

## THE PARTICLE TECHNOLOGY FORUM (PTF) NEWSLETTER

An American Institute of Chemical Engineers (AIChE) Forum

## A Glance at the Newsletter



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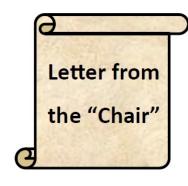
#### **Editorial**



The 2019 AIChE Annual

Meeting is just around the corner!! We will meet once again to share and witness recent research advances in Particle Technology and other important areas. We will also celebrate the achievements of our peers, some of whom are included in this newsletter.

## Message from the Chair





I hope that you are as excited about this year's Annual Meeting as I am. We have an excellent program for your learning and enjoyment and a very deserving slate of PTF awardees picked out. Thank you to Jim Gilchrist and his award committee participants for their good work in making those selections. I encourage each of you to consider for next year, who you think is deserving of one of our PTF awards.

Two special sessions in the program are of particular note: On Monday, one session will honor the career accomplishments of our distinguished colleague Professor Atsushi Tsutsumi, in the field of fluidized bed technology, energy saving technology, and a pioneer of "Self-heat recuperation technology". The second session, on Tuesday, will celebrate of the significant contributions of Dr. Frederick A. Zenz, regarded as one of the pioneers in modern fluidization and particle technology practice and co-author of the influential "Fluidization and Fluid-Particle Systems". The invited speakers to both sessions are a "Who's Who" of Fluidized bed and particle technology.

I hope your excitement level about attending the meeting is as high as mine. Several volunteers have worked passionately for several months in putting together a diverse and exciting technical program as well as a series of events pertaining to Particle Technology Forum (PTF), for the attendees. Are you one of the volunteers? If you would like to jump into any highly satisfying role in the PTF, please contact someone from the PTF Organization.

The newsletter is among the top tangible deliverables for the PTF. This issue is aimed towards bringing you a flavor of what to expect at this year's Annual Meeting. As I had mentioned in the Summer 2019 issue, I look forward to receiving your voluntary contributions through PTF related material, in the upcoming newsletters. Please feel free to contact me if you would like to discuss your ideas before submitting the final version.



See you next month in Orlando. Safe travels!!

Mayank Kashyap, SABIC

Editor,

**PTF Newsletter** 

Additionally we have new sessions about dust explosions (203), particle design technology (340 &703), characterization, and solids used for energy (397). This is in combination with our regular rich smorgasbord of particle formation and growth, nanoparticles, fluidization technology, solids mixing, material handling and energetic particles.

Please join us at our general PTF membership meeting on Monday evening at 5:30-6:30 pm. The location will be in the event information available at registration. At that time, I anticipate that we will have the general membership vote on a diversity statement approved by the Executive Committee.

In addition to our diversity initiative, AIChE is also working on defining it's value proposition for each division and forum. So the PTF Executive Committee will be looking for your input on what makes PTF valuable to you.

I hope that you have already registered for the 2019 Annual meeting in Orlando this November. What an exciting venue to have our meeting and a chance to enjoy all of the opportunities that Orlando provides for entertainment (on the weekend and evenings, of course).

I look forward to seeing each of you at the Annual Meeting. If not, however, please consider attending the Frontiers in Particle Technology meeting at the same time as the Spring AIChE meeting in Houston TX, March 30-April 1, 2020. The focus will be Particle Design as a part of Product Engineering.

Regards,

Bruce D. Hook, The Dow Chemical Co.

