



SEPTEMBER MEETING NOTICE

The "How" and "Why" of Corrosion Failures

Where: **Bravo! Cucina Italiana**
211 Summit Park Drive
Pittsburgh, PA 15275
412-809-9115

When: Tuesday, September 12, 2006
(Re-scheduled from the May meeting which was cancelled)

Time:

5:30 PM Registration
6:00 Dinner
7:00 Presentation by **Dr. Mehrooz Zamanzadeh**
(Dr. "Zee" to most)

Menu: Please select one of the entrees below. All meals include choice of Caesar, House or Chopped salad.

- **Veal Marsala** – sautéed veal medallions served with a Marsala mushroom sauce and herbed Pasta.
- **Tilapia** – wood-grilled and topped with lump crab, served with roasted vegetables and crispy potatoes.
- **Tortellini Florentine** – fresh pasta stuffed with spinach and cheese, tossed in a Basil and Pomodoro sauce.

Cost: \$30.00 Members
\$28.00 Students and unemployed members
\$32.00 Non-members

RSVP NO LATER THAN
FRIDAY, SEPTEMBER 8, 2006

To: Mr. James Miller, Vice-Chair
Phone: 412-268-9517
E-mail: jbmiller@andrew.cmu.edu

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.

~About the Presentation~

Corrosion testing, failure analysis, and the principal mechanisms by which materials fail in service, will be examined in this presentation. Several important factors often associated with component failures are deficiencies in design, fabrication, operating conditions, or unsuitable materials selection. These factors are of primary consideration when a corrosion failure occurs. If identified early on, potential failures or accidents can often be prevented, and as a result costly legal expenses may be avoided.

Dr. Mehrooz Zamanzadeh will present a typical failure analysis investigation in a step by step approach. Case histories in the aerospace, construction, chemical industries and underground facilities will be presented. Dr. "Zee" is certified by the *National Association of Corrosion Engineers* (NACE) as a specialist in Materials Selection & Design, Coatings, Corrosion, and Cathodic Protection.

Dr. "Zee" is a materials specialist with over 25 years of practical experience in the fields of failure analysis and materials characterization. He has worked with many different groups to determine the root cause of materials-related failures, including the chemical, oil and gas, construction, manufacturing and commercial aircraft industries. Before becoming the Manager of the Materials Division of PSI in 1987, Dr. "Zee" functioned as the Senior Materials Specialist.

In 1993, he founded MATCO Associates, a consulting and testing firm with headquarters in Pittsburgh, PA. Dr. "Zee's" degrees include a B.S. and M.S. in Materials Science and Engineering and a Ph.D. in

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LETTER FROM THE CHAIR

Welcome back!

Well, we've survived another summer and are ready for a vacation to recover from our vacation. Some of us call that WORK. Either way, we are ready to kick off another year of activities in your Pittsburgh Chapter. We have a new slate of officers and executive committee members who have already been at work laying out this year's direction, and looking at some other crucial issues and trying to come to some resolutions.

One of these issues is membership participation and how to increase the activity level of our typical members. Depending upon whose numbers we use and whether we count non-dues paying members, our chapter has on paper from 600 to 800 members. Our meeting attendance is an abysmal 20 people. Why? How can we improve? Is it our programming or as some suggest, just today's hectic lifestyle? I don't accept the inevitability of this situation. I am convinced we can attract more of you to our meetings. Tell us what you want to see or do. Call Jim Miller, the Vice Chair or me and tell us what you want. We will be contacting you along these lines as well. We have some exceptionally talented people in our chapter and we need your participation.

You all should have received your ballots for national office elections. Please don't forget to fill these out and mail them back. Our own Dale Kearns is running for President and I know he will appreciate your support.

I also want to give a special thanks to John Hauser. John took on a critical and vital task and in his typical outstanding manner; John was able to resolve a situation that the Executive Committee had been wrestling with for several months. While I cannot reveal the nature of John's activities, his services were of great importance to the chapter. Thanks John!

I hope to see you on September 12 at Bravo! Cucina Italiana for our first meeting of this calendar year.

GO STEELERS!!!

Sincerely,

Gary Hall
Chairman, AIChE Pittsburgh Chapter

MONTHLY MEETING

CONTINUED FROM PAGE 1

Materials Science from Pennsylvania State University. He joined the National Iranian Oil Company as a research fellow upon completion of his doctoral work in 1980. In 1985, he joined Carnegie Mellon University as a Post Doctoral Research Associate under a grant from IBM.

