



NOVEMBER MEETING NOTICE

Where: PPG Industries - Springfield Plant
125 Colfax Street
Springdale, PA 15144

When: Wednesday, November 13, 2002

Time: 5:30 PM Registration and Networking
6:00 PM Plant Tour
7:30 PM Dinner at Chelsea's Grille

Menu: Please select from the following menu items:

- ❖ Veal Saltimbocca – topped with prosciutto and provolone, served over a bed of creamed spinach
- ❖ Chicken Pecan Dijon – deglazed with sherry wine and finished with a cream sauce
- ❖ Mahi Mahi – crusted with Macadamia nuts and served with an orange wasabi reduction

(Vegetarian option available upon request)

All entrees served with dinner salad, roasted red potatoes, vegetable, rolls and butter, and choice of coffee or tea.

Cost: \$25.00 Members
\$20.00 Students / Unemployed Members
\$30.00 Non-members

FOR NOVEMBER MEETING,

RSVP NO LATER THAN FRIDAY NOV 8TH, 2002

To: Mr. Nathan Peters, Vice-Chair
Tel 724-229-7912

Email: npeters@larocheind.com

PLEASE PAY AT DOOR

Name _____

Menu Selection _____

Email _____

Phone _____

CANCELLATIONS: If you must cancel your meeting reservation, please do so no later than 24 hours prior to the meeting. If you do not provide a cancellation notice, you will be invoiced for the cost of your meal.

~ About the Plant Tour ~

PPG's Springdale Industrial Coatings Plant

Since 1947, PPG has operated a coatings manufacturing facility in Springdale, PA, about 20 miles northeast of Pittsburgh on the Allegheny River. Since that first batch of paint, the plant has gone through many changes, expansions, and improvements, growing along with PPG's entire coatings business.

Today, the Springdale facility is one of PPG's primary plants for supplying products to the automotive refinish market as well as a broad base of industrial coatings customers. PPG's cathodic electrodeposition primers, acrylic liquid color coats, and powder clear coatings are used on products ranging from motorcycles to home appliances.

The Springdale plant manufactures millions of gallons of paint every year, in batch sizes ranging from 1 gallon to more than 4,000 gallons. Many of PPG's products for the aluminum extrusion and coil markets are produced here. These coatings are typically applied to architectural metals used for both residential and commercial applications.

The process at Springdale involves resin production in batch reactors, premixing and processing in dispersion mills, and final adjustments such as thinning and tinting.

DIRECTIONS TO THE PLANT AND RESTAURANT ARE ON PAGE 2.

IMPORTANT - PLEASE RESPOND !

➡ We need your updated e-mail address!!

Starting in January, we will be implementing a new electronic newsletter. **This will REPLACE the paper newsletter that you currently receive.** PLEASE make sure that we have your current e-mail address.

For more information, see Page 2...



E-NEWSLETTER (FROM PAGE 1)

Dear AIChE Pittsburgh Members,

While you are perusing this month's issue, don't forget that we will be transitioning to an electronic newsletter starting in January. In order to make sure that this transition goes smoothly, we need to have current e-mail addresses for all of our members.

The e-newsletter will replace our current paper newsletter. Monthly meeting reminder cards will be sent to members upon request.

Please help us to make sure that you don't miss any issues of your newsletter. We'd like to keep you informed of our monthly meetings, career-development seminars, outreach events, local and national section news, member benefits, and networking opportunities.

If you do not currently receive an electronic monthly meeting reminder from AIChE, please forward your e-mail address to our membership chair at hgray@mbakercorp.com. We will use the address you specify for all your Pittsburgh AIChE notifications. Our e-mail list is confidential and will be used only by us.

Thank you for your help!

Mariangela Peters

AIChE Pittsburgh Section - Catalyst Editor

NOVEMBER MEETING NOTICE (FROM PAGE 1)

~Directions to the Springdale Plant~

From the Turnpike I-76 (East or West):

Take the PA Turnpike (I-76) to Exit 5 (Allegheny Valley). Bear left at the Turnpike exit and proceed North on Freeport Road (Pittsburgh Street). Proceed approximately 3 miles to light at Colfax Street (first light after large smokestack on right. A Subway Shop is on the left.) Turn right onto Colfax Street. There are two separate PPG entrances on the right. The second entrance is for the plant.

