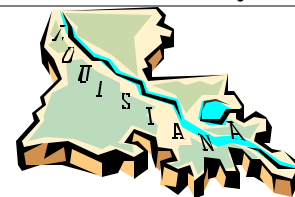
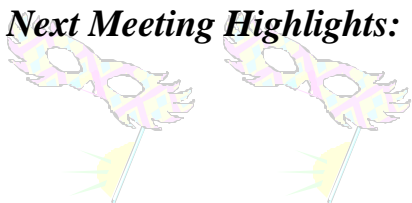




Editor: Nicolette Modes, *Abbott Laboratories*

February 2003

## Next Meeting Highlights:



2003 Spring National Meeting, March 30<sup>th</sup> – April 3<sup>rd</sup>

### SPECIAL EVENTS & NETWORKING OPPORTUNITIES

### LUNCHESES & DINNERS

#### Saturday, March 29<sup>th</sup>:

- Short Courses & Tutorials (open to all)\*

#### Sunday, March 30<sup>th</sup>:

- Interdenominational Church Service, 7:30 – 8:00 am
- Short Courses & Tutorials (open to all)\*
- Critical Issues Series\*, 2:30 – 5:30 pm
- Welcome Reception, 6:00 pm

#### Monday, March 31<sup>st</sup>:

- Fuels & Petrochemicals Division Keynote Address, 10:45 am – 12:30 pm
- Management Division's Entrepreneurial Forum, 4:30 – 6:00 pm
- Fuels & Petrochemical Awards Dinner\*

#### Tuesday, April 1<sup>st</sup>:

- Fellow's Breakfast\*
- Ethylene Plant Operations – Flaring Minimization Technology Review\*, 2:00 – 5:00 pm
- Critical Issues Series – Toward a Sustainable Water Supply\*, 1:15 – 3:15 pm
- The Management Division / RANTC Topical Dinner\*, 6:30 pm

#### Wednesday, April 2<sup>nd</sup>:

- Ethylene Plant Process Control Technology Review
- Ethylene Plant Technology – C2 & C3 Hydrogenation Technology Review, 8:00 – 11:00 am

\*Additional fees may apply, refer to: [Spring 03 Sessions Information](#)

#### Monday, March 31<sup>st</sup>:

- Safety & Health Division Ticketed Dinner
- Chinese American Chemical Society Dinner
- Distillation Topical Conference Dinner
- Environmental Topical Conference Luncheon, 12:30 – 2:00 pm

#### Tuesday, April 1<sup>st</sup>:

- Mardi Gras Madness (includes lunch), 10:00 am – 2:00 pm
- Ethylene Producers Conference Luncheon, 11:30 am – 1:00 pm
- Process Plant Safety Symposium Ticketed Luncheon, 11:30 am – 1:00 pm
- 2<sup>nd</sup> Topical Conference on Fuel Cell Technology Topical Luncheon, 11:30 am – 1:00 pm
- Process Intensification & Microreaction Technology Luncheon, 11:30 am – 1:00 pm
- Gas Utilization Topical Ticketed Luncheon, 11:30 am – 1:00 pm
- Refinery Processing Topical Conference Dinner
- Using Information Technology to Increase Profitability & Productivity Topical Conference Dinner
- **PROCESS DEVELOPMENT DIVISION**

### PROCESS DEVELOPMENT DIVISION CONFERENCE SESSIONS

**12a: Role of Innovation in Extending the Life of Mature Products**

**12b: New Trends & Best Practices in Pilot Plants I&II**

**12c: Analytical Technology Transfer: the Good, the Bad & the Ugly**

**12d: Case Studies & Lessons Learned**

### CHAIR / VICE-CHAIR

**O. Aboul-Nasr / C. Seymour**

**P. Smith / B. Grenetti**

**K. Hunt / C. Sears**

**E. Ural / H. Febo**

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P.11. PDD AREA LEADERSHIP



## MESSAGE FROM THE CHAIR

Well, 2003 is upon us all. There are several "firsts" for your Process Development Division. Our first membership ballot for officer elections will be sent at the end of summer, the first dual Topical Sponsorship will occur at the Fall Annual Meeting in San Francisco, the first presentation of the Process Development Industrial Practice Award, and the first Process Development Symposium to be held in late June. All in all, this promises to be an exciting year.

