



NOVEMBER MEETING NOTICE

Topic: *Mercury Emissions Control Technology*

Where: *Engineers' Society Building*

337 Fourth Avenue
Downtown Pittsburgh

When: *Thursday, November 4th, 2004*

Time: 5:30pm Networking—Cash Bar
6:00pm Dinner
7:00pm Presentation

Menu: Please select one of the entrees below.

All dinner selections are served with fresh garden salad, assorted rolls & butter, coffee, decaf, tea & iced tea and Chef's choice of starch, vegetable and dessert.

- *Virginia Spots* - English style, with lemon and butter cream sauce.
- *Sirloin Steak Persille* - With Dijon mustard, bread crumbs & merlot demi-glaze.

Cost: \$30.00 AIChE and ACS Members
\$25.00 Students / Unemployed Members
\$35.00 Non-members

RSVP NO LATER THAN THURSDAY OCT 28TH, 2004

TO: Mr. David Missenda, Vice-Chair
Phone: 412-503-4616
E-mail: David_Missenda@URSCorp.com

Your RSVP must include: **Name, Company Name, Menu Choice, Email Address, and Phone Number.**

PLEASE PAY AT DOOR

CANCELLATIONS: If you must cancel your meeting reservation, please do so no later than 48 hours prior to the meeting. Otherwise, you will be invoiced for the cost of your meal.

Joint Meeting with the American Chemical Society

~ About the Presentation ~

Mercury exists in trace amounts in coal. In the United States, coal-fired power plants emit about 48 tons of mercury and are the largest point sources of emissions. The U.S. Environmental Protection Agency determined the need to control mercury emissions from power plants and proposed regulations in December 2003 that are to become final in March 2005. In addition, several legislative proposals have been introduced in the 108th Congress to reduce mercury emissions from the electric-utility sector.

Recognizing the potential for mercury regulations, the U.S. Department of Energy/National Energy Technology Laboratory (DOE/NETL) has been carrying out a comprehensive mercury research and development (R&D) program since the early 1990s. Working collaboratively with industry, academia, and EPA, DOE/NETL has helped to advance the understanding of the formation, distribution, and capture of mercury. However, uncertainty remains, particularly related to the overall cost and effectiveness of controlling mercury from a diverse population of coal-fired boilers, as well as the ultimate fate of mercury once it is removed from the flue gas.

This presentation will provide a summary of DOE/NETL's mercury RD&D program, with a focus on the development of advanced emission control technology. The presentation also briefly describes research directed at the characterization of mercury in coal utilization by-products (e.g., fly ash) and the transport and transformation of mercury in power plant plumes.

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LETTER TO OUR MEMBERS

Dear Members,

Welcome to this month's issue of the *Catalyst*! A few highlights include:

There's still time to volunteer for our AIChE section's booth at the Carnegie Science Center for National Chemistry Week. This year's theme is "Health and Wellness." Please contact Nancy Hirko for details. The event will be held on Oct. 22-23rd.

November's meeting will be a technical presentation, co-hosted by the Pittsburgh Chapter of the American Chemical Society. Details are on pages 1-2.

There will be no meeting in December as we take a break for the Holidays, but please join us again on January 19th, 2005 for our popular meeting at the Penn Brewery.

Happy holidays, and we hope to see you soon!

MONTHLY MEETING

CONTINUED FROM PAGE 1

MEETING LOCATION:

Engineers Society of Western Pennsylvania

337 Fourth Avenue
Pittsburgh, PA 15222
(412)261-0710

The ESWP building is located in Downtown Pittsburgh. For a map and parking locations, please go to:

<http://www.eswp.com>



ABOUT THE SPEAKER:

Thomas J. Feeley III is currently the Manager of the Environmental and Water Resources (Innovations for Existing Plants) Product Line at the U.S. Department of Energy/Office of Fossil Energy's National Energy Technology Laboratory (DOE-NETL). In this capacity, Mr. Feeley is responsible for the strategic planning and management of DOE-NETL's research and development (R&D) programs in the areas of emissions control technology, byproduct utilization, and water quality and availability related to fossil-fuel-fired power plants.

Mr. Feeley has been with DOE-NETL since 1984 where he has served as a project manager on a variety of advanced coal cleaning and flue-gas-cleanup technology development activities. This has included both pre-combustion and post-combustion technologies to control the emission of sulfur oxides, nitrogen oxides, air toxics (mercury), fine particulate matter, and carbon dioxide from conventional and advanced coal-based power system. Prior to joining NETL, Mr. Feeley worked for Roy F. Weston, an environmental consulting firm.

