But we’ve never backed down from challenge or change before, and I do not envision us doing so now. We have a responsible legacy to uphold.

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Editor’s note: This article was submitted by ABET in response to an article in the April 2006 issue of The Interface by Dr. Moshe Kam, IEEE Vice-President for Educational Activities.



CTAA Program Evaluator Mentoring

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In 2003 the IEEE Educational Activities Board (EAB) Committee on Technology Accreditation Activities (CTAA) initiated a mentoring program for program evaluators (PEVs). It was felt that mentoring would contribute in a positive way to the overall effectiveness of PEVs and of the accreditation process as a whole and also be a major factor of the CTAA Continuous Improvement effort.

Symposium speaker, **Suzanne C. Faure**, PhD., defined mentoring as ‘a supportive learning relationship between a caring individual who shares his/her knowledge, experience, and wisdom with another individual who is willing and ready to benefit from this exchange to enrich his/her professional journey’.

This definition is an excellent match for the goals that were set for the CTAA mentoring program. Mentoring is a process that typically exists informally in an organization, but when the participants become more intentional about mentoring and put some order to it, the effectiveness of the organization tends

to improve. As time goes on, the mentor and mentee develop a long-term relationship, and the channel of two-way communication becomes less and less noisy. A well-designed and implemented mentoring program has the potential to fully develop the pertinent skills of the PEVs. One generally thinks of a mentoring program as being for the benefit of the mentee, but it is true that the mentor who is a member of the CTAA and is also a PEV will benefit from the mentor-mentee exchanges. Given that, the CTAA mentoring process must be “attended to” with a vigilant eye for opportunities for improvement.

The stated objectives of the CTAA mentoring program are to “supplement the evaluator training to ensure that all new PEVs are familiar with the goals, objectives, procedures and responsibilities of the CTAA; provide a contact for aiding new PEVs preparing for their first visit; provide a feedback mechanism for PEVs so they can improve the quality of their evaluations; and provide feedback to CTAA on issues relating to

training of evaluators or improvement of process". In support of these objectives, the Mentoring Subcommittee, chaired by Dr. **Martin Reed**, IBM Corporation, assigns a CTAA member as mentor for each current PEV as well as newly selected PEVs soon after the new PEVs are selected at the January meeting. In doing this, the subcommittee does their best to keep the mentee/mentor ratio at about 10 to 1. This is accomplished with minimal changes in the existing mentor assignments for current PEVs. The reason for this is, of course, to promote longevity in mentor-mentee relationships. In general, mentoring assignments change only when a mentor rotates off the CTAA. One example of this is that this writer picked up two PEVs as mentees when another CTAA member rotated off the CTAA committee.

Dr. Reed encourages mentors to establish a line of communication with their mentees each year when he distributes the Excel spreadsheet of mentoring assignments. He even provides a "model" letter for the mentors to use as a guide in developing their own letters to mentees. The letter provides basic information such as the purpose of the mentoring program, and a list of websites where PEVs can find pertinent information. The model letter also explains that the mentor is available as a source of information anytime except after a visit assignment has been made. After that and until the visit is completed, the PEV's main contact should be the team chair.

Dr. **David Baker** has been the PEV visit assignment coordinator for the CTAA for several years. Dr. Baker says that before the mentoring program was established, he was the de-facto mentor for all PEVs since he was the only available channel of communication. The number of questions he fields from PEVs is now significantly less.

Prior to the establishment of the mentoring program, a PEV rarely, if ever, received feedback about his/her performance as a program evaluator. As it is now, the team chair and department head performance ratings are provided to CTAA members at the January meeting for the visits that were made the previous fall. The expectation is that mentors will communicate with each of his/her mentee PEVs who made a visit and provide a summary of their performance ratings. It is worthy

of note here that few department heads complete the PEV performance evaluation form after the visit. More attention to this by the department heads would contribute in a positive way to the overall effectiveness of the accreditation process.

The metrics that have been established by CTAA to track the effectiveness of the mentoring program are 1) Individual PEV ratings by the Team Chair (TC) and Department Head (DH) increase from year to year, and their comments about the PEV's performance are positive or neutral; and 2) The ratings offered by the TC and DH of the PEV's performance are 4 or greater on a scale of 1-5 where 5 is best. Each year Dr. Reed and his mentoring subcommittee prepare a composite report of the TC and DH PEV performance ratings for consideration by the full CTAA committee. Cumulative metrics as of last year's campus visits are listed below.

