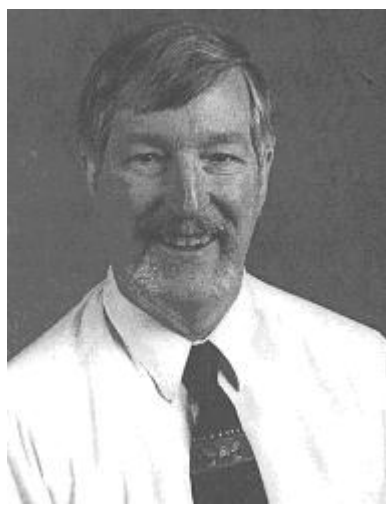


The ASEE Chemical Engineering Division Newsletter

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Spring 2006

A Message from the Chair



Dr. Richard Zollars
Washington State University

It is hard to believe that another academic year is coming to a close. That must also mean that the ASEE Annual Conference and Exposition is close at hand as well as the elections for the next slate of officers for the Chemical Engineering Division. You'll find more on the latter on subsequent pages of this newsletter.

The programming for the Chemical Engineering Division at the Annual Conference and Exposition starts with a couple of workshops on Sunday and goes through Wednesday. Thanks to David Miller and Marina Miletic for the programming and local arrangements for this meeting. While there will be many stimulating and exciting sessions during those three days I do want to highlight a

few. The Division Lectureship is scheduled for 2:15 PM on Monday, June 19. The Division dinner is also scheduled on Monday. Those attending the dinner are to meet in the lobby starting at 5:45 PM for a walking architecture tour before the dinner at Bella Bacino's. The Division business meeting is scheduled for 12:30 PM on Tuesday, June 20. Note that, unlike previous years, this is not a ticketed event. In fact it is a BYOL (bring your own lunch) event. Finally, the second annual Division Poster Session is scheduled for Wednesday starting at 8:30 AM. In between I'm sure you'll find many other sessions to your liking.

Most of you will have recently received the Spring, 2006 issue of *Chemical Engineering Education*. As I looked through the sessions at the 2006 Annual Conference and the contents of this latest issue of *CEE* I was struck by the similarities between the two. In both cases we are seeing profound changes in the discipline, perhaps as revolutionary as the introduction of the concept of transport processes by Bird, Stewart and Lightfoot was in the 1960's. We are certainly seeing a continued alteration of what the discipline of chemical engineering is. As biology becomes more and more chemistry oriented we should expect to see biology, and in particular biochemistry, become an increasingly important part of chemical engineering. But the discipline is undergoing a more fundamental change. Less and less of what we do as chemical

engineers is aligned with large companies producing commodity chemicals. More and more of the work of chemical engineering is small scale process development, product development, and batch and/or semibatch operation.

It should also come as no surprise to this audience that we are also seeing a greater emphasis on how best to educate our students about chemical engineering. Way back in the dark ages (pre-Internet, pre-PC's, pre-calculators), when I was an undergraduate student, there were people saying that it was not possible to instruct our students in all that they needed to know in a four year curriculum. Now, 40 years later, we still construct our curricula to fit within four years despite the considerable increase in the factual content of our discipline. In part this has been facilitated by an increased emphasis on how best to instruct the current generation of students. As various state legislatures push towards 120 semester credits for a B.S. engineering degree, and the need for both more "hard" and "soft" topics in the discipline increases, the need for better teaching skills amongst the professors will clearly increase.

So where is chemical engineering headed? Certainly an increasing emphasis on bio-related topics is in our future as is an increasing emphasis on control of chemical transformations at the molecular and atomic scale. But just as clear is an impending return to one of our strongest bases – fuels processing. I've heard it stated that the reason we are so dependent on petroleum for our transportation fuels is that gasoline (or diesel) is such an excellent fuel. With the exception of biodiesel, the

volumetric energy content of all alternative fuels is lower than that of petroleum derived fuels. Thus, as alternative fuels enter our transportation fuel mix it will become increasingly important to develop, maintain and operate the most efficient processes possible. This has been a core strength of chemical engineers for almost 100 years and now appears poised to become of increasing concern for the public.