There are two items of particular note in the Newsletter:

- 1.) The announcement of Division Engineering Practice Award, sponsored by ZETON and
- 2.) Details of the Process Development Symposium to be held in June 2003.

Be sure to read these items of interest and distribute the information to your colleagues.

As a group, we promote programming and presentations on process development topics. Process development includes process research and innovation; scale-up; design, construction and operation of pilot plant or laboratory units; technology transfer; and optimization of manufacturing processes.

The Division has four exciting and developing programming areas:

- 12a. Process Innovation
- 12b. Pilot Plants
- 12c. Technology Transfer
- 12d. Manufacturing

Each area has specific goals and objectives (see the web-site <http://www.pd-aiche.com>). If any of these general area titles interests you, find out more by attending the Area Meetings (location TBA) on Monday, March 31<sup>st</sup> @ 12:00 noon during the AIChE Spring Meeting in New Orleans. Also, feel free to join us at the General Division Meeting on April 1<sup>st</sup> @ 12:00 noon (location TBA).

The Process Development Award Dinner is on Tuesday, April 1<sup>st</sup>. This is an AIChE ticketed event and registration is limited. Sign-up for the dinner when registering for the meeting or obtain a ticket from the general on-site registration booth anytime before Monday (March 31<sup>st</sup>) at noon. We will make every attempt to accommodate all wishing to attend the Dinner.

Feel free to contact me directly or any other member of the Division Leadership Team about the Programming Plan, future goals, and/or any ideas that you wish to pursue to support our mission.

Best Regards,

**John Corn**

Chair, Process Development Division

## THE FIRST PROCESS DEVELOPMENT ROAD SHOW

The inaugural Process Development Division (PDD) road show took place on Jan. 21<sup>st</sup>. John Peragine, the chair of our Technology Transfer Area (12c), proudly presented our new AIChE division to the North Jersey local section at their recent monthly dinner meeting. The "road show" was initially prepared by John and then reviewed by the division executive steering committee. It highlighted the evolution of the PDD and prospects for an exciting future as a new division within AIChE. The presentation was well attended and received. John hopes that this is the first of many road shows to spread the good news to local and student sections nationwide. The slide show is accessible on the PDD website and may be used by all to tailor make presentations at future meetings. Please continue the *hype* about our dynamic division! If you have any questions, please feel free to e-mail John at [John.Peragine@bms.com](mailto:John.Peragine@bms.com). Thanks!

## THE FIRST PDD SPONSORED PROCESS DEVELOPMENT SYMPOSIUM

- June 2003, Split Rock Resort, Poconos, PA. Organizer: Cawas Cooper. See page 6 for more information.



## AREA UPDATES:

### 12a – Process Research & Innovation

- ☞ Next Meeting: 2003 Spring National Meeting, New Orleans
  - Role of Innovation in Extending the Life of Mature Products.
- ☞ Future Meeting: 2003 Annual Meeting, San Francisco
  - Process Innovation Topical Conference.
- ☞ Future Meeting: 2004 Spring Meeting, New Orleans
  - Innovation in Fuel Processing [ D. Lyons / A. Matzakos]
- ☞ 2002 Indianapolis Annual Meeting Minutes:  
[www.pd-aiche.com/area12a/2002Annual.html](http://www.pd-aiche.com/area12a/2002Annual.html)