2005 Suggested Mentoring Topics (from TC or DH comments and scores)

- Positive Characteristics
 - Professionalism
 - Well-prepared
 - Thoroughness
 - Demonstrating the interests of ABET and the Institution
 - Enthusiasm
 - Good two-way communications with the Team and the Institution
 - Clear, concise findings
 - Understanding of outcomes-based criteria
 - Offering constructive recommendations
- Areas of Improvement
 - Hesitancy to produce negative findings

The mentoring program has become an important component of the CTAA Continuous Improvement effort. As time goes by and more experience is gained, it will become even more important.

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Mentoring Continuous Improvement Metrics

Metric	2003	2004	2005
Average IEEE TAC evaluator TC score (questions 1 through 8)	4.67	4.78	4.86
% of IEEE TAC evaluators with TC score of 5.0	35.7%	28.3%	37.5%
% of IEEE TAC evaluators with TC score above average	73.8%	71.7%	65.6%
% of IEEE TAC evaluators with TC score < 4.0	9.5%	9.4%	0.0%
Number of IEEE TAC evaluators assessed	44	55	34
% of IEEE TAC evaluators with any TC scores	95.5%	96.4%	94.1%
% of IEEE TAC evaluators with any DH scores	38.6%	25.5%	38.2%



The Shorter Leg

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As the newly elected chair of IEEE's Educational Activities Board (EAB) Committee on Engineering Accreditation Activities (CEAA), I think I should "introduce" myself. Since I have met very few of you, it may help to give some perspective to what will follow in this article.

I am a retired IBM executive, having spent my entire career in Research and Development, specifically in the field of Local Area Networks. Having started my college education when I was 17 and completed my Ph.D. when I was 44, I have a clear understanding of the concept of lifelong education and the strong relationship between formal education and one's career. Of course, along the way I came across ABET and IEEE/CEAA, and had the good fortune of becoming a program evaluator (PEV) in 1998.

After becoming part of CEAA in 2002, two things quickly became apparent. First, was that the IEEE staff is the vital "glue" which supports the PEVs and committees like the CEAA. I am continually impressed with their knowledge, dedication and sense of professionalism. Second, was the massive number of volunteers required to make the entire accreditation process possible!

At the moment, IEEE alone has 189 active volunteer Engineering Accreditation Commission (EAC) PEVs, covering the fields of electrical engineering, computer engineering, and similarly named programs. Our goal is to have approximately half of our PEVs from academia and half from industry/government. Now we get to the point of this discussion, that is: the almost 50% of our PEV's from industry/government, i.e. the shorter leg.

The reason I wanted to talk about this topic is that one of CEAA's major ongoing challenges is finding new recruits from industry to fill our needs for PEV's. We seem to always have a good number of candidates from the academic world. Unfortunately, we seem to struggle to get a sufficient number

of qualified candidates from industry/government.

This is especially true for PEV's to cover the rapidly growing number of university programs in the field of computer engineering. Now, since this newsletter will end up primarily in the hands of educators, one might argue that I have an interesting subject, but the wrong audience.

Let me tell you about a recent personal experience. Last year, after seeing the need for more industry involvement, I contacted **Nick Donofrio**, IBM's "CTO". Nick's title is really IBM Executive Vice President for Innovation and Technology, but more importantly he is personally involved in the mentoring of the "best of the best" of IBM's technical employees.

Through Nick, we got the message out to IBM's 200 or so most senior technical individuals about ABET and the opportunity for volunteers to join our PEV ranks. I am happy to say that, with Nick's support, a number of IBMers came forward and several were selected this past January to become PEVs. So the industry people are out there, we just have to get to them. I strongly believe that personal contact is the best way to accomplish this task.

I know that each one of you has many industrial contacts. You work with individuals from industry on funding efforts and research projects. They serve as Adjunct Professors in your departments, and they volunteer as Industrial Advisory Board members contributing to your department's goals and the EC2000 processes.

My challenge to you is this: Tell one industry professional about the opportunity to become a Program Evaluator and point them to the ABET web site: www.abet.org. It is to all of our benefit to expand and improve the quality of this vital part of the accreditation process.

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Balancing STEMS and Sports: A Question of Values

Frank G. Splitt

Some three years ago, my wife **Judy** and I attended Northwestern University's Waa-Mu Show, "This Just In" – a musical created around the idea of breaking news. How ironic it was to receive "this-just-in" news the very next day concerning the Epilogue to what was then the upcoming paperback edition of **Jim Duderstadt's** book, *Intercollegiate Athletics and the American University: A University President's Per-*

spective. Duderstadt, President Emeritus and University Professor of Science and Engineering at the University of Michigan, wrote the Epilogue with the aim of updating readers on the progress of reform since the original publication of the book in 2000.