How best to prepare the future faculty in chemical engineering for this challenge? A good way to start is the Chemical Engineering Summer School. The 2007 Summer School is scheduled to be held in Pullman, WA from July 27 to August 3. Kirk Schultz and Steve LeBlanc are busy putting together an outstanding program and I look forward to hosting all of the participants here in Eastern Washington (the dry part of the state). Make sure you encourage all of the new faculty in your departments to participate.

Be sure to check out the Division Web Site:

<http://www.asee-ched.org>

Now featuring the ChE Educator's Forum. Plan to attend Session 1413, Monday, June 19th, 12:30 PM at this year's ASEE Meeting for an introduction to the newest way to improve your courses and share your education expertise with your colleagues.

The ASEE Chemical Engineering Division Election 2006

How To Vote: Send e-mail to SilverDL@engr.uky.edu with your selections. Please include your name to assist in verifying your division membership. Use "ChED Election" as your subject line.

Choose for Division Chair:
Ann Marie Flynn or Valerie Young

Choose for Director:
Chuck Coronella or Don Visco

**Votes must be received
By June 9th**

Division Chair



**Valerie Young
Ohio University**

Valerie Young earned her B.S. in Chemical Engineering in 1988 at Lehigh University and her Ph.D. in Chemical Engineering at Virginia Tech in 1992. Her Ph.D. dissertation concerned the gas phase chemistry of organometallic precursors for electronic thin films. She then transferred this background in gas phase chemistry to atmospheric research during a postdoctoral research position in the Centre for Atmospheric Chemistry at York University in Toronto with the late Professor Hiromi Niki.

She joined the faculty of Chemical Engineering (now Chemical and Biomolecular Engineering) at Ohio University in 1996, and has continued her research studying the sources and fates of trace gases in the atmosphere. She has enjoyed involving both undergraduates and graduate students in her research. Since 2003, Valerie has served as Assistant Chair for Graduate Studies in her department. Beginning July 1, 2006, she will be Department Chair.

Valerie's teaching obligations include courses in material and energy balances, statistics, numerical methods, atmospheric chemistry, energy and the environment, and materials engineering. She has a strong interest in educational assessment and pedagogy. This interest led to lead authorship on the paper that won the Joseph J. Martin award for 2002. Dr. Young is a member of the American Society for Engineering Education, the American Institute of Chemical Engineers, the American Chemical Society, and the American Geophysical Union. Valerie attended the ASEE Chemical Engineering Summer School her first summer as a faculty member, and has rarely missed a national meeting since. As a member of ASEE, she has frequently presented papers and moderated sessions at national meetings. She finds that ASEE meetings, more than any other, reinvigorates her commitment to the profession and its future.



**Ann Marie Flynn
Manhattan College**

Ann Marie Flynn is an Associate Professor of Chemical Engineering at Manhattan College in Riverdale, New York. She received her B.E. and M.E. from Manhattan College and her Ph.D. from The New Jersey

Institute of Technology. She first joined ASEE and attended her first meeting in 1995 as a graduate student at NJIT.

Her research interests in the past have included the monitoring and modeling of heavy metals in hydrocarbon flames. More recently, Dr. Flynn has become involved with green engineering pedagogy and has authored several papers on the subject – including the paper entitled “The Greening of Chemical Engineering Students” for which she received the Fahien Award at ASEE in 2005. She and her undergraduate students have also presented papers on the subject at a wide variety of venues such as ASME, and the International Conference on Green and Sustainable Chemistry and the 9th Annual Green Chemistry and Engineering Conference. Currently, she is testing green engineering modules that have been developed for use at the high school level.

