

2023 / AIChE ANNUAL MEETING

November 5 - 10, 2023

Hyatt Regency Orlando • Orlando, FL



LEADING
THE WAY TO A
SUSTAINABLE
FUTURE



2023 ANNUAL MEETING CONTENTS

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WELCOME BACK!

Here are some useful links to help guide and enhance your meeting experience:

[2023 AIChE Annual Meeting Homepage](#)

[AIChEvents App](#)

[Technical Program](#)

[Meeting FAQs](#)

[Onsite Information](#)

A Note on Sustainability at AIChE Meetings

AIChE constantly reviews the materials used at and produced for Meetings in terms of sustainability. Every attempt is made to use sustainable products within the economic framework of the meeting. Specific items may include the use of recycled or FSC certified papers, environmentally friendly inks and solvents, use of electronic (pdf) instead of printed materials, limiting the quantities produced and use of production facilities closer to the meeting site.

Neither the American Institute of Chemical Engineers (AIChE), the presenters and author(s) of this work, their employer, nor their employer's officers and directors, warrant or represent expressly or by implication, the correctness or accuracy of the content of the information presented. As between (1) the AIChE, the presenter and author(s) of this work, their employers, and their employers' officers and directors, and (2) the user/viewer of this work, the user/viewer accepts any legal liability or responsibility whatsoever for the consequence of its use or misuse.

2023 ANNUAL MEETING WELCOME



Greetings —

On behalf of AIChE's Board of Directors, our meeting programmers, and AIChE staff — I am pleased to welcome you to the 2023 AIChE Annual Meeting.

As AIChE marks its 115th year of service to the chemical engineering community, we reflect on our history and prepare ourselves for the challenges of tomorrow. This week, we are thankful to continue the tradition of assembling at this annual event — to share in a meeting that displays practically every facet of our profession and its world-changing endeavors. As an organization and a profession, we are elevated by the diversity of imagination, ideas, ambitions, and abilities brought to the table by each of our chemical engineering colleagues. AIChE sincerely appreciates the participation of every person who is engaged with this meeting.

To promote a secure, inclusive, and welcoming environment for everyone, we have enhanced our onsite security measures, posted an [FAQ page](#) with answers to participants' questions about support services, and are promoting our code of conduct throughout the meeting venue. We invite you to join AIChE leaders, along with representatives from academia and industry, for "**A Conversation on Equity, Diversity, and Inclusion**" on Monday, November 6. This is just one of many sessions programmed under the Engineering for Inclusion topical conference, showcasing the breadth of our profession and the diversity of our workforce — aimed at advancing equity along [AIChE's IDEAL path](#).

In keeping with the meeting theme, we will also explore the future of our profession during a panel discussion devoted to **Sustainability and the Circular Economy**. Those interested in this topic will find related sessions programmed throughout the week. A new topical conference looks at decarbonization efforts in the chemical industries. Other topical conferences examine sustainable pathways toward hydrogen-based and synthetic fuels, new materials as energy solutions, and sensors in sustainability and other applications.

Additional program tracks cover plastics circularity and innovations in process engineering, as well as advances in cybersecurity, Industry 4.0, smart manufacturing, and process intensification.

I also highlight our featured lectures. On Monday, we'll hear from AIChE's **Langer Prize for Innovation and Entrepreneurial Excellence** fellowship recipient, **Albert Keung** (North Carolina State University), who will describe the data-storage potential of modified DNA. Monday's program also features the inaugural **Cato T. Laurencin Regenerative Engineering Founder's Award Lecture** presented by **Antonios Mikos** (Rice University).

Tuesday's program showcases the **Andreas Acrivos Professional Progress Award** lecturer, **Rachel Segalman** (University of California, Santa Barbara), who will discuss superionic conductivity for use in lithium-ion batteries and other applications. Also on Tuesday, AIChE's Society for Biological Engineering (SBE) sponsors the **Daniel I. C. Wang Award Lecture**, presented by **Huimin Zhao** (University of Illinois at Urbana-Champaign) who will share his thoughts on the new era of synthetic biology.

Wednesday's program spotlights more major lectures, beginning with the 75th **Prausnitz AIChE Institute Lecture**, presented by **Mark R. Prausnitz** (Georgia Tech). He will discuss biomedical microtechnologies that can selectively cross tissue barriers to improve drug delivery. The SBE's **James E. Bailey Award Lecture** will be given by **Gregory Stephanopoulos** (MIT). His talk is entitled "Can Biotechnology Deliver Cost Effective Fuels with a Reduced Carbon Footprint?" Also, the **William R. Schowalter Lecture** will be presented by **Kathleen Stebe** (University of Pennsylvania), who will discuss active colloids at fluid-fluid interfaces.

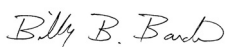
With so many sessions to choose from, I recommend that you download the [AIChEvents app](#) to keep track of it all and to maintain a personal schedule on your mobile device.

Between sessions, make time to visit our exhibit area, where you can interact with our meeting sponsors and make connections during poster sessions and receptions. Among those opportunities, academic and industry recruiters and talent scouts can meet the next generation of our profession at the Meet the Faculty and Post-Doc Candidates poster session (Sunday) and the Meet the Industry Candidates poster session (Tuesday).

Additionally, please plan to visit with AIChE Foundation in the exhibit area to hear about the great work supported by our donors and partners. To learn more about how you may support the AIChE Foundation please ask one of our team or [contribute here](#).

Finally, AIChE is grateful for the support of our meeting sponsor organizations and for the commitment of our Meeting Program Chairs — **Yu Shi** of the Coca-Cola Company and **Martha Grover** of Georgia Tech. We also extend our gratitude to the presenters, authors, session chairs, volunteers, and the members of AIChE staff for their dedication to this meeting and to our profession.

Thank you for joining us



Billy B. Bardin
2023 AIChE President

WELCOME

2023 ANNUAL MEETING LEADERSHIP, POLICIES AND NOTICES

2023 AIChE ANNUAL MEETING LEADERSHIP



Meeting Program Chair
Yu Shi

Vice President,
Technical, Innovation & Supply Chain
Japan & Korea OU
The Coca-Cola Company



Meeting Program Co-Chair
Martha Grover

Professor and Associate Chair for
Graduate Studies School of Chemical
and Biomolecular Engineering
Georgia Institute of Technology

MEETING POLICIES AND NOTICES

Recording & Photography Policy

AIChE® Meetings are one of the primary ways the Institute fulfills its mission to advance the development and exchange of relevant knowledge. The content presented at this event is the property of the presenters and the firms where they work. Recording of sessions or taking photos of slides is strictly prohibited.

General Photography Notice

Sessions and events at the meeting are being photographed by a professional photographer. These photos will be used to illustrate articles in *CEP* Chemical Engineering Progress® Magazine, on the AIChE website and in promotional materials for future Meetings. By registering for this conference, you consent to your likeness being used for such purposes without compensation and release AIChE from any liability on account of such usage.

Code of Conduct

All Annual Meeting attendees, volunteers, and staff are expected to abide by the AIChE Code of Conduct. Read the full [Code of Conduct](#).

Code of Ethics

All Annual Meeting attendees, volunteers, and staff are expected to abide by the AIChE Code of Ethics. Read the full [Code of Ethics](#).

AIChE Equity, Diversity, and Inclusion Statement

AIChE is committed to promoting a fair, just, and equitable profession and society. [Read the full statement](#).

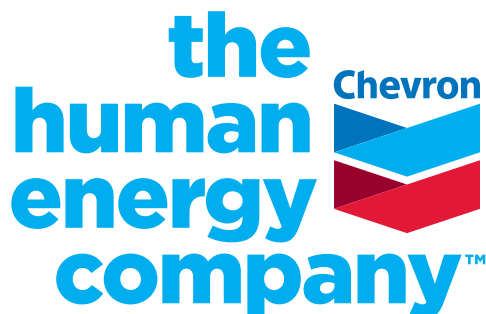
Meeting Inclusion & Security

Your security is our primary concern. The 2023 AIChE Annual Meeting and Annual Student Conference in Orlando will include enhanced security and inclusion measures.

