



## 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](mailto:puckettlf@ornl.gov), (865)574-6984 or  
Betty Frazier, [bfrazier@utk.edu](mailto:bfrazier@utk.edu), (865)974-2421

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## February 2008 Meeting – Joint with ANS

Date: Tuesday, February 5, 2008  
Cost: \$15  
Location: Calhoun's on the River, 400 Neyland Drive, Knoxville, TN 37902, Phone: (865) 673-3355

5:30 pm Executive Committee Meeting (All members welcome)  
6:00 pm Social (cash bar provided)  
6:30 pm Dinner – Entrée: Calhoun's Buffet - Hickory Smoked Pulled Pork served with Barbeque Sauce, Grilled Barbeque Chicken, Baked Beans, Cole Slaw, Spinach Maria, Baked Cinnamon Apples, and Buttermilk Biscuits & Corn Muffins  
Dessert: Chocolate chip cookies

7:30 pm Program – Dr. David Rasmussen: U.S. ITER Team Leader for Heating and Fueling Systems, Oak Ridge National Laboratory, *Overview of the ITER Burning Plasma Experiment and the US ITER Project*

**Abstract** – ITER (Latin for “the way”) is a major international research project with the goal of demonstrating the scientific and technological feasibility of fusion energy. ITER will enable study of a fusion-powered “star on earth,” where the same energy source that drives the sun and other stars is reproduced and controlled for sustained periods in a laboratory burning plasma. The ITER project confronts the grand challenge of creating and understanding a sustained burning plasma with the fusion process itself providing the dominant heat source to sustain the plasma temperature. The fusion power will be up to 10 times greater than the external power delivered to heat the plasma. A comprehensive scientific understanding of the burning plasma state and plasma control tools is needed to confidently extrapolate plasma behavior and related technology beyond ITER to a fusion power plant. The project is being designed and built at Cadarache in southeastern France by the ITER partners: the European Union, India, Japan, the People's Republic of China, the Republic of Korea, the Russian Federation, and the United States.

**Bio** – David Rasmussen is the U.S. ITER team leader for heating and fueling systems. He has 30 years of plasma science experience in diagnostics and technology for magnetic, inertial confinement, and plasma processing systems. His career began at the NASA Ames Research Center, where he was a member of the Pioneer planetary exploration programs. In 1981, he joined the ORNL Fusion Energy Division, where he developed microwave and plasma diagnostics for the Elmo Bumpy Torus and Advanced Toroidal Facility. He has also conducted plasma heating research at the Tokamak Fusion Test Reactor, Compact Helical System stellarator, Wendelstein stellarator, DIII-D tokamak, and National Spherical Torus. From 1995 to 1997, he managed the semiconductor Plasma Processing Diagnostic Program at SEMATECH in Austin, Texas. His current research is in technology development for fusion plasma heating and fueling. David received a B.S. degree in physics and an M.S. and a Ph.D. in applied science from the University of California, Davis.

**Please make your reservations as soon as possible, but no later than noon on February 1, by contacting**

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

**The Section will subsidize up to 15 students**



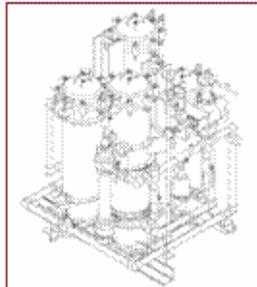
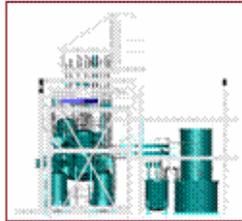
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## 2008 ALL ENGINEER'S BANQUET

The 57th Annual National Engineers Week is February 17-23, 2008. It will be highlighted with the East Tennessee All Engineers Week Banquet on Tuesday, February 19th. The banquet will be held at the Knoxville Convention Center in downtown Knoxville with special guest speaker Coach Bruce Pearl, the head basketball coach at the University of Tennessee. 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.

As in the past, sponsorship opportunities will be divided into three categories:

- Speaker Sponsors
- Event Sponsors
- Table Sponsors

Please refer to the January 2008 AIChE Newsletter for details on the sponsorship categories.

