
AIChE® The Pipeline

Volume 18 Issue 8

A. Shaikh, M. Kettner, Co-Editors

November 2011

NEWSLETTER OF THE EAST TENNESSEE SECTION OF AIChE

Local section website

<http://www.tnengineering.net/AICHE/>

Local section mailing address

PO Box 7448 Kingsport, TN 37664-7448

****Reminder****

Upcoming November Program

“Industrial Nuclear Reactors”

Daniel T. Ingersoll
Senior Program Manager
Nuclear Technology Programs
Oak Ridge National Laboratories

Thursday November 17th, 2011 11:30AM to 1PM

B-150 Multimedia Room

(Pizza will be served at 11:30)

Abstract

Interest in smaller sized nuclear power plants is emerging rapidly in the United States, driven largely by economic considerations, carbon emission goals and energy supply concerns. A number of new small modular reactor (SMR) designs are being developed that offer the potential to be a more affordable and more flexible approach to increasing nuclear energy capacity for a broader range of energy customers. A historical perspective and current status of the national interest in smaller-sized reactors will be presented, along with a review of key promises and challenges. Also, the initial impact of the accident at Japan’s Fukushima Dai-ichi nuclear plant on the potential for new SMR deployment will be discussed, as well as the prospects of a SMR being built in the Oak Ridge area.

About Our Speaker

Dr. Daniel Ingersoll is a Senior Program Manager in the Reactors and Nuclear Systems Division at Oak Ridge National Laboratory. In his 34 years at ORNL, he has led several groups conducting radiation transport and

reactor physics research and managed several advanced reactor development programs supporting Department of Energy advanced liquid-metal-cooled and gas-cooled reactor concepts, Department of Defense radiation environment studies and neutron radiotherapy studies. Currently, he is supporting DOE's Office of Nuclear Energy to develop a new program of research and development for Small Modular Reactors.

Dr. Ingersoll received a BS degree in Physics from Miami University in 1973 and a PhD in Nuclear Engineering from the University of Illinois in 1977. He is a Fellow of the American Nuclear Society.

Letter from the Chair

Patrice Riesenberg

East TN AIChE Officer elections are here! All National and/or Local AIChE members may vote. If you are in that group, you should have already received an email about voting. If you are not a member and want to vote, join our local section for only \$10. Contact any of the officers to join. Remember, votes must be received by November 18th. Also, if you would like to join National AIChE, we may be able to assist you in paying your dues at the beginning of 2012. Look for more information from Rebecca Glaspie in this newsletter.

Not sure why you should join? See this link: www.tnengineering.net/AICHE/why-join-aiche.ppt. If it asks for a password, click cancel and it should open up the file.

Upcoming December Program

“Integrated Water Management”

John Barber
Superintendent of the Waste Disposal Services Department
Eastman Chemical Company

Thursday December 1st, 2011 11:30AM to 1PM

B-150 Multimedia Room

(Pizza will be served at 11:30)

Abstract

Stormwater. Wastewater. Drinking water. Reuse water. We have a habit of categorizing and managing water in separate silos. The practices and policies that result in “silo management” are not sustainable in the long run,

especially in areas that are already experiencing water scarcity. We are fortunate in this region to have ample supplies of water but we can learn vital lessons from areas that are not as fortunate.

This presentation will cover such topics as:

- “managing one water” and the paradigms that must be addressed
- the water-energy-nutrient nexus
- alternative and appropriate technologies for collection, treatment and reuse
- reducing the water footprint of businesses and communities
- identifying best practices for water sustainability.

Through-out the presentation, the role that chemical engineers can serve will be identified and discussed.

About Our Speaker

John Barber is Superintendent of the Waste Disposal Services Department at Eastman Chemical Company. He received his M.S. in Environmental Engineering and his Ph.D. in Civil Engineering from Oklahoma State University. After graduation, John worked for Process Applications, Inc. in Ft. Collins Colorado for five years as a consultant to municipal water and wastewater treatment plants, and co-authored the EPA Technology Transfer Handbook — Retrofitting POTWs. For the past 20 years, he has focused on industrial waste treatment at Eastman Chemical — first with their R&D group, then in Operations. John is on the Board of Directors for the Water Environment Research Foundation, and Chairman of the WERF Research Council. He is a recipient of awards from the Water Environment Federation for his contributions to wastewater treatment plant operations and industrial waste control.