For more information on this and other safety protocols being implemented, consult the [Meeting FAQ](#).

THANK YOU TO OUR 2023 AIChE® ANNUAL MEETING SPONSORS

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Sponsors as of October 19, 2023

2023 ANNUAL MEETING EXHIBITORS

EXHIBITORS 2023

- ACS Publications
- Activated Research Company
- Alliant Americas East
- Anton Paar
- AON Insurance Solutions
- APC
- Argonne National Laboratory
- **AVEVA***
- Bruker Optics
- Burroughs Wellcome Fund
- **Chemstations***
- DataPhysics Instruments USA Corp.
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- Gamry Instruments, Inc.
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- National Energy Technology Laboratory
- Neilsoft
- Noon Enegy
- Pacific Northwest National Laboratory
- Park Systems Inc.
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- Springer Nature Limited
- Surface Measurement Systems
- SYRRIS
- Technobis Crystallization Systems
- **TOSOH Corporation***
- Tridiagonal Software Incorporated
- **Wiley***

* Sponsored Technology Workshop Scheduled
Exhibitors as of October 28, 2023

SPONSORED TECHNOLOGY WORKSHOPS



Learn about the latest technologies that can help your research at the Sponsored Technology Workshops. Companies will provide you with an opportunity to see the most cutting-edge developments in chemical engineering technology that can help you in your current and future positions.



UNLOCK ACCELERATED INNOVATION AND COST SAVINGS IN LIFE SCIENCES AND ENERGY SECTORS WITH CLOUD-BASED HIGH-PERFORMANCE COMPUTING

Workshop w/ Catered Lunch ● 12:00 PM - 1:00 PM ● Monday, November 6
Gulf (Convention Level)

Computational simulation continues to play an increasingly critical role in the understanding and development of products and processes within the life sciences and energy sectors.

Huge strides and advancements in high-performance computing in the cloud have unlocked acceleration opportunities for computational fluid dynamics, computational chemistry, and molecular dynamic simulations to discover new drugs and materials.

Join this catered lunch presentation to learn about the latest technologies scientists, engineers, and R&D teams are leveraging to save costs and accelerate the rate of innovation, commercializing technology more efficiently.



A Leading Global End-to-End CDMO

APPLICATION OF MODELING, SIMULATION, AND ADVANCED CONTROL IN PROCESS DEVELOPMENT AND MANUFACTURING OF CHEMICAL ENTITIES

Tech Demo ● 3:00 PM - 5:00 PM ● Monday, November 6
Challenger 40 (Mezzanine Level)

As therapies become more complex, so do the obstacles that can interfere with their delivery. A robust solution to inadequate drug solubility, powder flow, and bioavailability, continuous co-processing is a platform that can be applied across various molecule classes and formulation types. Utilizing both classical and innovative techniques, co-processing has the added benefit of expediting manufacture of materials needed for toxicology screens and clinical studies. Additionally, co-processing assures the scale up of many energetic and sensitive processes, thus allowing for a safe and rugged technical transfer. This technical showcase will highlight how the co-processing platform and methodology behind it can be your next solution to drug development and delivery.

Learning Objectives:

- Understand what is Co-processing, the latest technologies used in the technique, as well as the most up-to-date regulatory status
- Discover the ongoing industry efforts to promote this technology
- Learn some of the common techniques used on the co-processing technology platform
- Know some example(s) of how the use of co-processing can improve powder flow and density
- Know some example(s) of how the use of co-processing can improve formulation process ruggedness

Sponsored Technology Workshops as of October 29, 2023



COMBINING MACHINE LEARNING AND SIMULATION FOR THE VIRTUAL OPTIMISATION OF BULK SOLIDS HANDLING PROCESSES AT THE MICRO AND MACRO SCALES

Workshop ● 9:15 AM - 10:15 AM ● Tuesday, November 7

Gulf (Convention Level)

Virtual process optimization is a key component of the digital transformation strategy in a wide range of bulk solids handling industries with the traditional physics-based simulation approach already reducing manufacturing costs and time to market for new products. Machine learning can be used to substantially increase the benefit of physics-based simulations by reducing computational expense and maximizing learning. Join this workshop to discover how Altair simulation and machine learning tools such as EDEM and HyperStudy can be used to efficiently optimize bulk solids handling processes at both the particle and equipment scales.



FROM EFFICIENT 3D SIMULATIONS TO DIGITAL TWINS AND EVERYTHING IN-BETWEEN: MODELING FOR THE PROCESS AND PHARMA INDUSTRIES

Workshop w/ Catered Lunch ● 11:00 AM - 12:00 PM ● Tuesday, November 7

Gulf (Convention Level)

In the journey towards digitalization, generating simulation-based data is an integral part. Generating enough data requires simulation to be fast, and the simulation process to be efficient. In this seminar, recent advances in the GPU solver will be highlighted that has shown simulations to be up to 8x when compared with existing simulation best practices. Additionally, examples of streamlining the simulation workflow will be shown which enables the creation of Design of Experiments (DOE) further opening the door for optimization and meta/surrogate/reduced-order model creation. Finally, and additionally, advances in system-level modeling will also be highlighted where field/experimental data can be fused with simulation-based data to provide for an accurate digital representation of the asset/system and bring the power of simulation to the hands of non-experts for operational decision-making through virtual sensors.



APPLICATION OF MODELING, SIMULATION, AND ADVANCED CONTROL IN PROCESS DEVELOPMENT AND MANUFACTURING OF CHEMICAL ENTITIES

Panel Discussion ● 4:00 PM - 5:00 PM ● Tuesday, November 7

Celebration 5 (Convention Level)

In this workshop, we are seeking input from scientists and engineers across the pharmaceutical industry and larger chemical industry to share their knowledge and experiences in the application of modeling and advanced control during the lifecycle of the process from design, understanding, optimization, validation to tech transfer to manufacturing. We have invited a panel consisting of experienced SME's across industry and academia to drive this discussion. (Panelists: TAKEDA, AMGEN, METTLER TOLEDO, PURDUE, ABBVIE, ELI LILLY, VERTEX)



MULTI-SCALE COMPUTATIONAL CHEMISTRY FOR DRUG PRODUCT FORMULATION & DEVELOPMENT

Workshop ● 9:15 AM - 10:15 AM ● Wednesday, November 8

Bayhill 21 (Lobby Level)

A key challenge in commercializing new drug products is the transition from early-stage discovery in the laboratory to scaling up in the engineering stage. This is primarily because of the interdependency of various components in a formulation such as solubility, hydrophobicity, phase-interaction, stability, etc.

A standard drug product development program can be slowed down until the right choice of an optimum combination can be found. This requires expensive and time-consuming experimentation to screen a large set of candidates.

In this event, we will present computational solutions to these challenges. We will demonstrate how these methods and tools can ease the pain of transitioning from early-stage discovery to scale-up stage. We will show cases where it has led to significant time & cost savings through reduced trial and error and higher confidence during the following scale-up stage.

2023 ANNUAL MEETING INFORMATION

GENERAL INFORMATION

Registration & Badge Pick-Up

Hyatt Regency Orlando, Regency Ballroom Foyer

Saturday, November 4	12:00 PM - 5:00 PM
Sunday, November 5	8:00 AM - 8:00 PM
Monday, November 6	7:00 AM - 5:30 PM
Tuesday, November 7	7:00 AM - 5:00 PM
Wednesday, November 8	7:30 AM - 5:00 PM
Thursday, November 9	7:30 AM - 4:30 PM

Exhibition Hours

Hyatt Regency Orlando, Regency Ballroom Foyer

Sunday, November 5	6:30 PM - 7:30 PM
Monday, November 6	9:30 AM - 5:00 PM
Tuesday, November 7	9:30 AM - 5:00 PM



Lost and Found

For questions and help with lost and found, please go to the registration area located in the Hyatt Regency Orlando, Regency Ballroom Foyer.