Chair,

Particle Technology Forum



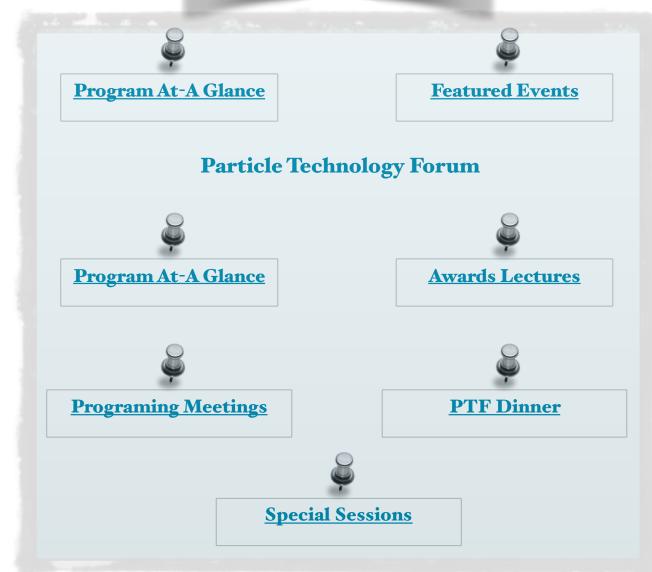




## 2019 AIChE Annual Meeting - Orlando, Florida

November 10-15, 2019





## 2019 AIChE Particle Technology Forum Awards

#### Elsevier PTF Lifetime Achievement Award



Jennifer Curtis
University of California,
Davis

Dr. Jennifer Sinclair Curtis is Distinguished Professor of Chemical Engineering and Dean of the College of Engineering at University of California, Davis. She is a Fellow of AAAS, AIChE and ASEE. Prof. Curtis received a B.S. in Chemical Engineering from Purdue University and a Ph.D. in Chemical Engineering from Princeton University. Prof. Curtis' particulate flow



models have been extensively adopted by both commercial and open source computational fluid dynamics (CFD) software packages. She was the first to partner with ANSYS Fluent to greatly expand the multi-phase simulation capability of the code which is used by 96 of the 100 biggest industrial companies in the world and over 40,000 customers. Her particulate flow models are also

included in the CFD Research Corporation software package and the open-source CFD codes OpenFOAM and MFIX. She currently serves on the National Academies' Board of Chemical Sciences and Technology. Professor Curtis has served in many roles for the AIChE and specifically the Particle Technology Forum.

Prof. Curtis receives this award for fundamental contributions to the development of predictive models for particulate flow phenomena, and for activities enhancing the education and implementation of particle technology advances.

#### **PSRI** Lectureship Award in Fluidization



Huilin Lu

Harbin Institute of
Technology

Dr. Huilin Lu is a professor at Harbin Institute of Technology. His B.E., M.E., and PhD are from Harbin Institute of Technology. Prof. Lu was a visiting



scholar at Illinois Institute of Technology from 1993-1997. His work focuses on developing constitutive relationships for granular media in gas-solid fluidized beds. He has over 200 scientific papers with approximately 4800 citations.

Prof. Lu is receiving this award for developing the science of computational fluidization, including experimental verification of kinetic theory of granular flow.

#### **Thomas Baron Award by Shell**



Aibing Yu

Monash University

Professor Aibing Yu specializes in process metallurgy. He joined Monash University in 2014 as Vice-Chancellor's Professorial Fellow, Vice-Chancellor and President of Monash-Southeast University Joint Research Institute (later changed to Monash Suzhou). He has been Inaugural Director of UNSW

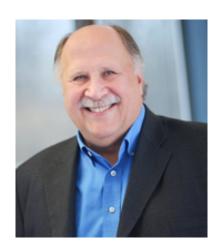


Centre for Simulation and Modeling of Particulate Systems, Deputy Director of ARC Centre of Excellence for Functional Nanomaterials, Founding Director of Australia-China Joint Research Centre for Minerals, Metallurgy and Materials, and ARC Research Hub for Computational Particle Technology. Prof. Yu is a world-leading scientist in particle/powder technology and process engineering. He has co-authored >900 publications, organized numerous international conferences,

attracted ~\$75M external funds mainly via various competitive grant schemes (>50 ARC DP/LP/LIEF grants), graduated >30 postdoc fellows, >70 PhD and >20 MEng students. He is Editor-in-Chief, Handbook of Powder Science and Engineering, Executive Editor, Powder Technology and Particuology, and on the editorial/advisory boards of several journals.

Prof. Yu receives this award for his significant contributions to the knowledge base of particle packing, particle and particle-fluid flows, particulate and multiphase processing, and simulation.

