



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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January 2007 Meeting

Date: Tuesday, January 16, 2007
Cost: \$13
Location: Mandarin House (694-0350) - Near Downtown West, south of Regal Cinema at 8111 Gleason Drive, Knoxville TN

Menu: Buffet

5:30 pm Executive Committee Meeting (All members welcome)
6:00 pm Dinner
7:00 pm Program – Dr. Chuck Melcher, Director of the Scintillation Materials Research Center at UT - *Development of New Scintillation Materials for Radiation Detection*

Abstract – Scintillators are materials that emit brief pulses of light following the absorption of x-rays, gamma rays, neutrons, or other ionizing particles and photons. The discovery and development of new scintillation materials has been mostly driven by the needs of radiation detection in dosimetry, medical imaging, nuclear and high energy physics experimentation, energy exploration, and homeland security. For many years the search for new materials was somewhat Edisonian in nature, but has more recently become increasingly based on fundamental research of scintillation mechanisms, which is now leading to the discovery of new materials with surprising properties.

Bio – Chuck Melcher is Research Professor of Materials Science and Engineering at the University of Tennessee, and is the Director of the Scintillation Materials Research Center at UT. Previous positions include Senior Scientist and Program Leader of Advanced Detector Materials at Schlumberger-Doll Research (Ridgefield, CT), and Director of Detector Materials Research at CTI Molecular Imaging (Knoxville, TN). He received a B.A. in physics from Rice University (Houston), and M.A. and Ph.D. degrees in physics from Washington University (St. Louis). He has over 80 publications, 7 U.S. Patents and 2 U.S. Patents pending. Chuck is the Associate Editor of IEEE Transactions on Nuclear Science, Chair-elect of IEEE NPSS Radiation Instrumentation Technical Committee, and a recipient of the 2006 IEEE NPSS Merit Award.

Please make your reservations as soon as possible, but no later than noon on January 16, 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.

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 members 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.




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Ed Alperin, Senior VP Science and Technology
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New Look for Section Web Site

The Knoxville-Oak Ride 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.

Nominations for 2007 Local Section Chair-Elect Extended



“The manager asks how and when; the leader asks what and why.”

Warren Bennis

Tom Busmann is chairing the Knoxville-Oak Ridge section Nomination Committee and is looking for individuals to run for the office of Section Chair-Elect for 2007.

Per the By-Laws, the following officers are elected each year: Chair-Elect, Secretary, Treasurer, and two Directors. The Chair-Elect is a three-year commitment. Directors serve for a two-year term. Secretary and Treasurer serve for one year.

Elections usually occur in December with the term beginning in January 2007; however, we have extended the nomination period to

continue the search for a qualified Chair-Elect candidate. We will go forward with the election for the Secretary, Treasurer, and two Directors in January – Please see the ballot on page 4 for details.

If you know of someone who would be willing to serve as the 2007 Chair-Elect, please contact Tom Busmann (tbusmann@charter.net) or one of the current section officers.

Job Postings

A new page has been added to 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>

This page currently includes three listings. Other job postings will be listed as they become available. This page supplements the job opportunity information available through the external links on our home page for the Oak Ridge DOE sites (Oak Ridge National Laboratory and the Y-12 National Security Complex). The current listing include the following:

1. **Superintendent** - Leach/Purification Department
BS / BA Degree preferred and 5+ years of supervisory experience - in Clarksville, Tennessee (posted January 5, 2007). 60's to 70's range, bonus potential of ~10%. Contact Jeffrey Latterell, Latterell Technical Search Jeffrey@latterell.com 507-263-4841, Reference #: LTS-60. November 30, 2006). \$60-70K range + benefits. Contact Jeffrey Latterell, Latterell Technical Search Jeffrey@latterell.com 507-263-4841.
2. **Chemical Engineer**
BS in Chemical or Metallurgical Engineering with 3-7 years of experience - in Clarksville, Tennessee (posted
3. **Project Engineer**
for Perma-Fix Environmental Services, Inc. in Oak Ridge, Tennessee (posted November 30, 2006). \$60-70K range + benefits. Contact Danny Rokisky at pfdanr@aol.com.