Wireless Internet

We are pleased to offer free, low-bandwidth wireless internet access throughout the venue.

SSID/Network: AICHEAnnual

Password: ChEforAll23



Mobile App

Download the free mobile app to maximize your Annual Meeting experience. Visit the App Store or Google Play and search for "AIChE Events".



Shipping & Printing

The Hyatt Regency Orlando offers a fully operational Business Center through 11th Hour. The 11th Hour Business Center is available for arranging shipment (both inbound and outbound) and printing services.

Hyatt Regency Orlando, Plaza Ballroom Foyer

<https://www.aiche.org/annual/HROshipping>



Family Accommodations/Mothers Room

AIChE has arranged for a mothers' room onsite which will be available for the duration of the Annual Meeting. For more information and to gain access, please speak with a customer service representative at the registration area.



Professional Headshot Photos

Update your LinkedIn profile picture or resume photo with a complimentary headshot

Hyatt Regency Orlando, Regency Ballroom Foyer

Sunday, November 5	12:00 PM - 5:00 PM
Monday, November 6	9:00 AM - 5:00 PM
Tuesday, November 7	9:00 AM - 5:00 PM



Hyatt Regency Orlando Parking

Self Parking and Valet Parking are available at varying rates. For more information, please visit [this link](#).

REFRESHMENTS DURING THE MEETING



Coffee Breaks

Hyatt Regency Orlando, Regency Ballroom Foyer

Monday, November 6	10:30 AM - 11:00 AM
Tuesday, November 7	10:30 AM - 11:00 AM



Opening Reception

Hyatt Regency Orlando, Regency Ballroom Foyer

Sunday, November 5	6:30 PM - 7:30 PM
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Poster Receptions

Hyatt Regency Orlando, Regency Ballroom R/S

Monday, November 6	3:30 PM - 5:00 PM
Tuesday, November 7	3:30 PM - 5:00 PM
Wednesday, November 8	3:30 PM - 5:00 PM



Featured Event Refreshments

Hyatt Regency Orlando, Plaza International Ballroom G/H

Monday, November 6	The Langer Prize for Innovation and Entrepreneurial Excellence Award Presentation and Lecture
Tuesday, November 7	2023 Andreas Acrivos Award for Professional Progress in Chemical Engineering Lecture
Wednesday, November 8	John M. Prausnitz AIChE Institute Lecture