#### **Dow Particle Processing Recognition Award**



Willie Hendrickson AVEKA

As the CEO and Founder of the AVEKA Group, Dr. Willie Hendrickson guides the vision and direction of the organization. He is



passionate about growing the company and exploring the new emerging markets. His vision of "anything is possible" leads the business to discover new innovative solutions.

Dr. Hendrickson graduated from St. Olaf College with a BA in Chemistry and Mathematics and received a PhD from the University of Florida in Organometallic Chemistry. He is currently the President of the International Fine Particle Research Institute and holds an Adjunct Professorship at the University of Minnesota.

Dr. Hendrickson is receiving this award for Promotion of Innovation and Novelty in Particle Technology and New Applications for Particle Technology Unit Operations to Solve Unique Problems.

#### **ANSYS PTF Service Award**



Robert Pfeffer

Arizona State University

Dr. Robert Pfeffer is a Research Professor at Arizona State University (ASU). During his more than 60 years in academia, he has devoted research efforts to



advancing the understanding of particle science and technology, and developing new and cost effective particle processes. He has also served the particle science and technology community most admirably in many different roles as an academic leader, educator, conference organizer, organizational founder and advisor, and publication editor. Prof. Pfeffer's service contributions to education in introducing students to this exciting field of research and by mentoring countless students and professionals who have pursued their own very successful careers have been well known and widely acknowledged. Prof. Pfeffer has published over 160 refereed

journal articles, 30 conference proceedings papers, received 13 US patents, and has presented invited papers and research seminars throughout the world. In addition, he has mentored or comentored 46 PhD students and supervised many Post-Docs, Masters, and undergraduate students.

This award recognizes Prof. Pfeffer's lifetime outstanding scientific/technical contributions to the field of particle technology, as well as leadership in promoting scholarship, research, development, service and/or education in this field.

#### **SABIC Young Professional Award**



Christopher Boyce
Columbia University

Dr. Chris Boyce is an assistant professor of chemical engineering at Columbia University. His lab uses MRI, optical imaging and computational modeling to identify new phenomena and understand fundamental aspects of multiphase granular flows relevant to industrial particle processes as well as natural flows.

Prof. Boyce received his B.S. in chemical engineering and physics in 2011 at MIT, followed by PhD in chemical engineering in 2015 at the University of Cambridge as a Gates Cambridge Scholar. Prof. Boyce won the Danckwerts-Pergamon Prize for best PhD thesis at Cambridge. He conducted postdoctoral research at Princeton

University and ETH Zurich before joining the faculty at Columbia in 2018. Recently, Prof. Boyce was selected for Forbes' 30 Under 30 in Science list.

Prof. Boyce receives this award for the development of MRI measurements of coupled gas and particle hydrodynamics and the discovery and of gravitational instabilities between granular materials of different densities.

#### George Klinzing Best PhD Award



Sarah Mena
University of Florida (PhD)
University of Michigan
(Postdoc)

Dr. Sarah Mena received a B.S. in Chemical Engineering from Universidad Centroamericana José Simeón Cañas" in El Salvador and a



PhD in Chemical Engineering from the University of Florida under the guidance of Dean Jennifer Sinclair Curtis. She was a visiting researcher at IRSTEA Laboratories in France through the NSF "Partnership for International Research and Education on Multiphase Fluid Science and Technologies" program at University of Florida. Dr. Mena is now a Postdoctoral Fellow at the University of Michigan in the group of Professor Mark Burns.

Dr. Mena is receiving this award for acquisition of detailed, nonintrusive and comprehensive benchmark data for solid-liquid turbulent flows and for contributions to the enhanced

understanding of localized fluidization.