Dr. "Zee" is a past Trustee of the Pittsburgh Chapter of NACE as well as a past Chairman of the Pittsburgh Chapter of American Society for Metals (ASM) International. Dr. "Zee" has lectured and taught frequently on materials science, metallic and non-metallic materials including PVC pipes and FRP materials, failure analysis (fracture mechanics), coatings and materials selection for the University of Pittsburgh, Carnegie Mellon University and Penn State University as well as NACE, AFS, ASM and ASTM.

Dr. "Zee" functions as the primary consultant and principal investigator on all of MATCO's fracture, paint and coatings, and materials failure-analysis-related projects. Over the course of his career, Dr. "Zee" has performed and reviewed thousands of failure analyses investigations involving materials damage on PVC and FRP pipes and tubing, cables flexible connectors, aging aircraft components, accident and explosion cases involving materials failures, human implants, electronic circuitry devices, automobile and fire engine components, industrial, manufacturing, process and construction failures. He is an expert in materials characterization and commonly uses analytical techniques including FTIR, SEM/EDS and light microscopy.

~ DIRECTIONS TO BRAVO! ~

From Downtown Pittsburgh:

Take I-279 South through the Fort Pitt Tunnel toward the Airport. I-279 becomes US-22 W/US-30 W, then PA-60 N. Take Exit #1 toward Robinson Town Centre Blvd. Take the ramp toward THE POINTE. At the traffic light turn left onto Summit Park Dr. Continue straight past two more traffic lights and a stop sign. Restaurant is on the right at the next traffic light.



From the North:

Take I-79 South to PA-60 N/Steubenville Pike via Exit #60B toward Airport/Moon Run. Merge onto PA-60 N to Airport and bear right to ramp toward THE POINTE. At the traffic light turn left onto Summit Park Dr. Continue straight past two more traffic lights and a stop sign. Restaurant is on the right at the next traffic light.

From the South:

Take I-79 North to Exit #59B toward the Airport on US-22 W/US-30 W, then PA-60 N. Take Exit #1 toward Robinson Town Centre Blvd. Take the ramp toward THE POINTE. At the traffic light turn left onto Summit Park Dr. Continue straight past two more traffic lights and a stop sign. Restaurant is on the right at the next traffic light.

From the East:

Take I-376 West to I-279 South through Fort Pitt Tunnel toward the Airport. I-279 becomes US-22 W/US-30 W, then PA-60 N. Take Exit #1 toward Robinson Town Centre Blvd. Take the ramp toward THE POINTE. At the traffic light turn left onto Summit Park Dr. Continue straight past two more traffic lights and a stop sign. Restaurant is on the right at the next traffic light.

From the West:

Take US-22 E/US-30 E toward the Airport. Merge onto PA-60 N. Take Exit #1 toward Robinson Town Centre Blvd. Take the ramp toward THE POINTE. At the traffic light turn left onto Summit Park Dr. Continue straight past two more traffic lights and a stop sign. Restaurant is on the right at the next traffic light.

2006-2007 PITTSBURGH CHAPTER EXECUTIVE COMMITTEE ELECTIONS

We are pleased to introduce to you the new AIChE Pittsburgh Chapter Officers for the 2006 – 2007 program year. Congratulations to **James B. Miller, Vice-Chair**; **Paul Brezovec, Treasurer**; and **Dady Dadyburjor, Counselor**.

James B. Miller is a Research Scientist in the Chemical Engineering Department of Carnegie Mellon University, where he applies ultra-high vacuum techniques to the study of materials for energy-related applications. He joined CMU in February 2006 after

more than two decades in Pittsburgh-area industries as a developer of catalysts, catalytic processes and chemical sensors. He holds both Ph.D. and B.S. degrees in Chemical Engineering from CMU, and an M.S. degree in Chemistry from the University of Pittsburgh. Jim is a past President of the Pittsburgh-Cleveland Catalysis Society, and is currently serving as its Secretary.

Paul Brezovec, P.E., has twenty-seven years of engineering experience including industrial chemical process design, development and production. He is employed at Concurrent Technologies Corporation and has been with them for 14 years. Previously, he worked for Monsanto Company for 13 years. He has served the NACE Pittsburgh Section as the Treasurer, Vice-Chair and Chairman. Paul holds a B.S. in Chemical Engineering from Carnegie Mellon University and an M.B.A. from Pepperdine University.

Dady B. Dadyburjor is a Professor and the Chair of the Chemical Engineering Department of West Virginia University. His research interests are primarily in heterogeneous catalysis and the production of fuels and chemicals from indigenous and cheap feedstock. His research interests are in deactivation and regeneration of catalysts, in the design of novel catalysts specific for selective reactions, in the production of synthesis gas from methane, and in products derived from synthesis gas. He received his undergraduate degree at the Indian Institute of Technology, Bombay, from which he received the Distinguished Alumnus Award in 1983. His graduate degrees are from the University of Delaware. Dr. Dadyburjor is a member of the Editorial Board of the Journal of Fuel Chemistry and Technology and a Director of the North American Catalysis Society. He is a Fellow of AIChE and a past Chair of the former Area 1b (Kinetics, Catalysis and Reaction Engineering) of the National Program Committee of AIChE. He is currently the advisor to the WVU Student Chapter of AIChE and has been on National's Honor Roll of Advisors for the past three years.



