

# AIChE Process Development Division Fall Newsletter 2018



For more information about the AIChE PDD division, visit:

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

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# Message from the Chair

Hello Process Development Division (PDD) members!

Welcome to our Fall 2018 newsletter. Please read through to see information on the upcoming Annual meeting in Pittsburgh, and the Spring 2019 meeting. Early planning is also in progress for the next Process Development Symposium early summer 2019.

For those coming to the Annual meeting, I encourage you to buy a ticket for our division dinner, and hope to see you there. The Annual and Spring meetings are a great way to connect with your PDD colleagues and see some excellent technical programming.

Thanks again for being a member of the Division, and your support. Please consider becoming more active in the division through our programming areas. Our division contact information is at the end of the newsletter, don't hesitate to reach out to anyone on that list for more information.

Best regards,

**Bob Huss**

**Process Development Division Chair**

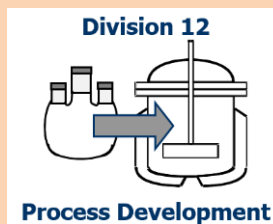
**Robert S. Huss, Ph.D.**

**Engineering Associate**

**Eastman Chemical Company**

**rhuss@eastman.com**

**(423) 229-6425**



## 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>

## 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**

## 2018 Process Development Award Winners

**Excellence in Process Development Research Award: Prof Zoltan K Nagy**, Professor of Chemical Engineering, Davidson School of Chemical Engineering, Purdue University (Sponsor: Pfizer Inc.)



Zoltan K Nagy is a Professor of Chemical Engineering at Purdue University and also holds a research professor position at Loughborough University, UK. He earned his B.S. (1994), M.Sc (1995) and PhD (2001) degrees from the “Babes-Bolyai” University of Cluj, Romania. He joined the Davidson School of Chemical Engineering in August 2012. Prior to joining Purdue he was Professor of Process Systems Engineering at Loughborough University, UK. At Purdue Dr. Nagy is affiliate member of the Computational Science and Engineering Program, member of the Engineering Research Center of Structured Organic Particulate Systems (C-SOPS), co-founding member of the Center of Particulate Products and Processes (CP3), the Designer Particulate Products preeminent team and the Purdue Process Safety and Assurance Center. Dr Nagy has 20 years of experience in advanced process control, process analytical technologies, crystallization modeling and control approaches and advanced control of particulate systems. His current research focuses on the application of systems approaches and tools in the design and robust control of batch and continuous crystallization systems, process analytical technologies and integrated particulate manufacturing processes. Dr Nagy is the Founding Editor of the Pharmaceutical Engineering Subject area of Chemical Engineering Research and Design, and associate editor of another four international journals in the area of process control. Dr Nagy is elected member of the Steering Committee of the American Association for Crystallization Technologies, the Crystallization Working Party of the European Federation of Chemical Engineers and Chair of the IEEE Technical Committee on Process Control. He published over 180 peer review journal, 250 conference papers and 3 patents. He has received awards and best paper prizes for his work in the areas of crystallization and control from IEEE, IFAC, European Federation of Chemical Engineering, Institute of Chemical Engineering, Council of Chemical Research, Royal Academy of Engineering and the European Research Council.

## 2018 Process Development Award Winners

**Process Development Practice Award: David M. Kolesar**, Process Engineer and Modeling Subject Matter Expert in the Electronics and Imaging Business of the Dow-DuPont Specialty Products Division (Sponsor: Zeton Inc.)

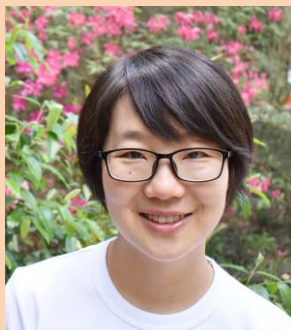


Dave Kolesar has over forty years of experience in the Chemical and Petroleum industries with Mobil Oil, ARCO Chemical, Rohm & Haas, Dow Chemical Co and DuPont. His career experience covers Early Process Development, Manufacturing, Debottleneck/Troubleshooting, EH&S, Supply Chain and Process Simulation. He is currently Process Engineer and Modeling Subject Matter Expert in the Electronics and Imaging Business of the Dow-DuPont Specialty Products Division.