The 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

**Reservations are due before February 8, 2008.** For additional information, please contact:

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



**ENGINEERS  
WEEK® 2008**  
February 17-23

(Excerpt from Engineers Week announcement letter from Mr. Gabriel Bolas)

## Top-Paid Majors for 2007-08 Graduates

In spite of recent news about an economic slowdown, the National Association of Colleges and Employers (NACE) Winter 2008 *Salary Survey* provides an early indication that the positive hiring projections employers offered in the Job Outlook 2008 report will indeed be characteristic of the job market for 2008 graduates. The Winter issue is the first salary report for the Class of 2008, so these early data are limited; however, the overall average starting salary offer for Winter 2008 (\$49,300) is four percent greater than the average salary offer in Winter 2007 (\$47,414)—right in line with the salary increase employers predicted.

Following are the top-paid majors for 2007-08 graduates, according to NACE's Winter 2008 Salary Survey:

Chemical Engineering - \$63,749  
 Computer Science - \$58,377  
 Industrial/Manufacturing Engineering - \$58,249  
 Electrical/Electronics & Communications Engineering - \$56,512  
 Mechanical Engineering - \$56,429  
 Civil Engineering - \$49,427  
 Finance - \$48,795  
 Accounting - \$47,413  
 Logistics/Materials Management - \$45,577  
 Business Administration/Management - \$43,823

(Excerpt from UT College of Engineering (COE) January 25, 2008 newsletter)

## 100 Suns Exhibit at Knoxville Museum of Art

I highly recommend the photography exhibit 100 SUNS, currently at the Knoxville Museum of Art (KMA). The show which runs through June 1<sup>st</sup>, is a collection of photographs of above-ground atomic bomb tests. Two examples and a description from the KMA's website are copied at the side.

Terrifying and beautiful at the same time, the 100 color and black and white photographs of blasts featured in *Michael Light: 100 SUNS* document the destructive force unleashed during nuclear tests conducted by the United States following World War II. Light, a San Francisco-based photographer, has achieved international attention for his large-

scale photographic projects examining humanity's relationship with its environment.

For *100 SUNS*, Light used digital software to scan or re-photograph rare images he hand-picked from the archives of the U. S. National Archives and Los Alamos National Laboratory. In many cases he was able to use digital software to restore something of the original intensity of color prints faded by time. The haunting images Light has assembled depict tests at or shortly after the moment of explosion. In some shocking pictures, human beings share the frame with the fireworks. In one image, troops huddle in trenches as they are showered by sparks from the

detonation of a 1953 Nevada blast referred to as "Simon." Light's commentary adds a chilling note describing the next few moments when the "ground and air shockwaves will toss them like dolls, then fill their mouths with radioactive dust." These found photographs, along with text and photographic imagery shot by Light, raise compelling questions about the lasting consequences of nuclear testing and the threat posed by "weapons of mass destruction" in the hands of any nation.

(Note from Paul Taylor and content from Knoxville Museum of Art web site at <http://www.knoxart.org/exhibitions/100suns/>)



## AICHE Turns 100

The AIChE is turning 100 this year. The following provides a brief synopsis of the organization, its goals, and opportunities.

Founded in the United States in 1908, AIChE is a professional association of more than 40,000 chemical engineers in 93 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.

Governed by volunteer leaders, the Institute serves its members by aiding their professional growth and fostering the dissemination of scientific knowledge through the development of award-winning publications and world-class conferences. AIChE is the incubator and ongoing supporter of three national, high-tech knowledge centers: the [Society for Biological Engineering](#), the [Center for Chemical Process Safety](#) and the [Institute for Sustainability](#).

Through its varied programs, AIChE continues to be a focal point for information exchange on the frontier of chemical engineering research in such areas as nanotechnology, sustainability, hydrogen fuels, biological and environmental engineering, and chemical plant safety and security.

[AIChE's Vision](#) is to provide value as the global leader of the chemical engineering

profession, serve as the lifetime center for professional and personal growth and security of chemical engineers, and lead as the foremost catalyst in applying chemical engineering expertise in meeting societal needs.

### Structure:

**The Board of Directors** is charged with maintaining AIChE's vitality. Elected by the members, from our membership, these dedicated professionals have backgrounds as varied as our industry. Elected officers include: president, president-elect, secretary, and treasurer.

**Operating Councils** lead the Institute's efforts to realize the three elements of AIChE's vision.

[Career and Education](#)  
[Chemical Engineering](#)  
[Technology](#)  
[Societal Impact](#)

The Operating Councils work with the various entities that make up AIChE—divisions, forums, committees, local sections, student chapters, and more—to assure that AIChE answers the needs of its members.

