



# THE PARTICLE TECHNOLOGY FORUM (PTF) NEWSLETTER

An American Institute of Chemical Engineers (AIChE) Forum

## A Glance at the Newsletter



- ◆ [Statement on Diversity and Inclusion](#)
- ◆ [2022 AIChE Annual Meeting - PTF Programming](#)
- ◆ [2022 AIChE Particle Technology Forum Award Recipients](#)
- ◆ [Recap - WCPT9](#)
- ◆ [Treasurer's Report by Heather Emady](#)
- ◆ [PTF Membership](#)
- ◆ [PTF Organization](#)



## Editorial



Dear Fellow PTF Members,  
I hope you and your families are safe and healthy!

## Message from the Chair

### Greetings!

The AIChE Annual Meeting is coming in just a couple of weeks and I'm looking forward to seeing all of you in the Particle Technology Forum in Phoenix, AZ. Besides our



awesome technical sessions in Areas 3 A-E, including a poster session, we have our PTF General Meeting and Area Meetings. I hope you have a chance to participate in our planning. All are welcome! Our awards talks are on Wednesday and the PTF Awards Dinner at the Arrogant Butcher on that same evening.

Personal news - I'm proud to announce that at this year's Annual Meeting I will be honored as a Fellow of AIChE. It is a humbling experience to be recognized for service and career excellence. Since my first interactions with AIChE back in 1996 as an undergraduate considering pursuing my Ph.D., AIChE has been a steadfast part of my career, catalyzing many collaborations and friendships. Thank you to all of you who serve in the Particle Technology Forum and my past "co-conspirators" in Area 1J - Fluid Mechanics and in the North American Mixing Forum. My special thanks to Professor Richard Lueptow for nominating me and to those who supported me, especially Professor Julio Ottino, Professor Elsa Reichmanis, and our very own Professor Alissa Park. The

The 2022 AIChE Annual Meeting is around the corner. It will be *in-person* in Phoenix, Arizona, from November 13-18, 2022. This newsletter highlights opportunities to witness recent research advancements in the field of particle technology, and celebrate the achievements of our peers who are receiving prestigious PTF awards.

This newsletter also provides recap of [World Congress on Particle Technology \(WCPT9\)](#) held in Madrid, Spain, in Fall 2022.

On a personal note, I would like to give special thanks to Prof. James Gilchrist on behalf of the PTF EC for his leadership and service to the community, as he finishes his two-year term as the Chair. We look forward to his continued service in the future. In addition, I would like to welcome Dr. S.B. Reddy Karri and Prof. Silvina Tomassone as the Chair and Vice-Chair, respectively.



Please feel free to reach out to me with your idea by January 15, 2023, if you would like to contribute to the 2023 Spring newsletter.

Regards,

**Mayank Kashyap, SABIC**

**Editor - PTF Newsletter**

road to becoming a Fellow is paved with service - so volunteer today to serve in the Particle Technology Forum!

The PTF "leadership-torch" was passed to me during our online Annual Meeting in 2020 and at that point it was unclear to me where things were going during the pandemic. I am happy to announce that we will pass on the leadership to Dr. Reddy Karri from PSRI, Inc. with a Forum that is highly active. He has done a wonderful job running the awards for the past two years and the PTF is in good hands! I am also happy to welcome Vice Chair-elect Professor Silvina Tomassone from Rutgers University who won our election and will take over the duties of running the awards and PTF Awards Dinner. I wish to thank everyone for their service during my time serving as Chair, especially Dr. Reddy Karri, Professor Heather Emady, Professor Ben Glasser, Dr. Ben Freireich, Dr. Bruce Hook, Dr. Mike Molnar, Professor Rich Lueptow, and Dr. Mayank Kashyap. I will continue to be serving as "Past Chair" and will transition to my position on AIChE's Executive Board of the Programming Committee.

We have several challenges in the years to come. Our number of members have fallen since the pandemic and keeping those in industry engaged continues to be challenging. Following through on our commitment to Diversity, Equity, and Inclusion, we need more purposeful action toward having a representative Forum. This includes more direct action with AIChE's [WIC - Women In Chemical Engineering](#), [MAC - Minority Affairs Committee](#), [LGBTQ+ & Allies](#), [FOSSI - Future of Stem Scholars Initiative](#), [DORIC - Disabilities Outreach & Inclusion Community](#), and others. It may make sense to consider appointing specific board members to be stewards of these areas that need cultivation because they do not have timelines and deadlines similar to our other business items, something I intend to discuss during our next Executive Committee Meeting. If you have other items to consider, please reach out to me or Dr. Reddy Karri.

Finally, it is my understanding that after several years of service in preparing this newsletter, a critically important part of reaching out to and attracting new particle-loving constituents, Dr. Mayank Kashyap is looking for his replacement as the editor of this newsletter. The high degree of creativity, professionalism, and accuracy is reflective of his unwavering efforts, and I am highly appreciative of his service

during a relatively tumultuous time. If you or anyone else would consider continuing this service, please let us know.

