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T & S

Technology & Society Division Newsletter

Gene Fricks, PE, Editor

Fall 1999

ASME T&S Division Chair Letter

As engineers, we know that it is impossible to have too much fun or money, and the ASME has given the T&S division subject matter jurisdiction over both of these topics. So read up on how to get involved, make more money, and have some fun.

1. Getting informed and active

Active participation in our division has grown. Recent meetings have attracted both new members who are networking and building the division, and senior members of the ASME who have been active for years, providing good counsel.

For example, as new members of ASME, Robert Burns and Susie Tinker have joined the T&S board, planned programs, and developed excellent sources of information for the benefit of the division. Susan Ipri-Brown, a White House fellow, is planning a technical session for the Winter 1999 Nashville meeting on state technology policies. New members Jeff Schwartz and Steve McCann have also contributed to the planning effort.

As more established members, Gene Fricks, Ken Horne, and Joe Carson have continued their involvement with a wide range of issues-developing relations with student members; forming ties to other organizations, such as the IEEE and the Licensing Executives Society; preparing and disseminating publications on vari-

ous topics such as ethics, whistle-blowing, and professional licenses; and developing new issues to explore.

At the top of the ladder, experienced hands like Arnold Rothstein, Ray Jackson, and Bob Sadlowe have provided us with help and guidance as well as historical and political perspective, greasing our skids and allowing us to formulate and advance our programs more quickly and successfully. John Boccio and Jack Whitehead worked with us to organize technical sessions and an industry highlight panel discussion for the Winter 1999 Nashville meeting. And Erwin Weinberg, our Engineering and Technology Management liaison, is working with us to organize an extensive symposium for the Winter 2000 Orlando meeting.

The T&S Division has had increased exchanges and cooperation with its sister divisions, Management and SERAD, and particularly with the chairs of those divisions, Steve Nichols and Frank Elia, providing input and support for each other's programs. And we are in the process of establishing lines of communication with the technical divisions.

2. Protecting your Intellectual Property

While other divisions of ASME focus on improving technical expertise, we focus on how you can make money from that technical expertise by protecting and transferring underlying legal rights to the intellectual property. In the past year we have increased the number and type of programs we are offering to educate the membership in this area.

We previously presented overview and how-to sessions for protecting inventions. However, we realized at the Summer meeting in Indianapolis, that more was needed, in view of the increasingly complex environment of technology development. Therefore, we have planned panel discussions to address the evolving issues at the Winter 1999 meeting in Nashville. And we have arranged for presentations from members of industry, government, and universities who have worked together to generate millions of dollars in licensing revenue by producing, protecting and transferring technology. This increased programming will continue at the Winter 2000 meeting in Orlando with a symposium and panels from various industry sectors.

Come find out how money is made today and the various cooperative arrangements that can facilitate the process.

Mark your calendar for the Winter 1999 meeting in Nashville: Monday, November 15, 1999 at 11:15-12:45 p.m. for the industry highlight session on technology transfer, and 2:15-5:15 p.m. for the technical session on protecting inventions. Also, the T&S divisions executives committee will meet Tues., November 16 from 8:00 A.M.-12:00 Noon. Please check for the location and all are welcome to attend.

3. Having fun

If you come to our meetings or presentations, you will meet many people and have fun exploring new cities and their offerings for eating, drinking, and perhaps even playing a round of pool.

At the Winter 2000 meeting in Orlando we are planning to provide an opportunity to go behind the scenes at Disneyland to see and discuss Disney's industrial magic with their engineers and executives.

Does any of this interest you?

If so, contact me, john.paul@finnegan.com, come on down and join us at our meetings. If not, contact me anyway and let me know what does interest you.

by John C. Paul

Looking Forward to Congress 2000

Congress 2000 will be held next year in Orlando, Florida, during November 5-10, 2000. The T&S Division has been working toward an ambitious program and will make a presentation to its members at Congress 1999 on our plans.

Tentatively titled "Strategic Partnering in the Twenty-First Century," our upcoming symposium will focus on strategic partnering and technology transfer issues. For example, potential topics may include: (1) Partnering Relationships Involving Government, University, Corporate, Small Business; (2) Meeting Society's Need for the 21st Century Through Technology Partnering (focusing, for example, on the Smart City model); (3) Streamlining the Handshake to Implement Technology Transfer; (4) Reengineering Industries in 21st Century; (5) Working Models of Success Stories of Technology Transfer; (6) Integrating Outside Technology into the Corporation; and (7) Do's and Don'ts of Technology Transfer.

