



American Institute of Chemical Engineers Knoxville-Oak Ridge Section

For additional information see our Web site at: <http://www.ornl.gov/sci/aiche/>
Or contact: Linda Puckett, puckettlf@ornl.gov, (865)574-6984 or
Betty Frazier, bfrazier@utk.edu, (865)974-2421

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February 2007 Meeting

Date: Thursday, February 15, 2007
Cost: \$17
Location: Naples, 5500 Kingston Pike, Knoxville, TN, (865) 584-5033
Menu: 3 entrees to choose from: lasagna, manicotti, canonelli, salad, drink, and dessert
5:30 pm Executive Committee Meeting (All members welcome)
6:00 pm Dinner
7:00 pm Program – Timothy G. Rials, Professor and Director, Southeastern Sun Grant Center, *The Lignocellulosic Biorefinery: Vision and Implementation*



Abstract – There is now widespread support to reduce our nation's dependence on petroleum as a source of energy. Several technology platforms – wind, solar, hydrogen – will undoubtedly play an important role in providing alternative sources of power and energy. Biomass conversion, however, is the only viable approach to provide liquid fuels, chemicals, and materials. According to recent reports, 5 billion gallons of ethanol were produced in 2006, primarily from corn and mainly in the Midwest. While highlighting the economic competitiveness of the technology, it is clear that competing uses of corn for food and grain places constraints on the ultimate impact of this fuel source. Lignocellulosic biomass in the form of wood and perennial grasses represents the resource that is available to more dramatically impact petroleum reliance. Estimates are that a sustainable annual supply of more than 1 billion tons of this feedstock is available; however, advances in the science and technology of processing remain before the economics are attractive. This presentation will describe the biorefinery vision while highlighting some of the challenges that must be overcome for cellulosic ethanol to be competitive. Recent efforts to develop the biofuels industry in Tennessee will also be discussed.

Bio – Professor and Director: *B.Sc.* in [Forestry and Forest Biology](#) from [Mississippi State University](#) in 1980; *M.Sc.* and *Ph.D.* in [Wood Science and Technology](#) (polymer chemistry emphasis) from [Virginia Polytechnic Institute and State University](#) in 1983 and 1986 respectively; Became an Assistant Professor in the [Forest Products Laboratory at University of California](#) in 1986; Joined the [USDA-Forest Service, Southern Research Station](#) as a Research Physical Scientist in 1988; Promoted to Project Leader/Research Scientist in 1996; Joined the [Department of Forestry, Wildlife and Fisheries](#) at [the University of Tennessee](#), became the Director of [Tennessee Forest Products Center](#) in 2001. His research interests include structure and properties of wood/polymer interfaces, raw material assessment and process monitoring using spectroscopy, and cure analysis of thermosetting polymers

Please make your reservations as soon as possible, but no later than noon on February 14, by contacting

Linda Puckett, puckettlf@ornl.gov, (865)574-6984 or
Betty Frazier, bfrazier@utk.edu, (865)974-2421.

The Section will subsidize up to 15 students.




Solutions for Knoxville

Shaw offers a world of solutions to our industrial, commercial and governmental clients worldwide. Shaw's Environmental & Infrastructure local office has been an integral part of the Knoxville community for over 30 years and is proud to employ over 300 people locally.

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Member Seeking Position

AIChE Knoxville/Oak Ridge chapter member C. J. O'Lenick is seeking a position in research, development, or process chemical engineering in the environmental, pharmaceutical, or manufacturing fields. He has recently completed a doctoral dissertation in bacterial motility and chemotaxis effects on in-situ bioremediation rates. He possesses a strong background in laboratory analysis including chemistry

and microbiology. In addition, he has one and a half year's experience in pharmaceuticals and several months experience in a manufacturing plant. Up to 50% travel is acceptable for the candidate. If you are aware of any openings that match this member's skills and interests, please contact C. J. O'Lenick, Ph.D. at cjolenick@earthlink.net or (865)385-1443 to request a resume and to discuss his qualifications.

New Look for Section Web Site

The Knoxville-Oak Ridge section's web-site has been updated with a new, more-professional look. The updated site retains its past functionality and site address. So please continue to use <http://www.ornl.gov/sci/aiche/> to access the site and check out the new look.

If you have any suggestions for improvements or additions to the site, please contact us at lewisbejr@ornl.gov.

