

SACHE News



Safety and Chemical Engineering Education - Spring 2007

SACHE 2008 Faculty Workshop

Rohm and Haas Company has agreed to host the 8th SACHE Faculty Workshop at their Croyden, Pennsylvania, facilities. This workshop is open to all faculty members whose departments are current members of SACHE. All expenses for the workshops, with the exception of travel to and from your department to the workshop hotel, are covered by the Center for Chemical Process Safety and industrial sponsors.

The focus of the 2008 workshop will be similar to the 2005 workshop *Integretating Process Safety into the Classroom*. The schedule and workshop materials the 2005 faculty workshop are available at <http://sache.org/workshop/2005Faculty/default.asp>.

The SACHE Faculty Workshop is tentatively scheduled for the summer of 2008.

ioMosaic HAZOptimizer

ioMosaic Corporation (<http://www.iomosaic.com/index1.html>) is offering their software package for recording and managing process hazard analyses at no charge. This Windows Excel application can be used to record results of Hazard and Operability Studies, What-If Analyses, Checklist Analyses, Failure Mode and Effects Analyses, or any other type of hazard analysis that uses a tabular format.

ioMosaic has also extended complimentary copies of its industry standard emergency relief system (ERS) design solutions, SuperChems and ioXpress, to all national universities under the Safety and Chemical Engineering Education Program (SACHE). Additional information can be found at <http://www.iomosaic.com/iomosaic/support/SACHE.htm>.

CAMEO Chemicals

CAMEO Chemicals is an online version of the most popular components of the CAMEO program, a system of software applications used to plan for and respond to chemical emergencies. CAMEO is one of the tools developed by EPA's Chemical Emergency Preparedness and Prevention Office (CEPPO) and the National Oceanic and Atmospheric Administration (NOAA) Office of Response and Restoration, to assist front-line chemical emergency planners and responders.

CAMEO Chemicals was developed jointly by three U.S. Federal agencies: the National Oceanic and Atmospheric Administration (NOAA), the U.S. Environmental Protection Agency (EPA), and the U.S. Coast Guard. This online version (<http://cameochemicals.noaa.gov/>) provides access to the CAMEO database of over 6,000 hazardous materials. Data sheets can be retrieved by searching the database or browsing alphabetically by chemical name. A revised search engine is much faster, and the new search results ranking makes finding chemicals more straightforward. The CAMEO Chemicals datasheets contain most of the same information in CAMEO, but in an easier-to-read layout. There are six categories of information: chemical identifiers, hazards, response recommendations, physical properties, regulatory information, and alternative names (including names in French, Spanish, and other languages). Data sheets can be bookmarked and saved for use in subsequent sessions.

The website makes it easier to virtually mix chemicals and predict reactivity hazards. Also, the online version eliminates the need to install the CAMEO suite of applications and provides access from any computer with internet connectivity.

TABLE OF CONTENTS

VOLUME 17, No. 1 – JUNE 2007

	Page
2008 SACHE Faculty Workshop	1
CAMEO Chemicals	1
ioMosaic HAZOPTimizer	1
SACHE Products for 2007	3
CHEM-E-Car Safety Training	3
4th Global Congress on Process Safety	4

SACHE, or Safety and Chemical Engineering Education, is a project under the auspices of AIChE's Center for Chemical Process Safety (CCPS). SACHE's charter is to enhance the presentation of process safety in undergraduate education.

SACHE News is published two times annually by the Undergraduate Education Committee of the AIChE Center for Chemical Process Safety. All original material is copyrighted by the AIChE Center for Chemical Process Safety.

The opinions expressed in the articles contained in the *SACHE News* are not necessarily the opinions of the Center for Chemical Process Safety or the American Institute of Chemical Engineers.

Articles related to any aspects of safety in the academic community are solicited from both the academic and industrial communities for publication in *SACHE News*. Material should be sent directly to the editor for consideration.

Undergraduate Education Committee

CHAIR:

Wendy Smades
The Dow Chemical Company

Voice

Fax

Email WLSmades@dow.com

CO-CHAIR:

Bob Rosen, BASF Corporation (retired)

EDITOR:

Jan Wagner
423 Engineering North
Oklahoma State University
Stillwater, OK 74078

Voice 405-744-5280

Fax 405-744-6338

Email jan.wagner@okstate.edu

COMMITTEE MEMBERS:

Robert Bethea, Texas Tech University
John Birtwistle, RRS Engineering
John Blouin, USEPA
Kris Chatrathi, Fike Corporation
James T. Cobb, University of Pittsburgh
Stephen Coe, Irving Oil Limited
Ken Cox, Rice University
Daniel A. Crowl, Michigan Technological University
Susan R. Cyganiak, Pharmacia Corporation

