*The Award Winning*

# *Catalyst*

Pittsburgh Section - American Institute of Chemical Engineers

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## November Meeting Notice

**Event**: PLANT TOUR

**Where**: Eastroc LLC, Shippingport, PA

**Dinner**: Karadante's Ristorante
1303 Gringo Road, Hopewell Township, PA

**When**: Wednesday, November 15th, 2000

**Time**: 5:00 P.M. Plant Tour
Dinner following Tour

**Menu**: Chicken Romano - Medallions of fresh boneless chicken breast dipped in Romano cheese egg batter and sautéed in lemon butter

Veal Parmigiana - Fresh tender veal cutlet coated with seasoned crumbs, fried until golden, topped with tomato sauce and a blend of freshly grated Italian Cheese

Orange Roughy Primavera - Orange Roughy filet baked with julienne of fresh steamed vegetables and orange butter sauce

The above three entrees are served with salad, starch, vegetable, fresh baked bread, coffee, tea, or soda and are priced at **$25.00**.

Manicotti alla Formaggio - Rolled pasta filled with Italian cheeses, layered over marinara sauce, topped with mozzarella cheese and baked

This pasta entree is served with salad, fresh baked bread, coffee, tea, or soda and is priced at **$20.00**.

## EVENING'S TOPIC

John College will discuss the "Omega Process". This process converts flue gas desulfurization waste (calcium sulfite hemihydrate) directly into alpha plaster ($CaSO_4 \cdot \frac{1}{2}H_2O$). The traditional method for making alpha plaster converts calcium sulfite hemihydrate to calcium sulfate dihydrate in an oxidation step. The calcium sulfate dihydrate is then added to water heated to greater than 250°F and pressurized to 3 or 4 bar. At this temperature and pressure the dihydrate gypsum dissolves and re-precipitates at the alpha crystal form of hemihydrate gypsum. The alpha form has properties much different from the "Plaster of Paris" material, which most people are familiar with. The main difference is in strength and hardness. Alpha plaster is 6,000-8,000 psi where the standard "Plaster of Paris" has a compressive strength of 1,000-2,000 psi. There are many special applications for plaster that are this strong.

The "Omega Process" produces alpha plaster in a much more energy efficient manner than the traditional stream or hot water process. The energy released by the oxidation calcium sulfite is used as the heat source of the process. Calcium sulfite is oxidized at elevated pressure; heat is released on oxidation and re-precipitation of the oxidized molecules result in alpha gypsum formation.

## EVENING'S GUEST SPEAKER

John College received degrees in biology and chemistry from the University of Pittsburgh. He worked for Dravo Research for 20 years. During those years he worked mainly in flue gas desulfurization and developing processes for the beneficial use of the waste materials. He has 20 U.S. and Foreign Process patents. He currently works for BPB (British Plaster Board) as the Eastroc Plant Manager. Eastroc uses the Omega Process to make alpha plaster.

RSVP NO LATER THAN THURSDAY, NOVEMBER 9TH, 2000 TO:

Please Make Payment at Door

Mr. Michael Flaherty, Vice Chair
Zinc Corporation of America
Telephone 724-773-9056 ◆ michaelp871@hotmail.com

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.

## DIRECTIONS TO THE EASTROC PLANT

From Pittsburgh: take Route 60 past Greater Pittsburgh Airport. Continue North on Route 60 to the Aliquippa exit. Go down the Aliquippa ramp; get into the left lane. Turn left onto Green Garden Road. Travel 4 to 5 miles on Green Garden Road. At the end of Green Garden Road bear right as if going North on Route 18. Cross Route 18 to Shippingport Hill Road (follow green signs to Shippingport). Travel down Shippingport Hill Road. Bruce Mansfield Power Station will be on the right. The first entrance is the coal gate. The second entrance the main gate. The third entrance is Eastroc LLC. There is a blue and white sign at the Eastroc driveway. The Plant driveway is across from Shippingport Post office is only 50-60 yards.

## Directions to Karadante's from the Eastroc Plant

Return to Route 60. Follow Route 60 south to Exit 9 (Hopewell). Turn left (east) at the end of the exit ramp onto Gringo Road (Route 151). Karadante's is located on the right side of Gringo Road approximately 9/10 of a mile after the exit.

## LETTER FROM THE EDITOR

### NOTE FROM THE EDITOR

Dear Members,

We had an excellent turnout for our October meeting. Thank you to all that attended! Dr. Patricia Jacobs, Bayer, prepared and delivered an excellent presentation. We wish you success in your futures endeavors.

The October meeting also marked the start of our sponsorship program. We would like to extend our gratitude to the following for their support:

- Jay Klaus — Klaus Equipment
- Jorgen Hedenhag — AirPol
- Paul Boron — TIGG

*You can now be an AIChE Pittsburgh Chapter Monthly Meeting Sponsor too.* With your sponsorship of $200 you will be invited to display your company information at our meeting and will receive a ¼ page add ($95 value) in the following Newsletter. We would appreciate your support! Please contact me for further information.

We encourage you to become active in our chapter by volunteering for the various events we support in our community such as Engineers' Week and the Future City Competition. Please contact Nancy Hirko (412-433-5914) for the various volunteer positions available.

I look forward to meeting you during our November meeting at Eastroc!

*Peggy Panagopoulos*
AIChE Newsletter Editor
ChemTech Consultants, Inc.