“Friday on Tuesday” Retrospective

Steve Miller

On Tuesday, October 11th, we had a calendar shake-up. The East Tennessee Section of AIChE decided that there was no need to wait until Friday evening for some fellowship and relaxation when we had a perfectly good Tuesday. Nearly forty local section members, along with a few guests, gathered in the event space upstairs at Stir Fry Café in downtown Kingsport. Wonderful appetizers were provided, and a very good time was had by all. It was a great opportunity to catch up with some old friends and to make new local connections within the chemical engineering profession.

This particular event was largely funded by a J. J. McKetta ProjectConnect Grant that we received from National AIChE earlier this year, but will be looking for future opportunities to facilitate the further development of an effective social and professional network.

Project Benjamin

Rebecca Glaspie

Project Benjamin is back and better than ever! The East Tennessee Section wants to help you become a national AIChE member. As a board, we have decided to make membership one of our goals for 2012. To help you become a member, the board will assist you in paying your national dues in 2012. Project Benjamin was a program that targeted non-members that were new to the area – now it is being expanded to anyone who is not a member who would like to join the national organization. All you have to do is email Rebecca Glaspie at rglaspie@eastman.com and ask to be considered. Priority will be given to those who regularly attend program meetings.

Benefits of being a national member:

- You can vote for local section and national leadership (non members cannot vote)
 - National AIChE provides PDH eligible webinars for members – Some free of charge (you also get a few credits to use toward webinars that cost)
 - National membership greatly reduces your cost to attend AIChE conferences
 - Chemical Engineering Progress magazine is included with your dues.
-

PE Review Course Announcement

Joseph Parker

The Professional Engineering Exam for Chemical Engineers is offered twice annually: in the middle of April, and at the end of October. In the past, the East Tennessee Section of AIChE has offered a review course for those planning to sit for the exam. The winter months seem to be more conducive to studying for the exam, so the course has traditionally been offered in February and March. Many who do not plan to sit for the exam until October also attend the class however, in order to refresh their memories about the topics they will be reviewing.

If you are interested in attending this course, please contact Joe Parker at 423-229-3850 (e-mail jlparker@eastman.com) so we can determine if there is sufficient interest to hold the course next year.

The class would meet one night a week for six weeks; each week, a different subject would be reviewed. The subjects that would be covered by the course are:

Mass and Energy Balances
Thermodynamics
Fluid Mechanics
Heat Transfer
Mass Transfer
Reaction Kinetics

Each session would last two to three hours. The course would begin around the first week in February, and the cost would be \$25 per person.

EVEN IF YOU ALREADY HOLD AN ENGINEERING LICENSE, YOU MAY WISH TO ATTEND THIS COURSE! The State of Tennessee requires each licensed engineer to obtain 24 Professional Development Hours (PDHs) over a two-year period in order to retain his or her engineering license. The East Tennessee Section of AIChE will award PDHs according to the number of class hours attended. Students who attended all sessions of the course in 2011 received 15 PDHs, more than enough to satisfy the requirement for one year.

What's New at National AIChE

Steve Miller

Congratulations to the 2011 Program Planning Grant Winners:

Baton Rouge Section

East Tennessee Section*

*Yes, that's our East Tennessee Section! This \$800 grant will be used in support of our 2011-2012 "Future Trends in Chemical Engineering" programming.

Webinars:

AIChE offers a wide variety of live and on-line webinars. Check them out at:

<http://apps.aiche.org/chemeondemand/LiveWebinars.aspx>

Upcoming live webinars:

Polishing Your Technical Communication Skills

Presented by Professor Donald R. Woods, Wednesday, November 16, 2011, 2:00 - 3:00 p.m. ET

Skill at communication is a must have for professionals. This webinar will help professionals and students polish their skill. Educators, who teach communication courses, will also find this webinar helpful.

The emphasis in this webinar is on written and oral communication. Our survey of engineers in 100 industries showed that audience analysis seems to pose the greatest challenge. Suggestions and activities are given to help improve audience analysis. Successful communications satisfy five criteria: audience, content, organization, style and form. Details are given on how to be effective in each area.