Ron Darby, Texas A&M University
Art Dowell, Rohm and Haas
Randy Freeman, S&PP Consulting
Stan Grossel, Process Safety & Design, Inc.
Dennis Hendershot, Chilworth Technology, Inc.
Robert P. Hesketh, Rowan University
Robert Johnson, Unwin Company
Christine Kelly, Syracuse University
Nir Keren, Iowa State University
F. Owen Kubias
Joseph F. Louvar, Wayne State University (CCPS Staff Consultant)
Sam Mannan, Texas A&M University
Tom Marrero, University of Missouri
Georges A. Melhem, ioMosaic Corporation
David A. Moore, AcuTech Consulting Group
John N. Murphy, University of Pittsburgh
Nahan Nguyen, USEPA
Michael Perron, Aon Risk Consultants
Ralph W. Pike, Louisiana State University
John Schaab, Intel
Steve Selk, Chemical Safety Board
Thomas O. Spicer, University of Arkansas
Amy Theis, Fauske & Associates
Stanley Urbanik, DuPont Process Safety & Fire Protection
Vince VanBrundt, University of South Carolina
Jan Wagner, Oklahoma State University
J. Reed Welker, University of Arkansas
Vince Wilding, Brigham Young University
Ron Willey, Northeastern University
Juylie White, Chevron Phillips Chemical Company
John Yacher, NIOSH (retired)

New SACHE Products for 2007

These SACHE products are available to member universities. Faculty and students should contact their SACHE representative for access to these and other SACHE products, including PowerPoint presentations, videos, problem sets, NIOSH publications, and CCPS books. Recent SACHE deliverables are posted at <http://www.sache.org>.

Venting of Low Strength Enclosures

W. B. Howard (Monsanto, retired)
J. F. Louvar (Wayne State University)

This package on Explosion Prevention Research was originally produced for SACHE university members to help them add an element of chemical process safety to their Process Design Courses and/or help professors and graduate students to understand the violence of explosions, and understand the technology required to prevent explosions.

Although this product was originally designed for academic setting, it contains many concepts and/or pictures that will be very useful in training programs in an industrial environment.

A narrated movie "Venting of Low Strength Enclosures" discusses: a) damage due to non-vented explosions, b) design criteria for sizing vents, c) NFPA 68 vent equation for sizing vents, d) discussions regarding the design details of the vent panels and constraints, and e) details of experimental tests that were made to develop the design criteria for explosion vents. The movie contains many excellent pictures and video clips of explosions that illustrate the magnitude, speed, and consequences of explosions. All of the files necessary to show the narrated movie are in Venting.zip. After restoring the files and starting the Astound Player (astdplay.exe), select the file venting.asd, and click the play button to start the narrated movie.

The PowerPoint presentation with this product (venting.ppt) can be used as is or modified to fit an instructor's requirements. The presentation has 17 slides. The slides include excellent pictures of the consequences of explosions taken from the narrated movie. The file venting.ppt includes presentation notes, and additional notes are included in venting.doc.

Static Electricity I – Everything You Wanted To Know About Static Electricity

Marc Rothschild (Rohm and Haas)

Static electricity is a significant problem in both plant and non-industrial environments. About 13% of the ignitions of chemical fires and explosions are due to static electricity. This SACHE product covers the elementary, fundamental, and practical concepts of static electricity including static charge build-up and discharge that can be the ignition source for flammable gases and dusts. Excellent illustrations are given that will help plant designers and operators, as well as the private citizen, understand the fundamentals of static electricity. Some elementary concepts and special design techniques for preventing static charge build-up and discharge are included. The PowerPoint presentation can be used as a one-hour lecture and can be modified as desired. References are provided in the Word Document. Note that the PowerPoint lecture links to the video clip included with this product, and this link may need to be modified after the product is downloaded.

CHEM-E-Car Safety Training

The resources from CHEM-E-Car Safety Training Workshop led by Randy Freeman and sponsored by AIChE, CCPS, and SACHE held on November 11, 2006, in Los Angeles, California, are available on the internet. A link has been posted on the SACHE web site (www.sache.org).

Ron Wiley, Northeastern University, is working on an updated and expanded version of these materials. A DVD will be available within the next few weeks, and a notice will be posted on the SACHE web site.

4th Global Congress on Process Safety
New Orleans, LA, April 6 – 10, 2008
CALL FOR PAPERS
Abstract Deadline September 30, 2007

The Center for Chemical Process Safety (CCPS), the Loss Prevention Symposium (LPS), and the Process Plant Safety Symposium (PPSS) are coordinating conferences again in 2008 to present the 4th Global Congress on Process Safety. This annual event is the primary forum for practitioners from the chemical and allied industries, academia, and government to share practical and technological advances in all aspects of process safety. As industry works to adapt to a changing business environment and limited resources, strategies such as Risk-Based Process Safety (RBPS) can be effectively used.