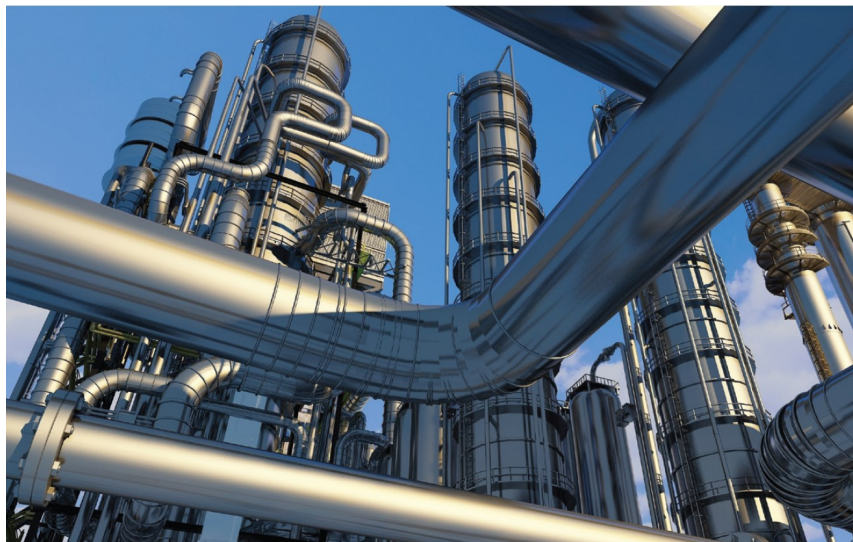
He has continually demonstrated the application of Chemical Engineering principles, primarily through the application of process modeling, to the development and improvement of chemical processes. In addition, David has taught and mentored others in the application of these same principles; both formally, as an adjunct professor at Drexel University and Industrial Consultant at the University of Pennsylvania, and informally through intern programs and working relationships at work. David's professional distinctions and honors include: AIChE Fellow, Lead Inventor on three patents and a recipient of multiple Dow Technology Center Awards. He earned his Master of Chemical Engineering and Master of Business Administration degrees from Villanova University. David's award nomination was supported by multiple letters of recommendation from colleagues at Dow as well as academia. He was cited for his work 'translating process models to measurable value for products and processes from R&D to design and operations, and for teaching current and future process owners.'

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**Process Development Division Student Paper Award: Cuixia Xu**, PhD Candidate, Lamar University (Sponsor: Praxair Inc.)



Cuixia Xu is a Ph.D. candidate in the Dan F. Smith Department of Chemical Engineering at Lamar University and she is advised by Professor Qiang Xu. She is expected to complete her Ph.D. degree in December 2018. Cuixia received her M.S. in Chemical Engineering from Guangxi University in 2013, and B.S. in Chemical Engineering from Guangzhou University in 2010. Cuixia's main research interests are process modeling, simulation and optimization for chemical and biochemical industry sustainability.



## The 2019 Process Development Symposium is headed to Houston, TX!

**The Process Development Symposium is the place to exchange wisdom, knowledge, tips, and personal experiences in the development and scale-up of chemical and related processes.**

Plan to attend PDS this June, in Houston, TX and catch up on the latest process development advancements and network with colleagues involved in the industry.

**For more information on past Process Development Symposia, visit [www.aiche.org/pds](http://www.aiche.org/pds).**

The Symposium, typically scheduled for Tuesday-Thursday in the first week of June, traditionally features a welcome reception, poster reception, lunches, and specially curated sessions on the pressing topics in process development.

Don't miss out on the **2019 Process Development Symposium**, your annual ticket to hear about everything you need to know in process development!

### **Past featured topics include...**

- ◆ Case Studies
- ◆ Process Optimization and Synthesis
- ◆ Process Intensification
- ◆ Modular systems
- ◆ Pilot Plants
- ◆ Economic Analysis of Processes
- ◆ Modeling, Computation, and Process Simulation
- ◆ Batch v. Continuous Processes
- ◆ Emerging Technologies

## Annual 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:** Monday Oct 29, 2018  
**Time:** 6:30 – 7:30 PM (FREE Reception  
for PDD members)  
7:30 – 10 PM (Ticketed Dinner)  
**Where:** Lidia's Dining Room  
**Address:** 1400 Smallman St, Pittsburgh, PA 15222  
**Phone:** (412) 552-0150  
**Cost:** \$75 per person