Some months earlier I found that the hardcover book provided a penetrating analysis of the ills besetting Intercollegiate

Athletics from his unique perspective. I was especially impressed since Jim was also the author of the visionary book, *A University for the 21st Century*, that I had been recommending as a “must read” in my writings and talks on systemic engineering education reform. By virtue of his preeminent background and experience he has been serving as the “tip of the spear” – breaking a path that can be walked by the present and next generation of reformers in multiple domains of higher education as well as our nation’s knowledge infrastructure. It has been my good fortune, as a member of **The Drake Group**, <http://www.thedrakegroup.org>, to be able to assist him in this endeavor.

The Epilogue’s header took the form of the following quote from Thomas Paine’s *Common Sense*, published in 1776... a quote that I had mentioned to Jim as equally applicable to his writing on intercollegiate athletics as it was to mine on engineering education reform: “*Perhaps the sentiments contained in these pages are not yet sufficiently fashionable to procure them general favour; a long habit of not thinking a thing wrong, gives it a superficial appearance of being right, and raises at first a formidable outcry in defense of custom. But the tumult soon subsides. Time makes more converts than reason.*”

With reference to this Paine quote and to my previous essay, “Modern-Day Warfare: It’s All about STEMs Literacy in a Global Context,” in the November 2005, issue of *The Interface*, consider the following from **Robert Maynard Hutchins**’ article “*Gate Receipts and Glory*,” published in the December 12, 1938, issue of the *Saturday Evening Post*: “*Since this country needs brains more than brawn at the moment, proposing football heroes as models for the rising generation can hardly have a beneficial effect on the national future.*” Hutchins, then president of the University of Chicago, wrote these prescient words during the time of the gathering storm prior to the outbreak of World War II. He deplored undue emphasis on nonacademic pursuits – condemning “sham” courses for college athletes and the pervasive cheating by schools to fashion winning teams. Guided by his personal beliefs, Hutchins abolished football at the University of Chicago in 1939.

The Interface essay was an outgrowth of a ‘brief’ prepared for the April 2005, workshop, “*What Does it Mean to be Educated in the 21st Century?*” sponsored by the National Science Foundation (NSF) and hosted by Chancellor **Nancy Cantor** at Syracuse University. It made a point about America’s obsession with sports – saying that only in seemingly complacent America can we find a general public that views sports as super cool while the study of science, technology, engineering, and mathematics (STEMs) is considered to be nerdy. A follow-up essay, “*Sports in America 2005: Facing Up to Global Realities*,” http://thedrakegroup.org/Splitt_Sports_in_America.pdf, reflected my experience working with the International Engineering Consortium (IEC) and the Electrical and Computer Engineering Department Heads Association (ECEDHA) on the November 2005, NSF sponsored workshop, “*Globalization Effects on*

ECE Education for the Engineering Profession,” hosted by President **Bill Wulf** at the National Academy of Engineering.

In the latter essay it was noted that the National Academies responded to a request from concerned members of Congress with a call-to-arms report, “*RISING ABOVE THE GATHERING STORM: Energizing and Employing America for a Brighter Economic Future*,” <http://books.nap.edu/catalog/11463.html>. The report states that “This nation must prepare with great urgency to preserve its strategic and economic strengths. The report (a.k.a. the Augustine report) goes on to say that America faces an enormous challenge because of its disadvantage in labor costs; and, that science and technology provide the opportunity to overcome that disadvantage by creating scientists and engineers with the ability to create entire new industries. It is estimated that a coordinated and sustained response to the challenge would cost the country about \$9 billion a year.

The Protecting America’s Competitive Edge (PACE) Act—three bills covering energy, education, and finance – is based on 20 recommendations from the Augustine Report. It was introduced to the Congress in late January. In May the House passed a spending bill for the Department of Energy, and, in mid-June, the Science, State, Justice and Commerce Subcommittee on Appropriations approved a 2007 spending bill, that if it holds through the rest of the Congressional budget setting process, puts the House on track to pay for the entire first year of *PACE*. Unfortunately, this was accomplished by cuts in environment-related programs and other worthwhile initiatives. There must be a better way to obtain *PACE* funding beyond 2007. For example, consider the following.