### 12b – Pilot Plants

- ☞ Next Meeting: 2003 Spring National Meeting, New Orleans
  - New Trends & Best Practices in Pilot Plants I&II [B. Genetti / P. Smith].
- ☞ Future Meeting: 2003 Annual Meeting, San Francisco
  - Pilot Plants in Process Development Topical Conference.
- ☞ Nominations for Activities Chair for Area 12b Needed by Fall 2003 Meeting; Send to Bob Duggal at: [Bob\\_Duggal@ethyl.com](mailto:Bob_Duggal@ethyl.com)
- ☞ 2002 Indianapolis Annual Meeting Minutes & Benchmarking Study:  
[www.pd-aiche.com/area12b/2002Annual.html](http://www.pd-aiche.com/area12b/2002Annual.html)

### 12c – Technology Transfer

- Next Meeting: 2003 Spring National Meeting, New Orleans
  - o Analytical Technology Transfer: The Good, the Bad & the Ugly [K. Hunt].
- Process Development Symposium: June 2003, Split Rock Resort, Poconos, PA [C. Cooper].
- Future Meeting: 2003 Annual Meeting, San Francisco
  - o Challenges in the Pharmaceutical Industry in View of FDA Regulatory Issues [J. Peragine/S. Tsinontides].
  - o Biopharmaceutical Separations [A. Johnston].
- 2002 Indianapolis Annual Meeting Minutes:  
[www.pd-aiche.com/area12c/Annual2002.html](http://www.pd-aiche.com/area12c/Annual2002.html)

### 12d – Manufacturing

- ☞ Next Meeting: 2003 Spring National Meeting, New Orleans
  - Case Studies & Lessons Learned [E. Ural/H. Febo].
- ☞ Future Meeting: 2004 Spring Meeting, New Orleans
  - Environmental Challenges in Manufacturing [J. Corn / D. Hendershot].
- ☞ **Executive Officers Urgently Needed!**
- ☞ 2002 Indianapolis Annual Meeting Minutes:  
[www.pd-aiche.com/area12d/Meeting2002.html](http://www.pd-aiche.com/area12d/Meeting2002.html)

## ADDITIONAL UPCOMING ACTIVITIES & MEETINGS:

- **New Co-Chair Elections for each of the Four Areas & Division 12 Chair-Elect Election at 2003 Annual Meeting, San Francisco.**
- Scientific Update Training Course: Chemical Development & Scale-Up in the Fine Chemical Industry, March 12<sup>th</sup> – 14<sup>th</sup>, Florida.
- Proposed Process Development Forum, June 2004.
- 2004 Spring Meeting:
  - o Innovation in Fuel Processing (12a)
  - o Mixing in Pilot Plants (12b)
  - o Barriers to Effective Technology Transfer—external and internal (12c)
  - o Engineering Issues in Security of High Hazard Facilities (12d & 11a)
  - o Case Studies & Lessons Learned (12d & 11a)



## AWARDS & RECOGNITION

### *Process Development Practice Award*

**2003 Recipient:** Dr. Lanny Robbins

**Sponsor:** Zeton

The Process Development Division is pleased to announce Dr. Robbins as the recipient of this year's Process Development Practice Award. Dr. Robbins is currently a Research Fellow at The Dow Chemical Co. in Midland Michigan. Dr. Robbins received BS, MS and PhD degrees from Iowa State University. His career at Dow began in 1965 when he was employed as a Research Engineer. In 1972, Dr. Robbins became a Research Specialist in the area of Process Development and by 1974 he was promoted to a Senior Research Specialist. In 1977, Dr. Robbins moved on to become an Associate Scientist but soon thereafter (1980) was again promoted to a Senior Associate Scientist position. In 1983, he was further promoted to a Research Scientist position and then in 1988 he was appointed to the highest technical position offered at Dow, namely, Research Fellow. In 1993 he received an H. H. Dow medal from the board to directors.

Dr. Robbins has developed and commercialized many chemical separation and purification processes that have been employed both within and external to Dow. Among these are the AquaDetox Aqueous Purification Device and Design Technology for stripping residual solvents and impurities from water to the ppb range, the Sorbathene Pressure Swing Adsorption Process used to remove hydrocarbons, solvents and monomers from vent emissions to meet very stringent vapor emission limits imposed by the European Union in 1998, and the D-POP Optimizer that is used on many distillation towers at Dow to optimize product quality and generate maximum economic profit. Additionally, Dr. Robbins is the principal author of over 180 technical reports at Dow, 20 outside publications and 18 US patents. He is an author of the Liquid-Liquid Extraction Chapter in Perry's Handbook.