## **PTF Committee and Programming Meetings**

Meeting	Date/Time	Location
Particle Technology Forum (PTF) Executive Committee Meeting (by invitation)	Sunday, November 10, 2019 5:30 PM - 6:30 PM	Hyatt Regency Orlando, Celebration 6
PTF General Business Meeting (open to ALL members)	Monday, November 11, 2019 6 PM - 7 PM	Hyatt Regency Orlando, Bayhill 19
PTF Group 3A Meeting	Tuesday, November 12, 2019 10:30 AM - 11:50 AM	Hyatt Regency Orlando, Bayhill 20
PTF Group 3B Meeting	Tuesday, November 12, 2019 10:30 AM - 11:50 AM	Hyatt Regency Orlando, Bayhill 21
PTF Group 3C Meeting	Tuesday, November 12, 2019 10:30 AM - 11:50 AM	Hyatt Regency Orlando, Bayhill 21
PTF Group 3D Meeting	Tuesday, November 12, 2019 10:30 AM - 11:50 AM	Hyatt Regency Orlando, Bayhill 20
PTF Group 3E Meeting	Tuesday, November 12, 2019 10:30 AM - 11:50 AM	Hyatt Regency Orlando, Bayhill 20

## **Educational Efforts - PTF Student Workshop**

## The World of Particle Technology Shared with Future Engineers and Scientists



#### **Presenters:**

S.B. Reddy Karri (PSRI)

Ben Freireich (PSRI)

Mayank Kashyap (SABIC) –

Chair

As part of the mission of AIChE PTF, we have been proudly serving the particle technology community by introducing the field to students, young engineers and scientists, and

raising awareness about its importance and relevance to the modern Chemical Process Industry. Continuing the tradition of organizing workshops for students at the *AIChE Annual Student Conferences* over the years, PTF will be bringing the world of particle technology into the lives of future engineers and scientists once again this year in Orlando, FL.

The hugely successful workshops provided by PTF in the past few years had witnessed over 500 students and professors in attendance on each occasion. We expect to raise the bar even higher this year with a greater response from participants. We encourage undergraduate and graduate students to participate in the following fun-filled and educational session that will include exciting presentations and live demonstrations from some of the well-renowned researchers in the field of particle technology:

#### World of Particle Technology - Fluidization and Solids Handling

**2019 AIChE Annual Student Conference** 

Saturday, November 9, 2019: 3:45 PM - 4:30 PM

**Hyatt Regency Orlando, Ballroom L** 

Particle Technology Forum (PTF)

More than 80% of your gasoline, 70% of your polyolefins and a plethora of other products are made using fluidized bed technology. From gasification to drying, fluidized beds and circulating fluidized beds provide the distinct advantage of high heat transfer and solids mobility. These features have resulted in several breakthrough technologies with better temperature control and the ability to move solids from a reduction to an oxidation environment. This workshop will focus on some of these breakthrough technologies.

Billions of pounds of bulk solids are processed and handled every year by the US process industries, yet most chemical engineers are ill-equipped to deal with the complexities of the engineering science of solids processing/particle technology. Hence, plants and products suffer with lost production, inability to achieve design production rates, off grade or off specification products, etc. During this session, we will take a look at the fun and exciting (and often counterintuitive!) world of solids processing. Specifically, we will look at some of the more common particle-based technologies examining both the important role they play in society today along with the associated technical challenges.

**Demonstration of Particle Technology in Action:** If a picture is worth a thousand words, then a video is worth a thousand pictures and a live demonstration is worth a thousand videos. This session will also illustrate some of the awe-inspiring and unique features in the field of particle technology through hands-on demonstrations on fluidization, hopper design, segregation, etc.

Details on the workshop can be found <u>here</u>. Please email Mayank Kashyap (<u>mkashyap@sabic.com</u>) if you have any questions.

## Special Sessions at 2019 AIChE Annual Meeting

**→ PTF Student Workshop** - World of Particle Technology

2019 AIChE Annual Student Conference, Track VI: Speciality Areas of Chemical Engineering II; Hyatt Regency Orlando, Ballroom L; Saturday, November 9, 2019, 3:45 PM - 4:30 PM

SABIC Young Professional Award Talk

Session 77: Fundamentals of Fluidization; Hyatt Regency Orlando, Bayhill 19; Monday, November 11, 2019, 8 AM - 8:30 AM

+ <u>Session in Honor of Prof. Atsushi Tsutsumi's Accomplishments</u> (<u>Invited Talks</u>)

Session 228: Hyatt Regency Orlando, Bayhill 19; Monday, November 11, 2019, 3:30 PM - 6 PM