Mr. Feeley has a Bachelor of Science degree in Environmental Sciences from California University of Pennsylvania. He also has a Masters degree in Energy Resources from the University of Pittsburgh, with over twenty credit hours in Environmental Engineering. Mr. Feeley is currently pursuing a Masters in Public Policy and Management from Carnegie Mellon University.

Mr. Feeley is a Qualified Environmental Professional and a Fellow in the Council for Excellence in Government.



MEMBERSHIP CORNER

Dear Members,

We are constantly updating our local membership database. Please send all change of address notifications to our Membership Chair:

Holly Gray
Michael Baker Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

hgray@mbakercorp.com

If you have not already done so, please verify your updated e-mail address with us so that you will continue to receive monthly newsletters!

Thank you!

Please sign me up for the local Pittsburgh Section of AIChE

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Business Phone _____

Residence Phone _____

Email _____

Annual Dues are \$16.00. Make check payable to "AIChE Pittsburgh Section" and send to our Treasurer:

Leigh Anne M. Wacker,
AIChE Treasurer
337 Quail Run Road
Venetia, PA 15367

AIChE PITTSBURGH SECTION SCHOLARSHIPS

Applications are now available for two \$750 scholarships to be awarded by the Pittsburgh Section AIChE for the 2005-2006 academic school year. Sophomore and junior chemical engineering students are eligible to apply if they:

- *Are enrolled in one of the following chemical engineering programs in the AIChE Pittsburgh Section area: Carnegie Mellon University, University of Pittsburgh, West Virginia University, Youngstown State University*
- *Are enrolled at any AIChE-accredited chemical engineering program in the United States provided that the student is the son or daughter of a member in good standing of both the AIChE and the Pittsburgh Section AIChE.*

*The deadline for submission of an application is **January 14, 2005**. Scholarship recipients will be notified by February 11, 2005.*

For more details or to print out a copy of the application, visit www.aichepgh.org

TAKE YOUR KIDS TO NATIONAL CHEMISTRY WEEK!

2004 National Chemistry Week highlights science and chemistry contributions to Health and Wellness. Visit more than 25 tables with chemistry-related experiments, activities, and demonstrations.

October 22nd and 23rd
10 AM – 5 PM
at the Carnegie Science Center

**NATIONAL AIChE NEWS**

2004 AIChE ANNUAL MEETING, November 7-12, Austin, TX

Is this month! Don't miss this opportunity to hear up-to-date research and meet other engineering professionals in your field. You'll find 15 mini conferences and over 575 technical sessions in core and emerging areas like bio, nano, and sustainability, plus special networking events and receptions. For program details and registration information, see: <http://www.aiche.org/annual>.

GET ORGANIZED: Annual Meeting Itinerary Planner New in 2004! Create your own schedule with AIChE's free online itinerary planner. See <http://www.aiche.org/annual>.

ANNUAL MEETING CONFERENCE PROCEEDINGS ON CD-ROM: Buy Today and Save!

The critically acclaimed Annual conference CD-ROM is back, featuring all papers submitted from topical conference and non-topical related sessions. Mac and Windows compatible, the CD is searchable using key words and phrases. The CD costs \$80, and will increase to \$100 after the Annual meeting. Order today by calling 1-800-242-4363 or by using a registration form: <http://www.aiche.org/resources/pdflibrary/conf/Annual04regform8.21.pdf>

ANNUAL MEETING SHORT COURSES: Earn Professional Development Hours

Explore a new area or learn the latest developments in your field with AIChE short courses held Sunday, November 7. Short courses span diverse areas like microwave and RF applications, electrophoresis, sensors, ethics, management and biorefining. Preregistration is important! For details and registration, see: <http://www.aiche.org/conferences/annual/shorts/index.htm> or call 1-800-242-4363

CALL FOR PAPERS: 2005 Spring Meeting If you'd like the opportunity to present a paper at the AIChE Spring Meeting in Atlanta (April 10-14), submit an abstract by selecting the "call for papers" link at <http://www.aiche.org/spring/>.

The Spring Meeting will span the latest chemical engineering R&D and, for the first time, the 20th Annual CCPS Conference, 39th Annual Loss Prevention Symposium, and the Process Plant Safety Symposium. See <http://www.aiche.org/springapp/previewmodule/grouplookup.asp?PersonID>

THE TAX MAN COMETH

Tax season is just around the corner, and now is the time to save \$200 on AIChE financial planning. During October & November only, AIChE benefits partner Grogan Advisory Services will offer reduced prices for the Estate Plan and the Life Plan. Consultants: make sure you optimize your 401k, gifting, and IRA options. The Estate Plan is \$699 and the Life Plan is \$449. Call Grogan Financial at 518-899-6090 or visit

<http://www.efs529.com/aichefinancial>.

