

The ASEE Chemical Engineering Division Newsletter

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FALL, 1998

A Message from the Chair...

Dr. Joseph Shaeiwitz

West Virginia University

“These are exciting times for the ChE Division”

At the Seattle meeting last summer, we had a full program with excellent papers and large audiences. A job well done and many thanks go to Mike Cutlip. Doug Hirt has been busy preparing for the meeting in Charlotte next summer. The deadline for abstracts is November 30, 1998, and the call for papers is included in this newsletter. I am certain that the ChE Division will continue providing high-quality presentations to large audiences.

We have been contacted and asked by the EPA to participate in a project to develop educational materials on environmental applications of chemical engineering. Dianne Dorland is coordinating this activity for the Division. A report from Dianne is included in this newsletter.

Regarding Division awards, Bayer's sponsorship of the Corcoran Award ended last year. DuPont has agreed

to sponsor the award for 1999, and we will continue to seek long-term sponsorship for the Corcoran as well as other non-sponsored Division awards.

Finally, many thanks go to Bill Conger for his many years of service to the Division as Secretary-Treasurer. Kirk Schulz at Michigan Technological University has assumed the role of Secretary-Treasurer. One of his first accomplishments was to create a Division web site. Check it out at <http://www.chem.mtu.edu/org/asee/>. ▼



ASEE Chemical Engineering Division Web Page Information

The chemical engineering division of the American Society for Engineering Education now has its own web page (<http://www.chem.mtu.edu/org/asee/>) devoted solely to chemical engineering education. While the web pages are still under construction, we have made a significant effort to inform you of the latest information regarding the ASEE Chemical Engineering Division. However, we need your help to make the site as useful as possible for chemical engineering educators. Please take several minutes to explore the chemical engineering division pages. If you would like to post a hyper link to your institution, highlight a specific interest, or have suggestions to improve the site, please let us know. All comments, suggestions, questions, and requests regarding the ASEE Chemical Engineering Division web pages should be directed to Alan Nelson (anelson@mtu.edu). We want to make the site as useful as possible to chemical engineering educators. ▼

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The Green Engineering Program

Dianne Dorland
University of Minnesota Duluth

As some of you are aware, EPA's Chemical Engineering Branch (CEB) spearheaded a new program last year: Green Engineering. The objective of this program is to institutionalize green thinking in the development and commercialization of chemical products and processes. One primary focus of the Green Engineering Program is the development of educational information that can be incorporated into senior and graduate level chemical engineering courses.

Current textbooks and courses on pollution prevention in chemical engineering primarily emphasize waste minimization and do not include environmental risk assessment such as risk from release of a toxic waste stream. The Office of Pollution Prevention and Toxics (OPPT) has a lot of expertise in risk assessment of chemicals. OPPT's goal in this GE Program is to introduce stunts to some of the approaches and tools which can be useful in developing greener (i.e. more environmentally friendly) chemical process designs. CEB, working with Dr. David Allen of University of Texas and Dr. David Shonnard of Michigan Tech., is developing a Green Engineering Textbook and Class outline which can be used as core material for a new course or as additional reference in current courses such as Process Design. CEB is partnering with The American Society of Engineering Education – the Chemical Engineering Division – to conduct training workshops based on the information developed.

Several colleagues, including Bruce Finlayson (1997 ASEE Summer School Coordinator), recognize the importance and strongly encourage the development of chemical engineering core curriculum that will prepare the student for the next century, and the environmental/waste reduction considerations will play an important part in curricula development. CEB also conducted an informal survey that indicates strong interests and support for this GE curriculum development effort.

An interchange session will be held at the National AIChE meeting on Tuesday November 17, 1998 from 5:00 p.m. – 6:30 p.m. in the Fontaine Room, located on the lobby level of the Chateau Building in the Fontainebleau Hotel and all

conference attendees are welcome. Dr. David Allen, who is the textbooks primary author, will lead the session. At the November meeting interchange we will distribute a packet of information that will include additional information on the project, a detailed chapter outline, an Introduction to each three parts of the textbook, and two sample chapters: Chapter 5, Evaluating Environmental Risks: Approaches Based on Chemical Structure and Chapter 10, Evaluating the Environmental Performance of a Flowsheet.

As previously, the textbook and class outline will be designed in a modular format – allowing universities to incorporate the entire course as a technical elective, or incorporate chapters of the course into current chemical engineering curricula. A draft of the entire manuscript and an Instructor's guide will be made available to chemical engineering professors at an: Integrating Green Engineering into the CHE Curriculum" training session to be held on June 20, the Sunday prior to the ASEE annual meeting in Charlotte, NC. This session and the material will be free of charge. It is our goal to disseminate these materials to faculty members in a timely manner so that portions can be incorporated into curriculum as early as the Fall 1999 period. ▼

CALL FOR ABSTRACTS

Doug Hirt
Clemson University

1999 ASEE annual Conference

June 20-23, 1999

Charlotte, North Carolina

Abstract deadline is November 30, 1998 (if your abstract is accepted your paper will be due February 5, 1999). When submitting an abstract, please include the following information for each author: Name, Mailing Address, Phone Number, Fax Number, and an Email Address.

Continued >

Chemical Engineering Division Sessions

- **Innovative ChE Experiments & Demos**

This session will explore aspects of the new engineering educational paradigm build around active, project-based learning and how it can be employed in laboratory projects and demonstrations in chemical engineering. New and innovative examples of laboratory experiments, demonstrations, and industrial projects employed by chemical engineering faculty are sought.

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- **Revitalizing Traditional ChE Courses I and II**

The fundamental chemical engineering concepts do not change, but are the students learning them and do they apply them successfully to solve challenging problems? This session focuses on methods that instructors can use to revitalize traditional ChE courses allowing the students to learn, retain, and apply the fundamental concepts.

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- **Innovative Uses of Computers in ChE**

This session will highlight emerging computer technologies, software, and instructional methods in chemical engineering education for use in both classroom and laboratory environments. Topics of interest include recently developed instructional software, experiences with emerging technologies (e.g., virtual reality, the World Wide Web, and multimedia); novel uses of commercial packages (e.g., ASPEN and Excel); and new approaches for teaching computing skills to chemical engineers.

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- **Getting the Best Students to Enter ChE**

Competition for students can be fierce as other technical majors, such as computer science, grow. This session will examine means by which we may continue to attract the best and the brightest students to chemical engineering.

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- **Process Safety in the ChE Curriculum**

This session will feature the incorporation of chemical process safety into the chemical engineering curriculum. This can include courses on process safety and integration of process safety into laboratory and other courses.

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- **ABET 2000: Improving ChE Education?**

The new ABET curriculum criteria are changing the chemical engineering curriculum...or are they? Representatives from departments at various stages of the review cycle and ABET reviewers are invited to discuss their experience. Presentation of experiences using various assessment instruments to address this question are also desired.

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