In his opening statement for a congressional hearing on the Augustine report, Congressman *Sherwood Boehlert* (R-NY) said: “Science programs still have to scrounge around for every additional cent; young scientists still have to beg for funds; our education system is still producing too many students who cannot compete with their counterparts around the world; and the federal government is still ignoring our fundamental energy problems while wasting money pandering to special interests.”

A salient example of this pandering is the government’s favorable tax policies on college sports, particularly the NCAA that is treated as an institution of higher education. Quid pro quo contributions from boosters and the boom in the leasing of stadium skyboxes by corporations and other big-money contributors as well as extortion-like seat taxes, are fueling the uncontrolled growth of the big-time college-sports entertainment business. This is because the federal government weakly enforces its Unrelated Business Income Tax (UBIT) law. Also, a 1999 IRS ruling allows boosters to deduct most of the donations they make to lease skyboxes, estimated to account for billions of dollars to Division I universities.

In effect, the government is subsidizing the college-sports entertainment industry that operates minor league teams and leagues for the NFL and the NBA. Elimination of this subsidy would provide substantial incremental tax revenues that could

aid the implementation of the Augustine report's recommendations – helping to finance a boost in the federal investment in basic research, recruitment of future STEM teachers, and scholarships for undergraduate STEM students that want to go to college to learn. It's all a question of values and getting priorities right in higher education.

As my previous *Interface* essay concluded, a democracy has as one of its fundamental strengths the ability to

bring great ideas, innovation and individual initiative, into what could otherwise be a failing system. But democracy is only as strong as the people who are willing to keep it vital and ever evolving. We all need to wake up and rise to the challenge.

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The Electrical/Computer Engineering Division of the ASEE will be sponsoring several session during this year's ASEE annual conference in Chicago. For the ASEE 2007 Annual Conference (Honolulu, Hawaii, June 24-27), the Division's call for papers appeared in the Summer 2006 issue of the *ASEE PRISM* (page 15). The program chair is Dr. **Dennis Silage**, silage@temple.edu. Drs. **Udpa** and **Nelson** worked hard the last few months to make sure that we continue to have an excellent technical program in Chicago this summer. **Victor Nelson** and session chairs, paper reviewers are volunteering their time/effort to guarantee success in the division's programs.

A related activity was the sixth IEEE *e IT conference* hosted by Michigan State University, May 7-10, 2006, East Lansing (the photo was taken at the conclusion of the conference in E. Lansing). The 2007 *e IT conference* will hosted by Illinois Institute of Technology in Chicago, May 17-20, 2007 (please contact Drs. **M. Shahidehpour**, ms@iit.edu, or **Tom Wong**, twong@ece.iit.edu, for conference information). This year's *e IT conference* included more than 100 papers from IEEE Region 4 and other regions, workshops and keynote presentations by Drs. **Zadeh** and **Malek Lotfi** talked about "Computation with Information Described in Natural Language—The Concept of Generalized-Constraint-Based Computation", and Manu's topic was "An overview of IT Security Forensics." These *e IT* conferences are new compared to other established IEEE conferences but we hope they will be a forum for exchanging information among researchers and industry in the fields of electrical/computer engineering with IT applications. **Hossein** is the general chair of *e IT* conferences which were started in 2000 in Chicago by Region 4.

Finally, we want to conclude this column by emphasizing again the importance of further dialog, communications among various engineering organizations and societies. Most of us are active members of IEEE, ASEE and related organizations like the Education Society and ECE Division. We cer-



(Picture: l-r: Mousavinezhad, Udpa, Zhangs from UK)

tainly see a lot of common ground between activities of these organizations. In this regard we also would like to include ABET which is certainly an umbrella organization of many engineering societies. We do have some concerns that some universities or organizations are perhaps reducing their support or recognition of the important activities and events, workshops, conferences offered by these professional societies. It is true that the faculty's participation in professional societies and the level of their involvement is reflected to some extent in the accreditation criteria (e.g., EC 2000, criterion 5, Faculty), but this part may not be emphasized in some visits, as program evaluators maybe putting emphasis on criteria such as those related to program objectives and/or outcomes assessment. It is emphasized that faculty is the heart of any program but we need to keep in mind the importance of these professional societies and encourage faculty to participate in the activities and offices, as much as possible.



