

AIChE Process Development Division Spring Newsletter 2019

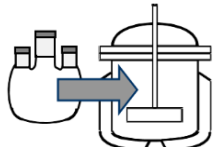


For more information, visit <http://www.aiche.org/community/sites/divisions/process-development>

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Division 12



Process Development



Message from the Chair

Hello Process Development Division (PDD) members!

Welcome to our Spring 2019 newsletter. Please read through to see the information on the upcoming Spring meeting in New Orleans, the June 2019 Process Development Symposium in Houston, and the 2019 Annual meeting in Orlando.

We have a special section in this newsletter, an interview with AIChE President Elect Monty Alger.

For those of you coming to the Spring meeting, I encourage you to buy a ticket for our division dinner, and network with your PDD colleagues.

Note that Fall of this year will be Election time for the Process Development division. We recruit new Area Coordinators for each programming area, and elect Area co-chairs to replace the current co-chairs, who will be moving up to Area Chair in 2020. Anyone interested in being more involved in an area, please reach out to me or the area chairs. We also vote for the next Chair Elect of the division, who will move up to the Chair position in 2022. Candidates for Chair should contact me and Tony Cartolano.

Thanks again for being a member of the division, and your support!

Best regards,

Bob Huss

Process Development Division Chair

Join Process Development Division (PDD)

The PD division promotes networking and communication among engineers and scientists interested in process development through meetings, seminars, courses, and publications. This division also organizes AIChE activities in the field, and materials with other related societies.

In addition, the PD division provides a forum for the engineer and educator to exchange information and ideas.

Chartered: 2000, Dues: \$10

Interested in nominating yourself or a colleague for the following categories

- Excellence in Process Development Research Award
- Process Development Practice Award
- Process Development Division Student Paper Award

Please fill out the Nomination form at

<http://www.aiche.org/community/sites/divisions/process-development/awards>

pods

PROCESS DEVELOPMENT
SYMPOSIUM 2019

JUNE 11-13, 2019
HOUSTON MARRIOTT WESTCHASE
HOUSTON, TX

REGISTER BY APRIL 30 TO
RECEIVE THE EARLY RATE

The **2019 Process Development Symposium (PDS)** provides an opportunity for process development professionals from all across the country to discuss their experiences with novel and innovative technologies to trigger radical changes in next-generation processes development and operations.

Topics at this year's symposium address:

- An Interactive Panel Session
- Developing Process Development Expertise
- Case Studies
- Process Intensification
- Designing Sustainable Processes
- Process Commercialization
- Modeling, Computation, and Data Analytics in Process Development
- Mixing in Multiphase Systems & Scale-up

You'll share experiences and knowledge with process development professionals and discuss tips for designing and developing safe processes and achieving greater process efficiency.

For additional conference information and to register, visit www.aiche.org/pds.

Interested in exhibiting and/or sponsoring at this event?
Contact sales@aiiche.org.

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For more information, contact Cody Hirashima (codyh@aiiche.org)

2019 Spring Meeting – What you need to know



Process Development Division (PDD) Dinner

The Process Development Division Dinner provides an excellent opportunity for networking. Plan to attend and become more engaged in the Division!

When: Tuesday, April 2 2019

Time: 6:00 – 7:00 PM (FREE Reception
for PDD members)
07:00 PM - 09:00 PM (Ticketed Dinner)

