2001 ASEE Annual Conference

Chemical Engineering Division Program

June 24 - 27, 2001 • Albuquerque, New Mexico

———————— Technical Sessions ————————

Monday, June 25

Session 1313 • 10:30 a.m. • **Capstone Design Issues in Chemical Engineering**
Moderators: Chris Wiegenstein and David Miller
1. "Capstone Chemical Engineering Laboratory Courses at Michigan Tech"
   A.J. Pintar, E.R. Fisher, and K.H. Schulz
2. "Open Beginning Projects: A Flexible Approach to Encouraging Student Curiosity and Creativity"
   S.S. Moor
3. "A Hands-On Multidisciplinary Design Course for Chemical Engineering Students"
   J.M. Keith, D. Charu, J. Meyer, and N. Norman
4. "The Inclusion of Design Content in the Unit Operations Laboratory"
   D. Ridgway, V.L. Young, and M.E. Prudich
5. "An Introduction to Process Simulation for the Capstone Design Course"
   D. Miller, T.N. Rogers, and B.A. Barna
6. "Graduate Bridging and Continuing Eduction in Chemical Engineering via the Web"
   R.M. Worden, D. Briedis, and C.T. Lira

Session 1413 • 12:30 p.m. • **Non-Traditional Topics in Chemical Engineering**
Moderators: Nada Assaf-Anid and Ann Marie Flynn
1. "Introducing Emerging Technologies into the Curriculum Through a Multidisciplinary, Industrially-Sponsored Research Experience"
   J.A. Newell, S.M. Farrell, R.P. Hesketh, and C.S. Slater
2. "Integration and Use of a Novel Semiconductor Procesing Simulator to Teach Stream Recycle Issues to Chemical Engineering Students"
   P. Blowers and E. Weisman
3. "A Course on Health, Safety, and Accident Prevention"
   A.M. Flynn, J. Reynolds, and L. Theodore
4. "Training Chemical Engineers in Bioprocessing"
   C. Preston, D. Briedis, and R.M. Worden
5. "Biotechnology and Bioprocessing Laboratory for Chemical Engineering and Bioengineering"
   S. Sharfstein and P. Relue
6. "Bacterial Disinfection in the Classroom: Engineering-Based Experimental Design"
   N.M. Assaf-Anid

Tuesday, June 26

Session 2213 • 8:30 a.m. • **Laboratory Automation and Classroom Demonstrations**
Moderators: Connie Hollein and Jim Henry
1. Laboratory Remote Operation: Features and Opportunities"
   J.M. Henry
2. "Using Web-Based Supplemental Instruction for Chemical Engineering Laboratories"
   C.R. Nippert
3. "Virtual Reality Laboratory Accidents"
   J.T. Bell and H.S. Fogler
4. "Exercise in Chemical Engineering for Freshmen"
   S.M. Farrell and R.P. Hesketh
5. "Teaching Chemical Engineering with Physical Plant Models"
   K.H. Pang
6. "Engineering Experiments Utilizing an Automated Breadmaker"
   R.P. Hesketh, C.S. Slater, and C.R. Flynn
7. "Utilizing Experimental Measurements to Introduce Underrepresented Pre-College Students to Science and Engineering"
   A. Perna and D. Hanesian

Session 2565 • 2:30 p.m. • **Math Requirements in the Chemical Engineering Curriculum**
Moderators: Anton Pintar and Jenna Carpenter
1. "Mathematics and Chemical Engineering Education"
   A. Pintar, F. Carpenter, M. Cutlip, M. Graham, and J. Puszynski
2. "Mathematics in Chemical Engineering: From the 'Ball-Park' to the 'Lap-Top'"
   R. Toghiani and H. Toghiani

Session 2613 • 4:30 p.m. • **A Galaxy of Stars**
Moderators: David Kauffman and Melanie McNeil
Senior chemical engineering faculty who have been leaders in the analysis, development, and dissemination of educational techniques will be members of a panel to discuss the current state of chemical engineering education and how it has progressed, or digressed, over the past three decades, and how it will change in the coming decades. They will introduce "rising stars" in the field, who will also participate in the panel discussion. Senior panel members include Richard Felder, James Stice, and Billy Crynes.

Wednesday, June 27

Session 3213 • 8:30 a.m. • **The Latest in Pedagogy in Chemical Engineering**
Moderators: Joe Shaeiwitz and Wallace Whiting
1. "The Role of Homework"
   P. Wankat
2. "Using Critical Evaluation and Peer-Review Writing Assignments in a Chemical Engineering Process Safety Course"
   D.K. Ludlow
3. "Criterion-Based Grading for Learning and Assessment in the Unit Operations Laboratory"
   V.L. Young, M.E. Prudich, and D.J. Goetz
4. "Mid-Semester Feedback Enhances Student Learning"
   R. Wickramasinghe and W.M. Timpson
5. "Development and Implementation of a Computer-Based Learning System in Chemical Engineering"
   N.L. Book, D.K. Ludlow, and O.C. Sitton
6. "Evaluation of IT Tools in the Classroom"
   S. Soderstrom and C. Lorenz

Session 3413 • 12:30 p.m. • **The Master as the First Professional Degree**
Moderator: David Kauffman
There is a great deal of discussion concerning the need for a more-than-four-year program for the first professional level in engineering. A panel of experts will give background information and discuss issues raised by the audience. Panelists include Thomas Hanley, Gerald May, and Paul Penfield.

Session 3513 • 2:30 p.m. • **Computers and Computation in the Chemical Engineering Curriculum**
Moderators: Anneta Razatos and Donald Visco
1. "Template-Based Programming in Chemical Engineering Courses"
   D.L. Silverstein
2. "Sealing Analysis—A Valuable Technique in Engineering Teaching and Practice"
   E.M. Kopaygorodsky, W.B. Krantz, and V.V. Guliants
3. "Is Process Simulation Effectively Utilized in Chemical Engineering Courses?"
   M.J. Savelski, K.D. Dahm, and R.P. Hesketh
4. "Scientific Visualization for Teaching Thermodynamics"
   K.R. Jolls
5. "Integrating Best Practice Pedagogy with Computer-Aided Modeling and Simulation to Improve Undergraduate Chemical Engineering Education"
   J.L. Gossage, C.L. Yaws, D.H. Chen, K. Li, T.C. Ho, J. Hopper, and D.L. Cocke

Society-Wide Picnic Sunday, June 24, 5:00 p.m. National Atomic Museum	*ChE Division Lectureship* Monday, June 25, 4:30 p.m. Moderator: Doug Hirt Speaker to be announced	*ChE Division Awards Banquet* Monday, June 25, 6:30 p.m. Albuquerque Petroleum Club Speaker to be announced
Meet the ASEE Board *Breakfast* Tuesday, June 26, 7:00 a.m.	*ChE Division Business* *Luncheon* Tuesday, June 26, 12:30 p.m.	*ASEE Annual Reception* *and Awards Banquet* Wednesday, June 27, 6:00 p.m.