Educational and Career Enrichment Centers

Last month, we presented an article by John Shacter concerning the proposed formation of Educational and Career Enrichment Centers for interested youngsters and adults (page 6, January 2007 Newsletter). These Centers will focus on helping interested individuals to master today's public-school subjects (curricula) and/or additional subjects, which will help prepare them for today's and tomorrow's world-wide competition.

The new centers could be set up within the schools, or in free or almost free community or church

facilities. For this effort to be successful, dedicated volunteer professionals are needed, who are willing to contribute a couple of hours per week to the education and enlightenment of our future workforce.

Please contact John Shacter, (865)376-7600, jsplg@comcast.net for additional information on this service opportunity.



"Service is the rent we pay to be living. It is the very purpose of life and not something you do in your spare time."

Marian Wright Edelman

Ballot – 2007 Local Section Chair-Elect

A nominee has stepped forward for the office of Knoxville-Oak Ridge Section Chair-Elect for 2007. Michael Hollander has volunteered and been nominated for election to the office of Chair-Elect for the Knoxville-Oak Ridge section.

Chair-Elect – (Select one)

(Select one)

___ Michael Hollander

___ Write in _____

Michael Hollander, PE, is Vice President of Innovative Design, Inc, a Design Engineering firm in West Knoxville. Michael is a graduate of Stevens Institute of Technology, with a major in Chemical Engineering and a minor in Mechanical Engineering. He has over 38 years of experience in both industry and consulting in process engineering, project management, environmental engineering, and operations management. Michael has a background from the chemical, pulp & paper, pharmaceutical, nuclear and automotive industries; having worked for or performed projects for ORNL, IT Group, Dames & Moore, Denso Manufacturing, AFCO, Merck, Westvaco, Engelhard, Badger Fire Protection, Brunswick Corporation, BASF, Mobil Oil, and Carpenter Co. As well as being a Registered Professional Chemical Engineer, he is a Registered Auditor for ISO 9000 and ISO 14000, a Certified Environmental Auditor, and Certified Infrastructure Preparedness Specialist.

Please bring ballots to January meeting, or send by email to: Linda Puckett at puckettlf@ornl.gov or by postal mail to:

Knoxville-Oak Ridge Section, AIChE
C/o Linda Puckett
Oak Ridge National Laboratory
P. O. Box 2008-6181
Oak Ridge, TN 37831-6158



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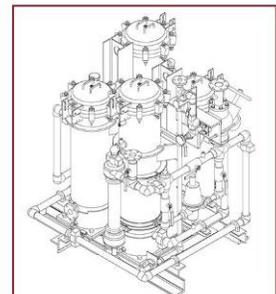
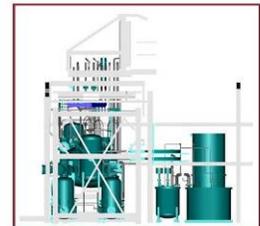
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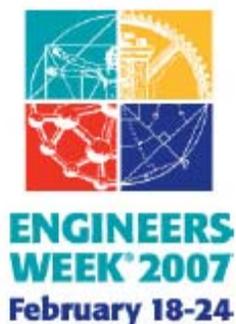
Process - Mechanical - Structural Design Consulting
Pro Engineer - AutoCAD - Microstation - Intergraph PDS - Inventor!

Process/Piping

- Industrial and Process Systems
- Flow Diagrams and P&ID's
- Process Systems - Skid-Mounted
- Pressure Piping - Pipe Supports
- Pipe Stress & Supports Analysis
- Process Equipment Selection & Sizing
- Scrubbers, Absorbers, SCR's, Boilers
- Pressure Vessels, Heat Exchangers
- ASME Section VIII, ANSI B31.3, TEMA
- Duct and Duct Supports
- Process Water - Water Filtration
- Reverse Osmosis Systems
- Baghouses, Hot Duct, Tanks & Stacks
- 3D Modeling



National Engineers Week – February 18-24



The 56th Annual National Engineers Week is February 18-24, 2007. It will be highlighted with the East Tennessee All Engineers Week Banquet on Tuesday, February 20th. The banquet will be held at the Knoxville Convention Center in downtown Knoxville with special guest speaker Coach Phillip Fulmer. The Tennessee Society of Professional Engineers will host the event with participation by engineering organizations such as: TSITE, IEEE, ASCE, ASME, ASHRAE, AICHE, AFE, IIE, ASQ, SWE and ANE.

