



American Institute of Chemical Engineers Knoxville-Oak Ridge Section

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For additional information see our Web site at:

[TUUhttp://www.ornl.gov/sci/aiche/](http://www.ornl.gov/sci/aiche/)

Or contact: Linda Puckett, LUUpuckettlf@ornl.gov, (865)574-6984 or
Susan Seymour, TUUSeymour@utk.edu, (865)974-2421

December 2008 Meeting

Date: Tuesday, December 9, 2008

Cost: \$20

Location: Calhoun's, Turkey Creek, Farragut, TN – Private dining area

Menu: Buffet (Special menu available upon request)

5:30 pm Executive Committee Meeting (All members welcome)

6:00 pm Dinner

7:00 pm Program – Mr. Greg Palko, Oak Ridge National Laboratory, **Oak Ridge National Laboratory (ORNL) Goes Energy Efficient with Biomass-Fueled Steam Boilers**

Abstract – At 60 years of age, ORNL's steam plant is getting the equivalent of a heart transplant, trading in the existing gas-fired boiler for a new Cleaver Brook super boiler that runs on wood biomass. The biomass-renewable wood and wood products – will undergo a gasification process to fuel steam production for physical plant operations. The gasification technology heats the chipped wood biomass to high temperatures in the absence of oxygen, preventing it from burning and extracting gases that can then be used as fuel. The biomass can come from bark, mill residue, or clean recycled construction material, all from local sources.

Johnson Controls, Inc. will be installing the new boiler system through an Energy Saving Performance Contract that will reduce the fossil fuel consumption at ORNL by more than 80 percent and cut carbon emissions by 730,000 tons. The \$89 million project will enable ORNL to exceed energy efficiency goals for federal facilities set through DOE's Transformational Energy Action Management initiative.

Bio – Mr. Greg Palko is a Certified Energy Manager, Certified Facilities Manager and Project Management Professional. He has more than 25 years experience with facility operations and management at the Department of Energy's East Tennessee Technology Park and Oak Ridge National Laboratory (ORNL) in Oak Ridge, TN. He is currently the Energy Efficiency Program Manager in ORNL's Facilities Management Division. In this position he is implementing process improvements and energy efficiency projects to achieve cost savings and stream line facility operations. Mr. Palko has a B.S. in Engineering Science & Mechanics from Tennessee Technological University and a Master of Science in Industrial Engineering from the University of Tennessee. He is ABD for a Ph.D. in Engineering Management from the University of Alabama in Huntsville.

Please make your reservations by noon, **December 8**, by contacting

Linda Puckett, puckettlf@ornl.gov, (865)574-6984 or
Susan Seymour, Seymour@utk.edu, (865)974-2421

**The Section will subsidize up to 15 students,
including graduate students**

Engineering Grand Challenges Video & Essay Contest for Students

Duke University's Pratt School of Engineering is sponsoring a national video/essay contest to raise awareness of the National Academy of Engineering (NAE) Grand Challenges. The NAE Grand Challenges identify 14 problems that are key to improving and sustaining our quality of life. The full list of challenges can be obtained at:

TUU <http://www.engineeringchallenges.org>.

They are looking for college students in the United States to create videos between two and three minutes in length AND a 1,000 word essay with bibliography in response to the question: Which of the 14 grand challenges identified by the National Academy of Engineering would YOU choose to address, and how would you do it?

The video should present your reasons for why you choose a specific challenge, present the social impact, the national technological readiness to address the challenge, and possible avenues to solve the challenge.

Eligibility Criteria

1. You must be currently enrolled at a U.S. college or university or community college in an undergraduate associate, undergraduate bachelor or graduate program.

2. You must be between the ages of 18 and 30 years old.
3. All members of a team submitting a video/essay must meet the age and college attendance criteria.
4. Foreign national students attending U.S. colleges as defined in Criteria 1 who are on temporary visas (F or J class) are eligible to compete. If such a student is selected for one of the top three prizes, the financial award will be dispersed as a scholarship to the winning student's or team's university or college institution.
5. All work encompassed by a video and essay submission must be the product of college students. No professional assistance should be used in the filming, editing, or research of the submission.