For more information on these opportunities, please see our new Local Job Postings page.

Ballot — Knoxville-Oak Ridge AICHe Officers for 2007

Chair – Mark Swientoniewski (Automatic succession)

Chair-Elect – We are still looking for a volunteer. If you are interested in running, please contact Tom Busmann (694-7335)

Secretary (Select one)

Douglas Hayes

Write in _____

Treasurer (Select one)

Paul Taylor

Write in _____

Director (Select two)

Ed Alperin

Steve McCoy

Write in _____

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

Douglas Hayes is an Associate Professor of Biosystems Engineering at UT, since 2003, and is also an Adjunct Associate Professor of Chemical Engineering at both UT and UAH. His research interests include bioprocess engineering, colloids and surfactants, biocatalysis in non-conventional media, biomass utilization and analysis. Doug served as faculty advisor for AICHe student chapter for UAH: 1993-2003, and wrote the application for UAH's "club" to obtain Chapter status; which was accepted in 1999. Doug helped facilitate interactions between the UAH Student Chapter and the N. Alabama Local Section of AICHe (e.g., joint meetings on campus, motivating students to attend local section meetings, etc.).

Paul Taylor is a senior development engineer in the Nuclear Science and Technology Division at Oak Ridge National Laboratory. He has been the membership chairman of the local section for many years, and has previously served as Chair, Treasurer, and Director. Paul is a registered professional engineer, and is a member of the National Society of Professional Engineers and the Water Environment Federation in addition to AICHe.

Edward S. Alperin is a chemical engineer with Shaw Environmental, and a Senior Technical Associate with 32 years of experience. He is a Senior Vice President of Shaw and is responsible for the company's Technology Development program in addition to being responsible for the management of the Process Development Laboratories in Knoxville and Oak Ridge, Tennessee. He is involved in the management, development, design, and demonstration of chemical engineering unit operations for solving hazardous waste, mixed waste, and pollution control problems. His service to AIChE goes back to his student days when he was president of the student chapter of AIChE during his senior year of college and has been a member of AIChE since 1974. He has been active in AIChE conferences over the years presenting papers and chairing sessions. Most recently, he served as a director for the Knoxville-Oak Ridge section in 1997, 1998, and 2000. In addition to his support of AIChE, Ed has served as vice president and president of the Knoxville section of the Air and Waste Management Association (AWMA).

Steve McCoy is the General Manager for the Tetra Tech NUS Oak Ridge office. He received his BSChE from the University of Idaho in 1973 and an MS in Environmental Engineering from the University of Tennessee in 1995. In the past, Steve has served terms as Director and Chair for the Knoxville/Oak Ridge Section, and has been Treasurer for the past two years.



Proposed Educational and Career Enrichment Centers

As you well know, Oak Ridge and its school system are able to produce public-school graduates whose average academic achievements exceed the achievements of every other community or county in Tennessee. For example, due to the average quality of the local homes and schools, the average ACT (college-admission or "exit") score of the graduating Oak Ridgers exceeds 24 in a possible range of scores from about 9 to 36. The average Tennessee score is about 20-21. So there is lots of room for improvement for just about everyone, even within the existing types of curricula.

However, as Thomas L. Friedman, Pulitzer-Prize winning author and columnist for the New York Times phrases it, **"The World Is Flat."** And thus, the most critical competition is not at the local or even domestic level. It is now and will be to an increasing extent at the world level.

On a nationwide basis, the leaders of our quality enterprises and universities continue to warn us that too many of our secondary-school graduates have to take remedial courses before they are ready for advanced training or education. Serious gaps in effective personal

communications (including listening and speaking, as well as reading and writing), in quantitative understanding and problem-solving (math), in innovation (as in science and science applications), in money management, in career requirements and planning, or on current issues have become particularly apparent.

Because of these slippages, too many of our graduates and thus our country have also started to experience significant losses of quality jobs to foreign-educated individuals, both here and overseas. If continued, this trend will of course threaten our world leadership on several different playing fields, including our so-far leading economy and quality of life.