Coach Fulmer is the head football coach at The University of Tennessee, where he has been since 1992. During his time as head coach, Fulmer has led the Volunteers to win two Southeastern Conference Championships and a National Championship, with a 137 career victories against only 41 losses. He received National Coach of the Year in 1998. In 2000, Coach Fulmer received the second annual State Farm Eddie Robinson Coach of Distinction Award. This award is given to a coach for being a role model and mentor to students and players, for being an active member of the community, and for being an accomplished coach. We are excited to have Coach Fulmer as part of this year's event and look forward to hearing from him on the topics of

leadership and community involvement.

A social hour with a slideshow will begin at 6:00 pm and the Program and Dinner (buffet) at 7:00 pm. Individual registration for members and guests is \$25 each and students \$20. As in the past, sponsorships are available in the following three categories:

- Speaker Sponsors
- Event Sponsors
- Table Sponsors

All sponsors will be recognized for their contribution as part of the banquet. The highest sponsorship is the Speaker Sponsor, which includes a minimum \$1500 contribution. The Event Sponsorship range is from \$500 for a Gold sponsorship to \$250 for a Bronze. As Table Sponsors, firms may contribute by the purchase of tables (10 persons) and half tables (5 persons). This option includes banquet tickets plus recognition as a sponsor. This option is an excellent opportunity to invite special guests such as favorite clients and company executives. It also is a good way to reward employees for their hard work.

This year, proceeds from the banquet will be used to help fund the Grants for Engineering, Arithmetic, and Science (GEArS) Education Program. The

GEArS Education Program is designed to provide small grants for schools/teachers to:

- Support the promotion of engineering in the classroom and facilitate learning in the sciences, mathematics, and natural resource education
- Encourage the creation of new/special classroom projects
- Supplement classroom curriculum
- Offer support for programs or projects for which funding is not otherwise available
- Support and reward creativity and excellence in teaching

The deadline for registering is February 9, 2007. A registration form is available for return to:

Mr. Gabriel Bolas
Knoxville Utilities Board –
EO39
PO Box 59017
Knoxville, Tennessee
37950-9017

(Excerpts from letter dated January 9, 2007 from Gabriel J. Bolas, PE, Chapter Director TSPE-Knoxville Chapter)



“Never continue in a job you don't enjoy. If you're happy in what you're doing, you'll like yourself, you'll have inner peace. And if you have that, along with physical health, you will have had more success than you could possibly have imagined.”

Johnny Carson

Job Postings (update)

Additional jobs have been posted on the new Local Jobs Listing page on the local section's web site. The new page provides a listing of chemical engineering employment opportunities in the surrounding area:

<http://www.ornl.gov/sci/aiche/jobs.htm>.

The following new listings have been posted:

- 1. Process Design Engineers**
 Project Engineer and Senior Project Engineer
Qualifications: B.S. or higher in Chemical Engineering with 5 years experience
Location: Oak Ridge, Tennessee (posted January 11, 2007)
Compensation: Pay commensurate with qualifications and experience
Contact: Roger M. Efferson, Process Engineering Associates, LLC, 700
- 2. Chemical Engineer**
Qualifications: B.S. or higher in Chemical Engineering with 3 years of design and operating experience with an active Q-Clearance
Location: Oak Ridge, Tennessee, (posted January 11, 2007)
Compensation: Pay commensurate with qualifications and experience
Contact: Roger M. Efferson, Process Engineering Associates, LLC, 700 South Illinois Ave., Suite A-202, Oak Ridge, TN 37830, Phone (865) 220-8722, Fax (865) 220-8729, e-mail: refferson@processengr.com.
- 3. Engineering Director**
 Process Engineering Associates, LLC
Qualifications: B.S. or higher in Chemical Engineering with 15 years combined operating, design, and project management experience
Location: Oak Ridge, Tennessee (posted January 11, 2007)
Compensation: Estimated salary \$140-150K
Contact: Roger M. Efferson, Process Engineering Associates, LLC, 700 South Illinois Ave., Suite A-202, Oak Ridge, TN 37830, Phone (865) 220-8722, Fax (865) 220-8729, e-mail: refferson@processengr.com.

For more information on these opportunities, please see our new Area Jobs page at <http://www.ornl.gov/sci/aiche/jobs.htm>.

SASEF Volunteer Judges Needed

This year's Southern Appalachian Science and Engineering Fair (SASEF) will be March 5-7, 2007. Judges are needed on the afternoon of Tuesday, March 6 at 12:30 until the evening. Judge's information can be found at: <http://www.sasef.com/judges.html>. This site includes dates/times and schedule. If you have judged in previous years please check your

registration form; if there are no changes to be made, please let David Bragg know that you are interested in judging; if changes are needed, please fill out and submit a new form. Previous year's forms can be found at: http://www.sasef.com/judges_a_to_z.htm. Please send new or updated forms to: sasef_judges@davidbragg.com.

