

AIChE Process Development Division

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Spring 2016



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Houston, TX - DID YOU KNOW?

- More than 90 languages are spoken in Houston.
- The total area of Houston can contain San Francisco, New York City, and Boston all at the same time.
- Every night 250,000 Mexican free-tailed bats come out from under Waugh Drive Bridge to hunt for mosquitos.
- The Swaminarayan Mandir is the first traditional Hindu Temple in the nation. It was constructed in India of 33,000 pieces of Italian marble and Turkish limestone
- The distance between each spike in the Lights Spike sculpture outside Terminal E at the George Bush International Airport is relative to the distance between Houston and the capital of each country the flags represent.

Message from the Chair

Welcome to the Spring 2016 edition of the AIChE Process Development (PDD) Newsletter. I'd like to share my excitement at starting my two year term as Division Chair and look forward to working with everyone in the Division.

Here are the main events for 2016:

- The 2016 Spring Meeting (including the 12th Global Conference on Process Safety) will be held April 10 – 14th in Houston at the George R. Brown Convention Center and Hilton Americas.
- The 2016 Process Development Symposium (Theme: Process development challenges associated with processes that utilize large amounts of water and energy) on June 7 – 9th in Providence, RI.

(Continued on p.2)

Message from the Chair (Cont.)

- The 2016 Annual Fall Meeting will be held November 13 – 18th In San Francisco, CA.

The Spring Meeting is rapidly approaching and is only 2 weeks away. Registration is still open. Please plan on joining our Division meetings if you would like to learn more about the Division or are interested in becoming more actively involved in technical programming/leadership for the Division. We'll also be having our Division dinner – tickets for the dinner are available during the registration process or can be purchased separately. Details on the Division meetings and dinner are included in the newsletter.

As always, many thanks to all of you for your support and interest in the Division. I look forward to meeting anyone attending the Spring meeting in person. If you have questions, thoughts, or suggestions about the PDD, please feel free to contact me at:

Email: william.hollar@sabic.com

Phone: 812-431-0780

Regards,

Bill Hollar
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 Practice Award (past due for 2016)
- DSM Science and Technology Award (Due April 11, 2016)
- Process Development Research Award (Due May 15, 2016)
- Process Development Division Student Paper Award (Due June 15, 2016)

Please fill out the Nomination form at

[http://www.aiche.org/communit
y/awards/awards-provisions-
eligibility#division-forum-
nomination](http://www.aiche.org/communit/y/awards/awards-provisions-eligibility#division-forum-nomination)

<http://www.pd-aiche.com/awards.html>
(Student Award)

www.aiche.org/DSMaward
(DSM Award)



2016 Process Development Symposium

“Development Challenges in Sustainable Processing”

WHAT 2016 Process Development Symposium (Co-Organized by AIChE & Process Development Division)

WHEN June 7-9, 2016

WHERE Providence, RI USA

WHO Geared toward industry professionals who work in areas dealing with process development

TECHNICAL SESSIONS:

- Common Development and Scale-Up Challenges for High Water and Energy Use Processes
- Alternative Process Technologies for High-Water Applications
- Risk Mitigation in Process Development
- Open Forum for Process Development Challenges and Questions
- Scale-Up Issues Involving Dilute Aqueous Streams
- Piloting Thermochemical and Fermentation Processes
- Coupling Process Development with Life Cycle Analysis
- Process Modeling, Optimization, and Economics Evaluation

**Register today
and save!**

Early Rate ends April

Each year our division sponsors the Process Development Symposium (PDS). The PDS is a very focused conference limited to approximately 100 attendees; its sessions discuss primarily process development topics; almost all speakers and attendees are from industry. The 2016 Process Development Symposium will focus on Development Challenges in Sustainable Processing & will take place June 7-9, 2016 in Providence, RI.

The production of value-added chemicals, agrochemicals, and pharmaceuticals are growing areas for “green” and sustainable processes. These processes typically require use of large quantities of process water, which provides unique chemical engineering challenges compared to more traditional petrochemical based processes. Traditional downstream separation processes exist to remove various products from these aqueous mixtures, but such thermal processing of dilute aqueous solutions requires large energy inputs which negatively impacts the process economics and sustainability.

This year’s symposium provides a forum for instruction & discussion of major process development issues associated with the growing area of sustainable processing.

Highlights Include

Pre-conference Reception prior to the start of the technical sessions, a great opportunity for networking with other industry professionals.