**Technical Societies** allow industry, academia and government representatives to collaborate and leverage resources for research, technology transfer and other activities. Currently more than 200 companies participate in three Industry Technology Alliances: the [Society for](#)

[Biological Engineering \(SBE\)](#) and the [Institute for Sustainability \(IfS\)](#) Process Safety ([CCPS](#)), including Safety and Chemical Engineering Education ([SACHE](#)); Emergency Relief Systems ([DIERS](#)); Thermophysical Property Data, and Evaluation of Measurement ([DIPPR](#))

**110 Local Sections** are local communities of AIChE members throughout the United States and Puerto Rico, plus The Netherlands and Belgium, Saudi Arabia, Singapore and Canada. Sections sponsor activities of interest to members in their particular area. They are the "grassroots" of AIChE.

**18 Divisions** and forums focus on the technical areas in which chemical engineers work, including fuels and petrochemicals, advanced materials, and biotechnology.

**23 National Committees** work to further the objectives of the Institute, both internally and through outreach efforts.

**164 Student Chapters** and Student Clubs on campuses in the United States, Puerto Rico, Mexico, Canada, Nigeria, and Hong Kong, offer undergraduates a chance to learn more about their chosen profession.

(From National AIChE web site: <http://www.aiche.org/About/Press/Operations.aspx>)



(Source: [http://en.wikipedia.org/wiki/Oil\\_gusher](http://en.wikipedia.org/wiki/Oil_gusher))

*"That which we persist in doing becomes easier for us to do. Not that the nature of the thing itself has changed but our power to do it is increased."*

*Ralph Waldo Emerson*

## Job Postings

Please see the Area Jobs page (<http://www.ornl.gov/sci/aiche/jobs.htm>) on the local section's web site for information about job opportunities. This page provides a listing of chemical engineering employment opportunities in the surrounding area.

(The posting of employment opportunities and employer information on this site does not necessarily constitute or imply the endorsement, recommendation, or favoring by the Knoxville-Oak Section of American Institute of Chemical Engineers.)



*"Small opportunities are often  
the beginning of great  
enterprises."*

*Demosthenes  
Greek Statesman,  
384-322 BC*

## Southern Appalachian Science and Engineering Fair

This year's Southern Appalachian Science and Engineering Fair (SASEF) will be March 31-April 3, 2008 at the UT Thompson Boling Arena, Knoxville, TN.

The Southern Appalachian Science and Engineering Fair is sponsored annually by The University of Tennessee. The Fair began in 1952 to heighten the interests of area students to science and engineering. The Fair tries to develop an outlet for creative energy and analytical skills in our youth. Students in the Senior Division (grades 9-12) compete for two opportunities to represent the SASEF at the Intel International Science and Engineering Fair. Students in the Junior Division (grades

6-8) compete separately for their own awards. The younger students learn a great deal by being involved in the competition each year. Through their experience with the fair, they will gain insight that will prove useful in future fairs and future endeavors.

If you would like to volunteer to assist with the SASEF, please see their web site at <http://www.sasef.com/default.htm> for additional information or contact

Dr. Joanne Logan  
University of  
Tennessee  
2506 EJ Chapman Dr.  
Knoxville TN 37996-  
4531  
Phone: 865-974-8803  
email: [loganj@utk.edu](mailto:loganj@utk.edu)



# SASEF

Southern Appalachian  
Science and Engineering Fair

## Activities Calendar

Date	Time	Topic	Speaker	Location
Feb 5	6:00 PM	Overview of the ITER Burning Plasma Experiment and the US ITER Project – Joint meeting with ANS	Dr. David Rasmussen	Calhoun's on the River 400 Neyland Drive Knoxville, TN 37902 Phone: (865) 673-3355
Mar 13 or 25	6:00 PM	U.T. Biodiesel car	TBD	TBD
Apr 6-10		2008 AIChE Spring National Meeting		New Orleans, LA
Apr 22 or 24	6:00 PM	Student Awards	TBD	TBD
May 15 or 20	6:00 PM	U.T. Chemical Engineering Dept.	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!



