

ASCE



Civil Engineering Division

March 1994 Newsletter

Editor: J. Paul Hartman

MESSAGE FROM THE CHAIRMAN

Presently it is snowing and for the 100th time this winter my children are home from school. It has been a long winter. Thank goodness I recently received the program for the 1994 ASEE Annual Conference. Looking at the pictures of Edmonton and thinking about their beautiful golf courses helps me through the winter (I am itching to use my new 5 wood).

In January I attended my last ASCE EdAC meeting. The time spent on this committee has been very useful and informative. The next chair-elect will have this assignment for two years. One very significant issue that was discussed was the proposal to have a certain number (15 per year) of continuing education credits (or professional development hours - PDH) **required** for membership in ASCE. In general, the idea is being favorably received. The problem comes from the definition of what counts as a PDH and how many an individual needs each year. There are a few states that have this requirement now (I believe Iowa and South Carolina). The concern is that several of the items that have been identified as having PDHs might not be of the quality one would expect from a profession such as engineering. There is a feeling that ASCE should set an example by putting forth a quality program. If you have any opinions on this topic make sure you send that information to ASCE headquarters or the ASCE President - Jim Poirot.

Bill Kelly's committee is working hard on a New Engineer's Survival Kit. I am sure that he will update us in Edmonton. I have not received much response in regards to e-mail addresses of the membership so as to form an electronic mail discussion group. There are many topics of interest (ABET, engineering design, capstone projects, curriculum redesign, information technology's impact in the classroom) that it is impossible to address them all at the annual meeting and such a discussion group could be a valuable CED asset. I have been successful in getting some executive board members to use e-mail.

By the way ASME has set up a BBS (bulletin board) that is open to everyone. The phone number is 608-233-3378. All the services are free so that the only cost is that of a telephone call. More information can be obtained by sending e-mail:

to: info@mecheng.fullfeed.com subject: [doesn't matter] message: SEND INFO

Enjoy the rest of the winter and upcoming spring. Hope to see everyone in Edmonton. Maybe we could get a Civil Engineering Division golf game in.

Bob Henry

(I told you Bob would write about snow - the Editor)

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* Same individual in both offices.

We were very pleased to receive this thought-provoking correspondence from Peter Hoadley, Chair ASCE/EdAC and one of the Patriarchs (is that the correct word?) of the CED. Pete is also a ferroequinologist. I have added the bold highlighting.

LETTER TO THE EDITOR

On Friday, November 12, 1993, I attended a symposium in Chicago sponsored by the Board of Engineering Education of the National Research Council. The symposium was concerned with Major Issues in Engineering Education. I represented ASCE as chair of the Education Activities Committee. This Board, chaired by Dr. Karl Pister, Chancellor, University of California/Santa Cruz, is working on a major position paper. They will be holding three more symposia (Dallas, California, and Washington, DC) similar to the one I attended in Chicago. The purpose of these four meetings is to obtain feedback from representatives of education, industry, and professional societies on the draft of their very interesting position paper (about 80 pages in length). The final document will be widely distributed next year and the Board hopes that it will be an effective agent for change in engineering education.

Considering the draft of the position paper and the discussions at the first symposium, there are some very interesting developments, projections, and predictions for the next decade or two concerning engineering education. I thought it would be useful to share some of them with the members of the C.E. Division of ASEE.

1. **The Student Pipeline:** Although many would like to increase the numbers in the student pipeline, all of those representing industry and many of the educators at the symposium strongly urged that **the quantity not be increased; but instead, work on the quality** of those in the pipeline. The industry representatives thought that the current downsizing of industry will be somewhat permanent for the foreseeable future, thus more engineers will not be easy to absorb into the workplace, but better engineers will. **There were quite a few people at the meeting who thought the B.S. degree in engineering is or will become a preprofessional degree** leading to professional study in many areas; law, medicine, business as well as advanced engineering.
2. **The Undergraduate Engineering Experience:** Sam Florman, contractor and writer, led a very interesting hour on the undergraduate engineering experience. He thought it was unfortunate that everyone wanted to be like MIT. He suggested it was like football ratings, where all 250 or so engineering schools want to be in the "top ten." He further suggested that diversity in degree programs is very important and that each engineering college should focus on what it does best or wants to do best and stop worrying about whether or not it is in the "top ten." The industrial representatives wanted to know why we educators had so many programs at the undergraduate level. They suggested that specialization should occur at the advanced level not at the undergraduate level. They wanted a broadly educated engineer who could think, solve problems, communicate, and work with others. As far as curriculum was concerned the buzz-word at the symposium was "think global." Reflecting on what I heard at this meeting and what I read in the position paper, **our programs in civil engineering (1) are probably too specialized at the undergraduate level, (2) offer too many undergraduate courses, (3) do not integrate very well nonengineering studies, and (4) perhaps do not incorporate global thinking.**