Going to Austin? Attend a Grogan Financial Info Session Nov. 7 at 4:30pm & Nov. 8, 9, 11 at 10:45am

<http://www.aiche.org/conferences/annual/specialevents.htm>

SAVE FOR COLLEGE WITH AIChE 529 PLANS: Savings Extended Through October

Act now to grow college funds and save on taxes, too. AIChE, with its partner Education Financial Services, offers you unparalleled access to 529 plans. Your money grows free from federal tax, and you may also benefit from other tax incentives as well. The easy-to-use 529 Advisor Questionnaire helps you select the right plan. The 529 Advisor Questionnaire is a fee-for-use program. Regularly \$30, the plan is available to AIChE members for only \$10 for a single use. Visit <http://www.efs529.com/aiche> or call 516-899-6090.

MAKE THE GRADE: Physical Property Database

In order to process physical property data, engineering software must use correlations. All too often, however, software does not alert you if you use the correlations outside of their validated ranges. This can lead to over-designed equipment, wasted capital, and catastrophic loss. Avoid using invalid data and correlations by using AIChE's DIPPR 801 Evaluated Physical Property Database. This annual subscription provides you with data and validated correlations for nearly 2000 compounds. For more information, contact Karen Person at 212-591-7319; <mailto:karep@aiche.org>

Bio: SBE Membership is here!

AIChE invites you to join the newly formed Society for Biological Engineering. Benefits include: an international professional network, discounts on the bioengineering conferences, subscription to the e-newsletter, and a voice in education, employment and technology advancement topics. Take advantage of the low introductory membership fees: \$10 for AIChE and ACS-BIOT members, \$75 for non-members, and \$5 for students. Join on your AIChE Dues bill or visit <http://bio.aiche.org/aboutus/membership.asp>.



SEMINARS AND RESOURCES

Mixing Uniformity and Dispersion Stability Seminar

Learn the methods required to achieve improved batch-to-batch uniformity or dispersion stability at the two-day seminar, "Consistent Mixing and Dispersing: The Theory and Technology of Incorporating Powders into Liquids," Orlando, FL, December 8-9. Seminar materials, breakfast, breaks, and lunch are included in the fee of \$995. To learn more, contact Lisa Hahn at (614) 863-5940 or Peter Holman at (262) 763-3373.

50% Off Until 2005: SuperChems for DIERS Emergency Relief System Design

Order now and save 50% until the end of the year on SuperChems for DIERS, the software based on DIERS methodology that lets you design, manage and document event the most complex pressure relief design program. A database of 1200 industrial chemicals and spreadsheet-based interface makes inputting and reporting quick and easy. Rigorous modeling capabilities allow you to model multiphase, reacting, and highly non-ideal systems. Order now, and you'll pay only \$6,250 plus annual maintenance until December 31, that's half the regular cost. See <http://www.aiche.org/diers> for more information.

Free to AIChE Members Until 2005: Mach II CDS 2.0 Relief Design System:

Get the fully configured Calculation Engine, Documentation Generator, Mach II Reader and Data Collector free until 2005. The Mach II includes over 200 DIERS benchmark examples for single-phase, and two-phase flow including homogeneous onset, bubbly flow and chum-turbulent flow-all calculated using the coupling equation. Utilize design and rating modes, specifications sheet generation, graphical renderings, numerical integration tables, regression tool and more! This is a limited one-time exclusive offer to all AIChE and DIERS members. Go to: <http://www.digitalsolutions.org>.

YOUR PITTSBURGH SECTION AICHE
OFFICERS AND COMMITTEE CHAIRS
WOULD LIKE TO
WISH YOU A
HAPPY THANKSGIVING!

SPONSORSHIPS

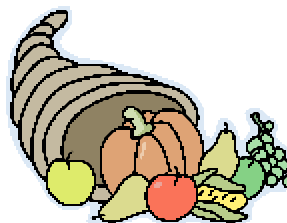
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Full Page	\$300
Half Page	\$175
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1/12 Page	\$30

Place multiple sponsorships and receive a discount!

*Three consecutive ads – 10% off
Eight consecutive ads – 30% off*

Please contact Mariangela Peters at mariangela.peters@bayermaterialscience.com or 412-777-4195 for more information.



FUN FACTS

Gourd Mania

Jack-o-lanterns have their roots in Ireland where oversized rutabagas, turnips and potatoes were hollowed-out, carved into faces and illuminated with candles to be used as lanterns during Halloween celebrations. With short supply in the US, Irish immigrants found the pumpkin (native to Mexico) a perfect stand-in.