Award/Scholarship Prizes

First place: \$15,000
Second place: \$10,000
Third place: \$5,000

Judging Criteria

- (1) Originality 25%: An outstanding entry will have concepts, ideas and a format that is

fresh and new, and addresses the technology, public policy and economic relevant to the specific grand challenge topic.

- (2) Message 50%: The Panel will review the message of the Video/Essay submission to determine if the message is positive and in line with the inspirational tone of the Engineering Grand Challenges, is coherent and responds to the question.
- (3) Impact 25%: The Panel will judge whether the video/essay is persuasive, memorable, and moving.

Additional information and submission guidelines can be obtained at:

<http://summit-grand-challenges.pratt.duke.edu/summit-video-essay-contest>

(Source: Email from UTK Engineering Faculty on behalf of Miriam Campo)

Nominations for 2009 Local Section Officers and Directors

Nominations for Local Section Officers and Directors for 2009 are being solicited for the December election.

The following offices are elected each year:

Chair-Elect,
Secretary,
Treasurer, and
Two Directors.

The Chair-Elect acts on behalf of the Chair during his/her absence and automatically becomes the Chair at the end of the current Chair's term.

Secretary and Treasurer serve for one year. The Secretary maintains a record of the proceedings of the Section. The Treasurer is charged with the collection and disbursement

of funds as authorized by the Executive Committee. The Treasurer shall keep adequate records and present financial reports at the request of the Chair or the Executive Committee.

Directors serve for a two-year term and are members of the Executive Committee. The Directors duties are assigned by the Chair and typically include planning and organizing meetings.

If you are willing to serve your local section, please give your name to either Mark Swientoniewski (swientoniemd@bechteljacobs.org) or one of the other current section officers.

Elections are in December and the terms begin in January 2009.



There are two cardinal sins from which all others spring: Impatience and Laziness.

Franz Kafka

Austrian Poet, (1883 - 1924)

Job Opportunity

Senior Piping Engineer

The candidate will be responsible for producing engineering and design deliverables necessary for project and proposal execution.

Major responsibilities:

- Preparing and delivering work packages (drawings, calculations, specifications, bills of materials, material requisitions, etc.) to the Lead Discipline Engineer or Project Engineer on schedule.
- Conformance to contract for all engineering and material

- Monitoring man-hour and material estimates (EAC) and reporting changes.

Educational and Experience:

- Bachelors Degree in Engineering required
- 7-10 years industry experience (air pollution/pulp and paper)
- EIT Required. PE required to work towards
- Stress Analysis using Caesar II

Knowledge:

- B31 Piping Codes

- Composite Piping Systems
- Plastic Piping Systems
- Carbon and Alloy Steel Piping Systems

Ability:

- Able to independently perform routine calculations and analyses.
- Basic knowledge of company products
- Basic PC knowledge
- Demonstrates initiative, team work and commitment

Safety Training Criteria:

- 10-Hour OSHA Training

Office work environment; some travel

Contact: Emily Holthaus

Contract Engineering Recruiter

Aerotek, Inc.

408 N. Cedar Bluff, Ste. 140
Knoxville, TN 37923

☎ Work: 865-292-2422

☎ Fax: 865-292-2490

✉ E-mail:

eholthau@aerotek.com

Vols4STEM News and Events

Upcoming events of interest:

1) Friday, December 5, 2008 **Dr. Joyce Winterton**, NASA's Assistant Administrator for Education, is speaking at a breakfast meeting at Tech 2020. Her topic is "Developing a STEM Workforce as a Strategic Advantage." No cost. Continental Breakfast at 7:30 am, Program at 8:00 am. RSVP to rsvp@tech2020.org Event flyer is at: http://whsknox.blogs.com/vols4stem/Dec5_Winterton_2.pdf.

2) The **2009 Tennessee Science Bowl** is coming up, and we want your help to make this year's event the best ever!

Like last year, the next Tennessee Science Bowl will be held at the Hardin Valley campus of Pellissippi State Technical Community College (PSTCC). The event date is Saturday, February 21.

Here are essential particulars as you contemplate the possibility:

Date of the event:
Saturday, February 21, 2009

Location: Hardin Valley campus of PSTCC (a map is available on the Science Bowl website; see below).

A volunteer sign-up form and other useful details about the 2009 Tennessee Science Bowl are on the event's website at <
<http://www.orau.gov/sciencebowl/>>
Please check your calendar

now and, if possible, reserve that day for us! We want you.