Where: Grand Isle Restaurant

Address: 575 Convention Center Blvd, New Orleans, LA 70130

Phone: +1 (504) 520-8530

Cost: \$70 per person



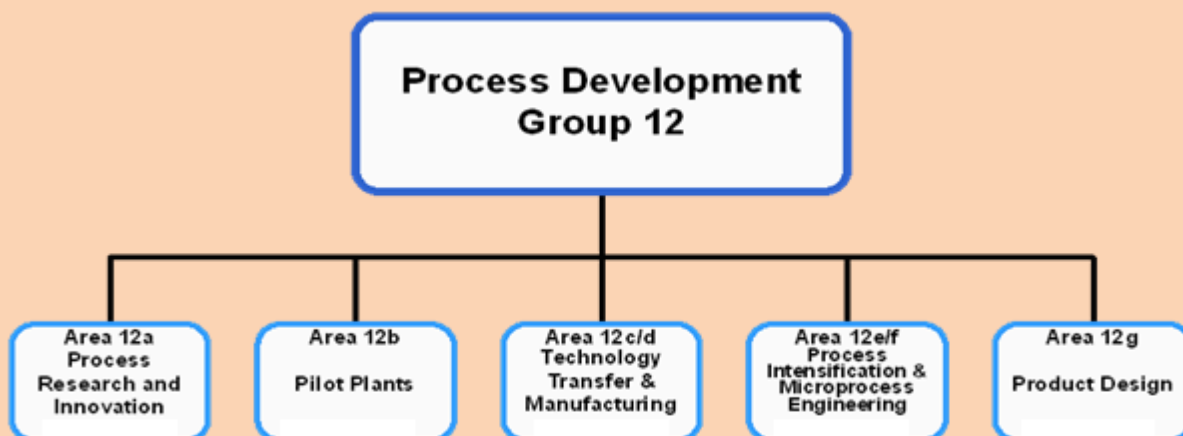
Spring Meeting Highlights

- 2019 Spring & GCPS Monday Luncheon
- 5th Topical Conference on Big Data Analytics
- 7th International Conference on Upstream Engineering and Flow Assurance
- 19th Topical Conference on Gas Utilization
- 22nd Topical Conference on Refinery Processing
- Kister Distillation Symposium
- Innovative and Smart Manufacturing
- The 31st Ethylene Producers' Conference
- Process Intensification
- Emerging Technologies in Clean Energy
- Leadership Development - Professional Skills to Catalyze your Career
- 2019 AGILE Award Keynote Address
- Industry 4.0 Plenary
- 2019 AIChE Spring Meeting & 15th GCPS Short Courses F&PD Executive Panel – Embracing the Challenge: Meeting the Global Demand for More and Cleaner Energy
- Meet the Industry Candidates Poster Session & Reception
- Ride and Drive Toyota Mirai at 2019 AIChE Spring Meeting and 15th GCPS
- Launch of the Center for Hydrogen Safety

Process Development Division Meetings

- Process Development Leadership Meeting
5:00 PM 6:00 PM, Sunday March 31
Location: Steering, Hilton New Orleans Riverside
- Process Development Division Programming Meeting
11:45 AM 1:15 PM, Tuesday April 2
Location: Eglinton Winton Hilton New Orleans Riverside
- Process Development Symposium Europe Update Meeting
2:00 PM 3:00 PM, Tuesday April 2
Location: Durham Hilton New Orleans Riverside

PDD Spring Meeting 2019 Programming



Monday, April 01, 2019

01:30 PM - 03:00 PM:

Initiatives in Process Intensification and Modular Chemical Processing I, Hilton New Orleans Riverside - Prince of Wales

Lessons Learned from the Industrial Practice of the Open Innovation Model for the Development of New Products I, Hilton New Orleans Riverside – Cambridge

Process Re-Engg for Increased Energy Savings and Environmental Protection, Hilton New Orleans Riverside - Eglinton Winton

03:30 PM - 05:00 PM:

Advance Process Concepts - Reactors and Reactive Separation, Hilton New Orleans Riverside - Prince of Wales

Biomass Conversion to Valuable Products, Hilton New Orleans Riverside - Eglinton Winton

Lessons Learned from the Industrial Practice of the Open Innovation Model for the Development of New Products II, Hilton New Orleans Riverside – Cambridge

05:00 PM - 07:00 PM

Process Development Poster Session, Hilton New Orleans Riverside - Grand Salon

Tuesday, April 02, 2019

08:00 AM - 09:30 AM

Advances in Product/Process Design & Development I, Hilton New Orleans Riverside - Cambridge

Pilot Plant and Laboratory Safety I, Hilton New Orleans Riverside - Eglinton Winton

PDD Spring Meeting 2019 Programming Continued

10:15 AM - 11:45 AM

Advances in Product/Process Design & Development II, Hilton New Orleans Riverside - Cambridge

Pilot Plant and Laboratory Safety II, Hilton New Orleans Riverside - Eglinton Winton

01:30 PM - 03:00 PM

Intensified Separation Processes I, Hilton New Orleans Riverside - Prince of Wales

Pilot Plant Separations I, Hilton New Orleans Riverside - Eglinton Winton

03:45 PM - 05:15 PM

Intensified Separation Processes II, Hilton New Orleans Riverside - Prince of Wales