Dr. Flynn also runs a week-long summer camp called FORCE (Female Opportunities to Revolutionize Chemical Engineering) for rising junior and senior high school females who have expressed an interest in chemistry and math. The program that combines lecture, lab and plant trips has proved to be so successful that comments in the written assessment from the students include: “it should be 2 weeks long” and “it should be a sleepover”. The camp is funded entirely by industrial sponsors and is free to the students. Dr. Flynn is also involved with outreach to high schools girls and has visited and lectured at 16 different high schools on multiple occasions.

Dr. Flynn has also been the grateful recipient of multiple teaching awards which have been voted on and presented by the students at Manhattan College. These include: Teacher of the Year, Pen & Sword, and Womyn Space.

Don't forget to vote—send your e-mail ballot to SilverDL@engr.uky.edu with the subject line “ChED Election” before June 9th.

Division Director



Chuck Coronella
University of Nevada, Reno

Chuck Coronella is an Associate Professor at the University of Nevada, Reno, where he has taught chemical engineering since 1993. He received his bachelors degree from Lehigh University, and his PhD from the University of Utah, and is a registered professional chemical engineer in the State of Nevada.

A member of ASEE since 1993, Chuck has been actively contributing to the Chemical Engineering Division for the last 6 years. He was the program chair of the Chemical Engineering component of the ASEE annual meeting in 2004. In addition, he's been active in AIChE, as a director in the NorCal local section, and with leadership positions in the Student Chapters Committee.

Chuck's research has been in the areas of predicative control, fluidization, and renewable energy. His pedagogical interests are in active learning, assessment, and engineering outreach. Teaching interests cover the spectrum of the ChE curriculum.

Personal statement "ASEE has done an outstanding job of providing a platform for improving teaching methods, especially at the undergraduate level. I would like to see the ChE Division take a leadership role in two distinct areas: updating the undergraduate ChE curriculum to reflect contemporary societal needs, and marketing the ChE curriculum to future engineers and to society more broadly. I envision

partnering with other cross-disciplinary engineering societies, such as ABET, the NAE, and NSPE."



Don Visco
Tennessee Technological University

Don Visco is an Associate Professor and the Undergraduate Program Coordinator in the Department of Chemical Engineering at Tennessee Technological University. He received his B.S. in 1992 and his Ph. D. in 1999, both from the University at Buffalo, SUNY (with a stint in the US Navy in between).

Don has always been interested in education and his love of teaching started as an undergraduate student where he worked for seven semesters in the Math Place tutoring students with "math anxiety" on algebra and geometry topics. As a graduate student, Don formed a student chapter of ASEE and subsequently authored a paper (in the *Journal of Engineering Education*) suggesting a new, inclusive model for ASEE Student Chapters in the future.

During the past seven years, Don has given eleven education-related presentations at sectional and national meetings of ASEE and AIChE as well as publishing 7 peer-reviewed educational articles. He has taught classes at the Freshman level all the way through the Ph. D. level; 14 unique classes in all.

Don was the founding member of a Chemical Engineering Division of the SE Section of ASEE three years ago. He currently serves as the Chair of the Publications and Promotions Unit in that organization and will be the Technical Program Chair for the 2008 meeting. Don has served in all capacities in the New Engineering Educators Division (Secretary, Program Chair, President) of ASEE and has been a moderator for educational sessions for several years with both ASEE and AIChE. Don is also the Vice-Chair of Area 4a (Undergraduate Education) for AIChE. Finally, Don is on the Planning Committee for the 2007 ASEE/AIChE ChE Summer School.

Don has received several awards during his service at Tennessee Tech which includes the 2006 Ray E. Fahien Award (ASEE-ChE Division); 2006 Leighton E. Sisson Innovation and Creativity Award (Tenn Tech); 2006 Brown-Henderson Outstanding Faculty Award (Tenn Tech); 2005 New Faculty Research Award (ASEE-SE); 2004 PECASE; 2003 Outstanding Campus Representative Award, 2nd Place (ASEE-SE); 2002; Sigma Xi Research Award (Tenn Tech); 2001 Membership Award (ASEE-SE); 2000 Kinslow Engineering Research Award (Tenn Tech). He looks forward to the opportunity to serve the Chemical Engineering Division at the national level.