Regards,

**James Gilchrist**

**Ruth H. and Sam Madrid Professor, Lehigh University**

**Chair, The Particle Technology Forum of AIChE**

[Email](#), [Website](#), Twitter: @Gilchrist\_Lab, [LinkedIn](#)



## Our Commitment on Diversity and Inclusion

*Approved at 2019 AIChE Annual Meeting*



The AIChE Particle Technology Forum is committed to maintaining a diverse and inclusive community of highly skilled chemical engineering professionals within the environment of the Institute and profession in which all members, regardless of

characteristics such as gender identity and expression, race, religion, age, physical condition, disability, sexual orientation, educational level, socioeconomic class, nationality or ethnicity, are valued and respected.”

As a global scientific and engineering society, we affirm the international principles that the responsible practice of science, free from discrimination in all of its forms, is fundamental to scientific advancement and human wellbeing, as outlined by the International Council for Science’s (ICSU) Statute 51. We also affirm our commitment to an engineering and scientific environment that facilitates the planning, execution, review and communication of engineering and scientific work with integrity, fairness, and transparency at all organizational levels. This extends to our general scientific endeavors—including our professional interactions and engagement with other engineers, scientists, students, trainees, and the general public. We recognize that harm to our profession, our scientific credibility, individual wellbeing, and society at large is caused by not doing so.

To this end, the PTF will implement the principles of diversity, inclusivity, and equity within PTF leadership and membership to build a community across the chemical enterprise. We are committed to quantifying and monitoring our diversity at least annually at the Executive Committee and reported at the general business meeting.

## 2022 AIChE Annual Meeting



### Particle Technology Forum Programming

This year the AIChE Annual meeting will be held at the Phoenix Convention Center in Arizona. The meeting goes from Sunday, November 13 to Friday, November 18, 2022; however, our PTF technical program is scheduled for Monday–Wednesday. A majority of our technical talks will run in three parallel sessions in three rooms on the first floor of the West Building of the conference center. We have 20 technical sessions with over 120 talks scheduled. At 8:00 AM Tuesday morning, Area 3B celebrates the retirement of Madhava Syamlal with an honorary session. Wednesday morning at 8:00 AM Area 3C hosts an honorary session for John Carson. The PTF Awards session is scheduled for Wednesday afternoon on the second floor of the North Building (the main convention hall) with the following talks:

Shell Thomas Baron Award	Prof. Ah-Hyung Alissa Park	12:30 - 1:20 PM MST
Elsevier PTF Lifetime Achievement Award	Prof. Sankaran Sundaresan	1:20 - 2:10 PM
2021 Dow Particle Processing Recognition Award	Prof. Richard Lueptow	2:10 - 3:00 PM

Immediately after the awards session we host the PTF poster session at 3:30 PM in the on the third floor in Hall E of the North Building. Later Wednesday evening, the PTF Dinner will be held at The Arrogant Butcher, a downtown Phoenix restaurant. Address: 2 E. Jefferson Street #150 Phoenix, Arizona 85004, PHONE: 602-324-8502. Dinner tickets are sold out.