Managing Continuous Improvement in the Workplace, Hilton New Orleans Riverside - Fulton

Pilot Plant Separations II, Hilton New Orleans Riverside - Eglinton Winton

Wednesday, April 03, 2019

08:00 AM - 09:30 AM

Advanced on-Line Analytical and Optimization Tools in Pilot Plants, Hilton New Orleans Riverside - Cambridge

Advances in Modular Technology, Hilton New Orleans Riverside - Prince of Wales

Advances in Process Intensification, Hilton New Orleans Riverside - Eglinton Winton

10:15 AM - 11:45 AM

Intensified Reaction Processes, Hilton New Orleans Riverside - Prince of Wales

Modeling Tools and Techniques for Process R&D I, Hilton New Orleans Riverside - Cambridge

Process Intensification Opportunities, Hilton New Orleans Riverside - Eglinton Winton

01:30 PM - 03:00 PM

Initiatives in Process Intensification and Modular Chemical Processing II, Hilton New Orleans Riverside - Prince of Wales

Modeling Tools and Techniques for Process R&D II, Hilton New Orleans Riverside - Cambridge

03:00 PM - 05:00 PM

Modeling Tools and Techniques for Process R&D III, Hilton New Orleans Riverside - Cambridge

Opportunities in Process Intensification - Industrial Perspective, Hilton New Orleans Riverside - Prince of Wales

Spring Meeting 2019 - Topical C: Process Intensification

Monday, April 01, 2019

01:30 PM - 03:00 PM:

Initiatives in Process Intensification and Modular Chemical Processing I, Hilton New Orleans Riverside - Prince of Wales

03:30 PM - 05:00 PM:

Advance Process Concepts - Reactors and Reactive Separation, Hilton New Orleans Riverside - Prince of Wales

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Intensified Separation Processes I, Hilton New Orleans Riverside - Prince of Wales

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Advances in Modular Technology, Hilton New Orleans Riverside - Prince of Wales

Advances in Process Intensification, Hilton New Orleans Riverside - Eglinton Winton

10:15 AM - 11:45 AM

Intensified Reaction Processes, Hilton New Orleans Riverside - Prince of Wales

Process Intensification Opportunities, Hilton New Orleans Riverside - Eglinton Winton

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Opportunities in Process Intensification - Industrial Perspective, Hilton New Orleans Riverside - Prince of Wales

Keynote Speaker in Open Innovation session co-sponsored by Management and Process Development Divisions

2019 Spring Meeting



Dr. Monty Alger, President-elect of the AIChE

Dr. Monty Alger, President-elect of the AIChE, will be presenting in one of the upcoming Management Division Sessions at the Spring Meeting. He is the keynote speaker in the session “Lessons Learned from the Industrial Practice of the Open Innovation Model for the Development of New Products or Processes”. His talk is entitled “Building a Continuous Learning and Innovation Network”. This session is co-sponsored by the Process Development Division.

Dr. Alger is Professor of Chemical Engineering at Penn State University. Past affiliations include Chief Technology Officer and Vice President of R&D at Air Products, Board Member of AIChE and General Manager of Technology for GE Advanced Materials.

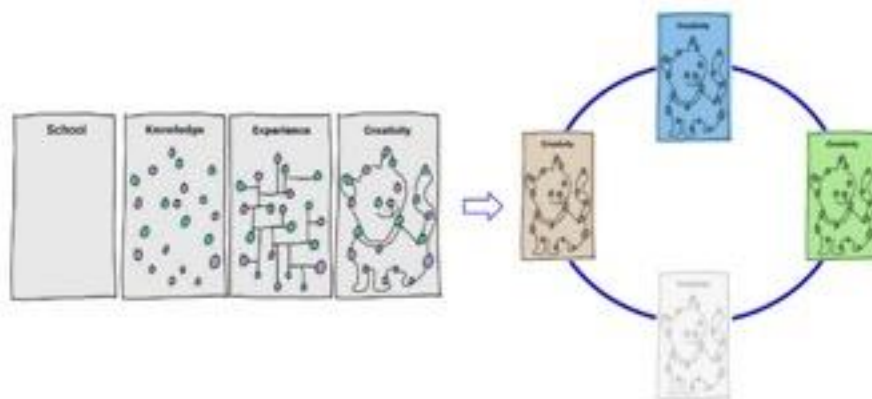
Vince Magnotta, Session Chair, had an opportunity to catch up with Dr. Alger and discuss his upcoming keynote presentation.