From Downtown Pittsburgh:

Take PA Route 28 North. Exit at PA Route 910 (Hamarville Exit). Bear right on the exit onto PA-910.

Turn left at the light where PA-910 dead-ends onto Freeport Road (Pittsburgh Street). Proceed approximately 3 miles to light at Colfax Street (first light after large smokestack on right. A Subway Shop is on the left.) Turn right onto Colfax Street. There are two separate PPG entrances on the right. The second entrance is for the plant.

**** Due to a limited amount of visitors' parking, you may need to park on the street for the tour.**

~Directions from the Plant to Chelsea's Grille~

Turn left onto Colfax Street. Turn left onto Pittsburgh Street (Freeport Road). Proceed about 3 ½ miles, and turn left onto Hulton Bridge. Proceed about half a mile, then turn right onto 3rd Street. Turn left onto Pennsylvania Avenue, then right onto Allegheny Avenue. Chelsea's Grille is located at 515 Allegheny Avenue, Oakmont, PA

LETTER FROM THE CHAIR

Greetings AIChE Members!

I hope that everyone had a wonderful October. The season of giving thanks is now upon us. With that in mind, I would like to express my gratitude to the following people:

First, a "thank you" to Dr. David Sholl for his excellent presentation at our October meeting, "A Consumer's Guide to Computational Chemistry".

I would also like to thank Lois Bradley, of the Bradley Partnerships (www.bradleypartnerships.com) for her presentation at the "Career Pathways" resume-writing workshop. The workshop was well received by AIChE attendees. Stay tuned for additional "Career Pathways" workshops.

Finally, I'd like to thank everyone who volunteered for National Chemistry Week. Working with the kids is always so much fun, and we still have National Engineers' Week coming up.

Our meeting this month will be a tour of the PPG Springdale Plant. Please join us for that on Wednesday, November 13th. I hope to see you there!

JoAnn Truchan

AIChE Pittsburgh Section- Chair



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
Baker Environmental, Inc
Airport Office Park, Bldg 3
Coraopolis, 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! We will be switching to an electronic newsletter in January.

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,
CFX Software & Services,
Omega Corporate Center
1260 Omega Drive
Pittsburgh, Pennsylvania 15205

NEWSLETTER DEADLINE

**THE DEADLINE FOR THE JANUARY NEWSLETTER IS
 DECEMBER 10, 2002.**

Please submit information to:
Mariangela Peters
Sony Electronics - AG
1001 Technology Drive
Mt Pleasant, PA 15666
mariangela.peters@am.sony.com
724-696-8234

STUDENT SECTION

Thank you to Dr. Dadyburjor and the Student Chapter of AIChE at WVU for their warm hospitality on October 10th (being a Pitt alum I was received very well). The students asked some very good questions following the presentation.

To all professionals, the universities are always looking for technical speakers for seminars regardless of your current occupation. Students should be aware of the nontraditional jobs that ChemE's hold.

National Engineer's Week will be celebrated at the Carnegie Science Center in February 2003. Any student chapter interested in hosting a table, please contact me and I can forward the necessary information.

For students interested in volunteer work, the Pittsburgh FutureCities competition is in need of volunteers. Briefly, FutureCities allows 7th and 8th graders to design a city in SimCity3000 and build a partial scale model. There are openings for model movers.

David Missenda
 Student Outreach Chair

**HAPPY
 THANKSGIVING!**



From your AIChE Local Section



CAREER CORNER

ATTENTION JOB SEEKERS...

AICHe Pittsburgh has been contacted with the following information:

Job Opportunity for a Process Engineer

Pittsburgh Location - Excellent Corporation
Dry Chemicals Process (Heating, Drying, Cooling,
Crushing & Packaging)

Position consists of Process Improvement Responsibilities and ISO/Quality Systems responsibilities.

Base Salary is probably in the 50-60K range

BS Chemical Engineering and approximately 5 years of relevant experience required.

Interested candidates should contact Jeffrey Latterell at:

Latterell Technical Search

P.O. Box 441

Cannon Falls, Minnesota 55009

Phone: (507) 263-4841

Fax: (507) 263-4842

jeffrey@latterell.com

THROW YOUR HAT IN THE RING

Participate in AICHe's next career fair - either in person (in Indianapolis, November 3 and 4) or virtually (via the career fair resume database). The event includes on-site interviews, informal networking with employers, job hunting workshops, and more. This is a FREE benefit for AICHe members. Visit

<http://www.aiche.org/careerservices> for details.