What a great idea!



Come up with a great idea that enhanced one of your classes that others might use? Post your innovation at the ChE Educator's Forum at <http://www.asee-ched.org/forum> today!

ASEE National Meeting ChE DIVISION SCHEDULE

Sunday, June 18th

12:30 Session 0413 – Integrating CFD Into the Undergraduate Curriculum Workshop (12:30-4:30) – McCormick (Silver Level, West Tower)

Monday, June 19th

7:00 AM Session 1113 – Division Executive Committee Meeting – Buckingham (Bronze Level, West Tower)

10:30 AM Session 1313 – Curriculum Reform & Assessment – Horner (Silver Level, West Tower)

12:30 PM Session 1413 – Departmental Issues and Integrating Freshmen into the ChE Program – Ogden (Silver Level, West Tower)

2:30 PM Session 1513 – Lectureship Award & Presentation – Skyway 260 (Blue Level, East Tower)

5:45 PM Session 1713 - Chemical Engineering Division Awards Dinner – Bella Bacino's

Tuesday, June 20th

7:00 AM Session 2113 – ChE Department Chair Meeting

8:30 AM Session 2213 – Innovation to Improve Student Learning – Skyway 272 (Blue Level, East Tower)

12:30 PM Session 2413 – Chemical Engineering Division Business Meeting – Columbus KL (Gold Level, East Tower)

2:15 PM Session 2513 – Innovation in the Laboratory – Atlanta (Gold Level, West Tower)

4:30 PM Session 2613 – Experimental Design & Error Analysis – Water Tower (Bronze Level, West Tower)

Wednesday, June 21th

7:00 AM Session 3113 – Summer School Planning Meeting – Columbus KL (Gold Level, East Tower)

8:30 AM Session 3213 – Poster Session

2:15 PM Session 3587 – Capstone Courses II – Wright (Silver Level, West Tower)

2:15 PM Session 3513 – Innovations in Existing Courses – Skyway 272 (Blue Level, East Tower)

4:30 PM Session 3613 – Outreach Programs – Horner (Silver Level, West Tower)

Make sure you take advantage of the Online Session Locator to create your custom calendar of all of the “must-see” sessions this June. The OSL is available at

<http://www.asee.org/osl/index.cfm>

The Times, They Are A' Changin'

The Chemical Engineering Division will consider proposed updates to the division bylaws at its business meeting (12:30 PM Session 2413 – Chemical Engineering Division Business Meeting – Columbus KL (Gold Level, East Tower)). For your convenience, the proposed changes (highlighted in color) follow this newsletter. The current bylaws are available on the division website, <http://www.asee-ched.org>

Proposed Bylaws Changes

June 2006

Article I - Name

The name of this division shall be the Chemical Engineering Division of the American Society for Engineering Education.

Article II - Membership

Membership shall be composed of all members of the American Society for Engineering Education **with a particular interest in topics pertaining to chemical engineering pedagogical scholarship.**

Article III - Objects

The objects of the Division are those of the National Society as they pertain to Chemical Engineering Education and **the promotion of open communication, stimulating interaction, friendly cooperation, and mutual assistance and collaboration among its members.**

Article IV - Officers

The officers shall consist of a Chair, Chair-elect, Secretary-Treasurer, all whom shall be members of the American Society for Engineering Education. The Chair-elect shall be elected annually and shall automatically become Chair the year after his/her election. The Secretary-Treasurer shall be elected biannually. Should any officer or member of the Executive Committee be unable to serve, the vacancy shall not be filled by the Executive Committee until the time of the next election.