2023 ANNUAL MEETING FLOORPLAN

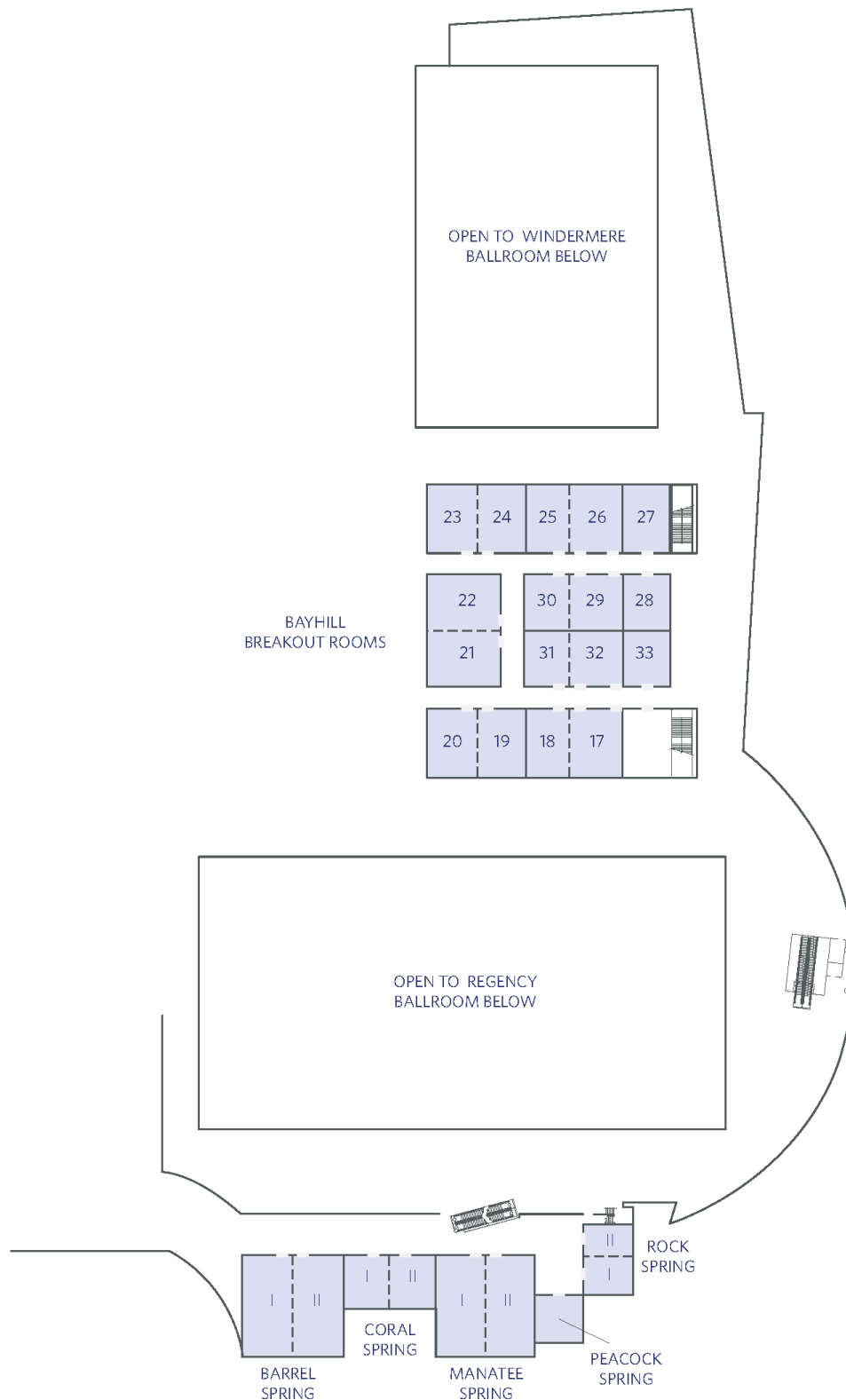
CONFERENCE LEVEL

HYATT REGENCY ORLANDO



2023 ANNUAL MEETING FLOORPLAN

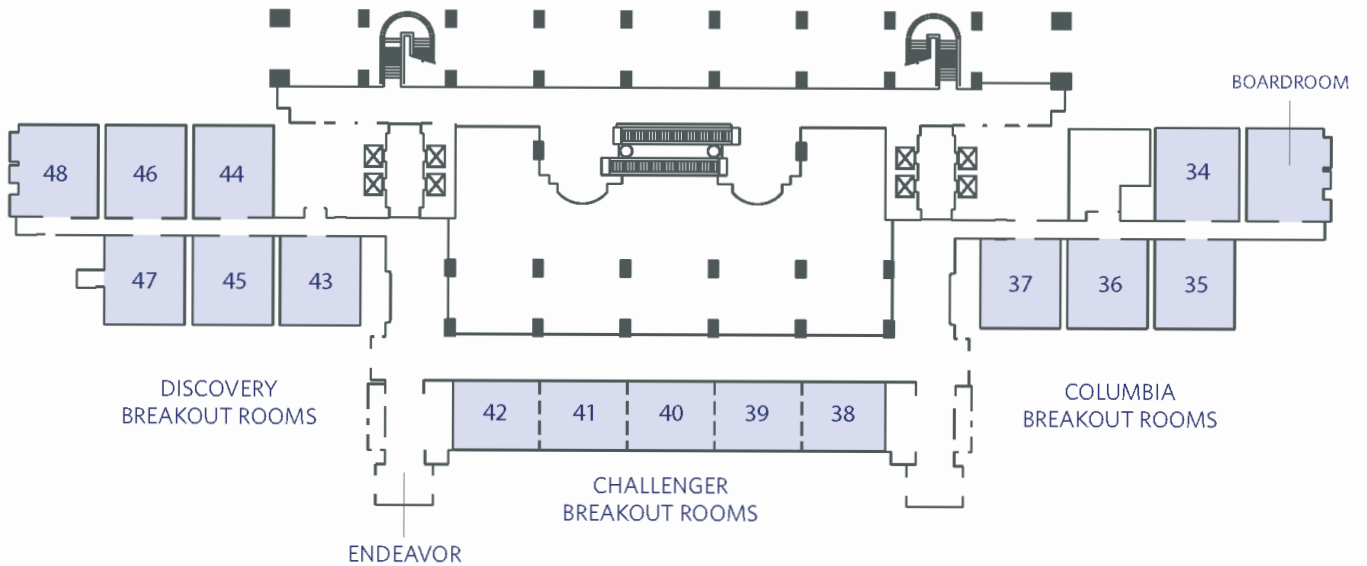
LOBBY LEVEL



HYATT REGENCY ORLANDO

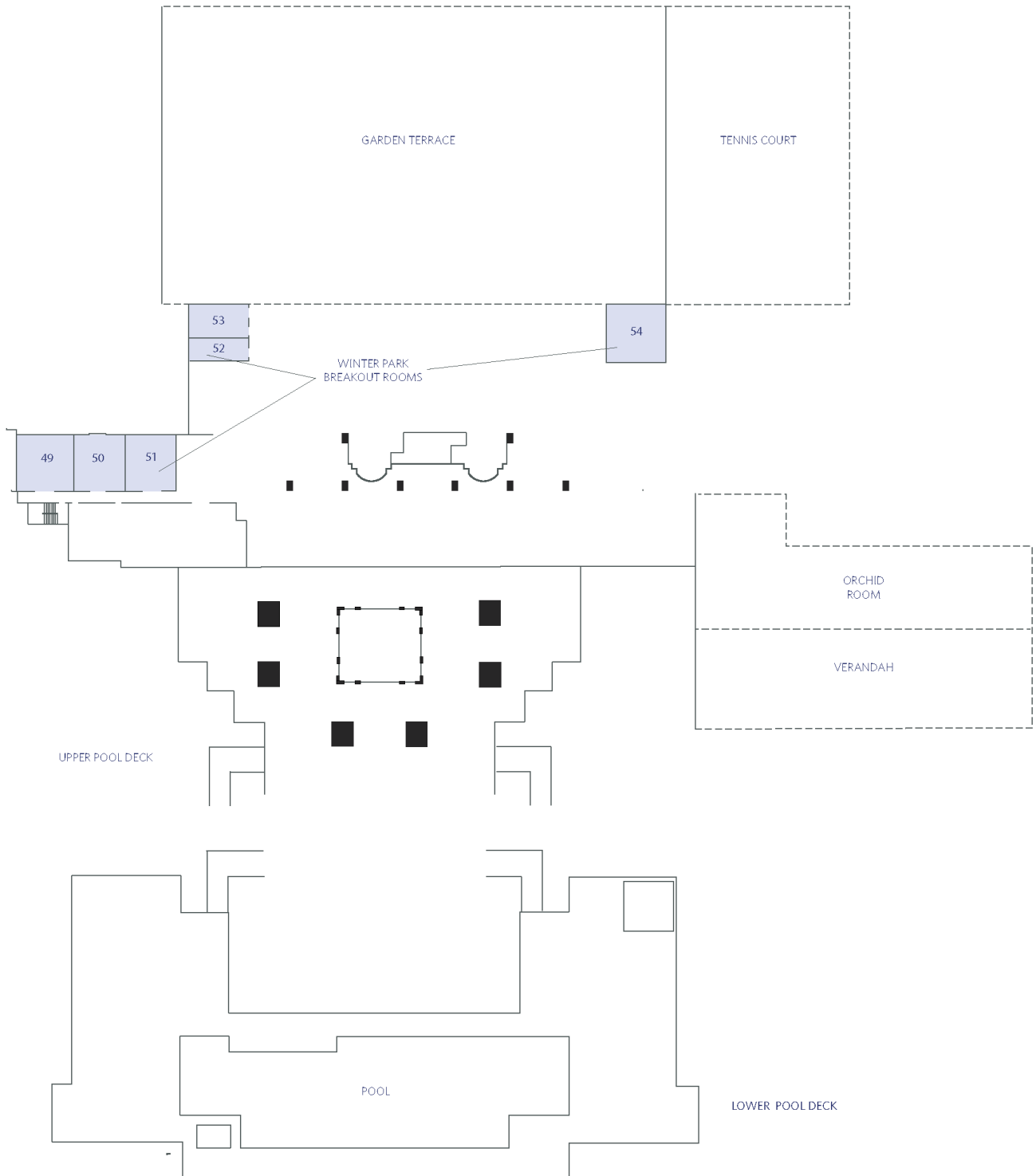
2023 ANNUAL MEETING FLOORPLAN

THIRD LEVEL



2023 ANNUAL MEETING FLOORPLAN

FOURTH LEVEL



HYATT REGENCY ORLANDO

2023 ANNUAL MEETING PROGRAM GRID KEY

The full technical program of the 2023 AIChE Annual Meeting is comprised of original programming from AIChE's divisions and forums, topical conferences, and communities.

See below for a list of the subject areas covered at the 2023 AIChE Annual Meeting.

01A - Thermodynamics and Transport Properties

01C - Interfacial Phenomena

01D - Transport Processes

01E - Electrochemical Fundamentals

01F - High Pressure

01J - Fluid Mechanics

02 - Separations Division

02A - Distillation and Absorption

02B - Crystallization and Evaporation

02C - Extractions

02D - Membrane-Based Separations

02E - Adsorption and Ion Exchange

02F - Fluid-Particle Separations

02G - Bio Separations

02H - General Topics and Other Methods

03 - Particle Technology Forum

03A - Particle Production and Characterization

03B - Fluidization and Fluid-Particle Systems

03C - Solids Flow, Handling and Processing

03D - Nanoparticles

03E - Energetics

04 - Education Division

04A - Undergraduate Education

04B - Graduate Education

04G - Professional Development Committee Liaison

04H - Career Guidance Committee Liaison

04K - Department Heads Forum

04M - Young Faculty Forum

05 - Management Division

05A - Professional Development

06 - North American Mixing Forum

07 - Transport and Energy Processes

07A - Multi-Phase/Complex Fluids Transport

07B - Emerging Energy Processes

07C - Interfacial Transport

07D - Biotechnology and Microsystems

08 - Materials Engineering and Sciences Division

08A - Polymers

08B - Biomaterials

08D - Inorganic Materials

08E - Electronics and Photonics

08F - Composites

09 - Environmental Division

09A - Air

09B - Water

09C - Solid and Hazardous Waste

09D - Process Development

09F - Fundamentals

09G - Sustainability

09H - Climate Change

09I - Fossil Energy

10 - Computing and Systems Technology Division

10A - Systems and Process Design

10B - Systems and Process Control

10C - Systems and Process Operations

10D - Applied Mathematics and Numerical Analysis

10E - Information Management and Intelligent Systems

12 - Process Development Division

12A - Process Research and Innovation

12B - Pilot Plants

12C - Technology Transfer and Manufacturing

12E - Process Intensification & Microprocess Engineering

12G - Product Design

14 - Nuclear Engineering Division

15 - Food, Pharmaceutical & Bioengineering Division

15A - Food

15C - Bioengineering

15D - Engineering Fundamentals in Life Science

16 - Fuels and Petrochemicals Division

17 - Forest and Plant Bioproducts Division



Please refrain from photographing slides or taking video of sessions and presentations.