\* <u>Special Session: Celebrating Career Accomplishments of Fred Zenz</u> (<u>Invited Talks</u>)

Session 292: Hyatt Regency Orlando, Bayhill 19; Tuesday, November 12, 2019, 8 AM - 10:30 AM

Poster Session: Particle Technology Forum

Session 380: Hyatt Regency Orlando, Regency Ballroom R/S; Tuesday, November 12, 2019, 3:30 PM - 5 PM

#### Particle Technology Awards Lectures (Invited Talks)

Session 540: Hyatt Regency Orlando, Bayhill 19; Wednesday, November 13, 2019, 12:30 PM - 3 PM

### **PTF Travel Grant**

#### CPFD Sponsorship



PTF, through the support of CPFD Software, has awarded travel grant to four students to attend the 2019 AIChE Annual Meeting. The grant supports early registration to the Annual Meeting and a ticket to PTF Dinner. In addition, this award is intended to encourage the winners for future engagement in the PTF community. The travel grant recipients are:

- **Gunda Harini**, Indian Institute of Technology Gandhinagar, Department of Chemical Engineering
- \* Georgios Kelesidis, ETH Zurich, Department of Mechanical and Process Engineering
- \* Koyel Sen, University of Connecticut, Department of Pharmaceutical Sciences
- \* Kai Zheng, New Jersey Institute of Technology, Department of Chemical Engineering

#### **PTF Dinner**

PTF Awards Banquet - B.B. King's Orlando

Date: November 13th, 2019 (Wednesday)

Time: Drinks and hors d'oeuvres 6pm-7:30pm, Dinner

7:30-9:30pm

Location: 9101 International Dr. # 2230, Orlando, FL

32819

(Only 0.6 miles from Hyatt Regency Orlando!)

Featuring live music throughout the event.



#### **PTF Dinner Sponsors**



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a micromeritics\* company

## **Upcoming Conferences**

2020 Frontiers in Particle Science and Technology (FPST)



## 2020 Frontiers in Particle Science & Technology

## Designer Particles: Product Engineering in Particle Technology

March 2020 in Houston, TX, co-located with the AIChE Spring Meeting



The 2020 Frontiers in Particle Science and Technology (FPST), hosted by the AlChE Particle Technology Forum (PTF) is proud to announce a conference focused on particle design in product engineering. The 2020 FPST will bring together practitioners and researchers in the field of particle science and technology.

This innovative 2.5 day program will provide plenty of opportunity for attendees to learn about the latest in particle technology research as well as network with other professionals in the field.

#### **Program Highlights Include:**

- Keynote Presentations from academic and industrial experts
- Invited Technical Sessions focused on particle design
- Poster Session featuring research of junior scientists from academe
- Networking receptions, coffee breaks, lunches, and more!

Learn more at www.aiche.org/fpst

# http://cfb13.org

#### Circulating Fluidized Bed 13 (CFB13)

#### http://cfb13.org

#### 13th International Conference on Fluidized Bed Technology (CFB-13)

#### The 13th Conference in a Series

Following the successful CFB-12 Conference in Krakow, Poland, we are pleased to welcome you to the 13th International Conference on Fluidized Bed Technology, CFB-13, to be held on the campus of the University of British Columbia, Vancouver, Canada between May 11-15, 2020.

The CFB-13 conference seeks to bring together prominent and young researchers, educators and practitioners of circulating fluidized bed technology to share their impactful research discoveries, achievements and practicing experiences. Since CFB-11, the conference scope has also been extended to other fields of fluidization and fluidized bed technologies such as bubbling fluidized bed, turbulent fluidized bed and spouted bed.

#### **Conference Themes**

The CFB-13 Conference will continue in the tradition of this conference series dating from 1985, with its focus on the fundamental research and applications of fluidized bed technology. It will incorporate novel fluidized bed reactor technologies, especially those related to green processes, clean and renewable energy such as hydrogen and bio-fuels, and carbon capture and utilization such as chemical looping combustion and gasification. In addition to studies on fundamental and applied aspects of fluidized beds and fluidization systems, CFB-13 will also place an emphasis on fluidized bed technologies aimed at solving energy and environmental issues our society is facing. In addition, short courses taught by prominent experts will be offered on May 11.