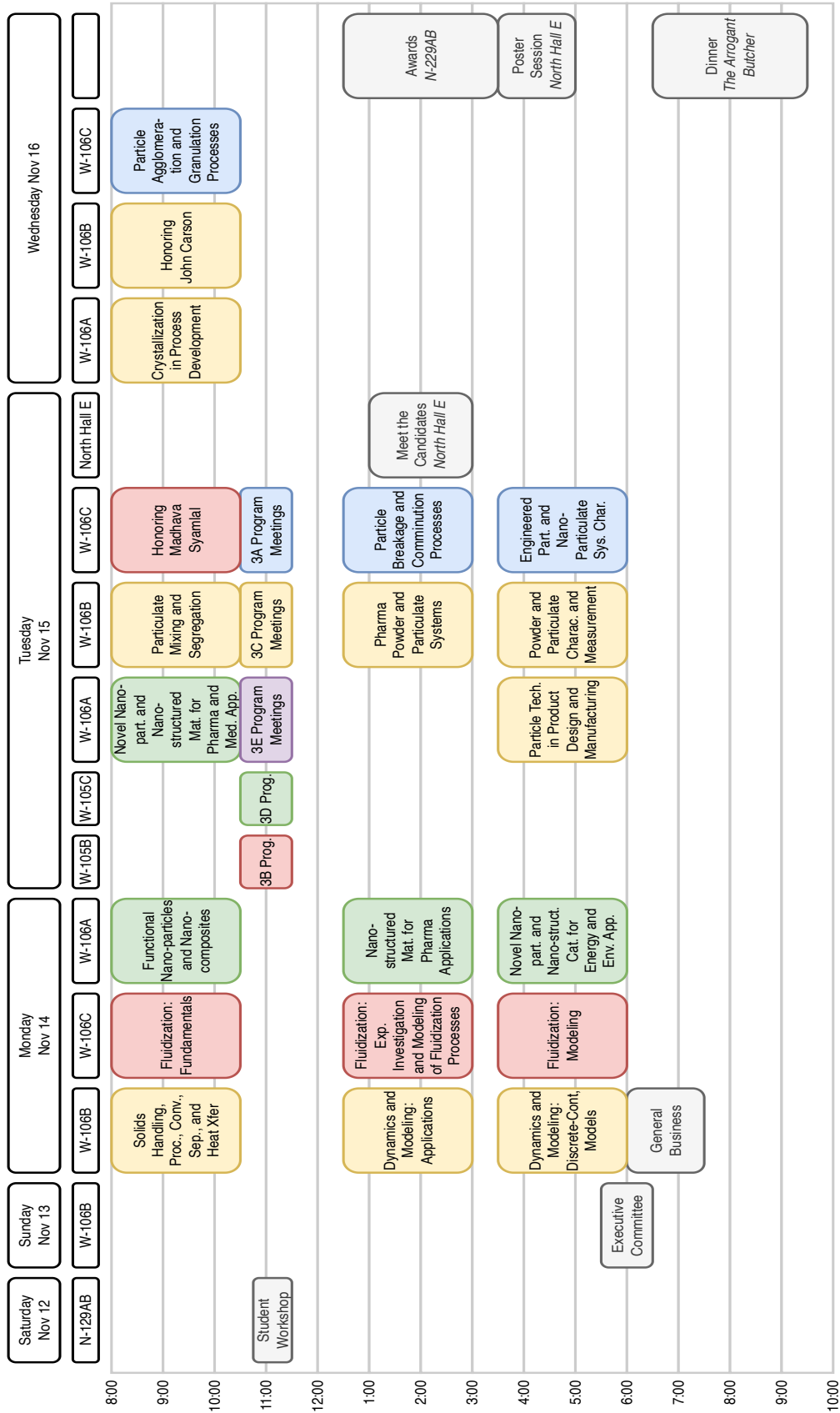
The general business meeting will be held Monday at 6:00PM after the last technical session of the evening. Please make an effort to attend this meeting for important announcements and voting.

Programming meetings will be held Tuesday at 10:50 AM, after the morning sessions are complete. Please attend if you have any ideas for future sessions or PTF programming changes. Also, many times session chairs for the following year are appointed during these programming meetings. We need you. Please consider volunteering to chair a session. Chairing is a great way to get involved with AIChE, learn more about the ongoing research, and network with our PTF colleagues.

Following a new practice with the broader AIChE, we will also be hosting a separate "Meet the Industry Candidates" poster session at 1:00 PM Tuesday, in the same room as the PTF Poster Session. This sessions is meant to provide an opportunity for presenters explicitly seeking employment in industry to showcase their work to prospective employers looking to hire new employees.

Every year AIChE hosts a Student Conference just before the Annual Meeting, and every year the PTF holds a workshop during that conference. This year the workshop is on 10:50 AM Saturday morning on the first floor of the North Building and is titled "The World of Particle Technology."





# 2022 AIChE Particle Technology Forum Awards

## Elsevier PTF Lifetime Achievement Award



### Professor Sankaran Sundaresan's

research at Princeton University has led to a better understanding of the instability mechanisms through which inhomogeneous structures emerge in granular and fluid-particle flows and filtered models for momentum, mass, and energy transport in gas-particle flows, which account for the



consequences of mesoscale structures that would not be resolved in coarse simulations of industrial scale devices. His research has also led to refined models for the rheology of granular materials that bridge across inertial, frictional, and

cohesive flow regimes. Over the past several decades, Sundaresan and his collaborators have applied Electrical Capacitance Tomography to elucidate flow regimes in pneumatic conveying and loop instability in circulating fluidized beds, probed flow and separation efficiency in cyclones through detailed simulations, analyzed the interplay between triboelectric charging and fluid-particle flows, performed particle-resolved simulations to develop improved constitutive relations for fluid-particle interaction force, and investigated the fluidization and deagglomeration of particles in dry powder inhalers. His contributions constitute an impressive body of work that spans the spectrum of gas-solid flows and is remarkable for its unique combination of formal elegance and practical utility. He has also served the particle technology forum community through mentorship of students and postdoctoral fellows, associate editorship of the AIChE Journal, service on editorial boards of particle technology-related journals, and several review and perspective articles.