1. Session Chair: Given your unique perspective of being an industry executive in R&D and now a university professor, how would you define open innovation?

Dr. Alger: Open innovation promotes exploring outside an organization for new opportunities. In today's world it is hard to be good at everything. Often there are external capabilities, ideas or technologies that can help with new process, product or application development. My first experience with open innovation was with a consumer product company years ago when I was working in the Silicone Industry. Our business CEO and the consumer product company CEO agreed to collaborate on new materials development – reduce cycle time, improve margin and get more innovation to market. One of the most obvious but biggest realizations was that our “stage-gate” process was an input to their “stage-gate” process. When we thought a new product was ready for sale, in reality it was an option for the customer to consider at the beginning of their development process. That led to a lot of discussion on how we developed new products with customers. We did lean-value stream mapping on our stage gate process and made a number of significant changes. In conclusion, taking the first steps of looking outside your organization can lead to new insights about how to be better connected and responsive to market opportunities.

2. Session Chair: What are some examples of how industry and academia can think “out-of-the-box” to reduce product development cycle times and also reduce overall costs of development?

Dr. Alger: We live in a globally connected digital world. Many of our practices are linear with long-time constants. The first step is to look at how we think about building new integrated practices for sharing and exchanging knowledge and new concepts. The graphic below captures the change that is underway. The legacy perspective is that you start early life in school and linearly progress through life acquiring experiences and learning to “connect the dots”. Today it is possible to find solutions to about any problem or need by using the internet. We have moved from local knowledge to a having the nearly instant



ability to find what you need. Of course, this requires an individual to have a sufficient base of knowledge to be able to understand what they have found. Several of us at Penn State are working with Burning Glass, a data analytics company, to organize the jobs and skills needed in the market. We are talking to hiring companies to learn their needs and interests so that we can design new learning

modules that connect skills with application. Many opportunities exist to think differently about how we do work, how we connect and reduce cycle time and increase the rate of innovation to market. AIChE has a unique opportunity to bring new thinking to the industry through connection to public, private and government organizations.

3. Session Chair: What role does/can AIChE play in optimizing open innovation? Are there opportunities for improvement?

Dr. Alger: AIChE can be a forum to highlight and share across organizations and provide training through case studies in sharing practices and approaches. Successes and failures need to be discussed– the later often provide a lot more insights.

The AIChE could consider having webinars or workshops teaching the principles and practices of open innovation (including how to use the practices of licensing, of joint development agreements, government funded R&D and of corporate -funded R&D at universities, institutes and the government. These efforts would be valuable to everyone in the development process of new products---and have the greatest value to young engineers in both industry and academia just entering the innovation process. Another key learning to instill is that the developers of new products or processes think globally to identify open innovation partners.

4. Session Chair: How can a continuous learning network further the goals of optimal open innovation?

Dr. Alger: We are in the “How do I “ world that YouTube helped create. Have a problem with your garage door, need to change a battery in your remote control? Probably there are several solutions on YouTube. Recently, I needed to find a wire break in our electric dog fence. YouTube showed me how - wrap a wire around a spark plug on a lawn mower engine and attach to one end of the dog fence. Tune in AM radio to 550 and walk in a grid pattern and note sound change on the AM radio. It worked.

Imagine an organized, curated knowledge network that combines basic skills and application examples and training. If we can develop application case studies, from market practice, and integrate with demonstration of basic skills, this can be a great resource for education, doing projects and personal skills development. We can then start generating the needed content. Ask young engineers and scientists “what do you now know you wish you had known while you were in school?” Ask experienced people, “what have you drawn on a napkin or shared with someone over 50 times?”

The same practices could also be used for proprietary knowledge capture and sharing within organizations. There are lots of possibilities and AIChE can help convene groups with a broad range of skills and experiences to make this a reality. This is a chance to build on existing initiatives such as AIChE Academy.

5. Session Chair: Further engaging young engineering professionals is an ongoing goal of the AIChE. What role do you see young professionals playing in achieving optimal open innovation?

Dr. Alger: Young professionals have always lived in a global, integrated world. They are much more conversant with technology and how to use systems. Whenever you try to develop a new idea there is always a group that will ask “why would you want to do that?”. There is often another group that will say “can you imagine the possibilities if we can make that happen?”. Different perspectives, both important. Need balance. The young professionals can provide fresh thinking around established practices, new ideas for radically new practices. I look forward to discussions on a range of new ideas that we might be able to bring to market through partnership with AIChE.