Please join in at the planning stages and let us know if you're interested in participating. Whether its chairing a panel to participating in organizing a meet-the-speaker styled reception, we can get you involved at your level of free time. Please contact me at robert.burns@finnegan.com to learn more.

by Robert L. Burns

Division Continues to Develop Ties With the Board on Professional Practice and Ethics

The Board on Professional Practice and Ethics ("BPPE") is the ASME governance unit responsible for overseeing the professional and ethical policy and conduct of the Society. The

T&S Division, which considers matters of ethics as they pertain to the interaction of engineering and technology with people-our society-has a natural interest in many of the same areas of concern as the BPPE.

As a result, the T&S Division has continued to pursue closer ties to the BPPE through the creation in 1998 of the BPPE Liaison position. This position sits on the Executive Committee of the T&S Division and is currently held by Kenneth Horne. Mr. Horne attends BPPE meetings and reports back to the Executive Committee on matters of interest to the T&S Division. It is hoped that closer communication between the Board and the T&S Division will result in future collaboration and coordination between the two groups.

The BPPE is progressing in making ethics relevant to the fast developing field of mechanical engineering. The BPPE has updated the Code of Ethics to include a new reference to the environment, thus making the Code more relevant to the challenges and concerns of today's society and its engineers. It has also updated several other policies as part of its general charge from the Board of Governors.

The BPPE is also joining with the T&S Division (as well as with Region XIII and the Global Technologies Committee) to sponsor a joint Technical Session at the '99 Congress on "Issues in International Licensure for the Engineer." This example of joint collaboration is expected to continue and grow as the Board and the T&S Division find new and better ways of helping each other pursue their missions to the society.

Future activities of the BPPE are expected to include improvement of communication with the rest of the T&S Division, including preliminary investigation to determine the viability of holding an "Ethics Lecture" at a future Congress. The BPPE sees communication with the rest of T&S Division, and ASME as a whole, as central to its mission, and looks forward to future ties with the T&S Division.

As the T&S Division continues to grow, it is expected that the relationship with the BPPE will continue to develop. Division members wishing more information about the BPPE may consult the BPPE website on ASMENET, under the Council on Member Affairs, or may contact Mr. Horne directly.

by Ken Horne

EVENTS AT CONGRESS 1999

T&S Division is pleased to present an Industry Forum and four Sessions at this year's up-coming Congress.

1. Industry Forum: Managing

Strategic Technology Partnering

T&S Division will present a Industry Forum on "Managing Strategic Technology Partnering," on Monday, November 15, 1999, from 11:15 a.m.-12:45 p.m. The Forum will be presented in a panel format, in which industry representatives will share methods and benefits of technology partnering inside companies and with suppliers. In particular, the panelists will share their experiences in breaking down barriers to technology transfer, harmonizing engineering practices and the information processes they have used. Panelists will include (1) Dr. Larry Steranka, Director of Vanderbilt University Office of Technology Transfer, (2) Dr. Dean Waters, Director of Oak Ridge National Laboratory Office of Technology Transfer, and (3) Anne Roberson, President of University of Tennessee Research Corporation. Check your ASME Calender of Events for further details.

2. Session: State Technology Policies: How They Support or Hinder Innovation

T&S Division will also present a Session, hosted by Susan Ipri-Brown. The Session will focus on the fact that today's economy is increasingly based on the development and commercialization of high technology innovations. Most of this growth is spurred by our nation's entrepreneurial spirit. However, many societal, economic, and regulatory factors influence an entrepreneur's success. Access to venture capital leading edge research, open markets, and federal regulatory policies are just a few of these factors. Recently, governors, state legislators, and state technology officials are playing a more pro-active role in setting a state technology policy agenda. Consequently, state technology policies are gaining a larger influence within the national innovation system, and having a direct impact on innovators. This Session will explore whether these state innovation initiatives are supporting or hindering innovative growth. Leaders from state technology offices, industry, and the federal government will share their insight and experience. Check your ASME Calender of Events for further details.

3. Session: Symposium on Doing Engineering in the Global Marketplace: Licensing and Other Regulatory Issues

T&S Division will also co-sponsor a panel of speakers to discuss challenges and opportunities facing the licensed international engineer. The panel will consist of practicing engineers who will address issues facing the modern engineer as we enter the global economy of the 21st century. Issues to be covered

include licensing, legal obstacles to international practice, and multinational project concerns. Tentatively scheduled for Monday, November 15th, 3:45-5:15 p.m., this Session will be hosted by Ken Horne. Check your ASME Calender of Events for further details.