ENGINEER MENTORS

Do you want to be a Mentor for the Future City Pittsburgh Regional Competition?

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 8th 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 20, 2007. The Future City Competition is a national program sponsored by the engineering community to promote technological literacy and engineering to middle school students.

For additional information about volunteer opportunities contact:

Werner Loehlein, Future City Mentor Coordinator,
E-mail: werner.c.loehlein@usace.army.mil
412-395-7363 www.futurecitypittsburgh.org

WANTED! VOLUNTEERS FOR NATIONAL CHEMISTRY WEEK



We will sponsor an event table activity at the Carnegie Science Center in celebration of National Chemistry Week. Volunteers are needed to help staff our table on Saturday, October 28, 2006 (Hey – it's not on Pitt's homecoming this year!!).

The theme for this year is **“Your Home – It's All Built on Chemistry.”** As always, I am open to suggestions for a hands-on activity or a make-and-take activity!! For more information about volunteering or

activity suggestions, please contact me at 412-826-3636 or send an e-mail to: nhirko@air-comp.com. I sure could use the help and any ideas that you may have!

Nancy Hirko
Science Center Events

SURVEY SAYS!

Dear Pittsburgh Chapter Members,

My main responsibility as Vice-Chair is to coordinate our meetings for the current year. As in recent years, we will schedule a mix of technical presentations and plant trips—along with special occasions, like Student Night.

To help us choose topics that are of most interest to you, we'd like to hear from you about past meetings and your suggestions for future speakers and site visits:

- Which speakers were most—and least—impressive? Why?
- Which plant tours were most—and least—impressive? Why?
- What topic(s) would you find most interesting for a dinner presentation? Names of potential speakers would be especially helpful.
- Which area plants and facilities would you like to visit?

Please call me at 412-268-9517 or send e-mail to jaybeemiller@yahoo.com with your comments and suggestions.

See you at our September meeting!

Thanks,

Jim Miller
Vice-Chair

**PRESENTATION*****“Using Toys Creatively in Chemistry”***

By Mickey Sarquis and Lynn Hogue
Center for Chemistry Education, Miami University -
Middletown, OH

When: **Monday, September 25, 2006**
11:30 a.m. – 1:30 p.m. (lunch provided)

Where: **Tonidale Restaurant**
Heritage Room
7001 Steubenville Pike
Oakdale, PA 15071

What’s the chemistry of a self-inflating balloon? Or a drinking bird? Or popular magician’s tricks like putting a needle through a balloon? This presentation will make you smile and may bring out your inner child. See how simple toys and common household items can be used to unlock the mysteries of chemistry. All activities were developed by the Center for Chemistry Education through funding from the National Science Foundation, the Ohio Board of Regents, and Miami University. If you agree that play is learning without punishment, then you’ll also agree that toys are ideal tools for learning science. Toys have the capability of uniting fun, hands-on play with minds-on learning. Feel like a kid again as you explore ways to use toys in your outreach programs, to spice up your classes, or to use with your own kids or grandkids. Become involved in the steps of the scientific method while solving the secrets of the Fortune Teller Miracle Fish. Find out what’s so magic about Magic Sand. Many other toys will be demonstrated. All activities are user friendly, hands-on, highly motivational, and appealing to children no matter what their real age. You’ll never look at toys the same way again.

Open to all. Non members are welcome to attend.
Please RSVP by September 15, 2006 to:

Bernice Karp, *Chair*
The Western Pennsylvania Technician Affiliate Group
412-777-2628 or Bernice.karp@kemira.com

Or:

Deborah Wallace, *Chair*
Bayer Association for Science in Communities
412-777-2779 or
deborah-m.wallace@bayerbms.com

PAPER COPY OF THIS NEWSLETTER

Dear Pittsburgh AIChE Members,

We are writing to ask for your cooperation in a matter regarding the paper newsletters sent out by our Pittsburgh Chapter. We are in a situation where we can no longer afford to send paper copies of our monthly newsletter to any that want them, as we once did. Also for cost reasons, we switched to posting an electronic newsletter on our website a couple of years ago. Unfortunately, our printing and mailing costs have continued to escalate. You may not realize that a substantial number of people are carried on our membership role, most of whom do not pay dues to our local chapter. They are placed on our role by the National AIChE. This is over and above life members and retirees who receive the newsletter as well. Since we receive no money from National for them, we have to cover the costs of their newsletters from our chapter’s funds.