3. **Graduate Engineering Education:** Perhaps the most interesting projection and prediction was that **the demand for Ph.D.'s will continue to decrease** and the demand for M.S. degree graduates will hold its own. The industrial representatives at the symposium suggested that with downsizing, the need for Ph.D. degrees in companies like DuPont, for example, will be an order of magnitude smaller. With decreases in the defense budget continuing, the demand for Ph.D.'s will decrease further. And yet most participants felt that the M.S. degree, as a result of an evolutionary process, is or will become, depending on the profession and/or the industry, the first professional degree. **It was suggested by many at the meeting that we educators should concentrate on the M.S. degree and make it more of a professional degree and less of a research degree. The implication was -- leave research for the Ph.D. degree.**

4. **State of the Engineering Professoriate:** The most interesting and perhaps insulting comment I heard on this subject was from an industrialist who suggested that the days of the six-figure salaried college professor, teaching ten nonpaying graduate students, with little or no academic year salary offset, are numbered. I believe there is no question that with the decrease in the cold war, defense spending will decrease and there will be no "civilian" spending counterpart. Excessive spending for science and technology always happens in war time, perhaps even in cold-war time, or when a perceived enemy does something spectacular like "sputnik." Spending for science and technology is not excessive in peace time. **Thus, almost everyone at the symposium agreed that research expenditures for science and technology were definitely not going to increase but probably decrease substantially.**

Peter Hoadley

Thanks again, Pete, for a very interesting report. For those of us who have been through the past 4 decades either as students, working engineers, or academics, we have seen the dynamics of change. There is also a lot of "deja vu all over again," with some of these observations.

ENGINEERING AND THE MIND'S EYE

Gene Ferguson's stimulating book, **Engineering and the Mind's Eye**, is now available in paperback at a very modest price (MIT Press). This book is a "must-read" for faculty, students, and practitioners interested in visual thinking. The graphics are excellent and the narrative exceptionally readable. It is especially interesting to read in light of Pete Hoadley's observations concerning the future of engineering and engineering education. **Strongly recommended.**

BALLOT ENCLOSED

The last sheet of this newsletter contains the ballot plus brief candidate biographical sketches. The ballot should be filled in and mailed to the Secretary-Treasurer, as indicated.

BE SURE TO LEGIBLY SIGN THE BACK OF YOUR BALLOT ENVELOPE.

ENGINEERING EDUCATION JOURNALS

Bob Henry is compiling a list of education journals which might be of interest to engineering educators, either for content/information or as a possible publication source. I printed a summary of his initial listing in the Fall 1993 Newsletter. Following is an up-date on that listing and I will recommend that the full listing with addresses be printed in 1994-95.

Journal of Educational Technology Systems
Journal of Science Education and Technology
International Journal of Engineering Education
Computer Applications in Engineering Education
CoED (Computers in Education)
Journal of Engineering Education
Journal of Professional Issues in Engineering and Practice
Association for the Advancement of Computers in Education
Journal of Computer-Based Instruction
AEDS Journal
Journal of Computing in Higher Education
Collegiate Microcomputer

Readers interested in obtaining a draft copy of Bob's listing and making recommendations for additions, etc. should contact Bob.

CENTENNIAL MEDALLION HONOREES

Our (Bob's) research indicates that the following CED members received ASEE Centennial Medallions this past year. We congratulate them on this recognition by ASEE. Our apologies if we omitted any CED member who was also so recognized.

Tung Au - Carnegie Mellon University
Fred W. Beaufait - Wayne State University
Ralph E. Fadum - North Carolina State University
Richard H. Gallagher - Clarkson University
Kenneth A. McCollom - Oklahoma State University
James F. McDonough - University of Cincinnati
Edmund P. Segner, Jr. - University of Alabama - Birmingham
James T.P. Yao - Texas A&M University

E-MAIL ADDRESS UP-DATES

It appears we may have had some e-mail glitches in previous newsletters. Following is an update on some e-mail addresses I pulled right off my computer screen. They **should** be correct. I hope more members will file e-mail addresses with the CED and implement the computer dialogs that Bob envisions.

Paul Hartman	hartman@pegasus.cc.ucf.edu
Robert Henry	robert.henry@unh.edu
Bill Kelly	wkelly@unlinfo.unl.edu
Tom Lenox	it1860@usma6.USMA.EDU

MISCELLANY FROM THE EDITOR

Well, our hoped-for February Newsletter turned out to be a March Newsletter. Since readers have already received the mailing for the 1994 Annual Conference, we hope this Newsletter will further interest you in trying to attend the conference in Edmonton.