Source: [http://www.cobourg.unitedway.ca/about\\_us.cfm](http://www.cobourg.unitedway.ca/about_us.cfm)

## Election Results

The election results are in and have been tallied. Officers for 2008 are: Chair-Michael Hollander, Chair-elect-To be elected during a special election

after a qualified candidate is identified, Treasurer-Paul Taylor, Secretary-David DePaoli, Directors-Stuart Daw and Tom Busmann and Mark

Swientoniewski (succession from Chair), joining Ed Alperin and Steve McCoy.

*"We cannot live for ourselves alone. Our lives are connected by a thousand invisible threads, and along these sympathetic fibers, our actions run as causes and return to us as results."*

## Officers

<b>Chair:</b>	Michael Hollander	574-1150	<a href="mailto:enviroms@att.net">enviroms@att.net</a>
<b>Chair-Elect:</b>	TBD		
<b>Secretary:</b>	David DePaoli	574-6817	<a href="mailto:depaolidw@ornl.gov">depaolidw@ornl.gov</a>
<b>Treasurer:</b>	Paul Taylor	574-1965	<a href="mailto:taylorpa@ornl.gov">taylorpa@ornl.gov</a>
<b>Directors:</b>	Mark Swientoniewski	574-1150	<a href="mailto:swientoniemd@bechteljacobs.org">swientoniemd@bechteljacobs.org</a>
<b>Term ends 2008</b>	Steve McCoy	220-4730	<a href="mailto:steven.mccoy@ttnus.com">steven.mccoy@ttnus.com</a>
<b>Term ends 2008</b>	Ed Alperin	694-7335	<a href="mailto:Ed.alperin@shawgrp.com">Ed.alperin@shawgrp.com</a>
<b>Term ends 2009</b>	Stuart Daw	946-1341	<a href="mailto:dawcs@ornl.gov">dawcs@ornl.gov</a>
<b>Term ends 2009</b>	Tom Busmann	694-7517	<a href="mailto:tbusmann@focusenv.com">tbusmann@focusenv.com</a>
<b>Membership:</b>	Paul Taylor	574-1965	<a href="mailto:taylorpa@ornl.gov">taylorpa@ornl.gov</a>
<b>Newsletter:</b>	Linda Puckett	574-6984	<a href="mailto:puckettlf@ornl.gov">puckettlf@ornl.gov</a>
<b>Webmaster:</b>	Ben Lewis	574-4091	<a href="mailto:lewisbejr@ornl.gov">lewisbejr@ornl.gov</a>
<b>E-mail:</b>			<a href="mailto:aiche-chat@chem.engr.utk.edu">aiche-chat@chem.engr.utk.edu</a>
<b>Website</b>			<a href="http://www.ornl.gov/aiche">http://www.ornl.gov/aiche</a>

*Herman Melville  
American novelist  
1819-1891*

## 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 – AIChE Tech News and Services

As an AIChE member, you have access to many exciting features. You can submit your own RSS or Podcast to AIChE. You have access to AIChE eLibrary, which will help you find the data you are looking for faster and apply it more productively. Additionally, AIChE is now offering live webcasting!

- [RSS Newsroom](#)

RSS (Really Simple Syndication) is a family of web feed formats. RSS formats are specified in XML (a generic specification for data formats). RSS delivers its information as an XML file called an "RSS feed", "webfeed", "RSS stream", or "RSS channel".

- [Podcast at AIChE](#)

From Wikipedia: Podcasting is the method of distributing multimedia files, such as audio or video programs, over the Internet using syndication feeds, for

playback on mobile devices and personal computers. The term, coined in 2004, is a blend of the terms "iPod", a popular portable audio device, and "broadcasting."

The term podcast, like 'radio', can mean both the content and the method of delivery. The host or author of a podcast is often called a podcaster. Though podcasters' web sites may also offer direct download or streaming of their content, a podcast is distinguished from other formats by its ability to be downloaded automatically using software capable of reading feeds like RSS or Atom.

Usually a podcast features one type of 'show', with new episodes released either sporadically or at planned intervals such as daily or weekly. In addition, there are podcast networks that feature multiple shows

on the same feed.

AIChE is at the beginnings of developing its Podcast library. We encourage members to submit podcasts that will be of interest to the online community.

- [Member WebCast/Conference](#)

The American Institute of Chemical Engineers is now offering live webcasting to all AIChE Members. Please take advantage of this complimentary service. You may hold a meeting with up to 15 attendees for no cost to AIChE members.

(Excerpt from National AIChE web site at: <http://www.aiche.org/MemberCenter/TechNews.aspx>)

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