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CHEMICAL ENGINEERING CONFERENCE IN SALT LAKE CITY HIGHLIGHTS ENERGY ISSUES, MEDICAL ADVANCES AND WATER SUSTAINABILITY

12th National College Chem-E-Car Competition to be held Sunday, November 7

MEDIA ALERT

- **WHO:** American Institute of Chemical Engineers (AIChE)
- **WHAT:** AIChE's Annual Meeting is expected to draw more than 5,000 engineers and undergraduate engineering students with plenary lectures, 12 topical conferences, more than 700 technical sessions, and special events.

The national *Chem-E-Car Competition* will feature teams from colleges across the country racing small cars powered by alternative fuels that the students have created.

- WHERE: Salt Palace Convention Center, Salt Lake City, Utah
- WHEN: Sunday, November 7 Friday, November 12, 2010
- **HIGHLIGHTS**: Presentations cover all aspects of chemical engineering, from alternative energy and energy efficiency to nuclear energy, to sustainable water supplies and bioengineering. Other sessions explore new medical treatments and tools, including applications for cancer therapy, HIV, MRSA (drug-resistant "staph" bacteria), tissue engineering and fertility preservation for cancer patients.

Sunday, November 7

2:00PM: *Chem-E-Car* College teams race shoebox-size cars powered by alternative fuels in carefully calculated chemical reactions. The cars must carry a small payload a certain distance. Adding to the tension of the competition, the weight of the payload and distance are not revealed to the competitors until one hour before the contest begins. Teams must quickly make calculations about their fuel use.

Monday, November 8

11:15 AM – **12:15** PM: Danckwerts Lecture, *Chemical Engineering Outside the Pipe: Industrial Ecology and Sustainability* This lecture will be presented by Roland Clift, distinguished professor of environmental technology at the University of Surrey in the United Kingdom.

12:30 PM – 3:00 PM: Annual Meeting Plenary: Energy and Water Sustainability for a Smart Planet Once considered an inexhaustible resource, clean water is becoming increasingly scarce. This session will focus specifically on water consumption as it relates to energy production. The speakers will be Spike Narayan from IBM, Jared Cifnero of the US Department of Energy's (DOE) National Energy Technology Laboratory, and David Klanecky of Dow Water & Process Solutions.

Tuesday, November 9

8:30AM – **11:00AM**: *Bionanotechnology: Plenary Session I* This session focuses on applications for nanotechnology to advance human health. Papers focus on real-world bionanotechnology applications for cancer therapy, HIV and MRSA.

11:15AM – **12:15PM:** Professional Progress Award Lecture, *Biology in Four Dimensions: Dynamic Hyrdogel Niches for Tissue Regeneration* Each year, AIChE invites a person who has made fast-paced progress in chemical engineering to present a lecture. Kristi Anseth, Tisone Professor of chemical and biological engineering, associate professor of surgery, and a Howard Hughes Medical Institute Investigator at the University of Colorado at Boulder will deliver this year's address.

3:15 PM – **5:00 PM**: *Sustainable Energy: Generation and Storage* This session will highlight challenges and solutions to the production of electricity through sustainable means, such as wind and solar. Issues associated with energy storage and distributed generation will be discussed.

6:00 PM – 7:00 PM James E. Bailey Award Lecture Sponsored by the Society for Biological Engineering, *Evolving Biological Engineering* Biochemical engineering has evolved from unit operations related to antibiotic fermentations, through production of single cell proteins, amino and organic acids, gasohol, and applications of immobilized enzymes. With a look at the rapid growth of research and development at the interface of biology and engineering, Harvey W. Blanch, the Merck Professor of Biochemical Engineering at the University of California, Berkley, will project biological engineering's potential future impacts.

Wednesday, November 10

8:30 AM – 11:15 AM Advances in Metabolic Engineering and Bioinformatics *I* - Biofuels This session will address challenges for both bioethanol and second-generation biofuels and illustrate the application of sound metabolic engineering principles to the design of biofuels-producing organisms. **11:15AM – 12:15PM:** 62nd AIChE Institute Lecture, *Chemical Engineering in a Complex World: Grand Challenges, Vast Opportunities* Each year, AIChE invites a distinguished chemical engineer to present a comprehensive review of his or her specialty. This year's Institute Lecturer is Julio M. Ottino, dean of engineering and R.R. McCormick Institute Professor and Walter P. Murphy Professor of chemical and biological engineering at Northwestern University. He will take a "long view" of chemical engineering – where the field has been and the opportunities that lie ahead as a confluence of factors – energy, global health, environment, and many others arising from increased connectedness and complexity – make chemical engineering more relevant than ever.

3:15 PM – 5:30 PM: *Climate Change Legislation and Regulation* This session will review the current and potential climate change legislation landscape, including the possible structure of carbon constraints and strategies for their implementation, in addition to related issues, including state and regional program preemption, EPA's regulation of Green House Gases (GHG) under various provisions of the Clean Air Act, and also current international GHG mandates impacting US companies doing business overseas.

Thursday, November 11

11:15AM – 12:15PM: Genentech: A Rich History of Chemical Engineering Innovation – 3^{rd} Corporate Innovation Award & Lecture The Industrial Innovation Award recognizes a company for outstanding innovation. This year, Dr. Ann Lee, senior vice president and head of global technical development for Roche, will describe how Genentech scientists and engineers pioneered and then exploited the use of recombinant DNA technology to develop and manufacture proteins and monoclonal antibodies for therapeutic use. This presentation will highlight the chemical engineering innovations that contributed to several breakthroughs in therapeutic medicines, and that inspire us to focus our imagination on what is possible for patients. Genentech is a member of the Roche Group.

12:30 PM – 3:00 PM: Chemical Engineering Advances in Processing Radioactive Wastes and Nuclear *Materials* This session will cover recent developments in the design, development and implementation of chemical processes for treating radioactive wastes, spent nuclear fuels, or other related nuclear materials.

Friday, November 12

8:30 AM – 11:00 AM: *Contaminant Transport and Site Remediation* This session will explore the chemical and physical processes that influence the exposure and risks posed by contaminated sites before, during and after the implementation of remedial approaches. Topics discussed include removal of oily waste and petroleum-contaminated soil, organic and heavy metal remediation and uranium immobilization.

For more information on all the activities surrounding the AIChE Annual Meeting, please visit <u>www.aiche.org/annual</u>.

About AIChE

AIChE is a professional society of more than 40,000 chemical engineers in 92 countries. Its members work in corporations, universities and government using their knowledge of chemical processes to develop safe and useful products for the benefit of society.

Through its varied programs, AIChE continues to be a focal point for information exchange on the frontiers of chemical engineering research in such areas as nanotechnology, sustainability, new energy sources, biological and environmental engineering, and chemical plant safety and security. More information about AIChE is available at <u>www.aiche.org</u>.