FALL NEWS

Fall is here and that means shorter days, cooler weather, and Halloween fun. So, take a break from raking leaves or shuffling papers and enjoy a little treat from AICHe - no trick.

AUTUMN LEAVES

This month, enjoy the natural chemistry of fall firsthand. For road trips and fall festivals in your area, foliage updates, and info on apple picking, bulb planting, and the science behind it all, visit

<http://www.urbanext.uiuc.edu/fallcolor>

TOY DESIGN CHALLENGE

Presented by Sally Ride Science Club and Smith College, TOYchallenge dares teams of middle school

students to design their own toy or game. Teams must find an adult coach and register by Nov. 15, 2002. Prizes include a week at Space Camp, a personalized Hasbro action figure, or a VIP tour of NASA's Kennedy Space Center. Guidelines and application forms are available at www.toychallenge.com.

THE GREAT PUMPKIN

Over 895 million pounds of pumpkins are produced in the US each year. Illinois leads the country in pumpkin production with over 364 million pounds and 20,000 acres. Learn more about this favorite fall fruit, including history, recipes, and local festivals at:

<http://www.urbanext.uiuc.edu/pumpkins/>.

FALL CAMPING

If you're hitting the trail this fall, but don't want to pack the kitchen sink, check out the latest in high-tech camping gear. The bears will be duly impressed.

<http://www.popsoci.com/popsoci/science/article/0,12543,352758,00.html>

AICHE NATIONAL CHAPTER NEWS

SPEAKING OF AICHE'S ANNUAL MEETING...

Don't miss out on the largest Annual Meeting ever with over 400 technical sessions, 6 topical sessions, and a strong bio-thrust. The meeting is also packed with networking opportunities. So you'll have time to catch up with colleagues and make great contacts in your field. Visit <http://www.aiche.org/annual> or call 1-800-242-4363 to register.

SHAPE THE FUTURE

Next month, shape the future of AICHe and vote on constitutional changes. The proposed changes will impact membership and business practices. Watch your mailbox or vote at the Annual Meeting. To learn more, visit: <http://www.aiche.org/constitution>.

AICHE JOURNAL - ONLINE SUBMISSIONS

Manuscripts for AICHe Journal can now be submitted electronically on the Web using Rapid Review 2.0, the AICHe Journal's new peer review tracking system. Authors, editors, and reviewers can now track a manuscript through the review process 24 hours a day. To submit your manuscript online, please go to the Rapid Review AICHe Journal Corresponding Author Logon Screen at

<http://www.rapidreview.com/AICHe2/author.html>.



ATTENTION ENGINEERS - VOLUNTEERS NEEDED!

The Pittsburgh Regional Future City Competition is in **immediate** need of engineer mentors. Mentors are needed to begin work with middle school teams. Please consider volunteering as a mentor for this fun and worthwhile experience.

The Engineers' Society of Western Pennsylvania (ESWP) in conjunction with the Carnegie Science Center will present the 4th Annual Future City Competition in the Pittsburgh area. The Future City Competition asks middle school students to create -- first on computer and then in large, three-dimensional models -- their visions of the city of tomorrow. The Pittsburgh Regional Competition will be held at the Carnegie Music Hall, on Saturday, January 18, 2003. The Future City Competition is a national program sponsored by the engineering community to promote technological literacy and engineering to middle school students.

For more information on volunteering as an engineer mentor for the 2002 Future City Competition, please contact Carl W. Schwartz at 412-374-3678, or email at schwarcw@westinghouse.com.

Please visit our website at futurecitypittsburgh.org

SPONSORSHIPS

*Interested in placing your company's
information in future AIChE Newsletters?*

Full Page	\$300
Half Page	\$175
Quarter Page	\$95
Business Card Size	\$45
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@am.sony.com or 724-696-8234 for more information.

A THANKSGIVING HEAT TRANSFER PROBLEM

In engineering parlance, we are faced with a very tricky heterogeneous, heat transfer problem. In other words, cooking a turkey correctly is tricky.

Heat transfer is an essential part of an engineer's work. These same techniques can be applied to figure out exactly how to cook a turkey.