In recognition of his outstanding contributions in the practice and application of process development, Dr. Lanny Robbins will be receiving an engraved plaque, a monetary award of \$1,000 and the opportunity to deliver an address at the Process Development Division Dinner at the AIChE Spring meeting. The Process Development Division would again like to congratulate Dr. Robbins and thank Zeton for sponsoring this award.



## CALL FOR NOMINATIONS

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### *Excellence in Process Development Research Award*

**Sponsored By:** Pharmacia

**Deadline:** June 15<sup>th</sup>,

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This award recognizes individuals who have made significant technical contributions to the advancement of process development within research, teaching, or regulatory activities. Accomplishments must be disseminated by means of well-documented materials. Emphasis will be placed on accomplishments and advances made within the last ten years although the award can also be given to someone for an outstanding career. Candidate must be an AIChE member.

**Award:** A plaque & \$1,000 and awardee is invited to deliver an address at the Process Development Division dinner at the AIChE Annual Meeting.

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### *Process Development Division Student Paper Award*

**Sponsored By:** Eli Lilly

**Deadline:** June 15<sup>th</sup>, award is presented at the Process Development Division Dinner at the AIChE Annual Meeting.

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This award is to be presented to a full-time graduate or undergraduate student who prepares the best technical paper to describe the results of process development related studies within chemical engineering. Selection criteria include:

1. Papers will be judged primarily on technical merit. The student must demonstrate depth and breadth of knowledge in the subject.
2. The work presented must be carried out while the student is enrolled at a university with an accredited chemical engineering program.
3. The student must be the primary author (facility advisors may be co-authors).
4. The paper must describe original research (experimental, numerical, or theoretical) or design; papers consisting of literature reviews are not permitted.
5. The paper must be suitable for publication in a refereed journal.
6. The student must be a member of AIChE.

**Award:** A plaque & \$200 plus assistance with covering expenses associated with attending the Annual AIChE meeting.

For further information about Process Development awards, please refer to [www.pd-aiche.com/awards.html](http://www.pd-aiche.com/awards.html) or contact PDD's Awards Committee Chair:

**Glen Wheeler**, Alkermes, Inc.  
265 Olinger Circle  
Wilmington, OH 45177  
(937)655-4411  
[glen.wheeler@alkermes.com](mailto:glen.wheeler@alkermes.com)

For information about other AIChE awards, refer to [www.aiche.org/awards/](http://www.aiche.org/awards/).



## PROCESS DEVELOPMENT SYMPOSIUM:

### ACCELERATING PROCESS DEVELOPMENT FOR GROWTH

*The Process Development Division is organizing a first Process Development Symposium in Poconos, PA from 22 to 25 June 2003.* The goal is to bring the process development community together from industry (such as food, pharmaceuticals, chemicals, petroleum, and fine chemicals industries), academic institutions, government labs, and equipment suppliers. The overall symposium theme will be Accelerating Process Development for Growth. Domestic and international participants are invited to gather in a less formal setting that will foster learning and open information exchange.

Our current plans are to start the Symposium on Sunday evening with a reception and end on Wednesday at noon. Monday and Tuesday sessions will cover one sub-theme each day. Tentatively, these sub-themes are planned around accelerating batch and continuous process development for growth. On Monday and Tuesday mornings, we intend to hold six 30 minute talks on various topics related to these sub-themes. In the afternoons, free time will be provided for sight seeing and leisure activities. Then, we will meet again for a round-table discussion on the sub-themes in the evenings. Throughout Monday and Tuesday, we plan to have commercial vendors of pilot plants, process modeling software, contract services, and other relevant equipment such as calorimeters and on-line instrumentation demonstrate their products via Table Top Displays and Overview Seminars. On Wednesday morning, we will close with visionary talks related to process development.

