

# AIChE Process Development Division

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Fall 2010



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## Message from the Chair

2010 represents the 10th anniversary of the Process Development Division. The division grew out of the Pilot Plants programming area (see timeline in newsletter). When the division was formed, there were 4 programming areas, Process Research and Innovation, Pilot Plants, Technology Transfer, and Manufacturing. Since then, we have added Microprocessor Engineering, Process Intensification, and Product Design, for a total of 7 areas.

Process Development is a unique division in that it encompasses elements of all other divisions, including such specialties as Separations, Environmental, Petrochemicals, Pharmaceuticals, and Management to name a few. In a sense, the division deals with utilizing the strengths of each technology area to go from research to production.

In order to celebrate, we will be having a reception on Tuesday, the 9th of November at the AIChE Annual meeting in Salt Lake City, Utah from 5:00 to 6:30 pm (155A, Convention Center). At the reception, which is followed by the division dinner (6:45 pm) at Flemings, you will enjoy an open bar where you can mingle with other division members. All members are welcome. Potential members can also join on the spot!

In addition, if you would like to get involved in the division, please attend the division luncheon (150 A/B, Convention Center, which is at 11:30 am on Monday, the 8th of November. We have ordered a total of 30 boxed lunches and will give you an overview of the division opportunities and answer any questions you have about getting involved. The area meetings are at 5:45pm in the same room/day.

There are a couple of IMPORTANT deadlines. For the Spring 2011 meeting in Chicago, October 22nd is the last day for paper submissions presentation proposals. Please see the AIChE web site for paper submissions. For the Fall 2011 meeting in Minneapolis, the deadline for session submission is in December. Please see your area chair or Joe Powell if you have ideas on session topics and/or wish to chair a session.

The Process Development Symposium took place over the summer at the Lake of the Ozarks. While attendance was light, the feedback was overwhelmingly positive. The division is currently looking at options for the next symposium. In addition, the division is sponsoring a conference with DECHEMA in at the Hong Kong Institute of Technology from June 5-8, 2011. More details will follow as we get closer to the conference date.

At the Fall Meeting, we will be presenting the PD Research Award, Practice Award, and the Student Award (see newsletter item). On behalf of the division, I would like to congratulate the award winners and especially thank the sponsors, which are Pfizer, Zeton, and Eli Lilly. Without them, there would be no awards to hand out. (I'd also mention the QbD Topical which is being co-sponsored with 15b and the FDA and promises to be even bigger than Nashville!)

*Raymond Rooks* ([raymond\\_rooks@praxair.com](mailto:raymond_rooks@praxair.com), 716-879-7447)

Process Development Division Chair

## DID YOU KNOW? (fun facts about Salt Lake City)

1. The average snowfall in the mountains near Salt Lake City is 500 inches (over 40 feet!) - that is nearly five times the average snowfall of Juneau, Alaska
2. Many episodes of the popular television series "Touched by an Angel" were partially filmed in Salt Lake City
3. The Mormon Temple in Salt Lake City took 40 years to complete. The Mormon temples in St. George, Manti and Logan Utah were completed before the Salt Lake Temple
4. The Great Salt Lake covers 2,100 square miles, with an average depth of 13 feet. The deepest point is 34 feet.
5. Salt Lake City was originally named Great Salt Lake City. Great was dropped from the name in 1868
6. The name "Utah" comes from the Native American "Ute" tribe and means people of the mountains
7. The 1998 Scarborough Research Corporation stated that Salt Lake City had more personal computers per household than any other city in the United States
8. The large Mormon population in Utah has influenced its lifestyles and legislation. In 2007, about 60 percent of the population of Utah were members of the Church of Jesus Christ of Latter-day Saints. The headquarters of the church is located at Temple Square in Salt Lake City. Ranked the 16th most visited tourist attraction in the United States by Forbes Magazine, it enthralls over five million visitors every year

# Process Development Division Announcements



## AIChE-DECHEMA Global Conference on Energy Efficiency in Process Development

June 5-8, 2011

Hong Kong SAR, China

Minimizing the energy usages and CO<sub>2</sub> emission has always been one of the objectives in any process and product design exercise. However, in the past it has always been secondary to overall process economics. Today with global warming, sustainability and diminishing natural resources, this design consideration has become a principal consideration. With ever increasing driving forces for continued global improvements in the standard of living, we would like to discuss the emerging technologies and the potential for new directions in engineering to support these advancements. Furthermore, we would like to discuss the needs and incentive of various countries and government organizations in support of this work, so that we can arrive at a 'best global engineering solution.