3) **Can engineers around the world volunteer one million hours of their time to support science, technology, engineering, and mathematics education from now through December 2009? Can Knox County Area (Knox and adjoining counties) set the standard for any metropolitan in the world?**

That's what Engineers Week (and Vols4STEM!) wants to find out.

To quantify Engineers Week's global outreach to support STEM education, Engineers Week and NSPE have launched a "**One Million Hours Initiative**" and need your help. At <http://www.eweek.org/> engineers can log the volunteer hours they've contributed to outreach activities.

Examples of activities include the following:

- 1) Visiting a classroom;
- 2) Participating in an extracurricular or community activity; (the STEM Resource Guide, created with much input from Vols4STEM Steering Committee lists many such activities, http://www.vols4stem.org/STEM_Resource_guide_08_25.pdf;
- 3) Volunteering for the National Engineers Week Future City Competition;

<http://www.eweek.org/EngineersWeek/FutureCity.aspx>

4) Hosting a Design Squad event;
<http://pbskids.org/designsquad/>

5) Introducing a "**Girl to Engineering**",
<http://www.eweek.org/EngineersWeek/Introduce.aspx>

6) Helping with EWeek's National Family Day,
<http://www.eweek.org/EngineersWeek/FamilyDay.aspx>

7) Attending or presenting at a career fair; and

8) Participating in programs like **MATHCOUNTS** (www.mathcounts.org), **JETS** (www.jets.org), robotics competitions, or any other student design or engineering-related competitions.

Now through December 31, 2009, be sure to log in and track your hours at <http://www.eweek.org/>. This website sports a new, improved easy-to-use volunteer sign-up form and has a nifty one-minute video clip showing some of last year's festivities. Check it out!

(Source: Vols4STEM email)

Activities Calendar

Date	Time	Topic	Speaker	Location
Dec 9	6:00 PM	Oak Ridge National Laboratory (ORNL) Goes Energy Efficient with Biomass-Fueled Steam Boilers	Greg Palko	Calhoun's, Turkey Creek
Jan 13	6:00 PM	Overview of a Flue Gas Desulfurization System - Springerville, AZ	Tom Pearson	Calhoun's, Turkey Creek
Feb	6:00 PM	Fuel Cycle Status - Joint with ANS	TBD	TBD
Mar 10	6:00 PM	Biodiesel Production - Nu-Energie	TBD	Calhoun's, Turkey Creek
Apr	6:00 PM	Student Awards	TBD	The University of TN
May	6:00 PM	Kimberly-Clark Plant Tour	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!

Being busy does not always mean real work. The object of all work is production or accomplishment and to either of these ends there must be forethought, system, planning, intelligence, and honest purpose, as well as perspiration. Seeming to do is not doing.

Thomas A. Edison
American Inventor

Officers

Chair:	Michael Hollander	300-5645	enviroms@att.net
Chair-Elect:	TBD		
Secretary:	David DePaoli	574-6817	depaolidw@ornl.gov
Treasurer:	Paul Taylor	574-1965	taylorpa@ornl.gov
Directors:	Mark Swientoniewski	574-1150	swientoniemd@bechteljacobs.org
Term ends 2008	Steve McCoy	220-4730	steven.mccoy@ttnus.com
Term ends 2008	Ed Alperin	694-7335	Ed.alperin@shawgrp.com
Term ends 2009	Stuart Daw	946-1341	dawcs@ornl.gov
Term ends 2009	Tom Busmann	694-7517	tbusmann@focusenv.com
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
Website			http://www.ornl.gov/aiche

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We're on the Web!

See us at:

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

About Our Organization... Chemical Engineers in Action Web Site

Chemical engineers have been improving our well-being for more than a century. From the development of smaller, faster computer chips to innovations in recycling, treating disease, cleaning water, and generating energy, the processes and products that chemical engineers have helped create touch every aspect of our lives.

celebrates the many significant advancements that chemical engineers have made to our world. Explore the site to learn more about chemical engineering's great achievements, bold innovators, and new frontiers in the fields of energy, the environment, biomedicine, electronics, food production, and materials.

The AIChE has launched a new Web site (<http://www.chemicalengineering.org/>) that

(Source: AIChE web site: <http://www.chemicalengineering.org/>)

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