Keynote Presentation from industry leader **Tracy Young**, Core R&D Program Director, and Consumer & Infrastructure Solutions at Dow Water & Process Solutions. She is responsible for leading the innovation portfolio for Energy & Water, Electronic Materials, Building & Construction, Coatings, and Consumer Care. Prior to this role, she was the Growth Technologies R&D Director for the Dow Water and



Process Solutions business unit. She is a member of the Dow Corporate Water Strategy Team, and has been actively involved in leading technology programs to address the water-energy nexus and advance Dow’s 2025 sustainability goal to advance a circular economy through breakthrough water reuse partnerships. She is currently the co-chair for AIChE’s International Society for Water Solutions and past advisory board member for several water industry and

Engaging Poster Reception, which will feature a mix of poster presentations from both industry and academia. As attendees mingle between posters, Hors d'oeuvres and drinks will also be served.

Visit www.aiche.org/pds for more

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 12, 2016

Time: Starts at 6:30 – 9:30 pm

Where: Sambuca

Address: 909 Texas Avenue
Houston, TX 77002

Phone: 713.224.5299

Cost: \$75 per person

Will appreciate early registration



Bring a Young Colleague

.Are you looking for one more good reason to register for the 2016 AIChE Spring Meeting?

Here's one: you can bring a young colleague with you for half price.

Simply invite a co-worker, friend or industry newcomer to join you at the Meeting. Your colleague can attend for 50% off the registration fee. That's a savings of \$300 or more.

You are welcome to bring any colleague who passes this simple "test":

- Your colleague is 35 or under
- Has never before attended the Spring Meeting
- And would benefit from attending the year's premier event for chemical engineers and the learning, networking

Spring Meeting Highlights

■ AGILE Award Keynote Address

AGILE Award winner Andreas C. Kramvis of Honeywell will deliver the 2016 Keynote Address, entitled "Transforming a Business for Success".

■ Safe Zone Workshop: Making AIChE and Our Workplaces Welcoming

Innovations in Managing Capital Cost of Ethylene Based Petrochemical Investments - Presentation & Panel Discussion

■ LNG, LPG, and NGL Safety

Fuels and Petrochemicals Division Welcome Session and Keynote Address

■ Ethylene Plant Environmental Panel Discussion

Gas Utilization Topical Conference Keynote and Breakfast Reception

■ Fuels & Petrochemicals Division Panel — Effect of Global Economic Trends on U.S. Fuels and Petrochemicals Industries

Spring Meeting Highlights

■ High School Outreach Program

■ WIC Women's Workplace Retention & Reentry (W2R2): Reentry to Industry Workshop & Luncheon

The 2016 AIChE Spring Meeting features the following topical conferences:

- 2nd Big Data Analytics
- 4th International Conference on Upstream Engineering and Flow Assurance
- 16th Topical Conference on Gas Utilization
- 19th Topical Conference on Refinery Processing
- Distillation Symposium
- Emerging Technologies in Clean Energy
- Innovations in Process Research and Development
- Innovative Manufacturing
- The 28th Ethylene Producers' Conference

SPRING MEETING – WHY??

The AIChE Spring Meeting is the year's key technical conference for practicing chemical engineers. A wide range of subjects relevant to the current needs of industry is covered. Plus, Global Congress of Process Safety covers the critical needs of process safety practitioners more broadly and deeply than any other conference.

THINGS TO DO WHILE IN HOUSTON ...

We all know that Houston has a lot to offer! Below is a list of some of the exciting things to do that are a walking distance from the hotel!

WHAT TO DO?

The Houston Museum of Natural Science: This outstanding science museum has a spectacular collection of mineral specimens, a dinosaur skeleton, space-station models, a planetarium, IMAX theater and a six-story butterfly center in which these beautiful creatures land delicately on outstretched arms.

Space Center Houston: The center features more than 400 space artifacts as well as numerous permanent and traveling exhibits, attractions and theaters related to the exciting future and remarkable past of America's human space-flight program

The Galleria: More than 26 million visitors each year seek the dynamic & fine shopping environment uniquely offered by The Galleria, Texas' largest shopping center and fourth largest domain nationally. International guests and Houstonians blend seamlessly in the center while on shopping excursions or entertaining guests at one of the signature eateries.

WHAT TO EAT?