The Fair needs about 125 judges to be successful. If you have any questions please contact David A. Bragg, braggd@saic.com, (865)425-5539.

Activities Calendar

Date	Time	Topic	Speaker	Location
15 Feb	5:30 PM	The Lignocellulosic Biorefinery: Vision and Implementation	Tim Rials – Professor and Director, Southeastern Sun Grant Center	Naples
7 March	5:30 PM	Heterogeneous Catalysis	Larry Campbell – Advanced Catalysts Maryville	TBD
17 or 19 or 24 April	5:30 PM	UT Student Design/Awards	Student Teams	TBD
April 22-26		AIChE National Spring Meeting		Houston, TX
18 May	5:30 PM	Center for Nanomaterial Science	TBD	TBD

Sponsoring Opportunities

We continue to accept advertising in the newsletter in order to provide funds to support student participation in the meetings.

Rates per newsletter are:

\$80 full-page advertisement

\$45 half-page advertisement

\$25 quarter-page advertisement

The section will also continue to accept individual or corporate sponsors to provide student meals at section meetings. The sponsor will be recognized at the meeting and in the Newsletter.

The cost to sponsor one meeting is **\$200**. It's a great way to encourage students to attend the local meetings and become future members in the Institute!



“First say to yourself what you would be; and then do what you have to do.”

Epictetus

Election Results

The election results are in and have been tallied. Each candidate received 19 votes. Officers for 2007 are: Chair-Mark Swientoniewski, Chair-

elect-special election in February Newsletter, Treasurer-Paul Taylor, Secretary-Douglas Hayes, Directors-Ed Alperin, Steve McCoy and Ben

Lewis (succession from Chair), joining Stuart Daw and Charles Forsberg.

Officers

Chair:	Mark Swientoniewski	574-1150	swientonimd@bechteljacobs.org
Chair-Elect:			
Secretary:	Doug Hayes	974-7991	dhayes1@utk.edu
Treasurer:	Paul Taylor	574-1965	taylorpa@ornl.gov
Directors:	Ben Lewis	574-4091	lewisbejr@ornl.gov
Term ends 2008	Steve McCoy	220-4730	mccoys@ttnus.com
Term ends 2008	Ed Alperin	694-7335	Ed.alperin@shawgrp.com
Term ends 2007	Stuart Daw	946-1341	dawcs@ornl.gov
Term ends 2007	Charles Forsberg	574-6783	forsbergcs@ornl.gov
Membership:	Paul Taylor	574-1965	taylorpa@ornl.gov
Newsletter:	Linda Puckett	574-6984	puckettlf@ornl.gov
Webmaster:	Ben Lewis	574-4091	lewisbejr@ornl.gov
E-mail:			aiche-chat@chem.engr.utk.edu
WWW:			http://www.ornl.gov/aiche

Knoxville - Oak Ridge Section

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We're on the Web!

See us at:

<http://www.ornl.gov/sci/aiche/>

About Our Organization – Membership Support

Our organization is trying to grow. To do this we must maintain existing members while adding to the ranks. The National AICHE has instituted a voluntary program whereby existing members are asked to contact members that have not yet paid their 2007 dues. The National is asking for volunteers to contact 20 at risk members. AICHE will give you everything you need: a list of at risk members with phone numbers and

e-mail addresses; a draft e-mail asking permission to call; and a script outline for you to use in talking with members. All you need to provide is your time and a sincere belief in the value of AICHE membership.

This program was launched in January. If you are interested, please let the AICHE know by visiting <http://www.aiche.org/bringbackmembers>. There you will find easy to follow

instructions. All calls must be completed by February 28. Please consider this opportunity to serve your organization.

(Excerpt from letter dated January 2007 from Larry Evans, AICHE President)

National AICHE Newsletters Available to Download

The National AICHE publishes an electronic newsletter to all local section officers. The newsletter contains important updates and deadlines for AICHE related activities as well as other activities of interest to the sections. Past issues of the

newsletter are available to view and download at <http://www.aiche.org/LocalSections/Resources/Newsletter.aspx>.

The latest newsletter is the January 2007 edition.

(Excerpt from AICHE web site)

P.O. BOX 2008
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OAK RIDGE, TN 37830-6243