2023 ANNUAL MEETING PROGRAM GRID KEY

18 - Liaison Functions

18A - Miscellaneous

18B - Public Affairs and Information Committee (PAIC)

18C - Young Professionals Committee (YPC)

18D - Publication Committee

18E - Awards Committee

18J - Research and New Technology Committee (RANTC)

18K - Keynotes and Plenaries

18L - International Committee

18P - Climate Solutions

20 - Catalysis and Reaction Engineering Division

20A- Catalysis

20B- Reaction Engineering

21 - Computational Molecular Science and Engineering Forum

22 - Nanoscale Science and Engineering Forum

22A - Carbon Nanomaterials

22B - Bionanotechnology

22C - Nanomaterials for Energy Applications

23 - Sustainable Engineering Forum

23A - Sustainability Science and Engineering

23B - Sustainable Biorefineries

23C - Sustainable Energy

24 - Chemical Engineering & the Law Forum

26 - Pharmaceutical Discovery, Development and Manufacturing Forum

POSTERSESSIONS - Poster Sessions

STW - Sponsored Technology Workshops

T1 - Meet the Candidates Poster Sessions

T2 - Entrepreneurship in Chemical Engineering

T3 - Applications of Data Science to Molecules and Materials

T5 - Material Interfaces as Energy Solutions

T6 - Next-Gen Manufacturing

T6A - Next-Gen Manufacturing

T6C - 3D Printing

T7 - Regenerative Engineering Society

T8 - Decarbonization of the Chemical Industry through Electrification

T9 - Sensors for Sustainability

TC - Engineering for Inclusion

TCA - Minority Affairs Community (MAC)

TCB - Women in Chemical Engineering Community (WIC)

TCC - LGBTQ+ and Allies Community

TCD - Disabilities OutReach & Inclusion Community (DORIC)

TCE - The Role of Intersectionality in Chemical Engineering

TD - Innovations in Process Engineering

TDA - Green Process and Product Engineering

TDB - Process Intensification & Modular Chemical Processing

TH - Sustainable Pathways Toward Hydrogen and Synthetic Fuels

TJ - Waste Plastics

2023 TECHNICAL PROGRAM GRID

01A - Thermodynamics and Transport Properties				
Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	311	Development of Intermolecular Potential Models	Rainbow Spring I/II
Sunday	3:30 PM	611	Polymer thermodynamics, Self-Assembly, and Polymer-Molecule Interactions*	Celebration 12
Monday	8:00 AM	7	New Frontiers of Molecular Thermodynamics (Invited Talks)	Plaza International Ballroom I
Monday	8:00 AM	362	Faculty Candidates in CoMSEF/Area 1a, Session 1	Rainbow Spring I/II
Monday	12:30 PM	109	Special Session In Honor of Prof. Juan de Pablo's 60th Birthday (Invited talks)	Plaza International Ballroom I
Monday	12:30 PM	260	Symposium in Memory of Dennis Prieve and Eli Ruckenstein, II (Invited Talks)*	Orlando Ballroom N
Monday	3:30 PM	472	Symposium on Thermophysical Properties for Industry: Experiments and Models	Plaza International Ballroom I
Tuesday	8:00 AM	272	Computational Studies of Self-Assembly	Plaza International Ballroom I
Tuesday	8:00 AM	529	Properties and Phase Equilibria for Fuels and Petrochemicals*	Challenger 38/39
Tuesday	12:30 PM	416	Modeling of Lipid Membranes and Membrane Proteins	Celebration 8
Tuesday	3:30 PM	224	Poster Session: Thermodynamics and Transport Properties (Area 1A)	Regency Ballroom R/S
Tuesday	3:30 PM	515	Thermodynamics of Biomolecular Folding and Assembly	Celebration 9
Wednesday	8:00 AM	294	Applications of Molecular Modeling to Study Interfacial Phenomena*	Rock Spring I/II
Wednesday	8:00 AM	501	Thermodynamics at the Nanoscale	Plaza International Ballroom I
Wednesday	12:30 PM	346	Applications of Molecular Modeling to Study Interfacial Phenomena II*	Rock Spring I/II
Wednesday	12:30 PM	535	Thermophysical Properties and Phase Behavior I	Plaza International Ballroom I
Wednesday	3:30 PM	555	Thermophysical Properties and Phase Behavior II	Plaza International Ballroom I
Thursday	8:00 AM	574	Thermophysical Properties: Theory and Experiments for Charged Systems	Silver Spring I/II
Thursday	8:00 AM	588	The Industrial Fluid Properties Simulation Challenge*	Peacock Spring
Thursday	12:30 PM	465	Molecular Simulation and Modeling of Complex Molecules	Silver Spring I/II

01C - Interfacial Phenomena				
Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	546	Fundamentals of Interfacial Phenomena	Orlando Ballroom N
Sunday	3:30 PM	626	Solid-Liquid Interfaces	Plaza International Ballroom K
Monday	8:00 AM	184	Symposium in Memory of Dennis Prieve and Eli Ruckenstein, I (Invited Talks)	Orlando Ballroom N
Monday	8:00 AM	620	Self-Assembly in Solution	Plaza International Ballroom K

* This session is co-sponsored by one or more programming groups

This program is as of October 6, 2023. An up-to-date program is available at [aiche.org/annual](https://www.aiche.org/annual) and in the AICHEvents app.

2023 TECHNICAL PROGRAM GRID

Monday	12:30 PM	260	Symposium in Memory of Dennis Prieve and Eli Ruckenstein, II (Invited Talks)	Orlando Ballroom N
Monday	3:30 PM	322	Poster Session: Interfacial Phenomena (Area 1C)	Regency Ballroom R/S
Tuesday	8:00 AM	38	Area Plenary: Interfacial Phenomena (Invited Talks)	Orlando Ballroom N
Tuesday	12:30 PM	335	Plasma Catalysis*	Celebration 10
Tuesday	1:30 PM	137	Connecting the Dots in Industry (Invited Talks)	Orlando Ballroom N
Tuesday	3:30 PM	288	WIC Drop-in Mentoring*	Orlando Ballroom N
Tuesday	3:30 PM	421	Anisotropic Particles: Synthesis, Characterization, Modeling, Assembly, and Applications	Peacock Spring
Tuesday	3:30 PM	615	Modeling of Interfacial Systems	Plaza International Ballroom I
Wednesday	8:00 AM	294	Applications of Molecular Modeling to Study Interfacial Phenomena*	Rock Spring I/II
Wednesday	8:00 AM	383	Active Colloidal Systems	Orlando Ballroom N
Wednesday	8:00 AM	571	Interfacial Phenomena in Electrochemical and Electrokinetic Systems	Regency Ballroom P
Wednesday	12:30 PM	346	Applications of Molecular Modeling to Study Interfacial Phenomena II*	Rock Spring I/II
Wednesday	12:30 PM	481	Colloidal Dispersions	Orlando Ballroom N
Wednesday	12:30 PM	585	Interfacial Phenomena in Energy and Sustainability	Regency Ballroom P
Wednesday	3:30 PM	522	Dynamic Processes at Interfaces	Plaza International Ballroom J
Wednesday	3:30 PM	538	Emulsions and Foams	Orlando Ballroom N
Wednesday	3:30 PM	595	Interfacial Phenomena in Pharmaceuticals	Regency Ballroom P
Thursday	8:00 AM	608	Interfacial Processes at Biomembranes	Orlando Ballroom N
Thursday	12:30 PM	464	Biomolecules at Interfaces	Orlando Ballroom N
Thursday	3:30 PM	510	Directed and Self Assembly of Colloids	Orlando Ballroom N