Therefore, effective with this issue, we will be asking \$20 per person per year for those who want to receive a paper copy of the newsletter. We are sending out this month’s newsletter without charge, but if you wish to continue to receive a paper copy, please send your name, address, and a check payable to “AIChE Pittsburgh Chapter” to the *Treasurer*, Paul Brezovec, 164 Taylor Avenue, Johnstown, PA 15906.

The Executive Committee is not pleased to have to take this action, but the costs are getting out of hand. As guardians of your chapter’s funds, we would be negligent if we did not correct the situation now.

Sincerely,

Gary Hall, *Chairman*
412-963-0303, ext. 236

Holly Gray, *Membership Chair*
412-269-6059

E.G. Klein, *Newsletter Editor*
724-796-3128



MEMBERSHIP CORNER

Please send all change of address notifications to the Membership Chair:

Holly Gray
412-269-6059
hgray@mbakercorp.com

If you have not already done so, please verify your updated e-mail address and post office mailing address with me so that you will continue to receive newsletters and e-mail notifications! Newsletters are posted on our website, www.aichepgh.org

Please sign me up for the Pittsburgh Chapter of AIChE

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Business Phone _____

Residence Phone _____

Email _____

Annual Dues are \$20.00. Make check payable to "AIChE Pittsburgh Chapter" and send to the Treasurer:

Paul Brezovec
AIChE Treasurer
164 Taylor Avenue
Johnstown, PA 15906

NEWSLETTER DEADLINE

**THE DEADLINE FOR THE
 OCTOBER NEWSLETTER IS
 FRIDAY, SEPTEMBER 15, 2006**

Please submit newsletter information to:

E.G. Klein
724-796-3128
eg.klein@giccusa.com

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Contact **E.G. Klein** at eg.klein@giccusa.com or 724-796-3128 for more information.



Best Wishes for a Successful School Year!



AICHE PITTSBURGH CHAPTER 2006-2007 OFFICERS

Executive Committee

Chair

Gary Hall (gary.hall@sauereisen.com)
Sauereisen, Inc.
412-963-0303, ext. 236

Vice-Chair & Program

James Miller (jbmiller@andrew.cmu.edu)
Carnegie Mellon University
412-268-9517

Secretary

Mariangela Peters (mariangela.peters@bayerbms.com)
Bayer Material Science, LLC
412-777-4195

Treasurer

Paul Brezovec (brezovec@ctc.com)
Concurrent Technologies Corp.
814-269-2844

Counselors

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

Dr. Dady Dadyburjor (dady.dadyburjor@mail.wvu.edu)
West Virginia University
304-293-2111, ext. 2411

Past Chair & Nominations

David Missenda (david_missenda@urscorp.com)
URS Corporation
412-503-4620

Additional Officers and Chairs

Membership Chair

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

Newsletter Editor

E.G. Klein (eg.klein@giccusa.com)
Goldschmidt Industrial Chemical Corp.
724-796-3128

Engineers' and Chemistry Week

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

Scholarship Chair

Ed Moretti (emoretti@moretticonsulting.com)
Moretti Consulting Group, LLC
412-276-2228

Committee Chairs

Safety/Environmental: Shiaw Tseng 412-854-6604
(shiawtseng@consolenergy.com)

PE Review: Carl Schwartz 412-374-3678
(schwarcw@westinghouse.com)

McAfee: JoAnn Truchan 412-578-7981
(jtruchan@achd.net)

Web Master

Richard Dupree (rrd@dupreeonline.com)
Dupree & Associates
724-775-5122

2006-2007 Monthly Meeting Schedule

| Date | Topic | Location |
|--------------------|---------------------------------|---------------------------|
| September 12, 2006 | Corrosion Failures Presentation | Robinson Township, PA |
| October, 2006 | Technical Presentation | TBA |
| November, 2006 | Joint Meeting with ACS | TBA |
| January, 2007 | Joint Meeting with AWMA | Penn Brewery - Pittsburgh |
| February, 2007 | Annual Student Night | TBA |
| March, 2007 | Technical Presentation | TBA |
| April, 2007 | Plant Tour | TBA |
| May, 2007 | Last Meeting of Year | TBA |

Mark your Calendars!

For the Following Dates:

September 12, 2006

Monthly Meeting

Bravo! Cucina Italiana, Pittsburgh, PA

October 27-28, 2006

National Chemistry Week Event

Carnegie Science Center, Pittsburgh, PA



The Catalyst

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



Visit us on-line at www.aichepgh.org

GOD Bless AMERICA!