#### **Conference Topics**

http://cfb13.

- · Hydrodynamics of gas-solid flow
- Modeling and simulation
- Heat and mass transfer
- Scaling and scale-up
- Measurements and instrumentation
- Fluid catalytic cracking and other catalytic processes
- · Combustion, pyrolysis and gasification
- Novel reactor design and assisted-fluidization
- Micro-reactor and nano-particle systems

#### **Conference Accommodation**

CFB-13 has negotiated a discount for conference delegates to stay at UBC Ponderosa buildings. Minutes away from the conference venue, Ponderosa offers single rooms and shared apartments, which you can book at a later date from the link at the conference website: www.cfb13.org. One can also choose to stay at various hotels across Vancouver. Hotels in downtown are only 12km from UBC.





THE UNIVERSITY OF BRITISH COLUMBIA
Chemical & Biological Engineering

#### **Conference Organization**

#### Local Organizing Committee

Xiaotao Bi – University of British Columbia Cedric Briens – Western University Junnan Chao – University of British Columbia Naoko Ellis – University of British Columbia John Grace – University of British Columbia Allan Issangya – Particulate Solid Research Inc.,

Eric Dening Jia – National Renewable Energy Laboratory, USA

Robert Legros – Polytechnique Montréal Jim Lim – University of British Columbia Andres Mahecha-Botero – NORAM Engineering Ltd. Canada

Poupak Mehrani – University of Ottawa Andrew Mezo – Coanda Research & Development Corporation, Canada

Jean Saayman - Powertech Labs Inc., Canada Jonathan Tyler - Parkland Refining Ltd, Canada Anthony Wachs - University of British Columbia Ziliang Wang - University of British Columbia, BC Research Inc., Canada

Michael Wormsbecker – Syncrude Canada Ltd, Edmonton

Lifeng Zhang – University of Saskatchewan Siduo Zhang – University of British Columbia

#### Conference Venue

CFB-13 will be hosted on the campus of the University of British Columbia in Vancouver, a city known around the world as both a popular tourist attraction and one of the best places to live, with significant tourist attraction sites such as Stanley Park, Capilano Suspension Bridge and Cypress Mountain Resort. Whistler, the world-renowned premium ski and outdoor destination is only two hours away.

#### Sponsorship and Contact Information

CFB-13 will offer opportunities for organizations to sponsor a wide range of events (Special/ regular sessions, posters, banquet), as well as create dedicated Sponsor and Exhibition areas for you to showcase your products and services and to interact with all conference attendees over three full days of the conference. We encourage you to contact the Organizing Committee cfb13@chbe.ubc.ca to discuss your package.

CFB-13 Organizing Committee

2360 East Mall, Vancouver, BC V6T 1Z3, Canada

Website: http://cfb13.org



Clean Energy Research Centre

Fluidization Research Centre
University of British Columbia, Vancouver, BC, Canada

## **PTF Membership**

To continue receiving the PTF newsletters (3 issues per year) and stay current with particle technology events and news, please make sure to renew/ start your membership by either:

- •Checking Particle Technology Forum when renewing your AIChE membership annually,
- •Becoming a PTF lifetime member so that you don't have to renew membership every year

#### **Become a PTF only member**

#### (Annually \$15, Lifetime \$150)

If you don't see the PT membership in your renewal screen, you can choose "Update Membership Options" and add PTF to your order.

You can also contact AIChE customer service at 800-242-4363 (US); 203-702-7660 (Outside the US); or email customerservice@aiche.org for membership questions

and help.