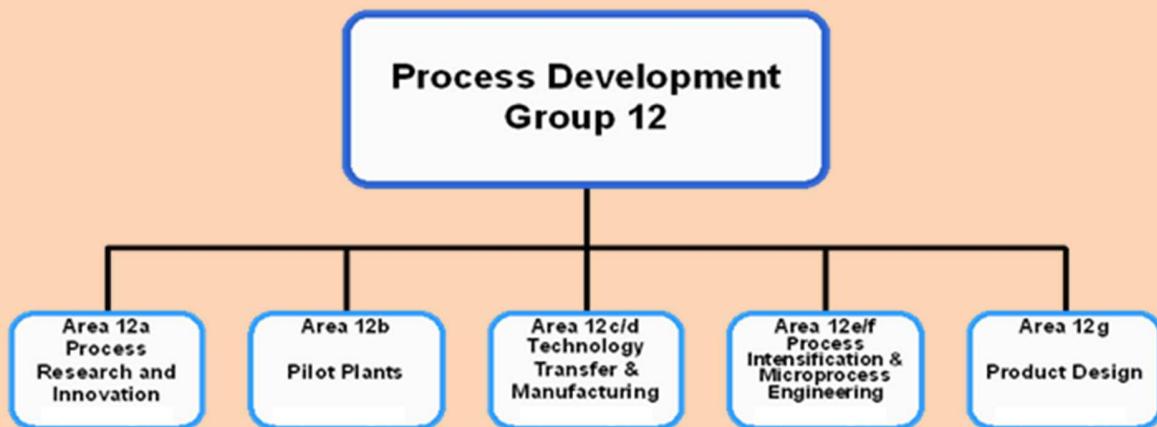
Chama Gaucha Brazilian Steakhouse: Chama meaning "flame" in Portuguese, is the essence of an authentic, Brazilian steakhouse. This "flame" also describes the "passion" the gauchos, Brazilian cowboys, have for their culture and tradition.

Uchi: Innovative preparations of sushi & fusion plates shine at this upscale Japanese hot spot.

Peli Peli: The only South African fusion restaurant in Texas. Guests are invited to dine under Peli Peli's 30-foot tall, one-of-a-kind Acacia Tree and illuminated sky which creates an atmosphere perfect for romantic dinners and special occasions.



PDD Spring 2016 Programming



Monday, April 11

Morning

#1 2016 AIChE Spring Meeting and 12th GCPS AGILE Award Keynote Address
8:00 AM-9:15 AM,
GRB: General Assembly Theater C

#16 Pilot Plants and Scaling up
10:30 AM-12:00 PM,
Hilton: 338

Early PM

#25 Design, Construction and Operation of Unit Operations Labs and Pilot Plants I
1:30 PM-3:00 PM,
Hilton: 339A

#32 Process Research and Development for Industrial Sustainability I
1:30 PM-3:00 PM,
Hilton: 338

Late PM

#48 Design, Construction and Operation of Unit Operations Labs and Pilot Plants II
3:30 PM-5:00 PM,
Hilton: 339A

#56 Process Research and Development for Industrial Sustainability II
3:30 PM-5:00 PM,
Hilton: 338

#63 Poster Session - 2016 Spring Meeting
5:00 PM-7:00 PM,
GRB: Exhibit Hall E

PDD Spring 2016 Programming Continued (1)

Tuesday, April 12

Morning

#67 Best Senior Design Competition I

8:00 AM-9:30 AM,

Hilton: 339A

#75 From Biomass to Valuable Products I

8:00 AM-9:30 AM,

Hilton: 337B

#77 Innovations in- and Next Gen.- Heat Transfer Technologies I

8:00 AM-9:30 AM,

Hilton: 338

#89 Best Senior Design Competition II

10:15 AM-11:45 AM,

Hilton: 339A

#98 From Biomass to Valuable Products II

10:15 AM-11:45 AM,

Hilton: 337B

#100 Innovations in- and Next Gen.- Heat Transfer Technologies II

10:15 AM-11:45 AM,

Hilton: 338

Early PM

#107 Advanced Technologies for Reduction of Atmospheric Emissions in the Petrochemical and Refining I

1:30 PM-3:00 PM,

Hilton: 337A

#110 Best Practices in Process Intensification

1:30 PM-3:00 PM,

Hilton: 339A

#115 Enabling Process Innovation through Computation: Focus on Optimization I

1:30 PM-3:00 PM,

Hilton: 338

#120 Process Intensification of Divided Wall Column I

1:30 PM-3:00 PM,

Hilton: 343A

Late PM

#128 Advanced Technologies for Reduction of Atmospheric Emissions in the Petrochemical & Refining II

3:30 PM-5:00 PM,

Hilton: 337A

#136 Enabling Process Innovation through Computation: Focus on Optimization II

3:30 PM-5:00 PM,

Hilton: 338

PDD Spring 2016 Programming Continued (2)

Wednesday, April 13

Morning

#150 Designing Inherently Safer Chemical Products I

8:00 AM-9:30 AM,

Hilton: 339A

#151 Enabling Process Innovation through Computation: Focus on Modeling Efforts I