ECEDHA News

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Jon Bredeson, Vice President of ECEDHA
Mark Smith, Secretary/Treasurer of ECEDHA.*

This year the theme of the March 2006 Annual Electrical and Computer Engineering Department Heads Association (ECEDHA) Meeting was *Globalization Opportunities for ECE*. This meeting plays a critical role in our plan to address globalization that began with our November 2005 workshop on the *Impact of Globalization on ECE Programs of the Future* held at the NAE in Washington. The workshop focused on educating and engaging about 50 ECE department heads who heard from several leaders of industry, government and academia and brainstormed ideas that should be considered by ECE programs. The results of their deliberations and a summary of the talks were presented to the majority of ECE department heads at the annual meeting by a panel consisting of **Ken Jenkins** (Penn State), **Ken Connor** (RPI), **Steve Goodnick** (Arizona State), **Dave Lowther** (McGill), **Ed Schlesinger** (CMU) and **Steve Phillips** (Arizona State). We also heard from **Jim Plummer** (Stanford) and **Leah Jamieson** (IEEE and Purdue) who presented university and professional society perspectives on globalization. In addition, we also had sessions on *Biology in ECE* and *Public Policy* to follow up on discussions at previous meetings. The slides from all sessions are available on the ECEDHA website. <http://www.ecedha.org/>

Probably one of the most stimulating and certainly one of the most entertaining sessions at the annual meeting was the panel *EE, CompE and CS Programs: Merger or Peaceful Co-Existence?* organized by **Issa Batarseh** (Central Florida). Issa surveyed 330 ECE and 137 CS departments on their experiences with and views on ECE/CS issues. Of the over 200 responding departments, about a third had considered merging (or splitting) with the majority of CS departments presently residing in Engineering (about a third in Colleges of Arts and Sciences). Several departments shared their experiences in merging. Oregon State, for example, merged EE and CS to combine strengths to create a larger, more visible unit; to focus hiring on faculty, not administrators; to better share a new building; and to double the number of leaders in the department. The road to the merger was bumpy and the transition period was difficult, which delayed the benefits for some time. However, they are now realizing their goals and a stronger department has emerged. The former EE chair, **Terri Fiez**, became the leader of the new department, which also demonstrates the importance of effective leadership. Both departments were previously in engineering, a circumstance that facilitates such mergers. Cultural differences are the primary impediment noted by both CS and ECE faculty and such differences are significantly greater when CS is not in engineering. To help bridge these differences and to add a little levity to the marriage of EE and CS, OSU held a wedding ceremony, complete with cake and singers, presided over by the dean. There are pictures of the wedding posted with the

slides for this panel on the ECEDHA website. The discussions from all panel members and comments and questions from the floor were equally entertaining, mostly because opinions were so strong. Some schools have gone through more than one cycle of merger and splitting. Should this be a topic of interest on your campus, you should share the panel slides with your faculty, even if a merger is considered to be unlikely. The issues raised are all good and each department should consider carefully how best to address them.

The annual meeting was also a sad occasion in that it was our first ECEDHA meeting after the untimely death of our Executive Director **Bob Janowiak**. Bob had done more than anyone to make ECEDHA the professional, productive organization it is today. He set high standards for work and accomplishment that inspired all of us who have filled leadership positions with the organization. He recently began the same process over again with HKN and had already made excellent progress in helping this venerable honor society. We will miss him greatly, but the outstanding support he helped us obtain through the International Engineering Consortium will continue. Their peerless staff, now led by his son **John Janowiak**, will be there to help organize our meetings, maintain our finances, help us loosen up and enjoy ourselves, and provide creative ideas. To partially recognize Bob's importance to ECEDHA, we approved naming the service award in his honor. It is now **'The Robert M. Janowiak Outstanding Leadership and Service Award'**, given to a member or former member of ECEDHA who has provided substantial leadership and service contributions to the Association. **Dave Soldan** was the first recipient of the newly named award.

An ABET Workshop for departments preparing for their fall 2007 ABET visit was offered at the ECEDHA Annual Meeting by **Bill Hudson** (Minnesota State, Mankato) and assisted by **Dave Soldan** (Kansas State) and **Jon Bredeson** (Texas Tech). There were breakout sessions on educational objectives and measurement techniques, program outcomes and measurement techniques, professional component and on various concerns. All of these sessions were followed by reports back to the entire group. The last session was a joint meeting with the ABET PEV Training Workshop to share concerns about visits. A major concern expressed by the participants was the considerable amount of work the process takes, which may be out of line with its benefits of being accredited.