The symposium attendees should be able to share experiences with colleagues from different industries and learn about work practices that can be utilized after the symposium in their jobs.

For the latest information and/or to register, please visit: [www.aiche.org/conferences/processdev/](http://www.aiche.org/conferences/processdev/). For any other information, please contact:

Cawas A. Cooper, Symposium Organizer  
Air Products and Chemicals Inc.  
7201 Hamilton Blvd.  
Allentown, PA 18195-1501  
Phone: 610-481-4075  
Fax: 610-481-5236  
E-Mail: [cooperca@apci.com](mailto:cooperca@apci.com)

**Please Join Us In Making This One Of A Kind Event A Great Success!!!**



## MANAGEMENT CONFERENCE 2003: “INNOVATION ACROSS BOUNDARIES”

*Co-sponsored by AIChE & ACS*

Amelia Island Plantation Resort; Amelia Island, Florida  
*Sunday – Wednesday, May 4 – 7, 2003*

### Plenary Speakers:

- Rick Gross, Chief Technology Officer, The Dow Chemical Company
- Miles Drake, VP & CTO, Air Products and Chemicals, Inc.

### Sessions:

- ***Session 1: Innovation Across Geographical and Cultural Boundaries.***  
Louis Hegedus – ATOFINA Chemicals, Inc.  
Vincent Magnotta – Air Products and Chemicals Inc.
- ***Session 2: Innovation Across Industry Boundaries.***  
Allan Fowler – The Dow Chemical Company  
Alfred Wechsler – Arther D Little, Inc.
- ***Session 3: Innovative Collaboration Between Small and Large Companies.***  
Evelyn Taylor – BP  
Henry Whalen - ACS
- ***Social and Networking: golf, tennis, hospitality suite, informal networking.***

More information can be obtained via the following link: [www.aiche.org/conferences/management/](http://www.aiche.org/conferences/management/)



## TECHNOLOGY REVIEW: PROCESS INTENSIFICATION (PI)

**\*Remember to attend the PI Topical in New Orleans!!!**

**Courtesy of R.C. Costello & Associates, Inc. ([www.rccostello.com/tech.html](http://www.rccostello.com/tech.html))**

### Advanced and Emerging Technologies in Process Intensification

R.C. Costello & Assoc., Inc. offers emerging technologies that are designed for various segments of the process industries that have one common feature **Process Intensification (PI)**. Process Intensification is the miniaturization of unit operations and processes whereas a smaller compact piece of equipment takes the place of a larger one at the same given capacity or mass flowrate. Since 20% of plant costs are in the process equipment and the balance in the structural steel, piping, conduit and wire, smaller unit operations mean smaller installed plant costs. Prior to this year no commercial process intensification reaction system existed. Thus we proudly present the Holl Technologies Spinning Tube in a Tube STT™ reactor. [PI services offered](#) are shown here. We also help clients develop a vision in their company using Process Intensification.

### Holl Technologies Spinning Tube in a Tube STT™ Reactor Technology

The [STT™](#) is a new innovative technology that helps substantially improve profits in chemical, petrochemical, pharmaceutical and bio-chemical operations through a paradigm leap from volume-based to area-based reaction systems.

### Extraction

[Advanced Phytonics](#) The "Phytonics" technology concerns the use of non-chlorinated fluoro-hydrocarbons (environmentally friendly refrigerant gases) as viable alternatives to conventional organic solvents and supercritical carbon dioxide. A range of these solvents has been developed and are known as Phytosols. They have many environmental and economic attributes, which makes them preferable to conventional organic solvents in a variety of applications. Distillation is eliminated to recover the solvent. This drastically reduces installed cost.

### Self Cleaning Heat Exchanger

[Klarex Technology](#) This technology features a fluidized bed self cleaning heat exchanger and is useful in applications where heat exchanger fouling reduces run time. The fluid bed media is recirculated from the outlet back to the inlet of the heat exchanger for reuse. On stream time is dramatically improved.