## Thomas Baron Award in Fluid-Particle Systems



### Professor Ah-Hyung (Alissa) Park is the

Lenfest Earth Institute Professor of Climate Change in the Departments of Earth and Environmental Engineering & Chemical Engineering at Columbia University. She is also the Director of the Lenfest Center for Sustainable Energy. Her research focuses on sustainable energy and materials conversion



pathways with emphasis on integrated Carbon Capture, Utilization and Storage (CCUS) technologies based on particle technology fundamentals. Park received a number of professional awards and honors including ACS ENFL Mid-Career Researcher Award (2022),

U.S. C3E Research Award (2018), PSRI Lectureship Award at AIChE (2018), and NSF CAREER Award (2009). Park also led a number of global and national discussions on CCUS including the Mission Innovation Workshop in 2017. Park is a Fellow of AIChE, ACS, RSC and AAAS.

### PSRI Fluidization and Fluid Particle Systems Award



**Dr. Naoko Ellis** is a professor in the University of British Columbia (UBC) Department of Chemical and Biological Engineering with a profound desire to help create a low carbon future. Her expertise in multiphase systems, especially in fluidization is applied through biomass utilization (bio-oil upgrading, biochar potential, and hydrogen production), and CO<sub>2</sub> capture (chemical looping systems). She is curious about how learning with and from "others" - crossing the disciplinary boundaries - can inform and frame the complex societal problems we face. Her current projects



includes Transdisciplinary Collaborative PhD Program for Climate Emergency development, Carbon Capture Utilization and Sequestration road mapping, and renewable natural gas production among others.

### SABIC Young Professional Award



**Professor Edison Huixiang Ang** is currently an Assistant Professor at the National Institute of Education, an institute of Nanyang Technological University. He received his PhD degree from Nanyang Technological University in 2017, then he continued his postdoctoral research at National University of Singapore and Nanyang Technological University. He is also currently an Early Editorial Board Member of Chemical Engineering Journal and Young Editorial Board Member of the Journal of Leather Science and Engineering. He received the Outstanding ASIAN Science Diplomat Award and the Vebleo Fellow Award in 2021, as well as the Young Scientist Medal Award



and Journal of Materials Chemistry A Emerging Investigators in 2022, in recognition of his outstanding research work and leadership in the fields of science, engineering, and technology. His current research interests combine nanotechnology and materials science, additive manufacturing approaches to develop functional nanostructures and smart materials for advanced energy storage, membrane technology, catalysis and sensing applications.

## George Klinzing Best PhD Award



**Dr. Tony Feric** completed his undergraduate studies at the University of Maryland College Park in 2017, where he majored in Chemical Engineering and minored in Technology Entrepreneurship through the Hinman CEOs program. Tony received his M.S. and Ph.D. in Chemical Engineering at Columbia University in 2022 under the supervision of Ah-Hyung Alissa Park. While at Columbia, Tony developed nanoscale hybrid electrolytes for combined CO<sub>2</sub> capture and conversion applications. The focus of his thesis was understanding the thermal, structural and transport behaviors of Nanoparticle Organic Hybrid Materials (NOHMs) in their application as electrolyte additives. Tony also participated in the Columbia Technology Ventures Fellows program where he assisted Technology Licensing Officers in making decisions about the patentability of various technologies developed by Columbia faculty members. Additionally, Tony served as one of the co-chairs for the 2022 Gordon Research Seminar on Carbon Capture Utilization and Storage (CCUS). Currently, Tony is an ORISE Science, Technology and Policy Post-Doctoral Fellow at the Department of Energy's Office of Fossil Energy and Carbon Management, and hopes to pursue a career pathway at the intersection of CCUS enabling science, technologies and policies.



University of  
Pittsburgh





# World Congress on Particle Technology 9



Carlos Negro  
*WCPT9 Chair*



Álvaro Ramírez  
*Scientific Chair*



The 9<sup>th</sup> World Congress on Particle Technology was held from the 18<sup>th</sup> until the 22<sup>nd</sup> of September 2022, in Madrid, Spain. During these four days inspiring discussions were established in the different sessions of the Congress, covering particulate solids handling, particle and particulate systems characterization, particle processing, particle-fluid systems (fluidization and multi-phase flow), particle formation and design, particle separation, aerosols, nanoparticles: production, characterization and applications, modelling and simulation, and science, technology, engineering and design in particle-based materials and products. Four successful joint-events were also held, and tribute was paid to Prof. Ugur Tuzun and Prof. Rolf Eckhoff in two memorial sessions.



We have seen presentations on fundamental and applied research, dealing with a wide range of particle sizes, from the nanoscale to the macroscale. From quantum dots, colloidal nanoparticles, nanocelluloses, aerosols, atomized particles, particle emissions, lunar regolith particles, volcanic ashes, dust, emulsion drops, fluidized bed particles and crystals, to structured microparticles, microplastics, microgels, microcapsules, agglomerates, organic and metal powders, and increasing more the scale, seeds, grains, granules, pellets, woodchips, fibers, pharmaceutical tablets, and increasing even more, crushed rocks. A wide range of applications were presented; not only in industry but



also in medicine, energy and to protect our environment and health. In general, in this 9<sup>th</sup> edition of the World Congress on Particle Technology we have seen again how important particle science and technology is for our economy, industry, our environment and society.