8:00 AM-9:30 AM,

Hilton: 338

#170 Designing Inherently Safer Chemical Products II

10:15 AM-11:45 AM,

Hilton: 339A

#171 Enabling Process Innovation through Computation: Focus on Modeling Efforts II

10:15 AM-11:45 AM,

Hilton: 338

Early PM

#184 Enabling Process Innovation through Computation: Focus on Modeling Efforts III

1:30 PM-3:00 PM,

Hilton: 338

#187 Technology Transfer: The Process and Applications I

1:30 PM-3:00 PM,

Hilton: 339A

Late PM

#196 Enabling Process Innovation through Computation: Focus on Modeling Efforts IV

3:30 PM-5:00 PM,

Hilton: 338

#197 Technology Transfer: The Process and Applications II

3:30 PM-5:00 PM,

Hilton: 339A

2016 Annual Meeting – PDD Tentative Program

November 13-18, 2016, San Francisco, CA

Sponsor	Co-sponsors	Session title
12	12a, 12b, 12c, 12e, 12g, 10a	Poster Session: Process Development
12	12a, 12b, 12c, 12e, 12g	Panel Speakers Forum (Invited Talks)
Process Research and Innovation (12A)		
12a	12	DSM Science and Technology Award (Invited Talks)
12a		Downstream Bio-Separation Processes: Development, Design, and Modeling
12a		Industrial Innovation through Modeling and Optimization
12a	26	PAT for Crystallization Development and Manufacturing
12a		Process Research and Development for Industrial Sustainability
12a		Using Partnerships and Open Innovation to Accelerate the Product Development Cycle
Pilot Plants (12B)		
12b		Best Practices in Pilot Plants
12b		Design, Construction and Operation of Unit Operations Labs and Pilot Plants
12b	26	Pharmaceutical Process Development & Pilot Plants
12b		Process Scale-up Techniques
12b	18C, YPC	Things Young Pilot Plant Engineers Should Know
Technology Transfer and Manufacturing (12C)		
12c		Challenges and Best Practices in Technology Commercialization
12c	9d	Technology Development: Design, Risk Reduction and Implementation
Process Intensification & Microprocess Engineering (12E)		
12e		Advances in Process Intensification
12e		Innovation Via Process Intensification
12e		Process Intensification By Enhanced Heat and Mass Transfer
12e		Process Intensification By Process Integration
Product Design (12G)		
12g		Molecular Insights for Chemical Product Design
12g	12a, 23	New Product Development and Lifecycle
12g		Physical Properties for Chemical Process and Product Design
12g	23, 8b	Sustainable and Green Product Design
12g	10	Tools for Product Design

Call for Papers closes May 9, 2016

2016 Annual Meeting – Tentative Program PDD Co-sponsor

November 13-18, 2016, San Francisco, CA

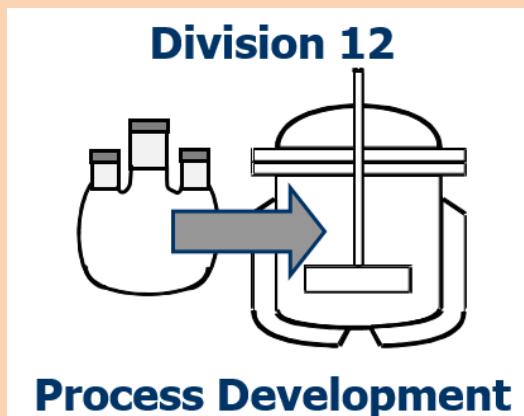
Sponsor	Co-sponsors	Session title
Education Division		
4	4, 12	Poster Session: Meet the Faculty Candidate - Process Development
2016 International Congress on Energy, Biorefinery Technologies for Forest Based Lignocellulosic Biomass Area		
4a	12	Steal This Project!: Case Studies, in-Class Projects, Design Projects
Environmental Division, Sustainability Area		
9g	12a, 12g, 9d, 23, 23a, TG	Sustainability Metrics at the Process and Product Level
Environmental Division, Process Development Area		
9d	T4A, 12, 23	Sustainable Fuel from Renewable Resources
Pharmaceutical Discovery, Development and Manufacturing Forum (PD2M)		
26	12g, 15b	Critical Quality Attribute Monitoring and Control in Drug Substance Manufacturing
26	12g, 15b	Innovations at the Product Design and Discovery Interface

Call for Papers closes May 9, 2016

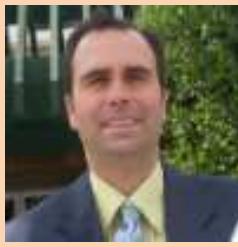


Process Development Area Leadership

	Chair	Chair Elect	Area Coordinator
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Process Development Division Leadership (2016-2018)

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