01D - Transport Processes

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	647	Transport Phenomena in Polymers*	Celebration 13
Monday	12:30 PM	260	Symposium in Memory of Dennis Prieve and Eli Ruckenstein, II (Invited Talks)*	Orlando Ballroom N
Tuesday	12:30 PM	47	Fundamental Research in Transport Processes	Orlando Ballroom M
Tuesday	3:30 PM	155	Microscale Transport Processes	Orlando Ballroom M
Wednesday	12:30 PM	79	Advanced Treatment Technologies for Water I*	Blue Spring I/II

01E - Electrochemical Fundamentals

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	407	Transport and energy processes at electrochemical interfaces I*	Celebration 11
Monday	3:30 PM	326	Electrochemical Fundamentals: Faculty Candidate Session I	Orlando Ballroom M

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Monday	3:30 PM	450	Transport and energy processes at electrochemical interfaces II*	Celebration 11
Tuesday	8:00 AM	39	Tutorial Session on Electrochemical Methods, Systems and Applications (Invited Talks)	Orlando Ballroom M
Tuesday	8:00 AM	133	Decarbonization by Electrification*	Regency Ballroom O
Tuesday	8:00 AM	452	Charged and Ion-Containing Polymers: Membranes and Interfaces*	Celebration 13
Tuesday	12:30 PM	222	Decarbonization by Electrification: Reactors & Reactions 1*	Regency Ballroom O
Tuesday	12:30 PM	335	Plasma Catalysis*	Celebration 10
Tuesday	3:30 PM	292	Decarbonization by Electrification: Reactors & Reactions 2*	Regency Ballroom O
Tuesday	3:30 PM	712	Process Electrification Panel - Co-Organized by EPIXC*	Windermere Ballroom W
Tuesday	4:30 PM	713	Process Electrification Roundtable Discussions - Co-Organized by EPIXC*	Windermere Ballroom W
Wednesday	8:00 AM	344	Decarbonization by Electrification: Reactors & Reactions 3*	Regency Ballroom O
Wednesday	8:00 AM	384	Electrochemistry & Electrochemical Engineering for Environmental & Sustainability Applications	Orlando Ballroom M
Wednesday	12:30 PM	166	Electrochemical Separations Toward Sustainability: Analytical Techniques and Emerging Applications (Invited Talks)	Orlando Ballroom M
Wednesday	12:30 PM	391	Decarbonization by Electrification: Separations*	Regency Ballroom O
Wednesday	3:30 PM	242	Electrochemical Separations Toward Sustainability: Analytical Techniques and Emerging Applications II (Invited Talks)	Orlando Ballroom M
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O
Thursday	8:00 AM	435	Lithium & Beyond: Fundamental Advances in High Performance Batteries I	Orlando Ballroom M
Thursday	12:30 PM	308	Electrochemical Advances to Enable Efficient Oxygen, Hydrogen and Water Reactions I	Orlando Ballroom M

01F - High Pressure

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	179	Thermodynamic and Transport Properties Under Pressure	Orlando Ballroom M
Monday	8:00 AM	6	High Pressure Phase Equilibria and Modeling	Orlando Ballroom M
Monday	12:30 PM	108	Materials Synthesis and Processing with Compressed or Supercritical Fluids	Orlando Ballroom M
Tuesday	8:00 AM	529	Properties and Phase Equilibria for Fuels and Petrochemicals*	Challenger 38/39

01J - Fluid Mechanics

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	17	Plenary Session on Novel Flows (Invited Talks)	Plaza International Ballroom K
Monday	3:30 PM	116	Poster Session: Fluid Mechanics	Regency Ballroom R/S
Tuesday	8:00 AM	271	Colloidal Hydrodynamics	Plaza International Ballroom J
Tuesday	8:00 AM	328	Complex Fluids I	Plaza International Ballroom K
Tuesday	12:30 PM	218	Characterization of Biomaterials and Biological Systems	Plaza International Ballroom I

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Tuesday	12:30 PM	375	Complex Fluids II	Plaza International Ballroom K
Tuesday	12:30 PM	550	Particulate and Multiphase Flows: Emulsions, Bubbles, Droplets	Plaza International Ballroom J
Tuesday	1:00 PM	287	Meet the Industry Candidates Poster Session: Particle Technology Forum, North American Mixing Forum, and Fluid Mechanics*	Regency Ballroom R/S
Tuesday	3:30 PM	422	Data Science for Complex Fluids and Complex Flows	Plaza International Ballroom K
Tuesday	3:30 PM	532	Particulate and Multiphase Flows: Colloids and Polymers	Plaza International Ballroom J
Wednesday	8:00 AM	454	Interfacial and Non-Newtonian Flows	Plaza International Ballroom K
Wednesday	8:00 AM	572	Soft and Active Systems	Plaza International Ballroom J
Wednesday	12:30 PM	482	Microfluidic and Microscale Flows: Multiphase and Fields	Plaza International Ballroom K
Wednesday	12:30 PM	518	Nonlinear Flows and Combined Transport Processes	Plaza International Ballroom J
Wednesday	3:30 PM	504	Microfluidic and Microscale Flows: Separations and Particulates	Plaza International Ballroom K
Wednesday	3:30 PM	641	Polymer Viscoelasticity: Mechanics, Processing, and Rheology*	Celebration 13
Thursday	8:00 AM	540	Polymer Networks & Gels: Elastomers & Structure-Property Relationships*	Celebration 5

02 - Separations Division

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)	Barrel Spring I
Monday	8:00 AM	251	Advanced Separations Processes in Bioprocessing and Biomaterials*	Discovery 45
Tuesday	8:00 AM	133	Decarbonization by Electrification*	Regency Ballroom O
Tuesday	12:30 PM	55	Honorary Session for Prof. Steve Cramer I (Invited Talks)*	Coral Spring I/II
Tuesday	3:30 PM	152	Poster Session: Separations Division	Regency Ballroom R/S
Tuesday	3:30 PM	156	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies II*	Blue Spring I/II
Wednesday	12:30 PM	166	Electrochemical Separations Toward Sustainability: Analytical Techniques and Emerging Applications (Invited Talks)*	Orlando Ballroom M
Wednesday	12:30 PM	388	Ionic Liquids: Novel Separation, Catalytic reaction and Electrochemical Processes*	Bayhill 18
Wednesday	12:30 PM	391	Decarbonization by Electrification: Separations*	Regency Ballroom O
Wednesday	3:30 PM	34	Process Intensification and Modular Manufacturing: Intensified Reaction and Separation Processes*	Celebration 16
Wednesday	3:30 PM	242	Electrochemical Separations Toward Sustainability: Analytical Techniques and Emerging Applications II (Invited Talks)*	Orlando Ballroom M

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2023 TECHNICAL PROGRAM GRID

02A - Distillation and Absorption				
Day	Time	Session #	Session Title	Room
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Tuesday	8:00 AM	43	Distillation and Absorption Processes Fundamentals, Developments, Optimization, and Applications I	Manatee Spring II
Tuesday	12:30 PM	145	Distillation and Absorption Processes Fundamentals, Developments, Optimization, and Applications II	Peacock Spring
Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S
Tuesday	3:30 PM	156	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies II*	Blue Spring I/II

02B - Crystallization and Evaporation				
Day	Time	Session #	Session Title	Room
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Monday	12:30 PM	23	Plenary Session: Crystallization and Evaporation - Area 2B (Invited Talks)	Manatee Spring II
Monday	3:30 PM	324	Foreign Species and Crystallization: Impurity Rejection, Additives, Dopants, etc.	Manatee Spring II
Tuesday	12:30 PM	500	Special Topics in Crystallization: Energy, Sustainability, and Amorphous Precipitation	Manatee Spring II
Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S
Tuesday	3:30 PM	424	Nucleation and Growth	Manatee Spring II
Wednesday	8:00 AM	385	Modeling and Control of Crystallization	Manatee Spring II
Wednesday	12:30 PM	238	Crystallization and Precipitation of Pharmaceutical and Biological Molecules	Manatee Spring II
Wednesday	12:30 PM	302	Crystallization Case Studies from Industry	Peacock Spring
Thursday	8:00 AM	92	Crystallization in Process Development *	Bayhill 19
Thursday	8:00 AM	173	Continuous Crystallization Processes	Manatee Spring II
Thursday	12:30 PM	488	Solid Form Characterization and Development: Cocrystals, Salts, Solvates, Polymorphs, and Beyond	Manatee Spring II
Thursday	3:30 PM	467	PAT and Process Monitoring in Crystallization Development and Manufacturing	Manatee Spring II