Risk-Based Process Safety is a management approach to design, correct, and improve process safety management activities, commensurate with the risk-based need for these activities, the availability of resources, and the existing process safety culture. The four main concepts of RBPS that we hope to address throughout this conference are: Committing to Process Safety, Understanding Hazards and Risks, Managing Risks, and Learning from Experience.

Please send your abstracts directly to the chairs of the individual sessions. Their contact information is given on the next page and full detail on each session is provided at <http://www.aiche.org/Conferences/Specialty/GCPS.aspx>.

2008 Global Congress Chair: Peter N. Lodal, 423-229-2675, pnlodal@eastman.com
AIChE Global Congress Oversight: Karen Person, 212-591-7319, karep@aiche.org

23rd Annual Center for Chemical Process Safety (CCPS) International Conference

- Human Factors Issues
- Safety Instrumented Systems
- Reactivity Hazard Identification Tools
- Pre-Startup Safety Review and Re-Commissioning
- Audits, Inspections, Assessments
- CCPS: Case Histories and Lessons Learned

CCPS Chair: Cheryl Grounds, (281) 366-4740, Cheryl.Grounds@bp.com

42nd Annual Loss Prevention Symposium (LPS)

- Electrostatic Hazards and Control
- Fire, Explosion and Reactive Hazards
- Advances in Fire and Explosion Suppression
- Laboratory and Pilot Plant Safety
- Hazards of Alternative Fuels Technologies
- LPS: Case Histories and Lessons Learned

LPS Chair: David G. Clark, DuPont, david.g.clark@usa.dupont.com

10th Process Plant Safety Symposium (PPSS)

- Hazard Identification and Risk Assessment Tools
- Conduct of Operations for Process Safety
- Plant Process Safety Management Systems
- Applications of Safety Culture
- Maintaining Instrument and Mechanical Integrity
- PPSS: Case Histories and Lessons Learned

PPSS Chair: Jack Chosnek, 281-538-0220, jc@knowledge1.net

Continued on Page 5

23rd Annual CCPS International Conference

CCPS Conference Chair: Cheryl Grounds, 281-366-4740, Cheryl.Grounds@bp.com

CCPS is requesting all abstracts for the CCPS program come to Karen Person, karep@aiche.org, 212-591-7319
Session Chairs and additional contacts to be announced soon at www.ccpsonline.org

10th Process Plant Safety Symposium

Symposium Chair: Jack Chosnek, 281-538-0220, jc@knowledge1.net

Symposium Co-Chair: John W. Champion, 281-228-8265, Fax: 281-228-8675, jchampion@rohmmaas.com

Hazard Identification and Risk Assessment Tools

Philip M. Myers, 740-965-6304, pmyers@arisksolution.com

Sanjeev Saraf, 832-325-5716, saraf@exponent.com

Conduct of Operations for Process Safety

James R. Thompson, 281-673-2853, jthompson@absconsulting.com

Plant Process Safety Management Systems

Dr. Angela E. Summers, 281-922-8324 x14, asummers@sis-tech.com

Applications of Safety Culture

Dr. Colin (Chip) S. Howat, 785-218-3718, cshowat@ku.edu

Maintaining Instrument and Mechanical Integrity

Katherine E. Pearson, 281-228-8236, kathrinepearson@rohmmaas.com

Case Histories and Lessons Learned

Albert Ness, 215-785-7567, aness@rohmmaas.com

42nd Annual Loss Prevention Symposium (LPS)

LPS Chair: David G. Clark, david.g.clark@usa.dupont.com

LPS Vice Chair: Jean Paul Lacoursiere, jpla@sympatico.ca

Electrostatic Hazards and Control

Erdem A. Ural, erdem.ural@lpsti.com or Randy Freeman, rafree@yahoo.com

Fire, Explosion and Reactive Hazards

Frank H. (Hank) Gurry, gurry,fh@pg.com or Christopher Hanauska, chanauska@haifire.com

Advances in Fire and Explosion Suppression

John E. Going, john.going@fike.com or Henry L. Febo, henry.febo@fmglobal.com

Laboratory and Pilot Plant Safety

Daniel A. Crawl, crawl@mtu.edu or Dennis C. Hendershot, d.c.hendershot@att.net

Hazards of Alternative Fuels Technologies

Walter L. Frank, wfrank@absconsulting.com or Robert P. Benedetti, rbenedetti@nfpa.org

LPS: Case Histories and Lessons Learned

John F. Murphy, hamjfm@earthlink.net or Lisa Long, lisa.long@csb.gov