The United Nations Climate Change Conference in Copenhagen discussed again the potential dramatic consequences of global warming. It also showed how difficult it is for politicians to decide on concrete measures. Our leaders need support from engineers and scientists to overcome environmental problems and find a sustainable way for producing and using high-technology. Chemical engineers and their national societies worldwide have a great deal of knowledge in optimizing production processes. This is true not only for the chemical industry but also for other large producers of consumer goods (e.g. in the area of electronics or automobiles).

In this global-reaching conference, we would like to

- define research necessities
- present the recent technological advancements
- propose implementation actions of energy-saving technologies into industry
- discuss the needs and incentive of various countries and government organizations
- discuss internationally coordinated strategies

To combine the world's technological and scientific knowledge in this field, this conference is primarily sponsored by the chemical engineering societies of the U.S. (AIChE) and Germany (DECHEMA), and endorsed by Japan's SECI.

For those interested, you can contact Joe Cramer ([ioseca@aiiche.org](mailto:ioseca@aiiche.org)) or go to the website (<http://www.aiiche.org/conferences/specialty/EnergyEfficiency.aspx>) for more information.

### Call for Papers

Call for papers open through Oct. 22 for the 2011 Spring meeting in Chicago. Please consider presenting a paper, or forward to your colleagues! To submit go to <http://www.aiiche.org/Conferences/SpringMeeting/index.aspx>

Submitted by:

Joe Powell <[Joe.Powell@Shell.com](mailto:Joe.Powell@Shell.com)>

### Student Conference at the SLC Conference (Nov 6<sup>th</sup>)

Members of the Process Development Division will be participating in the annual student conference again this year. The student conference is scheduled for Nov. 5th - Nov. 8th. Career workshops are planned for Sat. afternoon Nov. 6th, whereby professional volunteers interact with students and young professionals. The Process Development Division will take part in two workshops entitled, "Graduate School - Is It Right for You?" and "AIChE After Graduation". This is a great opportunity to interact with students and answer their questions about your careers. If you are interested in more information, please contact John Peragine at (732)-227-5688.

### Congratulations!!!

The Excellence in Process Development Research Award for 2010, sponsored by Pfizer, goes to Al Weimer. This award is presented for making significant technical contributions to the advancement of process development within research, teaching or regulatory activities. His work has contributed to fundamental understanding, invention, development, and commercialization of Particle Atomic Layer Deposition processing for the functionalization of ultrafine particles.

The Process Development Practice Award for 2010, sponsored by Zeton, goes to James Silva of the GE global Research for outstanding contributions in the practice of process development. Jim's award is for his achievements advancing the field of polycarbonate plastics which includes processes to manufacture world-class DVD-quality polycarbonate and clear siloxane-copolycarbonate.

There are 2 winners for the Process Development Division Student Paper Awards for 2009-2010, sponsored by Lilly:

Patrick Robinson from Lehigh University studying under Prof. William Luyben (2009).

Xiongtao Yang from Lamar University studying under Prof. Qiang Xu (2010).

On behalf of Division 12 Leadership Team, Thanks to our sponsors!!





## Announcements (continued)

### Programming Update

Process Development Division-12 has continued its tradition of strong programming via sponsorship of 12 core sessions with over 63 papers for the Spring 2010 meeting in San Antonio, with an additional 6 co-sponsored sessions. Fall 2010 in Salt Lake will feature 18 core sessions with 105 papers, and co-sponsorship of another 9 sessions with 48 papers or panel discussions. Virtually all Areas are represented at this meeting, including extensive programming in Innovation, Pilot Plants, Process Intensification, and Product Design.

Call for papers for Spring 2011 (Chicago) remains open through October 22, where PDD-12 is proposing to sponsor 13 sessions, 6 of which are in Pilot Plants which may warrant grouping into a Topical.

Please consider attending the Fall meeting, or attending and presenting a paper for Spring 2011. Details for either of these events can be found at:

<http://www.aiche.org/Conferences/>

### PDD-12 mini-Topical leads to Book "Sustainability in Practice"

The Sustainability in Practice mini-topical co-sponsored by Process Development Division-12 for Spring 2006 in Orlando has led to publication of the book Sustainable Development in the Process Industries, Cases and Impact (J. Harmsen and Joseph B. Powell, editors), now available from Wiley ([www.Wiley.com](http://www.Wiley.com)). The book presents real-

world examples of how sustainability is being implemented by industry, and is intended as a general guide, or for use as a supplemental text for classroom instruction. Copies of the AIChE-endorsed book can be ordered directly from Wiley, or your favorite bookseller.