### Supercritical Single-Phase Hydrogenation Technology

R.C. Costello & Associates, Inc. recently reached a definitive agreement with [Härröd Research](#) of Sweden to act as licensing agent for their Supercritical Single-Phase Hydrogenation Technology. The new technology achieves extremely high reaction rates in a small continuous unit. It improves the product quality to levels that were impossible to reach using the traditional multiphase technology and it reduces the investment costs and the operating costs.

It can be used for the hydrogenation of organic compounds, fats, oils and polymers. The new technology will change a great number of processes for a wide range of industries like pharmaceuticals, specialty chemicals, foods, surfactants and petrochemicals, among others.

The restricting factors in traditional hydrogenation are how to get hydrogen to the catalyst surface through a liquid and how to control the excess heat released during the reaction. With the new technology a suitable solvent is added. This solvent creates a supercritical single phase; therefore you don't face the difficulties of reacting the hydrogen gas and the liquid.



Editor: Nicolette Modes, *Abbott Laboratories*

February 2003

**ENGINEERING JOKE OF THE WEEK**, courtesy of Inflection Point, Inc., <http://www.inflection-point.com/jokindex.htm>

## **YOU MIGHT BE A CHEMICAL ENGINEER IF...**

- You have a favorite pump manufacturer
- You can quote scenes from any Monty Python movie
- You can size distillation columns in your head, but need a pencil and paper to figure the tip on a \$45 restaurant bill
- You see a good design and still have to change it
- You can remember 7 computer passwords but not your anniversary
- You know who invented Jell-O
- The microphone or visual aids at a meeting don't work and you rush up to the front to fix it
- You've modified your can-opener to be microprocessor driven
- You think "cuddling" is simply an unproductive application of heat exchange
- You've actually used every single function on your graphing calculator
- You've ever described your spouse in terms of MTBF
- You stare at an orange juice container because it says CONCENTRATE
- You can name 6 Star Trek episodes
- You've ever considered installing a scrubber on your chimney
- The only jokes you receive are through e-mail
- Your idea of good interpersonal communication means getting the decimal point in the right place
- You automatically associate the words "sexy," "beautiful" and "new butterfly valve"
- You look forward to Christmas only to put together the kids' toys
- You've used coat hangers and duct tape for something other than hanging coats and taping ducts
- Your ideal evening consists of fast-forwarding through the latest sci-fi movie looking for technical inaccuracies
- You have any of the following personalized items: Hard hat, Safety goggles, Calculator case, Slide rule
- You have "Dilbert" comics displayed anywhere in your work area
- You carry on a one-hour debate over the expected results of a test that actually takes five minutes to run
- You know the direction the water swirls when you flush
- You've ever taken the back off your TV just to see what's inside
- A team of you and your co-workers have set out to modify the antenna on the radio in your work area for better reception
- You thought the concoction ET used to phone home was stupid
- You cannot write unless the paper has both horizontal and vertical lines
- You think the value of a book is directly proportionate to the amount of tables, charts and graphs it contains
- You once burned down the gymnasium with your Science Fair project
- You think you look rather snappy in a tie and short-sleeve shirt
- You'd really like to have a T-shirt that says "Chemical Engineers Do It In Fluidised Beds"
- You've ever introduced your kids by the wrong name
- You have a habit of destroying things in order to see how they work
- People hound you for pocket protectors at Halloween time
- You think that when people around you yawn, its because they didn't get enough sleep
- Your spouse hasn't the foggiest idea what you do at work
- Your three-year-old son asks why the sky is blue and you try to explain atmospheric absorption theory
- You have no life - and you can PROVE it mathematically
- You've explained your position in the company to a junior engineer as "I am a vast oasis of knowledge in a desert of ignorance".
- You lost your wedding ring for six months and found it in a box of brass tubing fittings in your desk
- You and a buddy spend two work days customizing each engineer's phone ring so that you can tell them apart from anywhere-using cut-up lids from snuff cans and scotch tape.
- You refer to your children as your "pilot units".
- You think of the Carnot cycle every time you turn on your AC unit.
- You explain surface tension to your 10 year old when they ask why you are adding oil to boiling spaghetti.
- You have a clock with inverted numbers that runs counter-clockwise in your office and you prefer it that way.
- You make your own shampoo!
- You pick your girlfriends by their GPA.
- You have ever thought about how coffee changes color in the body.
- You try to explain entropy to strangers at your table during casual dinner conversation.
- You KNOW you are a chemical engineer if you've actually read this entire message beginning to end!!!!