We improve our communication if we follow a problem solving approach for each of the four stages: prewriting, writing, polishing/revising and delivery. We use research evidence about the process of writing to guide our approach.

AIChE/SECARB Webinar: Is Your Facility Carbon Capture Ready? Understanding the Basics of Carbon Capture, Utilization, and Storage (CCUS)

Presented by Dr. Gerald Hill, Wednesday, November 30, 2011, 2:00 p.m - 3:00 p.m. ET

In this webinar, engineering professionals find out how to implement and deploy Carbon Capture, Utilization and Storage (CCUS) projects. Specific areas addressed are project development, operations, and monitoring. The webinar provides an overview of the entire value chain of carbon capture storage (CCS) from capture and separation, through CO₂ compression and transportation, to injection well design, utilization of CO₂ for enhanced oil/gas recovery, operation, and monitoring, verification, and accounting (MVA) techniques.

Chemical Reactions: Control the Intended, Avoid the Unintended**Presented by Robert W. Johnson, Wednesday, December 14, 2011, 2:00 p.m. - 3:00 p.m. ET**

Chemical reactions can give us valuable products, new materials and liberated energy. But uncontrolled or unintended reactions can release energy and reaction products in ways that can cause serious loss and harm. Chemical engineers must be able to identify and understand chemical reactivity hazards, so they can be reduced, controlled or avoided.

This webinar is a condensed version of a course on identifying and managing chemical reactivity hazards. You will benefit from it if you have responsibility for designing, assessing, operating or managing a new or existing facility that may handle reactive materials or have the potential for reactive interactions.

Continuing Education – Professional Development Hours Available



Eastman Employees Only: Are you a professional engineer seeking to meet state continuing education requirements for professional development hours (PDH's)? If so, please visit this website for a list of potentially eligible courses and more information: [Continuing Education for Professionals](#)

Calendar of upcoming events



Several great programs are planned for the upcoming programming year. Topics include:

- Industrial Nuclear Reactors – November 17, 2011
- Integrated Water Management (Challenges We Face in Coming Decades) – December 1, 2011

Keep Up With the Local Section Online

Up-to-date information about the East Tennessee Section of the American Institute of Chemical Engineers can be found [on our website \(www.tnengineering.net/AICHE\)](http://www.tnengineering.net/AICHE). The website includes the Local Section Bylaws, List of Officers from 1945 to present, and an archive of Pipeline Newsletters - to mention only a few aspects of the information covered. Photos from past events can be found, along with contact information for the Local Board. Review the site occasionally and keep up with the local section!

2011 Local Section Officers, Directors, & Support Staff

| | | |
|---|----------------------------|----------|
| Chair: | Patrice Riesenberg | 229-8980 |
| Chair-Elect and Program Committee Chair: | Stephen Miller | 224-7350 |
| Secretary: | Rebecca Glaspie | 229-6144 |
| Treasurer: | Braxton Sluder | 578-6225 |
| Directors: | Mark Harrison | 229-6952 |
| | Jennifer Mize | 224-7018 |
| | Lauren Moyer | 229-2208 |
| Local Section Webmaster: | Tim Nolen | 229-8287 |
| Short-Course Coordinator: | Mark Shelton | 229-4753 |
| Professional Development Coordinator: | Joe Parker | 229-3850 |
| AICHE Pipeline Newsletter Co-Editors: | Ashfaq Shaikh/Mark Kettner | 229-8840 |
| ETEAC Representative: | Joey Watson | 229-6486 |

2011 Local Company Contacts

| | |
|---|--|
| Eastman Chemical Company | Patrice Riesenberg, P.E. 423-229-8980, patrice@eastman.com |
| BAE Systems, Ordnance Systems Inc. | Braxton Sluder, Process Chemical Engineer Acids Manufacturing 423-578-6225, braxton.sluder@baesystems.com |
| Nuclear Fuel Services Inc., a subsidiary of The Babcock & Wilcox Company | Tracy Coates tjcoates@nuclearfuelservices.com |
| Domtar | Rhonda Smith, Process Control Engineer 423-392-2797, Rhonda.Smith@domtar.com |

American Institute of Chemical Engineers
PO Box 7448
Kingsport, Tennessee 37664-7448