Despite the difficult situation due to the pandemic and financial crisis, in numbers, WCPT9 has received contributions from 35 countries, 584 registrations, 635 abstracts received of which 566 were accepted and orally presented. These research works were presented as follows: 8 plenary lectures, 50 keynote lectures, 333 regular oral communications, 72 flash communications and 103 poster presentations, which had the

opportunity to be orally presented and later on discussed in a relaxed environment with a cold beer in the *poster sessions gathering*. We could say that WCPT9, has been a great success.

Best oral and poster presentations of early-stage researchers in each topic covered in the congress were identified and recognized with awards the last day of the congress. Furthermore, a selected group of research works identified by the session chairs and the topic coordinators will be invited to submit a manuscript for two special issues of two well-recognized journals in our field, the *Journal of Powder Technology* an International Journal on the Science and Technology of Wet and Dry Particulate Systems, and the *Journal of*



*Advanced Powder Technology* an international Journal of Science and Technology of Powder and Particulate Materials.

In recognition of a lifetime of excellence in the field of particle technology Prof. George Klinzing received the Life-time Achievement Award of WCPT9. In the same morning Marvellous J. Khala also received the EFCE Excellence Award in Mechanics of Particulate Solids. His PhD thesis "Characterising Powder Flow in Dynamic

Processes", completed at the University of Surrey, United Kingdom, and under the supervision of Professor Chuan-Yu (Charley) Wu achieved the best evaluation results in terms of innovativeness, breadth and depth of the study, quality of publications, and the transfer of know-how to industrial applications. This Award was generously sponsored by *Jenike & Johanson Inc.*

As part of the social program the congress dinner was in the Teatro Real, which is considered the leading institution for the performing and musical arts in Spain, positioning itself as the National Opera house of reference and one of the main Spanish cultural institutions. There, we enjoyed an unforgettable evening!



Accompanying persons had the opportunity to visit San Lorenzo de El Escorial and enjoy the spectacular views from the Valle de los Caídos,

walk through the old part of the city, the named Madrid de los Austrias, and also visit Toledo, one of the oldest and most unique cities in Spain.

At this point, we would like to express our gratitude to the members of the Advisory Board, Scientific and Organizing committees which contributions have helped the success of the program that we have enjoyed during the four days of the Congress.



We would also like to give thanks to the organizations that supported ANQUE in the organization of this event, the European Federation of Chemical Engineers (EFCE), DECHEMA, FEIQUE, TECHSOLIDS, and Foro de Química y Sociedad, to all the sponsors (BASF, Rocky, Aspherix DCS, LUM, Granutools, the Advanced Powder Technology Journal, FEIQUE and HNA), exhibitors (Granutools, Laboratorio Oficial José María Madariaga, Universidad Politécnica de Madrid, ALTAIR, ADIX, ROCKY, BASF,

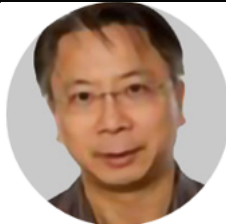
LUM, TSI, InSilico Trials, Applied Microspheres, Malvern Panalytical and IESMAT) and media partners (Técnicas de Laboratorio, PQ, El Confidencial Químico, Industria Química, Interempresas-Industria Química, Particuology) and of course to all of you to make possible this edition.

WCPT10 will be held in Tokyo, Japan, in 2026 and we look forward to seeing you there!





## WCPT9 PLENARY LECTURES



### SIMULATION AND MODELLING OF PARTICULATE SYSTEMS

#### **Aibing Yu**

Laboratory for Simulation and Modelling of Particulate Systems (SIMPAS).

Department of Chemical Engineering, Monash University, Australia



### ADVANCED FUNCTIONAL PARTICLES: SCALABLE FORMATION, PROPERTY CLASSIFICATION AND MULTIDIMENSIONAL CHARACTERIZATION

#### **Wolfgang Peukert**

Department of Chemical and Biological Engineering  
Chair of the Institute Particle Technology Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany



### SIMULATION AND MODELLING OF PARTICULATE SYSTEMS

#### **Jesús Santamaría**

Nanoscience Institute of Aragon.  
Department of Chemical Engineering, University of Zaragoza, Spain



THE WORLD OF PARTICLES WE EMIT: HOW WELL DO WE UNDERSTAND AND CONTROL IT?