02C - Extractions				
Day	Time	Session #	Session Title	Room
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Tuesday	8:00 AM	513	Developments in Extractive Separations: Processes	Barrel Spring II
Tuesday	12:30 PM	531	Developments in Extractive Separations: Solvents	Barrel Spring II
Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S

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2023 TECHNICAL PROGRAM GRID

02D - Membrane-Based Separations

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	619	Water Treatment Membrane Formation	Barrel Spring II
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Monday	8:00 AM	251	Advanced Separations Processes in Bioprocessing and Biomaterials*	Discovery 45
Monday	12:30 PM	22	Honorary Session for Prof. Rich Noble	Barrel Spring I
Monday	12:30 PM	612	Water Treatment Membrane Applications	Coral Spring I/II
Monday	3:30 PM	124	Honorary Session for Prof. Rich Noble II	Barrel Spring I
Monday	3:30 PM	498	Membrane-based Organic Solvent Separations	Peacock Spring
Tuesday	8:00 AM	211	Honorary Session for Prof. Rich Noble III	Barrel Spring I
Tuesday	8:00 AM	331	Frontiers in New Materials and Membranes for Bioseparations*	Coral Spring I/II
Tuesday	8:00 AM	415	Membrane Formation, Manufacturing, and Module Design	Bayhill 22
Tuesday	12:30 PM	285	Advanced Membranes for Carbon Capture and Sustainability	Bayhill 22
Tuesday	12:30 PM	593	Sustainable Membrane Fabrication and Manufacturing	Barrel Spring I
Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S
Tuesday	3:30 PM	453	Membrane Process Development and Process Intensification: Energy and Decarbonization	Barrel Spring I
Tuesday	3:30 PM	584	Nanoscale Water Treatment Membranes	Barrel Spring II
Wednesday	8:00 AM	479	Membrane Process Development and Process Intensification: Water, Pharma, and Chemicals	Barrel Spring I
Wednesday	8:00 AM	606	Synthesis and Characterization of Advanced Polymer Membranes for Gas and Vapor Separations	Coral Spring I/II
Wednesday	12:30 PM	391	Decarbonization by Electrification: Separations*	Regency Ballroom O
Wednesday	12:30 PM	520	Membranes Designed for Ion-Ion Separations I	Barrel Spring I
Wednesday	12:30 PM	573	Mixed Matrix and Hybrid Membranes	Bayhill 19
Wednesday	3:30 PM	34	Process Intensification and Modular Manufacturing: Intensified Reaction and Separation Processes*	Celebration 16
Wednesday	3:30 PM	353	Highly Selective Gas and Vapor Membrane Separations	Bayhill 19
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O
Wednesday	3:30 PM	539	Membranes Designed for Ion-Ion Separations II	Barrel Spring I
Thursday	8:00 AM	397	Inorganic and CMS Membranes for Gas and Vapor Separation	Bayhill 18
Thursday	8:00 AM	557	Membranes Designed for Solute Selective Separations	Barrel Spring I

02E - Adsorption and Ion Exchange

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Monday	12:30 PM	21	Area Plenary: Adsorption and Ion Exchange - In Honor of Prof James A Ritter (Invited Talks)	Manatee Spring I

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Monday	3:30 PM	412	Adsorption Applications for Sustainable Energy and Chemicals	Manatee Spring I
Monday	3:30 PM	622	PSA/TSA and Adsorption Processes Design and Scale-up	Barrel Spring II
Tuesday	8:00 AM	278	Adsorbent Materials	Regency Ballroom U
Tuesday	8:00 AM	569	Diffusion, Transport and Dynamics in Adsorption Systems	Manatee Spring I
Tuesday	12:30 PM	144	Area Plenary: Adsorption and Ion Exchange - In memory of Douglas M. Ruthven	Manatee Spring I
Tuesday	1:00 PM	706	Meet the Industry Candidates Poster Session: General Topics*	Regency Ballroom R/S
Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S
Tuesday	3:30 PM	225	Poster Session: Fundamentals and Applications of Adsorption and Ion Exchange	Regency Ballroom R/S
Wednesday	8:00 AM	478	Adsorption Processes for Energy Storage and Utilization	Manatee Spring I
Wednesday	8:00 AM	552	CO ₂ Capture by Adsorption II	Barrel Spring II
Wednesday	12:30 PM	350	Adsorbent Materials for Sustainable Energy and Chemicals	Barrel Spring II
Wednesday	12:30 PM	537	CO ₂ Capture By Adsorption I	Manatee Spring I
Wednesday	3:30 PM	462	Adsorption for Negative Emissions	Barrel Spring II
Wednesday	3:30 PM	506	Characterization of Adsorbent Materials	Manatee Spring I
Wednesday	3:30 PM	524	Chromatographic Separations and SMB	Peacock Spring
Thursday	8:00 AM	589	Experimental Methods in Adsorption	Barrel Spring II
Thursday	8:00 AM	599	Molecular and Data Science Modeling of Adsorption	Manatee Spring I
Thursday	12:30 PM	609	Molecular Simulations for Designing Adsorbents and Adsorption Processes I	Manatee Spring I
Thursday	12:30 PM	631	Structured Adsorbents: Beyond Pellets and Beads	Barrel Spring II
Thursday	3:30 PM	402	Adsorbent Materials: MOFs	Barrel Spring II
Thursday	3:30 PM	617	Molecular Simulations for Designing Adsorbents and Adsorption Processes II	Manatee Spring I

02F - Fluid-Particle Separations

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	97	Fluid Particle Separations in Energy and Environmental Systems	Coral Spring I/II
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Monday	12:30 PM	20	Advances in Fluid Particle Separations	Barrel Spring II
Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S

02G - Bio Separations

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Monday	3:30 PM	204	University/Industry Partnerships in Bioseparations (Invited Talks)	Coral Spring I/II
Tuesday	8:00 AM	331	Frontiers in New Materials and Membranes for Bioseparations	Coral Spring I/II
Tuesday	12:30 PM	55	Honorary Session for Prof. Steve Cramer I (Invited Talks)	Coral Spring I/II

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Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S
Tuesday	3:30 PM	160	Honorary Session for Prof. Steve Cramer II (Invited Talks)	Coral Spring I/II
Wednesday	12:30 PM	388	Ionic Liquids: Novel Separation, Catalytic reaction and Electrochemical Processes*	Bayhill 18
Wednesday	12:30 PM	389	Process Innovation in Bioseparations	Coral Spring I/II
Wednesday	3:30 PM	304	Advances in Bioseparations	Coral Spring I/II
Thursday	8:00 AM	507	Integrated Biorefineries: Technologies and TEA/LCA I*	Bayhill 29
Thursday	12:30 PM	526	Integrated Biorefineries: Technologies and TEA/LCA II*	Bayhill 29

02H - General Topics and Other Methods

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	11	Division Plenary: Gerhold and Kunesh Awards on Separations (Invited Talks)*	Barrel Spring I
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	3:30 PM	65	Poster Session: General Topics on Separations	Regency Ballroom R/S
Tuesday	3:30 PM	152	Poster Session: Separations Division*	Regency Ballroom R/S

03 - Particle Technology Forum

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	112	Invited: Celebrating 30 years of the PTF (The first 15 years)	Bayhill 21
Monday	3:30 PM	35	Invited: Celebrating 30 years of the PTF (Last 15 years)	Bayhill 21
Tuesday	1:00 PM	287	Meet the Industry Candidates Poster Session: Particle Technology Forum, North American Mixing Forum, and Fluid Mechanics*	Regency Ballroom R/S
Wednesday	12:30 PM	237	Particle Technology Forum Award Presentations	Bayhill 21
Wednesday	3:30 PM	303	Poster Session: Particle Technology Forum	Regency Ballroom R/S