## Membership Corner

### LETTER FROM OUR MEMBERSHIP CHAIR

I have just obtained the most recent membership database from National AIChE. Our membership area encompasses eastern Ohio, western Pennsylvania, northern West Virginia and the very western region of Maryland.

This is the time of the year that I really dig in and update our membership database. The database from National AIChE indicates that we have 1,155 national members and approximately 600 that belong to the local section. My records indicate that we have approximately 900 national members and 680 local section members.

I spend a lot of time trying to understand why the National database and our local section database are inconsistent. I would like to take this opportunity to restate that all address changes should be sent to National and a copy sent to me. This way, I can stay as current as possible, since the National membership updates are sent on a quarterly basis.

Thanks again for all the members who support our local section – both financially and in volunteering their time. Help spread the word about local section membership to those non-members around you!

Nancy Hirko

Please sign me up for the local Pittsburgh Section of AIChE

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Business _____ Residence _____

Email _____

Annual Dues are $16.00. Make check payable to "AIChE Pittsburgh Section" and send to our Treasurer John Hauser, PROSAF, Inc. 103 Yorktown Road, McMurray, PA 15317

## Hot News

### NEW OPTION FOR PE EXAM REVIEW

The Passing Zone: On-Line Q&A Review for the Chemical PE Exam

In the Passing Zone, you will prepare for the chemical PE exam by completing 12-14 week study schedule using the Chemical Engineering Reference Manual (5th Edition) by Randall Robinson, P.E. During your review, you will have access to the Passing Zone's private (password protected) Q&A bulletin board, you can post questions 24 hours a day about any problem or concept you encounter as you study, and get rapid responses from an experienced AIChE Review Course Instructor. Extra practice problems and an FAQ list about the PE exam will also be available.

The Passing Zone will begin in January 2001, and the Q&A Board will open through the April Exam. Registration will open in December. With registration fee of only $75.00, the Passing Zone offers you a reasonable alternative to studying alone and can also be used in conjunction with a review course.

For more information, go to www.thepassingzone.com or call 800-426-1178, Extension 19.

### BUSINESS NEWS

New Environmental Technology Converts Pesticides to Carbon Dioxide and Water

CerOX Corporation announced that its technology to convert pesticides into carbon dioxide and water succeeded in a full-sized commercially operating system.

The system has been used at the University of Nevada in Reno to treat university laboratory wastes consisting of mixed alcohols, chlorinated solvents, and organic acids. These compounds have been safety treated within the Nevada environmental limits.

Source: http://www.aiche.org/newsroom/briefs.asp?CatID=2&BriefID=1

## What's New in the Chapter

### POSITIONS AVAILABLE

#### Research Engineer

A division of a Fortune 500 company located in SW Ohio is currently seeking a ChE to work in their R&D Department.

Responsibilities include:

- Evaluate, recommend and implement process improvement in R&D and manufacturing
- Coordinating and conducting pilot plant and manufacturing plant tests
- Troubleshooting and implementing improved manufacturing procedures
- Overall responsibility for plant technical support and plant process improvement

For the successful candidate the company will supply above average compensation in an environment where career growth is a matter of course (average tenure = $6^{+}$ years) and a benefit and relocation package that is second to none.

Position reports to the Technical Services Manager. New operations are coming on-line internationally and this position would soon require 25% international travel.

Successful candidate **will have** food industry experience.

If you think you qualify or just want more information, please don't hesitate to contact:

David Ruyle CPC
K2 Executive Search
888-282-5520
druyle@worldnet.att.net

#### Senior Process Engineer

| | |
|---|---|
| Position Title: | Senior Process Engineer |
| Education: | BS Chemical Engineer |
| Location: | DE-19 |
| Type of Company or Products: | Polymers |
| Ideal Years Experience: | (3) 5-10 |

### NOTES/REQUIREMENTS

Responsible for providing technical support to operations. Troubleshoot, optimize, and handle process improvement initiatives. Also responsible for: project engineering, environmental initiatives, cost reduction, quality improvements, waste reductions, safety, dealing with contractors, design and controlling the process. This individual will be involved in an expansion of the facility. Expanding: adding a 3rd batch reactor with plans to add a 4th in the future. Excellent Benefits!

Contact: Lisa Antonich
Professional Outlook, Inc.
381 Garden Avenue
Holland, MI 49424
616-396-9600
lantonich@professionaloutlook.com

## Chapter Announcements

### FUTURE CITY COMPETITION

#### Volunteers Needed for the Future City Competition

The Engineer's Society of Western Pa. (ESWP) in conjunction with the Carnegie Science Center will present the 2nd 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 Science Center, on Saturday, January 20th, 2001. The Future City Competition is a national program sponsored by the engineering community to promote technological literacy and engineering to middle school students. The Future City Competition in the Pittsburgh Region is planned to include school districts from Allegheny and the immediate surrounding counties. Students can experience a fun way to learn about engineering and cities of the future.

Each volunteer engineer mentor works with seventh- and eighth-graders, in a team of three, and their teacher, helping to guide the youngsters through the rigors of building a functioning city. Engineers generally have to devote up to ten hours per month to the project over the period from October to January. Mentors will work with a team of three students and a teacher in developing a city of the future on the SimCity computer program, building a model of one portion of the city and helping them to prepare a presentation of their city to a team of judges at the Regional competition in January. As a judge, you will be part of a four-member panel who will evaluate the team's verbal presentation and the models of the cities. The judging will take place during the competition at the Carnegie Science Center on Saturday, January 20th, 2001.