**Lidia Morawska**

Queensland University of Technology.  
Australia



CHALLENGES AND OPPORTUNITIES IN PARTICLE PROCESSING: AN INDUSTRIAL PERSPECTIVE

**Willie Hendrickson**

CEO AVEKA Group.  
USA



ADVANCES IN SOLIDS PROCESSING RESEARCH AND MODELING TO ADDRESS INDUSTRIAL CHALLENGES

**Jürgen Dahlhaus**

BASF SE.  
Germany



SIMULATION AND MODELLING OF PARTICULATE SYSTEMS

**Judith Bonsall**

Unilever.  
United Kingdom



NANOSTRUCTURED MATERIALS TO DESIGN INNOVATIVE NANOMEDICINES

**María José Alonso**

Department of Pharmacy and Pharmaceutical Technology, USC.  
CIMUS Research Institute.  
Spain

**BEST ORAL PRESENTATION AWARDS (\*award recipient)**

Topic 1 – PARTICULATE SOLIDS HANDLING

MODEL-BASED SCALE-UP OF THE DIE FILLING PROCESS FROM LAB-SCALE TO PRODUCTION-SCALE ROTARY PRESSES. Ann Kathrin Schomberg\*. Jan Henrik Finke. Arno Kwade

*Ann Kathrin Schomberg. TU Braunschweig - Institute for Particle Technology. Germany*

Topic 2 – PARTICLE AND PARTICULATE SYSTEMS CHARACTERIZATION

SPREADABILITY VERSUS FLOWABILITY: TRANSIENT JAMMING MAKES THEM DIFFERENT. Mojtaba Ghadiri. Wei Pin Goh\*. Wenguang Nan. Mehrdad Pasha.

*Wei Pin Goh. University of Leeds. United Kingdom*

#### Topic 3 – PARTICLE PROCESSING

PRODUCTION AND ANALYSIS OF POLYMER-CERAMIC COMPOSITE MATERIALS BY A MINIATURIZED FLUIDIZED BED GRANULATION PROCESS. Hannah Sophia Rothberg\*. Carolin Lohmann. Swantje Pietsch-Braune. Stefan Heinrich

*Hannah Sophia Rothberg. Hamburg University of Technology. Germany*

#### Topic 4 – PARTICLE-FLUID SYSTEMS: FLUIDIZATION AND MULTI-PHASE FLOW

RISING GRANULAR BUBBLES AND SPLITTING GRANULAR DROPLETS: REVEALING THE PHYSICS BEHIND FLUID-LIKE PHENOMENA IN BINARY GRANULAR MATERIALS. Jens Metzger\*. Christopher McLaren. Sebastian Pinzello. Nicholas A. Conzelmann. Christopher Boyce. Christoph Müller

*Jens P. Metzger. ETH Zurich. Switzerland*

#### Topic 5 – PARTICLE FORMATION AND DESIGN

CONTINUOUS FLOW GRAM-SCALE SYNTHESIS OF PLASMONIC PIGMENTS WITH TAILORED COLOUR. Robin Klupp Taylor. Andreas Völkl\*.

*Andreas Völkl. Lehrstuhl für Feststoff- und Grenzflächenverfahrenstechnik, Friedrich-Alexander-Universität Erlangen-Nürnberg. Germany*

#### Topic 6 – PARTICLE SEPARATION

DIELECTROPHORETIC FILTRATION FOR SELECTIVE SEPARATION OF SUBMICRON PARTICLES AT HIGH THROUGHPUT. Mariia Kepper\*. Malte Lorenz. Michael Baune. Jorg Thöming. Georg Pesch.

*Mariia Kepper. University of Bremen. Germany*

#### Topic 7 – AEROSOL PARTICLES

MASS, SIZE AND SHAPE OF ULTRA-SMALL PARTICLES: PYCNOMETRY ON THE MOLECULAR LEVEL BY MOBILITY-CLASSIFIED MASS SPECTROMETRY (DMA-MS). Christian Lübbert\*. Wolfgang Peukert.

*Christian Lübbert. Institute of Particle Technology, FAU Erlangen-Nuremberg, Germany*

#### Topic 8 - NANOPARTICLES: PRODUCTION, CHARACT. AND APPLICATIONS

BRANCHING INDEX: AN ALTERNATIVE TO CHARACTERIZE CELLULOSE NANO AND MICROFIBERS BY IMAGE ANALYSIS. José Luis Sánchez Salvador\*. Cristina Campano. Patricio Lopez-Expósito. M. Concepción Monte. Angeles Blanco. Carlos Negro.

*José Luis Sánchez-Salvador. Universidad Complutense de Madrid. Spain*

#### Topic 9 – MODELLING AND SIMULATION

DEM SIMULATION STRATEGIES FOR THE FLOW OF DRY COATED POWDERS IN PHARMACEUTICAL DRY POWDER INHALER DEVICES. Francesca Orsola Alfano\*. Alberto Di Renzo. Francesco Paolo Di Maio.