## Treasurer's Report (2018-2019)

NY ACCOUNT	Starting	Income	Expenses	Balance
monthly fee (08/31/2016)			\$18.00	\$4,631.16
monthly fee (09/30/2016)			\$18.00	\$4,613.16
monthly fee (10/31/2016)			\$18.00	\$4,595.16
monthly fee (11/30/2016)			\$18.00	\$4,577.16
monthly fee (12/30/2016)			\$18.00	\$4,559.16
monthly fee (1/31/2017)			\$18.00	\$4,541.16
check from NJ account to avoid monthly fees (2/17/2017)		\$4,000.00		\$8,541.16
monthly fee (2/28/2017)			\$18.00	\$8,523.16
University of Delaware payment (6/27/2017) - a mistake		\$7,000.00		\$15,523.16
return settlement to U Delaware (10/4/2017)			\$7,000.00	\$8,523.16
Totals as of 10/2019	\$4.649.16	\$11.000.00	\$7.126.00	\$8.523.16

NJ ACCOUNT	Starting	Income	Expenses	Balance
Sponsor wire transfer from Elsevier for award (received 11/1/2018)		\$1,342.00		\$22,702.36
Sponsor wire transfer from Freeman Technology for dinner (received 11/2/2018)		\$2,000.00		\$24,702.36
Sponsor check from PSRI for award (received 4/1/2019)		\$1,257.00		\$25,959.36
Sponsor check from U Pittsburgh for award (deposited 5/15/2019)		\$757.00		\$26,716.36
Totals as of 10/2019	\$21,360.36	\$5,356.00	\$0.00	\$26,716.36

#### Funds obtained through advertisements in the PTF Newsletter (as of 10/2019):

Organization	Description		Income
Coperion K-Tron	A half page advertisement in Summer 2015 Edition		\$250.00
	Check received in NY account on 11/17/2015		
Kansas State	A half page advertisement in Summer 2015 Edition		\$250.00
University	Check received in NY account on 11/17/2015		
Coperion K-Tron	A half page advertisement in Fall 2015 Edition		\$250.00
	Check received in NY account on 2/17/2016		
University of	A full page advertisement in Fall 2015 Edition		\$500.00
Delaware	Check received in NY account on 4/7/2016		
Coperion K-Tron	A half page advertisement in Fall 2016 Edition		\$250.00
_	Check received in NJ account on 2/2/2017		
		Total:	\$1500.00

AICHE ACCOUNT	Starting	Income	Expenses	Balance
Dues Income - Divisions (9/2018)		\$ 765.00		\$ 14,051.80
Registration Income - Special Events (9/2018)		\$ 4,930.00		\$ 18,981.80
Dues Income - Divisions (10/2018)		\$ 885.00		\$ 19,866.80
Registration Income - Special Events (10/2018)		\$ 3,145.00		\$ 23,011.80
Corp Sponsorship Inc - Merck (10/2018)		\$ 1,500.00		\$ 24,511.80
Site Costs - Special Event (Annual Meeting) (10/2	2018)		\$ 6,000.00	\$ 18,511.80
Dues Income - Divisions (11/2018)		\$ 375.00		\$ 18,886.80
Registration Income - Special Events (11/2018)		\$ 170.00		\$ 19,056.80
Corp Sponsorship Inc - ANSYS and CPFD (11	/2018)	\$ 3,814.00		\$ 22,870.80
Postage - 1st Class (11/2018)			\$ 7.30	\$ 22,863.50
Site Costs - Special Event (PARTEC) (11/2018)			\$ 5,251.10	\$ 17,612.40
Monetary Awards (11/2018) (Travel Award x4)			\$ 1,536.00	\$ 16,076.40
Monetary Awards (11/2018) (Poster Award x2)			\$ 1,000.00	\$ 15,076.40
Monetary Awards (11/2018) (Thomas Baron, Ser	vice, Lifetime Achiev	e.)	\$ 3,000.00	\$ 12,076.40
Monetary Awards (11/2018) (Young Professional	, Best PhD)		\$ 1,500.00	\$ 10,576.40
Dues Income - Divisions (12/2018)		\$ 420.00		\$ 10,996.40
Corp Sponsorship Inc - Janike & Johanson (1	2/2018)	\$ 2,000.00		\$ 12,996.40
Invest Inc - Interest (12/2018)		\$ (721.19)		\$ 12,275.21
Dues Income - Divisions (1/2019)		\$ 330.00		\$ 12,605.21
Corp Sponsorship Inc - Shell (1/2019)		\$ 1,257.00		\$ 13,862.21
Dues Income - Divisions (2/2019)		\$ 135.00		\$ 13,997.21
Dues Income - Divisions (3/2019)		\$ 330.00		\$ 14,327.21
Corp Sponsorship Inc - SABIC (3/2019)		\$ 1,257.00		\$ 15,584.21
Dues Income - Divisions (4/2019)		\$ 105.00		\$ 15,689.21
Dues Income - Divisions (5/2019)		\$ 120.00		\$ 15,809.21
Dues Income - Divisions (6/2019)		\$ 16.00		\$ 15,825.21
Dues Income - Divisions (7/2019)		\$ 270.00		\$ 16,095.21
Registration Income - Special Events (7/2019)		\$ 1,615.00		\$ 17,710.21
Site Costs - Special Event (Annual Meeting) (7/20	)19)		\$ 8,000.00	\$ 9,710.21
Totals as of 10/2019	\$ 13,286.80	\$ 22,717.81	\$ 26,294.40	\$ 9,710.21