### Looking for Leadership Opportunities?

We are always looking for volunteers to help us lead our division. If you are an established member or a new one, please consider becoming more active in our division. This is an activity that will help you improve your leadership skills and offer you an opportunity to give back. If you are interested in learning more, please contact Raymond Rooks at ([Raymond.rooks@praxair.com](mailto:Raymond.rooks@praxair.com)).

## Division 12 Events During the Conference

### Sunday, November 7 2010

5:00 PM-6:00 PM

Leadership Meeting - - Canyon B (Hilton)

4:00 PM-5:00 PM

### Monday, November 8 2010

11:05 AM-12:20 PM

Process Development General Meeting - - 150 A/B Room ( Salt Place Conv Ctr)

5:45 PM-6:45 PM

Division Area Meetings for Technical Programming - - 150 A/B Room ( Salt Place Conv Ctr)

### Tuesday, November 9 2010

5:00 PM-6:30 PM

Division 10<sup>th</sup> year Anniversary Reception - - 155 A Room ( Salt Place Conv Ctr)

6:45 PM-9:45 PM

Dinner with awards presentation

- ❖Flemings Steakhouse  
Downtown SLC
- ❖\$65 per person (buy through AIChE)
- ❖Choice of 4 entrees (filet mignon, chicken breast, salmon, vegetarian)
- ❖Soft drinks/coffee, CASH BAR ONLY
- ❖Buy tickets through AIChE website
- ❖For questions contact John Peragine at (732)-227-5688

## Recent Events

### 5<sup>th</sup> Process Development Symposium

The PDS 2010 was held at Lake Ozark, MO in June and was attended by 35 participants from industry, academics, and government. The theme was "Energy Challenges for Process Development". Talks ranged from broad perspective and strategic energy outlook assessments to very detailed process design related case studies. As in the past, technical content and opportunities to network were excellent. The conference format encouraged attendees to make new contacts for future potential collaborations. Based on the evaluations received and level of participation, division is considering workshop formats somewhat different than pure Gordon style conferences with more accessible venues.

### San Antonio Young Professionals Social

Our division sponsored a social for the Young Professionals (YP) who were at the Spring 2010 meeting in San Antonio. Herie and Lorna Soto prepared a brochure that was handed out to the attendees introducing them to the Process Development Division organization and activities. They coordinated this event working closely with Brian Daly from the YP side. It was attended by approximately 30 and a sign up sheet was created to capture names of attendants. The division plans to sponsor another such social at the Spring 2011 meeting in Chicago as well. Contact Cawas Cooper ([cawas.cooper@gmail.com](mailto:cawas.cooper@gmail.com)) for more details.

# Process Development Division History

## Celebrating 10 Years of Success!!

### PDD Chairs Through the Years

1997-1999 George Lieberman

1999-2001 Prabir Basu

2001-2003 John Corn

2003-2005 Christine Seymour

2005-2007 John Peragine

2007-2009 Cawas Cooper

2009-2011 Raymond Rooks

2011-2013 Michael Hill



### Process Development Division History

1980s/Early 1990s - Engineering Group 12

Early 1990s - Pilot Plant Area (remaining active area) expanded to include benchmarking, networking, etc.

1996 - Proposed change to Process Development Group (Chicago, 1996)

1997 - Change approved (Houston, 1997)

First Steering Team committee meeting

1999 - Transition to Process Development Group completed

2000 - Process Development becomes a Division

#### Key People in the creation of the PDD:

Joe Cramer, Director of Programming

Jeff Wood, Meetings Director

EBPC (T. Anderson, D. Dorland, D. Griffith, S. Kim, D. Rosenthal, Mike Malone)

Pilot Plants: Rich Palluzi (Exxon); Shiah Cherney (Chevron); Paul Szabo (Xerox)

Transition: Prabir Basu (Monsanto); Kamlesh Bhatia (DuPont); Cawas Cooper (Air Products); John Corn (Ashland); Dave Edwards (Zeton); Mark Langer (S.C. Johnson); Alan Leviton (Rohm and Haas) George Liebermann (Xerox); Ron Mack (Monsanto); K. Ng (U of Mass)



## Process Development Division Program

### Monday November 8, 2010

8:30 AM-11:00 AM

(#33) - 05000 Managing Innovation

(#68) - 12G02 Technology Transfer In (A) Product Design Via ChE Education and  
(B) Commercial Product Manufacturing

12:30 PM-3:00 PM

(#118) - 05001 Project Management: What's New? What Works?