An IEEE Program Evaluator Training Workshop organized by **John Orr** (Worcester Polytechnic Institute and Chair of the IEEE Committee on Engineering Accreditation Activities) and **Dave Soldan** (member of the ABET Engineering Accreditation Commission) was also held at the ECEDHA Annual meeting. This workshop prepared new Program Evaluators in

the areas of knowledge and judgment required for the accreditation review process. Program heads and other institutional representatives were encouraged to attend the workshop to help them better understand and prepare for their evaluations. Workshop materials included extensive documentation of the accreditation criteria and the evaluation process. The objectives of the workshop included: ability to evaluate an engineering program using the appropriate criteria; judgment required to come to conclusions regarding program compliance or shortcomings with respect to each of the criteria; recommendation of an accreditation action based on program evaluation results; responsibilities at each stage of the process (pre-visit, visit, post-visit), both as an individual evaluator and as a member of the ABET evaluation team; and ability to complete all required reports and forms.

There was a session on recent ABET Visitation Experiences, moderated by **Pamela Leigh-Mack** (Morgan State University). Panelists included: **Samir El-Ghazaly** (Tennessee at Knoxville), **James Harden** (Mississippi State), **Paul Neudorfer** (Seattle University), **Dave Soldan** (Kansas State) and **Jon Bredeson** (Texas Tech). A number of observations were made: Employer visits and focus sessions were much more effective than surveys; it is difficult to determine how much assessment is enough; most faculty are reluctant participants; ABET visitors are inclined to be supportive; some ABET visitors were not well prepared; some ABET visitors tried to push their own views on the process; it is helpful to use the ABET visitor's check sheet as a guide in writing the Self Study; the quality of visitors remains somewhat uneven; and communications problems occurred with visitors. It was also pointed out that grades and surveys are not very effective as assessment tools because they do not ensure that all outcomes are met. There is a process under way in

ABET to formalize the PEV evaluation across all societies, to make the training of PEVs more uniform and to better recognize the efforts of the volunteers.

Besides the annual meeting each year and workshops on such issues as *Globalization, Nanotechnology and Diversity*, ECEDHA members also attend regional meetings, generally in the summer or fall. The eight regions (seven in the US plus one in Canada) and their activities are listed on the ECEDHA Activities webpage. Some regions, like the Southwest and Southeast, have been very active for many years. Some like the Northeast have only recently begun to meet again on a regular basis. Regional meetings offer the local chairs and department heads an opportunity to address issues of local interest (such as regional student recruiting activities) and to share and network with their peers at a meeting that is usually easier to attend and less demanding on the department budget than the annual meeting. Most of these meetings take place on campus, which gives the host department a great opportunity to show off its programs and facilities. We strongly encourage all members to attend their regional meetings, which for the first time in some years will be held in all US regions. The Canadian Heads Association meets twice each year. A member of the ECEDHA Board attends about half of these meetings to continue to build the more formal relationship we established two years ago and to share ideas between our distinctly different educational cultures. We have a lot in common, but it is our differences that provide the richest learning opportunities.

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The 2006 Robert Maynard Hutchins Award

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The Drake Group (TDG) presented its 2006 Robert Maynard Hutchins Award to Dr. **Frank G. Splitt**, honoring him "for his courageous defense of academic integrity in collegiate sports."

Dr. Splitt, a Vice President Emeritus of Nortel Networks, a Fellow of the International Engineering Consortium, a Life Fellow of the Institute of Electrical and Electronic Engineers, and a former McCormick Faculty Fellow at Northwestern University, has written extensively on the faculty-driven movement to reform college sports. (See Publications at <http://thedrakegroup.org/News.html>.)

Dr. Splitt has advanced TDG's position on reform related issues for easy availability to all concerned parties – especially to members of Congress where TDG is working a quid pro quo initiative on disclosure and the restoration of academic and financial integrity to America's institutions of higher learning.

The presentation was made by Dr. **Allen Sack**, Director of

the Management of Sports Industries Program at the University of New Haven, one of TDG's founders, and a member of Notre Dame's 1966 National Championship football team.

Dr. Sack called Dr. Splitt "one of the loudest and bravest voices advocating college athletic reform." Sack noted that the October 2005 retraction of Dr. Splitt's Faculty Fellow title, and the position he held with distinction since 1993, drives home the point that telling the truth about the negative impact of commercialism on college sport often exacts a price. "It is sad, but true," said Sack, "that on many college campuses with big-time athletics programs, faculty who defend academic integrity are considered subversive."

Dr. Splitt concluded his acceptance remarks with a **Margaret Mead** quote that he said truly fit TDG:

"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed it is the only thing that ever has."

The award ceremony took place March 31, 2006, at University Place on the Indiana University-Purdue University, Indianapolis campus where TDG hosted a conference on college sports reform. The conference was titled: *"A Century of College Sport: A Turbulent Past, A Conflicted Present, A Brighter Future,"* and was keynoted by Dr. **Richard Lapchick**, Chair of the DeVos Sport Business Management Program at the University of South Florida.