Regretably, I missed the Illinois conference since we were re-building our house. It received some major structural damage from a 5 ft diameter hickory tree which fell on it during the "Storm of the Century - March 13, 1993." As you know, it is easier to build than to re-build and we did make some major alterations and additions. But we could not move back in until September, so it was a hectic Spring and Summer. Due to some other commitments, I will also not be able to attend Edmonton or Anaheim. In discussing this with the CED Secretary-Treasurer, Howard (Nugget) Dunn, he indicated that he would be willing to take over the Newsletter next year. It actually does fall under his "office," but I had volunteered to help out since it appeared I would have more time than I actually had.

This Newsletter is going out to 522 individuals, including 15 Canadians, our 1994 Conference hosts. Other international addressees include 2 each in Australia and Brazil and one each in Germany, India, Ireland, Israel, Netherlands, Portugal, South Africa, and Sri Lanka.

I did not receive any other inputs other than from Pete Hoadley and Bob Henry. Since the Division would like to increase the size of the Newsletter, **it is imperative that Division members contribute news items and other materials.** I know I will try to submit an occasional one-page article in the future; however, I am really more oriented to slide presentations, so I can use some of my 20,000 engineering history slides. But I will try.

Generally it is planned to do a Fall (October/November) Newsletter, which summarizes Annual Conference activities, etc. and then a Spring (February/March) issue which would include the election ballot and other newsworthy items. Since we no longer have a Journal, perhaps that old position on the Executive Board might be taken over by a full-time Newsletter Editor who would try to get out three issues a year, and **include 3 to 4 page articles, appropriate to the CED.** I discussed this matter with Nugget and he said he will bring the matter up to the Board. If any readers have any ideas or wish to be included in making regular contributions, please forward those to Nugget for sharing with the Board.

Thank you for your support of the Civil Engineering Division. I have enjoyed working on these four Newsletters over the past 2 years and I wish Nugget and others in the future best wishes in enhancing and improving this important component of the Civil Engineering Division. Best wishes for a pleasant Summer.

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THE BALLOT

Biographical sketches (alphabetically) follow and the formal BALLOT is on the last page of this Newsletter (REVERSE SIDE OF THIS PAGE).

For Chair-Elect/Program Chair

William E. Kelly

William E. Kelly is Professor and Chair of Civil Engineering at the University of Nebraska-Lincoln. His ASEE activities include chair of the Civil Engineering Division's Committees on Educational Policy and Teaching Methodology, member of the Projects Committee and Membership Committee, and Director of the Division. Currently Bill is a member of the ASCE Department Heads Council and a member of the EAC in ABET. He is a registered PE in Nebraska and Rhode Island.

Alan Prasuhn

Alan Prasuhn is Professor and Chairman of Civil Engineering at Lawrence Technological University. He currently serves on the ASEE/CE Division Project Board, having just completed three years as the Chairman of the Committee on Professional Practice. He edited the ASEE Centennial booklet on the CE Division Chairs. Alan is chairman of the ASCE National Committee on History and Heritage and served a three year term as an ASCE Director. He is active on numerous other ASCE national committees

For Director, 1994-97:

Thomas A. Lenox

Thomas A. Lenox is a Colonel in the U.S. Army. He is the Director of the Civil Engineering Division in the Department of Civil & Mechanical Engineering at the U.S. Military Academy. He received his B.S. from the USMA, his M.S. from Cornell and his Ph.D. from Lehigh. Tom began teaching at the USMA in 1979 and was appointed to its permanent faculty in 1987. Tom is the Chairman of the CED's Committee on Computer Applications and is active in many other ASEE activities at Division and Section levels.

Edmund P. Segner, Jr.

Edmund P. Segner, Jr. has been Chairman and Professor of the Department of Civil and Environmental Engineering at the University of Alabama - Birmingham since 1990. He previously served as Associate Vice-President for Research at Memphis State University and prior to that as Associate Dean of Engineering at the University of Alabama - Tuscaloosa. Ed has been very active in ASEE as a Vice-President and as Chairman of the Engineering Research Council. He is a registered PE in four states.

ASEE Civil Engineering Division Ballot

March 1994

Please clearly mark your choice with an "X":

For President-Elect/Program Chair:

_____ William E. Kelly
_____ Alan Prasuhn
_____ Write-in: _____

For Director, 1994-1997:

_____ Thomas A. Lenox
_____ Edmund P. Segner Jr.
_____ Write-in: _____

PLEASE MAIL YOUR BALLOT TO: Howard C. Dunn, Jr.
U.S. Coast Guard Academy (de)
15 Mohegan Ave.
New London, CT 06320-4195

PLEASE LEGIBLY SIGN THE BACK OF YOUR ENVELOPE.

PROMPT MAILING OF YOUR BALLOT WOULD BE APPRECIATED