3:15 PM-5:45 PM

(#171) - 05002 R&D Management From Beginning to End

### Tuesday November 9, 2010

8:30 AM-11:00 AM

(#229) - 05003 Managing Technology Collaborations I - Academia, Industry and Government

(#238) - 12G01 Physical Properties for Chemical Product Design

(#240) - 12F02 Process Intensification Plenary Session

(#241) - 10A02 Product and Molecular Design

12:30 PM-3:00 PM

(#280) - 12A03 Gasification Process Development

(#304) - 12B00 Solids Handling Considerations and Challenges in Pilot/Demonstration Plants

3:15 PM-5:45 PM

(#319) - 12B01 Challenges in Small Scale Syngas Pilot Plants

(#335) - TG003 High-Throughput and Compact Chemical Processing Technologies

(#337) - 12A04 Industrial Applications of Process Synthesis

(#346) - 12G00 Multi-Layer Units Manufactured by Compression

(#355) - 02B04 PAT for Crystallization Development and Manufacturing

### Are you hungry?

Here's a few places you could try while in Salt Lake City

#### ✓ Red Rock Brewing Company

This popular brewpub provides over 20 micro-brewed beers. Guests can enjoy a slice of spicy pizza and a handcrafted beer (or two) while gazing at the magnificent view of Utah's sunsets.

#### ✓ Red Iguana

The Cardenas family owns the Red Iguana, and that makes the food as authentic as you can get without moving to Tijuana. Mole, red sauce and cheese sauces are prepared from scratch weekly, a bit of added attention that makes the food that much better.

#### ✓ Rodizio Grill

Beef, chicken, and more exotic choices like Cajun alligator sausage, wild boar sausage, jalapeno rattlesnake sausage, and wood-grilled buffalo roast are a few of the many options. To finish, try glazed bananas, polenta sticks, or the bounty from the fresh salad bar

#### ✓ Cafe Med

Dishes hail from Greece, Italy, and Turkey, the rustic fare makes Café Med an ideal destination. From tabouli and souvlaki to hummus and baba ghanoush, the menu offers all.

### From the Editor

If you are a regular reader of this newsletter, you have noticed that I have re designed it. My intent is to give it a new look and make things easier to find and more fun. Please feel free to drop me a note if you have any suggestions or feedback, I would love to hear from you.

Salvador Aldrett  
Salvador.aldrett@shell.com

## Process Development Division Program Continued

### Wednesday November 10, 2010

8:30 AM-11:00 AM

(#381) - 12F01 Advances in Process Intensification I

(#420) - 12A00 PAT and High Throughput Technologies for Process Development and Control

(#707) - 12B03 Pilot Plant Economics

12:30 PM-3:00 PM

(#437) - 03E01 Advanced On-Line Analytical and Optimization Tools in Pilot Plants