*Francesca Orsola Alfano. DIMES Department, University of Calabria. Italy*



## Topic 10 – SCIENCE, TECHNOLOGY, ENGINEERING AND DESIGN IN PARTICLE-BASED MATERIALS AND PRODUCTS

ANALYSIS OF THE POWDER LAYER QUALITY IN THE SELECTIVE LASER SINTERING PROCESS FROM EXPERIMENTS AND DEM MODELLING. Daniele Sofia\*. Diego Barletta. Massimo Poletto.

*Daniele Sofia. University of Salerno. Italy*

POSTER AWARDS (\*award recipient)

INVESTIGATION OF COLLISION MECHANISMS OF FINE PARTICLES WITH POROUS SURFACES DURING COLD SPRAYING. Olha Aleksieieva\*. Andriy Toporov. Pavlo Tretiakov. Mustafa Bozoglu. Sergiy Antonyuk.

*Olha Aleksieieva. Institute of Particle Process Engineering, Technische Universität Kaiserslautern. Germany*

AGGREGATION CONTROLLING FACTORS IN A BINARY COLLOIDAL DISPERSION OF NANOPARTICLES FOR 2-DIMENSIONAL SEPARATION BY SELECTIVE AGGLOMERATION. Azita Rezvani\*. Doris Segets.

*Azita Rezvani. Duisburg-Essen University. Germany*

AN OPEN-SOURCE FRAMEWORK FOR DYNAMIC FLOWSHEET SIMULATION OF SOLIDS. Vasyly Skorych\*. Stefan Heinrich.

*Vasyly Skorych. Hamburg University of Technology, Institute of Solids Process Engineering and Particle Technology. Germany*

SAWDUST AS A RAW MATERIAL FOR NANOCELLULOSE PRODUCTION BY MEANS OF BLEACHING. Ana Balea\*. Elena de la Fuente González. Carlos Negro. Guillermo del Barco. Angeles Blanco.

*Ana Balea. Chemical and Materials Engineering, Complutense University of Madrid. Spain*

## SPONSORS

GOLD SPONSOR



SILVER SPONSOR



ROCKY

BRONZE SPONSOR



COFFEE BREAK CORNER



LANYARDS



CONGRESS BAGS



### EXHIBITORS



### MEDIA PARTNERS



## PTF Award and Dinner Sponsors



ELSEVIER

Lifetime Achievement  
Award



Thomas Baron Award



PTF Service Award



Particle Processing  
Award



Fluidization and Fluid  
Particle Systems Award



Young Professional  
Award



University of  
Pittsburgh

George Klinzing Best  
Ph.D. Award



PTF Dinner



Student Poster Awards

# Treasurer’s Report (2021-2022) by Dr. Heather Emady

AICHe ACCOUNT	Starting	Income	Expenses	Balance
Dues Income - Divisions (9/2021)		\$ 375.00		\$ 57,523.56
Invest Inc - Interest (9/2021)		\$ 1,417.96		\$ 58,941.52
Dues Income - Divisions (10/2021)		\$ 435.00		\$ 59,376.52
Dues Income - Divisions (11/2021)		\$ 304.00		\$ 59,680.52
Site Costs - Unofficial PTF Dinner @ AICHe Annual in Boston (reimb. Willie Hendrickson) (11/2021)			\$ 920.31	\$ 58,760.21
<b>Corp Sponsorship Inc (DOW) (11/2021)</b>		\$ 1,500.00		\$ 60,260.21
Invest Inc - Interest (12/2021)		\$ 3,544.14		\$ 63,804.35
Monetary Awards (Best PhD, DOW, SABIC, CPF, PSRI, Shell, Elsevier) (12/2021)			\$ 5,200.00	\$ 58,604.35
Dues Income - Divisions (12/2021)		\$ 870.00		\$ 59,474.35
<b>Corp Sponsorship Inc (PSRI) (12/2021)</b>		\$ 1,257.00		\$ 60,731.35
<b>Corp Sponsorship Inc (Elsevier) (12/2021)</b>		\$ 1,342.00		\$ 62,073.35
<b>Corp Sponsorship Inc (CPF) (12/2021)</b>		\$ 1,000.00		\$ 63,073.35
Dues Income - Divisions (1/2022)		\$ 405.00		\$ 63,478.35
<b>Corp Sponsorship Inc (PITT) (1/2022)</b>		\$ 757.00		\$ 64,235.35
Dues Income - Divisions (2/2022)		\$ 195.00		\$ 64,430.35
<b>Corp Sponsorship Inc (SABIC) (2/2022)</b>		\$ 1,257.00		\$ 65,687.35
Dues Income - Divisions (3/2022)		\$ 105.00		\$ 65,792.35
Dues Income - Divisions (4/2022)		\$ 75.00		\$ 65,867.35
Dues Income - Divisions (5/2022)		\$ 30.00		\$ 65,897.35
Dues Income - Divisions (6/2022)		\$ 75.00		\$ 65,972.35
Dues Income - Divisions (7/2022)		\$ 165.00		\$ 66,137.35
<b>Totals as of 10/2022</b>	\$ 57,148.56	\$ 15,109.10	\$ 6,120.31	\$ <b>66,137.35</b>

## 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](mailto:customerservice@aiche.org) for membership questions and help.