Previous Robert Maynard Hutchins Awardees were:

Tiffany Mayne (2005) – Mayne, a former Louisiana State University kinesiology instructor, sued LSU in 2002, in a lawsuit that was at the center of a grades scandal involving football players. Mayne alleged she was pressured to change football players' grades and hide academic misconduct during

the 2000-01 school year to keep players eligible for the Peach Bowl. After an investigation into the allegations of academic fraud, LSU admitted to five secondary NCAA violations, transferred the former head of the Academic Center for Student Athletes and moved control of the center from the athletic department to the provost. The amount of the settlement was undisclosed.

Jan Kemp (2004) – In 1982 Kemp filed suit against the University of Georgia because she was fired after openly protesting the preferential treatment given to academically unqualified athletes. Kemp won her suit with a jury award of \$2.58 million. She was honored by the American Association of University Professors for her "unwavering commitment to academic integrity."



<http://fie.engrng.pitt.edu/fie2006/>

The 2006 Frontiers in Education Conference (FIE 2006) continues a long tradition of promoting the widespread dissemination of innovations to improve computer science, engineering, and technology (CSET) education. A major annual international conference devoted to improvements in CSET education, FIE is an ideal forum for sharing your ideas, learning about new developments, and interacting with your colleagues.

CSET education faces significant challenges in crossing international, cultural, and social borders in order to expand the pool of those entering CSET education and prepare our graduates to be successful in the global economy with diverse groups of people. Successfully addressing these issues will require innovative solutions including use of new pedagogies and approaches that improve student learning; partnerships among academia, industry, government, and K-12 educators; and curricular reform. In 2006 in the border city of San Diego, the Frontiers in Education conference planners are especially interested in abstracts that address issues related to how CSET education can identify and surmount international, cultural, and social borders.

Papers, Works in Progress, Panels, & Interactive Sessions

- Accreditation and assessment
- Active learning
- Capstone and senior design experiences
- Computer and Web-based software
- Creative design experiences

- CSET educational research
- Distance learning: Methods, technologies, and assessment
- Diversity: Valuing it, achieving it, and teaching it
- Entrepreneurship programs
- Ethics: Creative ways to teach and assess it
- Faculty development
- First-year courses and programs
- Globalization: Preparing faculty and students
- Innovative degree programs and curricula
- Innovative pedagogies
- Innovative uses of technology in the classroom
- K-12 initiatives and partnerships
- Laboratory experiences: On-site and at a distance
- Learning models
- Lifelong learning
- Nontraditional students
- Partnerships (industry, government, university, international)
- Service learning
- Software engineering
- Student retention and persistence
- Teaming
- Undergraduate research experiences
- Undergraduate study abroad programs
- Women in CSET education

Location

San Diego is California's second largest city, where blue skies keep watch on 70 miles of beaches and 72 degree tempera-

tures. Cultural cravings can be fulfilled by spending the day at the lush 1,200-acre Balboa Park, one of the nation's largest cultural complexes and home to the largest concentration of museums west of the Mississippi. Downtown features an electric Gaslamp Quarter with suave steakhouses and eclectic ethnic fare, dinner clubs and sultry jazz bars. Shoppers will find lots of variety from sprawling discount outlet centers to quaint upscale establishments. In addition, San Diego offers four theme parks, so bring the family and extend your stay.

The Sheraton San Diego Hotel and Marina holds a reputation as a favorite destination for business travelers, meetings and conventions. The hotel has a spectacular view of both the San Diego Bay and downtown city skyline. Close to the airport, the hotel offers free airport shuttles among its many other amenities.



Building the Future

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The world is expanding ... and shrinking. The world population is currently estimated at over 6.5 billion people. Populations rise and fall in different regions. The USA population is expected to exceed 300 million by October 2006. At the same time, our technologies permit rapid communications around the planet and travel within a day almost anywhere.

The globalization of science and technology and the development of knowledge-intensive economies continue as public and private organizations reach out for new partners and markets. Cross-cutting technologies blur the boundaries of traditional disciplines. In a recent visit to Shanghai, we were able to see firsthand the tremendous changes underway in industry and education in China. Our comments in the April 2006 issue of *The Interface* mentioned several initiatives by government, industry, and the IEEE Education Society that address these issues. What should engineering educators do next to build for the future? We want to hear from you.