A Corny Tale: Candy Corn

Invented in the 1880s, more than 35 million pounds of candy corn will be produced this year. That is the same as 9 billion pieces-enough to circle the moon nearly 4 times. <http://www.candyusa.org/Candy/candycom.asp>.

Mole Day 2004

Chemistry fans around the world will observe Mole Day on October 23. Featuring the theme, "Pi a la Mole," the celebration will encourage greater understanding of chemistry and general fun. Visit <http://www.moleday.org/>.



VOLUNTEERS NEEDED AS ENGINEERING MENTORS

The National Engineers Week Future City Competition™ seeks engineers to volunteer this fall and winter to introduce middle school students across the nation to a career in engineering. Since its founding in 1992, the educational program has made engineering come alive for hundreds of thousands of students.

The Engineers' Society of Western Pennsylvania (ESWP) in conjunction with the Carnegie Science Center will present the 6th Annual Future City Competition in the Pittsburgh area. It is a national program sponsored by the engineering community to promote technological literacy and engineering to middle school students.

The Competition asks middle school students to create their city on computer using *SimCity 3000*, build a 3-D model of the city, and write an essay – all in the hopes of winning the regional competition in January and an all-expense-paid trip to the National Finals in Washington, D.C. in February.

In 2004, more than 30,000 students from 1,100 schools in 33 regions participated in Future City, the largest engineering education program in the country. Our own Pittsburgh regional team from Riverview Junior/Senior High School, mentored by Bill Brooks of Brooks Fire Protection Engineering, captured the 2004 National championship!

More volunteer engineer mentors are needed for this fun, worthwhile program. Each volunteer engineer mentor works with seventh and eighth-graders, in a team of three students, and their teacher, helping to guide the youngsters through the rigors of building a functioning city. Engineers generally devote only 20 to 40 hours to the project over the period from October to January. Part time mentors are also needed.

This year's Regional Competition will be held at the Carnegie Music Hall on Saturday, January 15, 2005. For more information on volunteering as an engineer mentor for the 2005 Future City Competition, please

contact Werner Loehlein, Pittsburgh Future City Mentor Coordinator, loehlein@usace.army.mil (412-395-7363) or visit our website at www.futurecitypittsburgh.org.

AICHE PITTSBURGH TO PARTICIPATE IN NATIONAL CHEMISTRY WEEK 2004!

Our local Section will once again participate in this year's National Chemistry Week events at the Carnegie Science Center. The theme this year is focused on **Health and Wellness**. Our section will host a table on October 22 and 23, 2004 to explain the concept of calories and what it takes to fuel the human body. We will be handing out information on calories in food and calories consumed for various activities. We will also perform an experiment involving sugar quantities in various foods.

This event is an excellent opportunity to foster young interest in chemistry, and to illustrate the ways in which science impacts our everyday lives.

As always, if you would like to participate, please contact Nancy Hirko at 412-826-3636 or at nhirko@air-comp.com. Any help is greatly appreciated!!

NEWSLETTER DEADLINE

**THE DEADLINE FOR THE JANUARY 2005 NEWSLETTER IS
FRIDAY, DECEMBER 10, 2004.**

Please submit information to:

*Mariangela Peters
Bayer MaterialScience, LLC
100 Bayer Road
Pittsburgh, PA 15205*

Phone (412) 777-4195

mariangela.peters@bayermaterialscience.com



AICHE PITTSBURGH SECTION 2004-2005 OFFICERS

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PE Review: Carl Schwartz

Web Master

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2004-2005 Monthly Meeting Schedule

Date	Topic	Location
September 23, 2004	Plant Tour	Homer Laughlin – Newell, WV
October 20, 2004	Plant Tour – Joint Meeting w/SWE	McKeesport WWTP
November 4, 2004	Joint Meeting with ACS	ESWP - Pittsburgh
January 19, 2005	Joint Meeting with AWMA	Penn Brewery
February 2005	Annual Student Night	Univ of Pittsburgh - Oakland
March 2005	Technical Presentation	TBA
April 2005	Plant Tour	TBA
May 2005	Last Meeting of Year / Award Dinner	TBA

Mark your calendars!

For the Following Dates:

Oct 23, 2004	Outreach Event	National Chemistry Week At the Carnegie Science Center
Nov 4, 2004	Monthly Meeting	Technical Presentation and Joint Meeting with the American Chemical Society
Jan 19, 2005	Monthly Meeting	Presentation and Joint Meeting with the AWMA at the Penn Brewery



The Catalyst

American Institute of Chemical Engineers
337 Fourth Avenue
Pittsburgh, PA 15222-2097



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