4. Sessions: Protecting Your Inventions Through Intellectual Property

Back by popular demand, T&S Division will also present sessions focusing on the intellectual property rights inventors have over their inventions. Whether you work for a University or a Corporation or out of your "garage," the session will focus on an inventor's legal rights to his/her inventions. The first session will deal with an overview of patents, trademarks, copyrights and trade secrets, and the second session will further focus on the legal rights an inventor has in the workplace and marketplace. This session is scheduled for Monday, November 15th, 2:15-5:15 p.m., will be chaired by Robert Burns and Susan Tinker. Check your ASME Calender of Events for further details.

International Symposium on Technology and Society

The Technology & Society Division attended the IEEE International Symposium on Technology and Society, New Brunswick, NJ, on July 28-31. The organizers chose "Women and Technology: Historical, Society and Professional Perspectives" as their theme; the 200 participants were billed as the "largest gathering of women in technology in history." Aside from the hyperbole, the attendees were overwhelmingly female, which in some respects was a disappointment. The quality of sessions was uniformly high and ranged in subject matter from the exclusively technical to socio-political issues. A larger male attendance would have helped to demolish some stereotypes and barriers. IEEE pre-published a proceedings, which is available for purchase on their website.

The symposium for the end of the century and beginning of the millennium will be in Rome on September 6-8, 2000. The theme is announced "University as a Bridge from Technology to Society" and a call for papers has gone out. Sessions will again be both traditionally technical and cultural. The website for this symposium is <http://tce.ing.uniroma1.it/istas/istas.html>

Planning is already underway for '01, at the University of Connecticut - Stamford with the theme "Ethical and Social Issues Criteria in Accreditation" Initiatives such as ABET-CSAB's Engineering Criteria 2000 promise to alter significantly the landscape of professional education, directing increased attention to social and ethical issues. ISTAS 2001 will explore the implications of these transformations as they apply to the curriculum, the profession, and society. For details contact Brian M. O'Connell at occonnellb@ccsu.edu or (860)-832-2718.

Book Reviews

Design Paradigms: Case Histories of Error and Judgement in Engineering

By Henry Petroski

Cambridge University Press, New York, Cambridge, 1994, 209 + xii pages. ISBN 0-521-46649-0.

Petroski advances the truism that failures teach us much more than successes ever will. Then he proceeds to demonstrate the point with examples of structural failures that go back to the Romans and Galileo. In attempting to show why failure is so important, Petroski alludes to, but never quite discusses, the role of economics and the egos of project owners and engineers to push technological boundaries in ever riskier directions.

The author shows that a systematic exploration of ways that a design might fail often will ensure that the failure is avoided. Knowing what is unknown and making allowances often will save lives and property. A bit of humility about what one doesn't know helps. Today, at least in the United States, it may keep the practitioner out of jail.

Petroski observes that failure cycles seem just a few years longer than a typical career. I have observed that organizations do not learn lessons, people do. When these people exit the stage, they carry those institutional memories with them. Few organizations count the costs of increased risks that result; often they fail to make an effort to capture this knowledge base, usually considering such efforts to represent a drain on revenue. Given the gutting of careers that has resulted from a decade of 'organizational re-engineering,' managers whistle past the graveyard at midnight, hoping that the cycle has not been shortened so much as to snag their projects. Highly recommended.

Gene Fricks

Ethics in Engineering Practice and Research

By Caroline Whitbeck

Cambridge University Press, New York, 1998. Paper. ISBN 0521-47944-4.

Most works on ethics, particularly those dealing with professional ethics, tend to fall into either of two camps. Either their authors seek to deal with the general philosophy underlying a particular outlook. Or they endeavor to examine cases in order to draw out lessons. Both approaches have their advocates - and detractors. The general philosophers receive criticism for a lack of connection to real world situations.

Often, one must be adept with the philosophy in order to shape one's actions. Often, the novices in this field, so goes the criticism, feel a lack of guidance exists to deal with a situation that suddenly confronts them. Likewise, the case study method encounters criticism for encouraging the 'school solutions' or ethical relativism.

Whitbeck recognizes the pitfalls of both approaches. While she is a firm adherent to the case study approach, her advocacy remains shaped by an effort to construct an ethical framework or outlook within which to work.