The IEEE Education Society (EdSoc) Administrative Committee (AdCom) met at the ASEE Annual Conference held in Chicago Illinois 18-21 June 2006, and the IEEE Technical Activities Board (TAB) met at the IEEE Governance Series meeting in Minneapolis Minnesota 22-25 June 2006. The Education Society is a member of IEEE TAB Division VI and the Director of Division VI, attended the AdCom meeting. The technical societies in Division VI include the Education Society, Engineering Management Society, Industrial Electronics Society, Product Safety Engineering Society, Professional Communication Society, Reliability Society, and the Society on Social Implications of Technology. He commented on several issues that the IEEE Board of Directors is addressing. The majority of the IEEE membership growth is occurring outside of Regions 1-6 (USA). The overall state of IEEE finances is good, but the new financial allocation algorithm is intended to address some inequities in funding distribution. The allocation algorithm will continue to be studied in the future. The IEEE is exploring its role and relationship with China. Representatives from the Educational Activities division

Sponsors:

American Society for Engineering Education (ASEE)
Educational Research Methods (ERM) Division
Institute of Electrical and Electronics Engineers, Inc.
Education Society
Computer Society

Co-Sponsors:

University of San Diego
San Diego State University

For further information, including registration, please consult <http://fie.engrng.pitt.edu/fie2006/>

of the IEEE also attended and provided information on engineering educational activities at the K-12 level and requested Education Society members to consider providing lessons on engineering to be posted to the IEEE web site. Several of these issues were also discussed later in the week at the IEEE Series Meeting.

The Education Society continues a growth rate that is among the highest in the IEEE. Our growth in society chapters continues to be an unparalleled success. Thirty new chapters were created in 2005 alone and we now have 56 chapters worldwide with 12 additional ones under development. Our website continues to be extremely popular. It is a wealth of information about society activities and resources including publication, conferences, the distinguished lecture series, and the EdSoc RSS feed. It also provides information on society awards, membership, and provides related links. Please take a minute to visit it if you have not lately. It also has information on who to contact if you are interested in increasing your activities with the society. Society officers and chairs of committees are always happy to hear from you. Nominations for society positions can also be directed to the chair of the nominations committee.

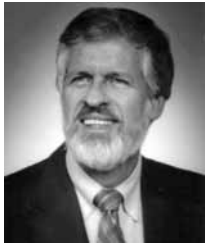
Many things are happening and the Education Society is looking to the future. The next meeting of the AdCom will be at the 2006 Frontiers in Education Conference in San Diego California 28-31 October 2006 and is open to all members. We also intend to meet before then to examine the society and plan for the future. We would like to hear from you in the next few weeks about your vision for building the Education Society of the 21st century. Please send your comments to me or to Vice-President **Joe Hughes** at jhughes@ece.gatech.edu.

Best wishes,

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From your Editor

Bill Sayle
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Several of us were pleased to learn **Mario Gonzalez** has been named the recipient of the 2006 IEEE Educational Activities Board (EAB) *Meritorious Achievement Award in Accreditation Activities*. This award is very prestigious and routinely features a number of nominations.

Mario was cited for his work in international accreditation activities and his extensive service as an IEEE Engineering Accreditation Commission (EAC) ABET program evaluator, his service as an IEEE representative to the EAC and his service as chair of the IEEE EAB Accreditation Policy Council. Those of you who know Mario, and I have known him for a very long time, will understand his polite, firm, and thoughtful approach to his professional and personal life. He is a real gem and the engineering profession is fortunate to have individuals like Mario as active members.

Elsewhere in this issue of *The Interface*, you will see a press release from The Drake Group announcing **Frank Splitt** as the winner of the 2006 Hutchins Award. Frank is another superb credit to the engineering profession and this award is richly deserved.

Congratulations also to **John Peatman** of Georgia Tech who will receive the prestigious 2006 IEEE Undergraduate Teaching Award at the 2006 *FIE Conference* in San Diego, California USA.

Speaking of the FIE Conference, I strongly urge you to consider attending. This conference is **the** engineering and computer science education conference. With San Diego as the conference site, excellent weather is nearly guaranteed.

And, now, it's time for a **correction**! I used the wrong given name in an article in the April issue of *The Interface*. It's **Ralph Wyndum**. (not the name I used). **Ralph** took the mistake in good stride. After all, he is the president of IEEE USA and we published his submission. Fortunately, we were able to correct our error in the version appearing on the IEEE Education Society Web Site. <http://www.ewh.ieee.org/soc/es/>

I hope this issue of *The Interface* finds each of you in good health.

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