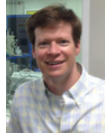



**- PTF Membership Committee**













# Particle Technology Forum Organization

## ◆ *Officers*

<b>Chair</b> Dr. Jim Gilchrist <a href="mailto:gilchrist@lehigh.edu">gilchrist@lehigh.edu</a>	
<b>Co-Chair</b> Dr. S.B. Reddy Karri <a href="mailto:reddy.karri@psri.org">reddy.karri@psri.org</a>	
<b>Treasurer</b> Dr. Heather Emady <a href="mailto:heather.emady@asu.edu">heather.emady@asu.edu</a>	
<b>Past Chair</b> Dr. Bruce Hook <a href="mailto:bdhook@dow.com">bdhook@dow.com</a>	

## ◆ *Executive Committee*

Industry		Academic	
Michael Molnar <a href="mailto:michael.molnar@dow.com">michael.molnar@dow.com</a>		Dr. Heather Emady <a href="mailto:heather.emady@asu.edu">heather.emady@asu.edu</a>	
Willie Hendrickson <a href="mailto:whendrickson@aveka.com">whendrickson@aveka.com</a>		Dr. Aaron Moment <a href="mailto:ajm2293@columbia.edu">ajm2293@columbia.edu</a>	
Dr. Wyatt Casey LaMarche <a href="mailto:casey.lamarche@psri.org">casey.lamarche@psri.org</a>		Dr. Bodhi Chaudhuri <a href="mailto:body.chaudhuri@uconn.edu">body.chaudhuri@uconn.edu</a>	
Dr. Mayank Kashyap <a href="mailto:mkashyap@sabic.com">mkashyap@sabic.com</a>		Dr. Maria Silvana Tomassone <a href="mailto:silvina@soe.rutgers.edu">silvina@soe.rutgers.edu</a>	

### ◆ *Liaisons and Committee Chairs*

CTOC Liaison	Dr. Ah-Hyung (Alissa) Park	<a href="mailto:ap2622@columbia.edu">ap2622@columbia.edu</a>
Nominating Committee Chair	Dr. Michael Molnar	<a href="mailto:michael.molnar@dow.com">michael.molnar@dow.com</a>
PTF Newsletter Editor	Dr. Mayank Kashyap	<a href="mailto:mkashyap@sabic.com">mkashyap@sabic.com</a>
PTF Webmaster	Dr. Madhusudhan Kodam	<a href="mailto:mkodam@tesla.com">mkodam@tesla.com</a>
PTF Student Workshop Chair	Dr. Ben Freireich	<a href="mailto:bfreireich@originmaterials.com">bfreireich@originmaterials.com</a>
PTF Programming Chair	Dr. Ben Freireich	<a href="mailto:freireib@gmail.com">freireib@gmail.com</a>
PTF Dinner Sponsorship	Dr. Jim Gilchrist	<a href="mailto:gilchrist@lehigh.edu">gilchrist@lehigh.edu</a>
PTF Awards Sponsorship	Dr. Reddy Karri	<a href="mailto:reddy.karri@psri.org">reddy.karri@psri.org</a>
PTF Education Committee Chair	Dr. Shrikant Dhodapkar	<a href="mailto:sdhodapkar@dow.com">sdhodapkar@dow.com</a>
Staff Liaison	Ms. Darlene Schuster	<a href="mailto:darls@aiche.org">darls@aiche.org</a>
	Ms. Diane Capiella	<a href="mailto:dianc@aiche.org">dianc@aiche.org</a>
Accounting	Ms. Leila Mendoza	<a href="mailto:leilm@aiche.org">leilm@aiche.org</a>

### ◆ *Programming Leadership*

#### **Group 3A: Particle Production and Characterization**

Chair: Dr. Heather Emady  
[heather.emady@asu.edu](mailto:heather.emady@asu.edu)

#### **Group 3B: Fluidization and Fluid-Particle Systems**

Chair: Dr. Casey LaMarche  
[casey.lamarche@psri.org](mailto:casey.lamarche@psri.org)

#### **Group 3C: Solids Flow, Handling and Processing**

Chair: Dr. Yi Fan [yfan5@dow.com](mailto:yfan5@dow.com)  
 Co-chair: Dr. Silvina Tomassone  
[silvina@soe.rutgers.edu](mailto:silvina@soe.rutgers.edu)

#### **Group 3D: Nanoparticles**

Chair: Dr. Eirini Goudeli [eirini.goudeli@unimelb.edu.au](mailto:eirini.goudeli@unimelb.edu.au)