Article V - Executive Committee

The affairs of the Division shall be administered by an Executive Committee of up to ten voting members: the officers, (Chair, Chair-elect, and Secretary-Treasurer), the Awards and Membership Chairs, the immediate past Chair, two persons elected from the Division membership in alternate years for two-year periods, up to two persons outside academia, appointed by the Chair with the approval of other Executive Committee members in alternate years for two-year periods, and non-voting members, including the Publications Board Chair, and those handling significant projects for the Division, during the duration of such projects. A quorum for Executive Committee meetings shall consist of 50% of the voting members. A simple majority vote of those members in attendance shall be required. The Executive Committee may conduct business through distance communications as well as in face-to-face meetings.

Article VI - Meetings

There shall be at least one meeting a year open to all persons interested in chemical engineering. The Executive Committee shall arrange the place, the time, and the program for all meetings. Insofar as practicable the required annual meeting shall be held in connection with the annual meeting of the National Society. The secretary of the National Society shall be supplied upon request with copies of all papers presented at Division meetings. The Secretary-Treasurer shall notify all members at least three weeks in advance of any scheduled meeting. A quorum to conduct business shall consist of 16 members of the Division.

Article VII - Elections

The officers shall be selected by mail, fax, and/or electronic balloting. The Nominating Committee shall supply the Secretary-Treasurer with the names of two nominees for each office or Executive Committee position at least 90 days before the annual meeting of the National Society. The Secretary-Treasurer shall send a ballot to each member of the Division at least 60 days before said date. The returns from the ballot shall be collected by the Secretary no later than 30 days before said date. In case of a tie the Executive Committee shall cast the deciding ballot. The new officers shall take office ten days after the close of the annual meeting of the National Society.

Article VIII - Committees

The Chair may appoint committees, and the scope of their work should be strictly defined at the time of the appointment.

1. Standing Committees

The following Standing Committees shall exist:

a. Nominating Committee

The Nominating Committee shall consist of the current Chair and the immediate two past Chairs of the Division. The immediate Past Chair will serve as Chair of the Nominating Committee.

b. Awards Committee

The Awards Chair shall be appointed by the Division Chair in consultation with the Division Executive Committee. The duties of the Awards Committee Chair shall include administering award nominations and selection of award winners by the respective award committees. Membership on the award committees shall be determined by the Awards Committee Chair in consultation with the Division Executive Committee. **The Chair shall also confirm that conflict of interest statements are signed by Committee members of the various awards committees.**

c. Membership Committee

The Membership Committee shall consist of a Membership Committee Chair and up to two other members of the Division. The Chair of the Division shall appoint the Chair of the Membership Committee. The Membership Committee Chair shall appoint the other two committee members.

d. Program Committee

The Program Committee shall consist of the Current Program Chair and the designated Program Chairs for the two following years. Each shall serve to develop the program for their respective year. The Chair of the Division shall appoint the new Program Chair for two years hence, upon assuming office.

e. Summer School Advisory Committee

The Summer School Advisory Committee shall consist of a Chair or co-Chairs, a local chair, and block planning chairs. The Executive Committee of the Division shall appoint the Chair(s) of the Committee. The Summer School Committee Chair(s) appoints the rest of the committee.

f. Long Range Planning Committee

The Long Range Planning Committee shall consist of the Chair-elect, the Chair, and the immediate Past Chair of the Division.

Article IX - Amendments

These bylaws may be amended by two-thirds vote of members responding to a ballot. Amendments may be proposed by the Executive Committee or by a majority vote of members attending a scheduled meeting of the Division.

Article X - Dues

The dues of the Division shall be determined each year by the Division in session and shall be only for such incidental items as are not supplied by the National Society.

Article XI - Dissolution

Upon the dissolution of the Chemical Engineering Division of the American Society for Engineering Education, the residual assets of the Chemical Engineering Division remaining thereafter shall be conveyed to such organization then existent, dedicated to the perpetuation of objects similar to those of the Chemical Engineering Division of the American Society for Engineering Education, so long as whichever organization is selected by the governing body of the Division at the time of dissolution shall be exempt under Section 501 (c)(3) and 170 (c) of the Internal Revenue Code of 1954 as amended, or under such successor provision of the Code as may be in effect at the time of the Division's dissolution.