## **Particle Technology Forum Organization**

#### + Officers

#### Chair

Dr. Bruce Hook bdhook@dow.com

#### Co-Chair

Dr. Jim Gilchrist gilchrist@lehigh.edu



#### **Treasurer**

Dr. Benjamin Glasser bglasser@rutgers.edu



#### **Past Chair**

Dr. Raj Dave dave@njit.edu



#### \* Executive Committee

#### **Industry**

Michael Molnar michael.molnar@dow.com



Willie Hendrickson whendrickson@aveka.com



Dr. Brenda Remy brenda.remy@bms.com



Dr. Mayank Kashyap mkashyap@sabic.com



#### Academic

Dr. Heather Emady heather.emady@asu.edu



Dr. Aaron Moment ajm2293@columbia.edu



Dr. Ah-Hyung Alissa Park ap2622@columbia.edu



Dr. Richard Lueptow r-lueptow@northwestern.edu



#### + Liaisons and Committee Chairs

CTOC Liaison	Dr. Marc-Olivier Coppens	m.coppens@ucl.ac.uk
Nominating Committee Chair	Dr. Alissa Park	ap2622@columbia.edu
PTF Newsletter Committee Chair	Dr. Mayank Kashyap	mkashyap@sabic.com
PTF Webmaster	Dr. Madhusudhan Kodam	madhusudhan.kodam@corteva.com
PTF Student Workshop Chair	Dr. Mayank Kashyap	mkashyap@sabic.com
PTF Programming Chair	Dr. Ben Freireich	ben.freireich@psri.org
PTF Dinner Sponsorship	Dr. Jim Gilchrist	gilchrist@lehigh.edu
PTF Awards Sponsorship	Dr. Reddy Karri	reddy.karri@psri.org
PTF Education Committee Chair	Dr. Shrikant Dhodapkar	sdhodapkar@dow.com
FPST 2020 Chair	Dr. Heather Emady	heather.emady@asu.edu
Staff Liaison	Ms. Darlene Schuster	darls@aiche.org
	Ms. Diane Cappiella	dianc@aiche.org
Accounting	Ms. Leila Mendoza	leilm@aiche.org

## + Programming Leadership

Group 3A: Particle Production and Characterization	Group 3D: Nanoparticles
Chair: Dr. Rohit Ramachandran	Chair: Dr. Satish Nune
rohit.r@rutgers.edu	satish.nune@pnnl.gov
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Group 3B: Fluidization and Fluid-Particle	Group 3E: Energetics
Systems	
Chair: Dr. Tim Healy	Chair: Dr. Lori Groven
Shair. Bit till treaty	Grian. Bi. Lon Groven
time atherems has been warned bill as me	lari arayan@adarat adu
timothy.m.healy@exxonmobil.com	lori.groven@sdsmt.edu
Group 3C: Solids Flow, Handling and	
Processing	
Chair: Dr. Madhusudhan Kodam	
Chair. Dr. Madridsadrian Rodain	
madhusudhan.kodam@corteva.com	