### Annual Meeting Highlights

- Process Safety Faculty Workshop At AIChE Annual Meeting
- PEAK Leadership Workshop
- RAPID's Process Intensification Faculty Workshop
- Entrepreneurship & Investing in Early-Stage Chemical Companies
- 2018 AIChE Beer Brewing Competition
- Managing and Leading Teams and Running an Effective Meeting (Ticketed Event)
- The Future of Energy in the Region, Nation and World
- 2018 Danckwerts Lecture
- Emerging Trends in Smart Manufacturing (sponsored by CESMII)
- Networking for Nerds
- Career Services Workshop
- MAC Eminent Engineers Awards Ceremony
- D.I.C. Wang Award Lecture
- What the Heck Happened? Past, Present & Future Disruptions to the Chemical/Fuels Business
- 2018 Andreas Acrivos Award for Professional Progress in Chemical Engineering Lecture
- AIChE's 110 Year Celebration
- AIChE Journal Futures: New Directions in Chemical Engineering Research
- LGBTQ+ Inclusion in Engineering
- SBE's James E. Bailey Award Lecture

AIChE® + Chemical Engineering:  
**TODAY, TOMORROW  
& LEADING THE FUTURE**

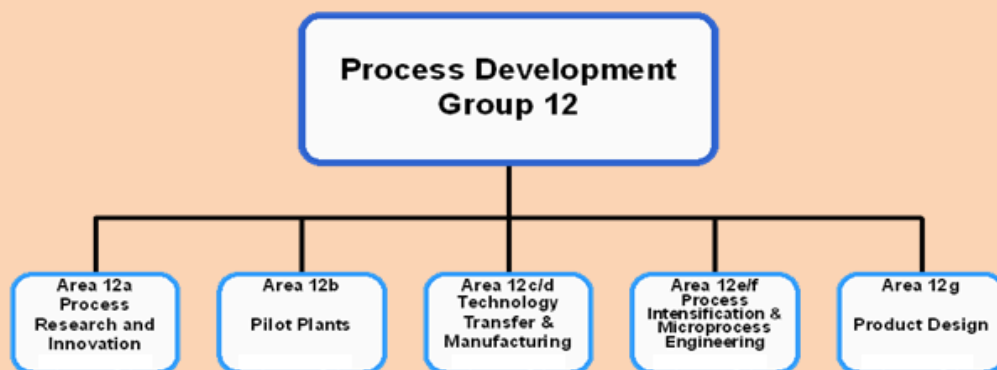
18AIChE  
Annual Meeting, Pittsburgh, PA

OCTOBER 28 - NOVEMBER 2 • PITTSBURGH, PA

### Featured Topical Conferences for 2018

- Nanomaterials for Applications in Energy and Biology
- NH3 Energy+
- Sensors
- Nanotechnology
- Food-Energy-Water Nexus
- Innovations of Green Process Engineering for Sustainable Energy and Environment
- Food Innovation and Engineering
- Immunotherapy
- Microbes at Biomedical Interfaces
- Next-Gen Manufacturing
- WIC 20th Anniversary: Celebrating Women in Chemical Engineering