## PROCESS DEVELOPMENT DIVISION LEADERSHIP

<b>Chair</b>	John E. Corn Consultant to the Process Industry 4509 Dirham Lane Hilliard, OH 43029-8906 Phone: (614) 527-8897 e-mail: <a href="mailto:jcorn@columbus.rr.com">jcorn@columbus.rr.com</a>	<b>Chair Elect</b>	Christine Seymour Research Advisor Pharmacia Corp. 4901 Searle Parkway Skokie, IL 60077 Phone: (847) 982-7628 Fax: (847) 982-7340 e-mail: <a href="mailto:christine.b.seymour@monsanto.com">christine.b.seymour@monsanto.com</a>
<b>Program Chair</b>	Ray Rooks The Dow Chemical Company 3200 Kanawha Turnpike Bldg 740, Room 5132 South Charleston, WV 25303 Phone: 304-747-5826 Fax: 304-747-4886 e-mail: <a href="mailto:rerooks@dow.com">rerooks@dow.com</a>	<b>Membership Chair</b>	Ramesh M. Rameswaran Manager, Operations & R&D Services Supervisor Lyondell Chemical Co. 3801 West Chester Pike Newtown Square, PA 19073 Phone: (610) 359-2409 Fax: (610) 359-6008 e-mail: <a href="mailto:cnsrnr@lyondell.com">cnsrnr@lyondell.com</a>
<b>Newsletter Editor</b>	Nicolette Modes Abbott Laboratories D-072W, Bldg. AP31-1 100 Abbott Park Rd. Abbott Park, IL 60064 Phone: 847.937.7996 Fax: 847.938.3982 email: <a href="mailto:nicolette.modes@abbott.com">nicolette.modes@abbott.com</a>	<b>Activities Chair</b>	Cawas A. Cooper Senior Research Associate Air Products & Chemicals, Inc. 7201 Hamilton Blvd. Allentown, PA 18195-1501 Phone: (610) 481-4075 Fax: (610) 481-5236 E-Mail: <a href="mailto:cooperca@apci.com">cooperca@apci.com</a>
<b>Group Treasurer</b>	Jean Bender 1 DNA Way South San Francisco, CA 94080 Genentech Phone: 650.225.6338 Fax: 650.225.4094 e-mail: <a href="mailto:jbender@gene.com">jbender@gene.com</a>	<b>Awards Chair</b>	Glen Wheeler Alkermes, Inc. 265 Olinger Circle Wilmington, OH 45177 Phone: 937.655.4411 e-mail: <a href="mailto:glen.wheeler@alkermes.com">glen.wheeler@alkermes.com</a>
<b>International Liaison</b>	Kamlesh K. Bhatia Research Fellow Dupont Central Research & Development Experimental Station, E304/A303 P.O. Box 80304 Wilmington, DE 19880-0304 phone: 302-695-4766 fax: 302-695-4414 e-mail: <a href="mailto:kamlesh.k.bhatia@usa.dupont.com">kamlesh.k.bhatia@usa.dupont.com</a>	<b>Past Chair</b>	Prabir K. Basu Sr. Director Pharmacia Corporation 5202 Old Orchard Rd Skokie, IL 60077 Phone: 847-581-5129 Fax: 847-581-6044 e-mail: <a href="mailto:prabir.k.basu@monsanto.com">prabir.k.basu@monsanto.com</a>
<b>Webmaster</b>	Jack Vinson Knowledge Manager Pharmacia 5200 Old Orchard Rd Skokie, IL 60077-1034 phone: 847 581-4219 fax: 847 581-4054 e-mail: <a href="mailto:jonathan.m.vinson@pharmacia.com">jonathan.m.vinson@pharmacia.com</a>		