Final thoughts:

Dr. Alger: I look forward to the Spring meeting discussion and to hearing about other ideas that are underway!

Please plan to attend Dr. Alger’s keynote presentation at the Spring Meeting.

Building a Continuous Learning and Innovation Network

Session: Lessons Learned from the Industrial Practice of the Open Innovation Model for the Development of New Products I

Monday, April 01, 2019

1:30 PM - 2:05 PM

Hilton New Orleans Riverside - Cambridge

Dr. Alger can be reached at alger@psu.edu

2019 Annual Meeting

November 10 - 15, 2019, Hyatt Regency, Orlando

2019 AIChE[®] ANNUAL MEETING

19 AIChE
Annual Meeting, Orlando, FL

Transforming the Future
through Chemical Engineering

**CALL FOR ABSTRACTS NOW OPEN
SUBMIT YOUR ABSTRACT BY APRIL 12**

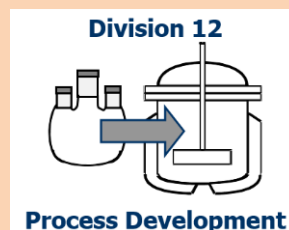
We are excited to invite researchers and practitioners working in all areas of chemical engineering and related disciplines to share their research and knowledge at the **2019 AIChE[®] Annual Meeting** this November in Orlando, FL.

- 3D Printing
- Bioengineering
- Catalysis & Reaction Engineering
- Computing & Systems Technology
- Cybersecurity
- Education
- Electrochemical Fundamentals
- Energy, including Fossil, Solar, and Bioenergy
- Entrepreneurship
- Environmental and Sustainability Topics
- Food Innovation and Engineering
- Forest & Plant Bioproducts
- Fluid Mechanics
- Fuels & Petrochemicals
- High Pressure
- Interfacial Phenomena
- Management
- Materials Engineering
- Medicine
- Mixing
- Molecular Science & Engineering
- Nanotechnology & Nanomaterials
- Nuclear Engineering
- Particle Technology
- Pharmaceutical Engineering
- Process Development, including Process Intensification
- Sensors
- Separations
- Smart Manufacturing, including IIoT and Industry 4.0
- Thermodynamics & Transport Properties
- Transport & Energy Processes
- Upstream Engineering
- and more

Acceptance notices will be sent out in July and papers will be presented at the Meeting this fall.

For more information visit aiche.org/annual
Interested in sponsoring and/or exhibiting at this event? Contact sales@aiche.org.

Process Development Area Leadership



	Chair	Chair Elect	Area Coordinator
12A Process Research & Innovation	Tom Xu DuPont Tom.Xu@dupont.com	James Marek James.marek@abbvie.com	Ray Jian rjian@sabic.com
12B Pilot Plants	Hsiang Yee Lai hsiang.lai@swri.org	Nitin Tople SABIC 412-576-4840 nitin.tople@sabic.com	Mike Trainor mtrainor@zeton.com
12C/D Technology Transfer & Manufacturing	Qiang Xu ChE Dept, Lamar University 409-880-7818 qiang.xu@lamar.edu	Rob Nunley MATRIC rob.nunley@matricinnovates.com	Minghua Ye SABIC mye@sabic.com
12E/F Process Intensification & Microprocess Engineering	Shawn Feist Dow Chemical Company SFeist@dow.com	Matthaeus Siebenhofer m.siebenhofer@tugraz.at	Robert Broekhuis rbroekhuis@sabic.com
12G Product Design	Sitaraman Krishnan Clarkson University skrishna@clarkson.edu	Kishori Deshpande Dow Chemical Company kdeshpande@dow.com	Mu Wang wang.m.13@pg.com

Process Development Symposium Liaison:

Kevin G. Joback (kevin@molecularknowledge.com)

Process Development Division Leadership (2018-2019)

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<p>Fall Program Chair</p> 	<p>Joseph W. Schroer SABIC Phone: 281.207.5601 Email: jschroer@sabic.com</p>	<p>Membership Chair</p> 	<p>Adam Whalley Zeton Inc. Phone: 905.632.3123 x235 Email: awhalley@zeton.com</p>
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