# PDD Annual Meeting 2018 Programming



## Sunday, October 28

**03:30 PM - 06:00 PM**

### #9 3D Printing I

David L. Lawrence Convention Center – 333

### #16 Biobased Intermediates and Biomaterials

David L. Lawrence Convention Center – 335

### #43 Panel Discussion: Chemical Process and Product Design Careers

David L. Lawrence Convention Center – 326

## Monday, October 29

**08:00 AM - 10:30 AM**

### #56 3D Printing II

David L. Lawrence Convention Center – 333

### #75 Design, Construction, and Operation of Unit Operations Labs and Pilot Plants

David L. Lawrence Convention Center - 336

### #93 Materials and Processes for Thermo-, Electro- and Photo-Chemical Energy Storage

David L. Lawrence Convention Center - 318

### #100 Process Research for Improved Throughput & Efficiency, and Reduced Cost & Environmental Impact

David L. Lawrence Convention Center – 335

**11:00 AM - 12:30 PM**

### #120 The Future of Energy in the Region, Nation and World (Invited Talks)

David L. Lawrence Convention Center - Spirit of Pittsburgh B

**12:30 PM - 03:00 PM**

### #123 3D Printing Keynote (Invited Talks)

David L. Lawrence Convention Center - 333

### #149 Experiences in Teaching Process Safety

David L. Lawrence Convention Center - 335

### #171 Pharmaceutical Process Development and Pilot Plants

David L. Lawrence Convention Center - 336

# PDD Annual Meeting 2018 Programming Continued (1)

## Monday, October 29

**03:30 PM - 05:50 PM**

**#236 PI Topical Conference Plenary: A Look Inside the RAPID Manufacturing Institute, Co-Hosted by RAPID and F&PD**

David L. Lawrence Convention Center - 335

**03:30 PM - 06:00 PM**

**#218 Emerging Trends in Smart Manufacturing (sponsored by CESMII)**

David L. Lawrence Convention Center - 408

**#238 Process Scale-up Techniques**

David L. Lawrence Convention Center - 336

**#242 Risk Reduction in - and Implementation of - Process & Technology**

David L. Lawrence Convention Center - 334

**05:50 PM - 07:00 PM**

**#756 RAPID Manufacturing Institute Open House**

David L. Lawrence Convention Center - 335

## Tuesday, October 30

**08:00 AM - 10:30 AM**

**#258 Advances in Process Intensification**

David L. Lawrence Convention Center - 335

**#287 Industrial Internet of Things (IIoT) Applications and Industry 4.0 Forum**

David L. Lawrence Convention Center - 333

**11:00 AM - 01:30 PM**

**#311 What the Heck Happened? Past, Present & Future Disruptions to the Chemical/Fuels Business (Invited Talks)**

David L. Lawrence Convention Center - Spirit of Pittsburgh B

**12:30 PM - 03:00 PM**

**#360 Process Intensification By Enhanced Heat and Mass Transfer**

David L. Lawrence Convention Center - 335

**#365 Sustainable and Green Product Design**

David L. Lawrence Convention Center - 319

**#368 The Use of CFD and Analysis Tools in Understanding of Mixing Processes**

David L. Lawrence Convention Center - 334



# PDD Annual Meeting 2018 Programming Continued (2)

## Tuesday, October 30

**03:30 PM - 06:00 PM**

**#384 AIChE's 110 Year Celebration (Invited Talks)**

David L. Lawrence Convention Center - 303

**#408 Integrated Process Engineering and Economic Analysis**

David L. Lawrence Convention Center - 318

**#422 Process Intensification By Process Integration**

David L. Lawrence Convention Center - 335

**#429 Tools for Product Design**

David L. Lawrence Convention Center - 319

## Wednesday, October 31

**08:00 AM - 10:30 AM**

**#440 Advances in Industrial Modeling & Optimization: Methodologies, Tools and Applications**

David L. Lawrence Convention Center - 335

**#443 Best Practices in Pilot Plants**

David L. Lawrence Convention Center - 336

**#466 Mixing Scale-up/Scale-down Issues in Pharmaceutical and Biopharmaceuticals Processes**

David L. Lawrence Convention Center – 334

**11:15 AM - 12:15 PM**

**#487 John M. Prausnitz AIChE Institute Lecture**

David L. Lawrence Convention Center - Spirit of Pittsburgh A

**12:30 PM - 03:00 PM**

**#499 Bioseparations and Downstream Processing**

Westin Convention Center - Fayette

**#533 Process Intensification through the Application of Microreactors, Multiphase Reactors, and Membrane Reactors**

David L. Lawrence Convention Center - 335

**#541 Workshop: Teaching Design (Products, Processes, and Industry Involvement)**

David L. Lawrence Convention Center – 413

**03:30 PM - 05:00 PM**

**#547 Poster Session: Process Development**

David L. Lawrence Convention Center - Exhibit Hall B

**03:30 PM - 06:00 PM**

**#558 Developing Process Control Strategies for Drug Substance Manufacture**

Westin Convention Center - Fayette

# PDD Annual Meeting 2018 Programming Continued (3)

## **Thursday, November 1**

**08:00 AM - 10:30 AM**

**#610 Crystallization Process Development**

David L. Lawrence Convention Center - 302

**#629 Modeling, Control, and Optimization of Manufacturing Systems**

David L. Lawrence Convention Center - 408

**03:30 PM - 06:00 PM**

**#697 Control Strategy Development for Continuous Drug Substance and Drug Product Manufacture**

Westin Convention Center - Somerset

# 2019 Spring Meeting

March 31 - April 4, 2019, New Orleans, LA

## **PDD Tentative Sessions:**

### **12 Process Development Division**

- 12000 Poster Session: Process Development
- 12000 Division Plenary Session (Invited Talks) – Oral Session

### **12A Process Research and Innovation**

- 12A00 Biomass Conversion to Valuable Products - Oral Session
- 12A00 Process Re-Engg for Increased Energy Savings and Environmental Protection - Oral Session
- 12A00 Modeling Tools and Techniques for Process R&D - Oral Session
- 12A00 Process Research and Development for Industrial Sustainability - Oral Session