## Leadership of Area 12a

<b>Chair</b>	Cheryl Teich Senior Engineer Rohm & Haas 727 Norristown Road P.O. Box 904 Spring House, PA 19477-0904 Phone: (215) 619-5342 Fax: (215) 619-1609 e-mail: <a href="mailto:CTeich@RohmHaas.com">CTeich@RohmHaas.com</a>	<b>Chair-Elect</b>	Prof. Yinlun Huang Associate Professor Director, Graduate Program & Laboratory for Computer-Aided Process Systems Science & Engineering Department of Chemical Engineering Wayne State University Detroit, MI 48202 Phone: 313-577-3771 Fax: 313-577-3810 e-mail: <a href="mailto:yhuang@chem1.eng.wayne.edu">yhuang@chem1.eng.wayne.edu</a>	<b>Activities Chair</b>	Dr. Lionel O'Young CWB Technology 20311 Valley Blvd. Suite C Walnut, CA 91789 Phone: 909-595-8928 Fax: 909-595-6899 e-mail: <a href="mailto:lionel@cwbttech.com">lionel@cwbttech.com</a>
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## Leadership of Area 12b

<b>Chair</b>	A. (Bob) Duggal Process Technology Advisor Ethyl Corporation 500 Spring St. PO Box 2158 Richmond, VA 23218-2158 Phone: (804) 788-5169 Fax: (804) 788-8242 E-Mail: <a href="mailto:Bob.Duggal@ethyl.com">Bob.Duggal@ethyl.com</a>	<b>Chair-Elect</b>	David Edwards Project Engineer Zeton Inc. 740 Oval Court Burlington, Ontario Canada, L7L 6A9 Phone: (905) 632-3123 Fax: (905) 632-0301 E-Mail: <a href="mailto:dedwards@zeton.com">dedwards@zeton.com</a>	<b>Activities Chair</b>	Joe Powell Shell e-mail: <a href="mailto:jbpowell@shellus.com">jbpowell@shellus.com</a>
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## Leadership of Area 12c

<b>Chair</b>	John F. Peragine Principal Technical Investigator Bristol-Myers Squibb 1 Squibb Dr. PO Box 191 New Brunswick, NJ 08903-0191 Phone: (732) 519-2322 Fax: (732) 519-1754 E-Mail: <a href="mailto:John.Peragine@bms.com">John.Peragine@bms.com</a>	<b>Chair-Elect</b>	Annette Johnston Development Engineer Abbott Labs 1401 N. Sheridan Road North Chicago, IL 60064-6292 Phone: (847) 935-5120 E-Mail: <a href="mailto:Annette.Johnston@abbott.com">Annette.Johnston@abbott.com</a>	<b>Activities Chair</b>	Osman T. Aboul-Nasr Technical Director/Fluor Fellow Process Technology - Oil, Gas and Chemicals Fluor Daniel 100 Fluor Daniel Drive Greenville, SC 29607-2762 Phone: 864-281-5167 FAX: 864-676-7211 e-mail: <a href="mailto:osman.aboul-nasr@fluor.com">osman.aboul-nasr@fluor.com</a>
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## Leadership of Area 12d

<b>Chair</b>	John Battler E-Mail: <a href="mailto:johnrbattler@yahoo.com">johnrbattler@yahoo.com</a>	<b>Chair-Elect</b>	Helen Lou Lamar University Houston, TX e-Mail: <a href="mailto:louhh@hal.lamar.edu">louhh@hal.lamar.edu</a>	<b>Activities Chair</b>	Stephanie Sullivan e-mail: <a href="mailto:stephanie_sullivan@merck.com">stephanie_sullivan@merck.com</a>
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