The heat transfer problem is that the breast and the legs cook at different rates. The breast is composed of white meat, and the legs contain dark meat which has more muscle and connective tissue than the white meat. The goal is to cook the turkey just long enough to break apart this tissue. Reaching this point makes the turkey succulent. The tissue turns to gelatin, which gives a velvety feeling in the mouth.

To achieve this you want the breast to be cooked to 155 degrees Fahrenheit, no more than 160 or else it will be too dry. Yet, you want the dark meat to be 180 degrees and above. Under 180 it is unpleasantly chewy and even has a metallic taste. There's the problem: The white breast meat cooks faster than the leg meat, which means it's done well before the dark meat ever reaches the right temperature. So, how can you avoid, this year, having to pour gravy all over your turkey to disguise its dryness? Here are some engineering, heat transfer cooking tips.

- First, make sure the turkey is fully thawed. Usually it is best to do this in the refrigerator, otherwise the turkey could spoil.
- The next tip is very controversial: Don't stuff the turkey. It just messes up the heat transfer. By the time the stuffing is fully cooked, the turkey is overcooked by 60 degrees or so.
- Before cooking, cover the breast with an ice pack. As the rest of the turkey comes up to room temperature, the breast will be about twenty degrees cooler. This will solve our holiday heat transfer problem: it'll slow down the cooking rate of the white meat of the breast, making it cook about as fast as the dark meat in the legs.
- The last suggestion is obvious, but not always followed: Use a thermometer, two if possible. Pull out the turkey when the breast reaches 155 to 160 degrees, and check that at the same time the dark meat is 180 degrees.

Then stop thinking about heat transfer and enjoy your Thanksgiving meal.

(These cooking tips come from Food Scientist Harold McGee. You might check out his book *On Food and Cooking* for more details.)

Source: <http://www.engineerguy.com/comm/3513.htm>

**CHEMISTRY OF AUTUMN LEAVES**

One of the nicest things about living in northern climes is the ever changing seasons. For a few weeks, nature puts on one of its most spectacular displays as native trees and shrubs finish out the growing season in a brilliant display of fall colors.

Leaves manufacture simple sugars from water and carbon dioxide, using energy captured from the sun by chlorophyll. These sugars are the sole source of the carbohydrates needed for the tree's growth and development. In the food-making process, chlorophylls break down and are continually "used-up". However, the tree replenishes them all through the growing season. As long as replacement remains high, the leaves stay green.

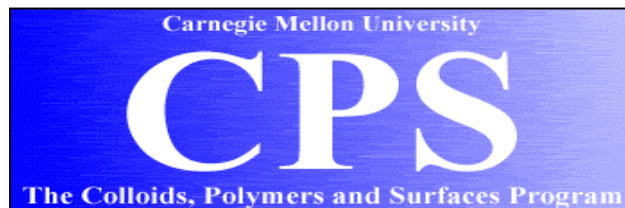
What happens to leaves in the fall? As fall approaches, influences inside and outside of the plant cause the chlorophylls to be replaced at a slower rate. Shorter days cause a layer of cork cells to form at the base of each leaf, gradually closing off the flow of water and minerals into the leaf. As the supply of chlorophylls dwindles, other pigments that may have been present in the leaf all along are slowly unmasked and begin to show through.

Unmasked pigments include the carotenoids (found in the plastids of the leaf cells), which result in brilliant yellows and oranges. Some trees where carotenoids are conspicuous include ash, maple, aspen, birch, black cherry, cottonwood, tulip tree, and sycamore.

Another group of pigments, called anthocyanins, are responsible for the reds, purples, and blended combinations of these colors. Unlike the carotenoids, these pigments have not been present in the leaf all season. Instead, they develop in late summer in the sap of the leaf cells. Their formation depends on the breakdown of sugars in the presence of bright light while the level of phosphate in the leaf is reduced. Phosphate is at a high level during the growing season, but in autumn it moves out of the leaf and into the stem of the plant. When this happens, the sugar breakdown process changes, leading to the production of anthocyanin pigments. Brighter light produces more anthocyanins and more brilliant color.

We don't yet fully understand all of the complicated actions - and interactions - involving pigments, sunlight, moisture, chemicals, hormones, temperatures, length of daylight, site, genetic traits, and so on that make for a perfect autumn color display. As research probes deeper into the basics of plant life, we will understand more about the processes which color the autumn landscape.