### **Pilot Plants (12B)**

- 12B00 Challenges in Process Scale up - Oral Session
- 12B00 Pilot Plant and Laboratory Safety - Oral Session
- 12B00 Pilot Plant Success Stories - Oral Session
- 12B00 Pilot Plant Separations - Oral Session
- 12B00 Advanced on-Line Analytical and Optimization Tools in Pilot Plants - Oral Session

### **Technology Transfer & Manufacturing (12C)**

- 12C00 Smart Manufacturing - Oral Session

### **Process Intensification & Microprocess Engineering (12E)**

- 12E00 Advances in Process Intensification (PI) - Oral Session
- 12E00 Process Intensification Opportunities - Oral Session

### **Product Design (12G)**

- 12G00 Advances in Product/Process Design & Development - Oral Session

### **Topical C: Process Intensification(TC)**

- 12E00 Advances in Process Intensification (PI) - Oral Session
- 12E00 Process Intensification Opportunities - Oral Session
- TC000 Advances in Manufacturing Enabling PI and MCPI - Oral Session
- TC000 PI in Solids Handling/Processing - Oral Session - [More Info]
- TC000 Opportunities in Process Intensification - Industrial Perspective - Oral Session
- TC000 Advance Process Concepts - Reactors and Reactive Separation - Oral Session
- TC000 Advance Process Concepts - Heat & Mass Transfer - Oral Session
- TC000 Initiatives in Process Intensification and Modular Chemical Processing - Oral Session
- TC000 Challenges in Education and Workforce Development for Process Intensification and Modular Processing - Oral Session

**Call for Papers closes November 12, 2018**

## Process Development Area Leadership

	<b>Chair</b>	<b>Chair Elect</b>	<b>Area Coordinator</b>
<b>12A Process Research &amp; Innovation</b>	Tom Xu DuPont Tom.Xu@dupont.com	James Marek James.marek@abbvie.com	Ray Jian rjian@sabic.com
<b>12B Pilot Plants</b>	Hsiang Yee Lai hsiang.lai@swri.org	Nitin Tople SABIC 412-576-4840 nitin.tople@sabic.com	Mike Trainor mtrainor@zeton.com
<b>12C/D Technology Transfer &amp; Manufacturing</b>	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
<b>12E/F Process Intensification &amp; Microprocess Engineering</b>	Shawn Feist Dow Chemical Company SFeist@dow.com	Matthaeus Siebenhofer m.siebenhofer@tugraz.at	Robert Broekhuis rbroekhuis@sabic.com
<b>12G Product Design</b>	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)

<p><b>Chair and Webmaster</b></p> 	<p><b>Robert Huss</b>          Eastman Chemical Company          Phone: 423-229-6425          E-mail:          rhuss@eastman.com</p>	<p><b>Chair Elect</b></p> 	<p><b>Anthony Cartolano</b>          Anellotech Inc.          E-mail:          arcartolano@gmail.com</p>
<p><b>Fall Program Chair</b></p> 	<p><b>Joseph W. Schroer</b>          SABIC          Phone: 281.207.5601          Email: jschroer@sabic.com</p>	<p><b>Membership Chair</b></p> 	<p><b>Adam Whalley</b>          Zeton Inc.          Phone: 905.632.3123 x235          Email: awhalley@zeton.com</p>
<p><b>Spring Program Chair</b></p> 	<p><b>Juben Chheda</b>          Shell Oil Company          Phone: 281 544 8232          Email:          juben.chheda@shell.com</p>	<p><b>Awards Chair</b></p> 	<p><b>Jay Miller</b>          Phone: (610) 359-2092          Email: jmiller@gmail.com</p>
<p><b>Treasurer</b></p> 	<p><b>Raymond Rooks</b>          Praxair          Email:          Raymond_Rooks@praxair.com</p>	<p><b>Newsletter Editor</b></p> 	<p><b>Vinod Kumar Venkatakrishnan</b>          Shell Oil Company          T: 281-544-7567          Email:          v.venkatakrishnan2@shell.com</p>
<p><b>Past Chair</b></p> 	<p><b>William Hollar</b>          SABIC          Phone: 812-831-4751          Email: william.hollar@sabic-ip.com</p>	<p><b>YP Liaison</b></p> 	<p><b>Ahmed Youssef</b>          SABIC          E-mail:          ahmed.youssef@sabic.com</p>