(#442) - 12F04 Advances in Process Intensification II

(#467) - 12A01 Innovations in Bio-Refinery Processes

3:15 PM-5:45 PM

(#505) - 12F00 Advances in Process Intensification III

(#539) - 10A10 Industrial Innovation in Process Design and Operations

(#555) - 12A02 Process and Product Development for Sustainability

### Thursday November 11, 2010

8:30 AM-11:00 AM

(#613) - 12B02 Pilot Plants for Green and Sustainable Processes I

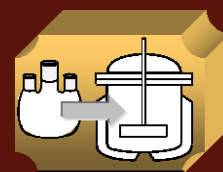
12:30 PM-3:00 PM

(#663) - 12B04 Pilot Plants for Green and Sustainable Processes – II

### Friday November 12, 2010

8:30 AM-11:00 AM

(#734) - 12E04 Microreactors and Microprocessing



## Process Development Division Leadership (2010-2012)

<b>Chair</b>	Raymond Rooks Praxair, Inc Phone: (716) 879-7447 Email: raymond_rooks@praxair.com	<b>Chair Elect</b>	Michael Hill M Hill & Associates, LLC Phone: (201) 995-9320 E-Mail: michael@mhillassoc.com
<b>Program Chair</b>	Vacant	<b>Membership Chair</b>	A.R. (Tony) Cartolano Air Products and Chemicals, Inc. Tel: 610-481-4262 e-mail: cartolar@airproducts.com
<b>Assisting Program Chair</b>	Joe Powell Shell Global Solutions US Inc. Phone: (281) 544-8976 Email: Joe.Powell@shell.com	<b>CTOC Liaison</b>	Cawas A. Cooper AIChE Fellow Phone/Fax: (610) 481-9165 E-Mail: <a href="mailto:cawas.cooper@gmail.com">cawas.cooper@gmail.com</a>
<b>Group Treasurer</b>	David Edwards Zeton Inc. Phone: (905) 632-3123 Email: <a href="mailto:dedwards@zeton.com">dedwards@zeton.com</a>	<b>Awards Chair</b>	Jay Miller LyondellBasell Industries Phone: (610) 359-2092 Email: j.miller@lyondellbasell.com
<b>NAMF Liaison</b>	Aaron Sarafinas Email: asarafinas@rohmmaas.com	<b>Past Chair</b>	Cawas A. Cooper AIChE Fellow Phone/Fax: (610) 481-9165 E-Mail: <a href="mailto:cawas.cooper@gmail.com">cawas.cooper@gmail.com</a>
<b>Webmaster</b>	Joseph W. Schroer ClearWaterBay Technology Inc., Phone: (909) 595-8928 E-mail: <a href="mailto:jschroer@cwbttech.com">jschroer@cwbttech.com</a>	<b>Newsletter Editor</b>	Salvador Aldrett Shell Global Solutions Phone: (281) 544-6067 E-mail: salvador.aldrett@shell.com
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<b>Division 11 Liaison</b>	TBD	<b>EBPC Liason</b>	John F. Peragine Bristol-Myers Squibb Phone: (732) 227-5688 E-Mail: <a href="mailto:John.Peragine@bms.com">John.Peragine@bms.com</a>
<b>Elections (Nominations)</b>	TBD	<b>Communications</b>	TBD

### Leadership of Area 12a: Process Research and Innovation

<http://www.pd-aiiche.com/area12a/>

<b>Chair</b>	Joe Schroer CWB Tech. Phone : 909-595-8928	<b>Chair - Elect</b>	Santiago Faucher Xerox Research Phone : 905.823.7091 ext. 261	<b>Activities Chair</b>	Qiang Xu ChE Dept Lamar University Phone:(409) 880-7818
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### Leadership of Area 12b: Pilot Plants

<http://www.pd-aiiche.com/area12b/>

<b>Chair</b>	Adam Whalley, P.Eng. Zeton Inc. Tel: 905-632-3123 (ext. 235)	<b>Chair - Elect</b>	David Attridge Eastman Chemicals Phone: (423) 967-8840	<b>Activities Chair</b>	Kiran Gupte BP Phone: (630) 420- 4390
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### Leadership of Area 12c: Technology Transfer

<http://www.pd-aiiche.com/area12c/>

<b>Chair</b>	Lorna Ortiz-Soto CRI/Criterion Catalysts Phone: (281) 544-7746	<b>Chair - Elect</b>	Mike J. Doll Shell Global Solutions Office : 281-544-7253	<b>Activities Chair</b>	
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### Leadership of Area 12d: Manufacturing

<http://www.pd-aiiche.com/area12d/>

<b>Chair</b>	Vacant	<b>Chair -Elect</b>	Shu Shu Shell Global Solutions Phone: 281-544-7812	<b>Activities Chair</b>	Herie Soto Criterion Catalysts Phone: 281-876-8024
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### Leadership of Area 12e: Microprocessing Engineering

<http://www.pd-aiiche.com/area12e/>

<b>Chair</b>	Thomas Dietrich mikroglas chemtech GmbH Phone: +49-6131- 55550-50	<b>Chair - Elect</b>	Laurence Weatherley University of Kansas phone: 785-864-3553 e-mail: lweather@ku.edu	<b>Activities Chair</b>	Open
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### Leadership of Area 12f: Process Intensification

<http://www.pd-aiiche.com/area12f/>

<b>Chair</b>	Dr.-Ing. Hannsjoerg Freund Max Planck Institute Phone: +49-391-6110- 275	<b>Chair - Elect</b>	Dr. Bora Aydin Natural Resources Canada Tel: +1 450 6520214	<b>Activities Chair</b>	Zhijun Jia Chart Energy & Chemicals, Inc. Phone: (608) 787-6714
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### Leadership of Area 12g: Product Design

<b>Chair</b>	Kevin Joback Molecular Knowledge Systems, Inc. Phone: 603-472-5315	<b>Chair - Elect</b>	Yogendra Shastri University of Illinois at Urbana- Champaign Phone: (312) 375- 2354	<b>Activities Chair</b>	Ken Cox Rice University (713) 348-3529
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