Source: <http://www.mortonarb.org/color/fallcolor.htm>

**Carnegie Mellon
PART-TIME GRADUATE STUDIES**

This interdisciplinary program of part-time graduate study (currently in its 30th year) leads to a Master of Science degree in Colloids, Polymers and Surfaces (CPS) offered jointly by the Engineering and Science Colleges at Carnegie Mellon University. It is also possible to earn a combined masters degree in CPS and Chemical Engineering.

Course work is relevant to many industries as chemical product manufacture and process development often require application of principles of colloid, polymer and surface science. Some examples include industries working with nanoparticle technology, pigments and coatings, pharmaceuticals, surfactant-based products, food science, cosmetics and personal care products, environmental science, pulp and paper, fiber/textiles, polymer and biotech materials.

*Applications for Spring 2003 enrollment are now being taken. Courses are offered in the evening hours. **Classes begin January 13, 2003**, and new students may enroll in the entry-level course, *Physical Chemistry of Colloids and Surfaces*.*

For additional information, contact:

Dr. Annette M. Jacobson
Director, CPS Program
Doherty Hall, Chemical Engineering Dept.
Carnegie Mellon University
Pittsburgh, PA 15213
Phone: (412) 268-2244
E-mail: jacobson@andrew.cmu.edu
www.cheme.cmu.edu/cps/



AICHE PITTSBURGH SECTION 2002-2003 OFFICERS

Executive Committee

Chair

JoAnn Truchan (jtruchan@achd.net)
Allegheny County Health Dept.
412-578-7981

Vice-Chair & Program

Nathan Peters (npeters@larocheind.com)
LaRoche Industries, Inc.
412-889-7833

Secretary

Justin P. Filey (jfiley@ppg.com)
PPG Industries, Inc.
724-274-3529

Treasurer

Leigh Anne M. Wacker (leigh.wacker@cfx.aeat.com)
AEA Technology Engineering Software Inc.
412-893-1005

Counselors

John Hauser (hauserjj@prosaf.com)
PROSAF, Inc.
724-942-3717

Joseph McCarthy (mccarthy@engrng.pitt.edu)
University of Pittsburgh
412-624-7362

Past Chair & Nominations

Michael Flaherty (michaelp871@hotmail.com)
PPG Industries, Inc.
724-274-3371

Additional Officers and Chairs

Membership Chair

Holly Gray (hgray@mbakercorp.com)
Baker Environmental, Inc.
412-269-6059

Newsletter Editor

Mariangela Peters (mariangela.peters@am.sony.com)
Sony Electronics, Inc.
724-696-8234

Engineers' and Chemistry Week

Nancy Hirko (nhirko@air-comp.com)
Air/Compliance Consultants, Inc.
412-826-3636

Student Outreach Chair

David Missenda (david_missenda@URSCorp.com)
URS Corporation
(412) 351-2044 x230

Scholarship Chair

Ed Moretti (emoretti@mbakercorp.com)
Baker Environmental, Inc.
412-269-6055

Committee Chairs

Safety & Environmental: Shiw Tseng
PE Review: Carl Schwartz

Web Master

Richard Dupree (rrd@telerama.com)
Eaton Cutler-Hammer
724-775-5122

2002-2003 Tentative Monthly Meeting Schedule

Date	Topic	Location
December 2002	Holiday Break - No Meeting	---
January 15, 2003	Maglev (Joint Meeting with AWMA)	Penn Brewery
February 19, 2003	Student Night	University of Pittsburgh
March	Technical Presentation	TBA
April	Plant Tour	TBA
May	McAfee Awards	TBA

Mark your calendars!

For AIChE's Upcoming Events:

Nov 13, 2002	Monthly Meeting	Plant Tour at PPG in Springdale
December 2002		Holiday Break - No Meeting
Jan 15, 2003	Monthly Meeting	Joint Meeting with AWMA at the Penn Brewery Presentation on "Maglev" and Tour of the Brewery
Jan 18, 2003	Outreach Event	Annual Future City Competition at Carnegie Music Hall in Oakland

DON'T MISS OUT ON UPCOMING ISSUES OF 'The Catalyst'...
SEND US YOUR E-MAIL ADDRESS TODAY!!

Starting in January, we will be implementing a new electronic newsletter. This will REPLACE the paper newsletter that you currently receive. Details are inside...

**Catalyst**

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

Visit us on-line at www.aichepgh.org



PROUD TO BE AN AMERICAN!