She launches the book with an introduction to explain many of the terms to be encountered later. The reader should note where terms are discussed as one will refer back to them many times. Whitbeck explains cogently, even densely here, 'one should not tackle this section sitting in the airport after a long, tiring day.'

Whitbeck also knows that not all situations in ethics have practical resolutions, just as all design situations may not have practical solutions. As another writer recently expressed it, 'What is Right may not have a perfect intersection with What is Doable.' Whitbeck says that resolutions 'to cope' count in the outcome. She also recognizes the multi-cultural dimension of global engineering practice. What are 'normal' ethical responses in one culture may not be considered acceptable in another. Unfortunately, she does not discuss in sufficient detail the effects of excessive legalism and 'political correctness' in the United States on Americans' responses to these multi-cultural challenges.

Whitbeck has written a valuable book, regardless of the reader's penchant for general philosophy or cases. Practitioners will find the time invested to get through it well repaid.

Gene Fricks

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YOUNG ENGINEERS ACTIVITIES

1. Young Engineer Committee

Young Engineers have been identified as a critical area for the future growth and health of the society. Volunteers and staff are working together on all levels to create awareness and implement new programs. Currently, the Young Engineer Committee is working on a number of projects within the committee and with other Society groups.

2. YE Update-What's new

- The Young Engineer Center (www.asme.org/youngengineers) is the on-line destination for individuals 0-10 years in the workforce. YE's can visit the Center to find listings of events and products geared toward their needs. They can also access a number of on-line career resources like the ASME Jobs Data, actual interview questions with background information, salary information and much more.
- ME Today is a newsletter for young engineers. The newsletter, which is published three times a year, provides timely, critical information that young engineers can use to assist them in advancing their careers and help to balance their personal lives. Recent articles published include "First Steps on the Road to Financial Success," "How to Buy a Car" and "Facts and Hints for Successful Preparation for your PE Exam". The newsletter is also available on the Young Engineers Center.
- The ASME Jobs Database (www.asme.org/jobs) listings now include internships and entry-level positions. Companies can post these types of listings free of charge.

The following companies are just a small sample of those who post employee openings on the ASME Jobs Database: Sun Microsystems; Bombardier Aerospace Learjet; Warner Lambert; Maytag Appliances; Apple; Motorola; Volvo; Microsoft; Sunoco, Inc.; State Farm Insurance; Hon Industries; and Sverdrup.

- Sections and Divisions are encouraged to hold young engineer events. Involvement at the local level plays an important role in retention and recruitment of members.

For more information on YE activities - including how to get involved, please contact Tracy Kinken at ASME, 212-591-8239; kinkent@asme.org or visit the Young Engineer Center at www.asme.org/youngengineers.

*Tracy Kinken,
Coordinator, Member Recruitment*

3. Career Development Opportunities for Young Engineers

EVENT: 17th Young Engineers Forum presented by ASME International (The American Society of Mechanical Engineers)
Date: November 14, 1999

LOCATION: To be held in conjunction with the International Mechanical Engineering Congress & Exposition, Opryland Hotel, Nashville, Tenn.

DESCRIPTION: The Young Engineers Forum (YEF) is a program designed to enhance the ability of young engineers to compete in the global marketplace. The award-winning YEF was started in 1992 by ASME to provide young engineers (with less than 10 years of experience) with first-hand advice and

information on education and career development opportunities in the engineering professions. Both young and seasoned engineers participate in lectures, panel discussions, question and answer sessions and documented interviews. YEF programs have been held in major cities throughout North America, Europe and Asia.

PROGRAM: Scheduled topics include:

The Ten Biggest Financial Mistakes and how to Avoid Them:

Learn how to manage your personal finances that may one day help you obtain start-up capital for new business ventures.

Leadership Skills For Engineers:

Gain easy, practical techniques that make you a more effective leader in business, with peers and at home. Learn to apply aspects of leadership often neglected by engineers.

A View From The Top: A Panel Discussion With Corporate Upper Management:

Listen to seasoned professionals answer questions on career development and how to prepare for tomorrow's workplace.

REGISTRATION: For an advance registration form, click on www.asme.org/yef/17/index.html or contact Elio Manes at (212) 591-7797; or e-mail at manese@asme.org. The registration fee for the Forum and the Sunday reception following the Forum is \$15.

*Elio Manes,
Manager, Engineering Programs*