Finally, as Winston Churchill (speaking of course of his fellow citizens in the UK) stated, the best argument AGAINST our democratic systems of decision-making is a 3-minute conversation with the average voter.

It is of course always easier to list challenges than to list promising and practical approaches toward improvements.

One of the possible approaches toward improvements might well consist of the formation

of what I have tentatively named "EDUCATIONAL AND CAREER ENRICHMENT CENTERS."

These rather informal volunteer Centers would be intended to broaden and extend the individual initiatives that some of us "semi-retired" professionals have been engaged in for some time. At least initially, the Centers would accept only INTERESTED youngsters and adults who want help in mastering today's public-school subjects (curricula) and/or additional subjects (as above) which will help prepare them for today's and tomorrow's world-wide competition for:

1. quality jobs and careers,
2. quality advanced training and higher education, and
3. quality participation in families, communities and society.

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

In Roane Co. and neighboring counties, I have started to brief commissioners, civic and professional organizations, and educational leaders, like directors and school boards, and media folks.

Initial interest has been quite encouraging.

Obviously, the deciding factor on the feasible scale of action will be the number of (retired?) volunteer professionals, like engineers or accountants..., whom we can enlist for a couple of hours per week. And equally obviously, these volunteers will have to hold some workshops on what types of inexpensive booklets and videos are available, and on how students of various ages must be approached. In any case, one of the advantages of such a program is that it can be initiated on any scale, and that it can make a positive contribution right from the start.

Whether and precisely how interested members of various professional groups could be best involved is of course open to a variety of approaches.

In any case, these are the challenges, along with quite a bit of relevant progress to date, that I would like to discuss with you.

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

Activities Calendar

Date	Time	Topic	Speaker	Location
16 Jan	5:30 PM	Development of New Scintillation Materials for Radiation Detection	Chuck Melcher – Director of the Scintillation Materials Research Center	Mandarin House, Gleason Drive, Knoxville TN
15 Feb	5:30 PM	Bio-based Products from Wood	Tim Rials – UT Forest Products Center	Naples, 5500 Kingston Pike, Knoxville, TN
7 March	5:30 PM	Heterogeneous Catalysis	Larry Campbell – Advanced Catalysts	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!



*Keep your eyes on the stars
and your feet on the ground.*

Theodore Roosevelt

Officers

Chair:	Mark Swientoniewski	574-1150	swientonimd@bechteljacobs.org
Chair-Elect:			
Secretary:	Doug Hayes	974-7991	dhayes1@utk.edu
Treasurer:	Steve McCoy	220-4730	mccoys@ttnus.com
Directors:	Ben Lewis	574-4091	lewisbejr@ornl.gov
Term ends 2006	Sharon Robinson	574-6779	robinsonsm@ornl.gov
Term ends 2006	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

P.O. Box 2008
Bldg. 4500N, Room B14
Oak Ridge, TN 37830-6243

Phone: 574-6984

Fax: 574-6986

E-Mail: [aiche-
chat@chem.engr.utk.edu](mailto:aiche-chat@chem.engr.utk.edu)



We're on the Web!

See us at:

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

About Our Organization – Membership Benefits

AICHE is the worlds leading organization for chemical engineering professionals, with more than 40,000 members from 93 countries. AICHE has the breadth of resources and expertise you need whether you are in core process industries or emerging areas. Numerous benefits are available to the members of the organization, some of these include:

- [Discounts to Publications, Books & Conferences](#)

- [CEP Magazine](#)
- [eLibrary](#)
- [Career Support](#)
- [Member Directory](#)
- [Insurance](#)
- [Networking](#)
- [Financial Services](#)
- [UPS Discounts](#)
- [Car Rental Discounts](#)

To start using these benefits, login at the following web location and join AICHE:

https://www.aiche.org/apps/ecommerce/memberapps_new/memapp.asp

(Excerpt from the National AICHE web site)

P.O. BOX 2008
BLDG. 4500N, ROOM B14
OAK RIDGE, TN 37830-6243