03A - Particle Production and Characterization

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	255	Particle Formation Processes	Bayhill 21
Monday	12:30 PM	113	Particle Characterization	Bayhill 19
Tuesday	12:30 PM	333	Particulate Process Modeling and Product Design	Bayhill 19
Tuesday	3:30 PM	230	Particle Engineering Applications: Additive Manufacturing, Energy Storage and Carbon Capture	Bayhill 19
Wednesday	8:00 AM	74	Particle Breakage	Bayhill 19

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03B - Fluidization and Fluid-Particle Systems

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	103	Fluidization: Fundamentals	Bayhill 20
Tuesday	8:00 AM	210	Fluidization: Modeling	Bayhill 21
Tuesday	12:30 PM	53	Fluidization: Experimental Investigation and Modeling of Fluidization Processes	Bayhill 21
Tuesday	3:30 PM	290	Honorary Session: Ray Cocco's Special Topics	Bayhill 21

03C - Solids Flow, Handling and Processing

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	442	Pharmaceutical Powder and Particulate Systems	Bayhill 19
Sunday	3:30 PM	492	Powder handling and processing for battery materials	Bayhill 18
Monday	8:00 AM	404	Particulate Systems: Solids Handling, Processing, Conveying, Separation, and Heat Transfer	Bayhill 19
Monday	12:30 PM	194	Particle Technology in Product Design and Manufacturing	Bayhill 20
Monday	3:30 PM	473	Powder and Particulate Characterization and Measurement	Bayhill 19
Tuesday	8:00 AM	276	Particulate Mixing and Segregation	Bayhill 20
Tuesday	12:30 PM	334	Particulate Systems: Dynamics and Modeling: Applications	Bayhill 20
Tuesday	3:30 PM	381	Particulate Systems: Dynamics and Modeling: Discrete/Continuum Models	Bayhill 20
Thursday	8:00 AM	92	Crystallization in Process Development	Bayhill 19

03D - Nanoparticles

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	182	Novel Nanoparticles and Nanostructured Catalysis for Energy and Environmental Applications	Bayhill 20
Monday	3:30 PM	123	Nanostructured Materials for Pharmaceutical Applications	Bayhill 20
Tuesday	8:00 AM	275	Novel Nanoparticles and Nanostructured Materials for Pharmaceuticals and Medical Applications	Bayhill 19
Tuesday	8:00 AM	549	Cellulose Nano Materials - Crystalline, Fibrous, Gels, Films and Foams for broad applications in medical, energy and the environment. *	Challenger 41/42
Wednesday	8:00 AM	73	Functional Nanoparticles and Nanocomposites	Bayhill 21

04 - Education

Day	Time	Session #	Session Title	Room
Sunday	12:30 PM	249	In Memory of Professor Daniel Lepek (Invited Talks)	Bayhill 22
Monday	8:00 AM	494	Hands-on Activities for Learning ChemE	Bayhill 17
Monday	8:00 AM	577	Sustainability and global impact in the ChE classroom	Bayhill 29
Monday	12:30 PM	445	Engaged Teaching and Learning	Bayhill 30

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Monday	3:30 PM	564	Student Support and Mentoring	Bayhill 30
Monday	4:45 PM	528	Preparing Students for Industry	Bayhill 28
Tuesday	8:00 AM	128	In Honor of Prof. Liang-Shih Fan, the 2022 Recipient of the Warren K. Lewis Award I (Invited Talks)	Regency Ballroom P
Tuesday	8:00 AM	414	Computing and Simulation in the ChE Curriculum	Bayhill 30
Tuesday	12:30 PM	46	Education Division Awards Plenary (Invited Talks)	Bayhill 30
Tuesday	12:30 PM	54	Experiences in Teaching Process Safety*	Bayhill 29
Tuesday	12:30 PM	217	In Honor of Prof. Liang-Shih Fan, the 2022 Recipient of the Warren K. Lewis Award II (Invited Talks)	Regency Ballroom P
Tuesday	3:30 PM	379	Poster Session: Chemical Engineering Education	Regency Ballroom R/S
Wednesday	8:00 AM	476	Faculty Professional Development - Talks and Workshop	Bayhill 17
Wednesday	12:30 PM	348	Entrepreneurial Mindset and Chemical Engineering (Invited talks)	Bayhill 17
Wednesday	12:30 PM	517	Inclusive Classroom Strategies	Bayhill 30
Wednesday	3:30 PM	554	Social Justice and Societal Impact in Chemical Engineering	Bayhill 30

04A - Undergraduate Education

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	259	Unit Operations Laboratory	Bayhill 28
Tuesday	8:00 AM	129	Teaching Survey Results and Best Practices: ChE Electives and Process Safety (Invited Talks)	Bayhill 29
Wednesday	8:00 AM	233	Teaching Transport Phenomena	Bayhill 30
Wednesday	12:30 PM	78	ABET Updates and Insights (Invited Talks)	Bayhill 22

04B - Graduate Education

Day	Time	Session #	Session Title	Room
Monday	3:30 PM	25	Graduate Education and Support	Bayhill 28

04G - Professional Development Committee Liaison

Day	Time	Session #	Session Title	Room
Sunday	9:30 AM	1	Workshop: Effective Teaching for New or Prospective Faculty	Bayhill 22

04H - Career Guidance Committee Liaison

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	178	Workshop: Career Planning for Prospective Faculty	Bayhill 22
Monday	12:30 PM	16	Introduction to NSF's CBET Division and Proposal Writing Strategies	Bayhill 29
Monday	3:30 PM	120	New Funding Opportunities at NSF and Program Officer Panel Discussion	Bayhill 29

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2023 TECHNICAL PROGRAM GRID

04K - Department Heads Forum

Day	Time	Session #	Session Title	Room
Wednesday	8:00 AM	70	Department Heads Forum (Invited Talks)	Bayhill 22

04M - Young Faculty Forum

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	5	New Faculty Forum (Invited Talks)	Bayhill 30

05 - Management Division

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	254	Undergraduate Research Presentations - Chemicals, Biotechnology, and Environment*	Bayhill 32
Monday	12:30 PM	190	Leading and Managing Industry-Academia Collaborations and Partnerships	Bayhill 17
Monday	12:30 PM	318	Undergraduate Research Presentations - Energy, Materials, and Petrochemicals*	Bayhill 32
Monday	3:30 PM	121	Leadership and Management of Sustainable Solutions in Industry	Bayhill 17
Tuesday	8:00 AM	132	Sustainability in the Pharmaceutical Industry (Invited Talks)*	Celebration 6
Tuesday	8:00 AM	330	Non-Traditional Career Opportunities in Chemical Engineering for MBA's, Legal Practitioners, and Ph.D.'s	Bayhill 17
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	140	Three Minute Thesis (3MT®) Competition*	Regency Ballroom Q
Tuesday	12:30 PM	284	Management Award: Leading and Persevering Through Failure	Bayhill 17
Tuesday	3:30 PM	228	TikTok Talk: Simplifying Technical Presentations for Everyone (Science Communication Workshop)*	Regency Ballroom Q
Tuesday	3:30 PM	380	Young Leader Award: Connecting Innovation and Sustainability for Positive Impacts and Value Creation	Bayhill 17
Wednesday	12:30 PM	348	Entrepreneurial Mindset and Chemical Engineering (Invited talks)*	Bayhill 17
Wednesday	3:30 PM	89	Innovation and Entrepreneurship in Chemical Engineering	Bayhill 17
Thursday	12:30 PM	93	Extreme Weather and Natural Disasters - An Environmental and Legal Perspective*	Blue Spring I/II

05A - Professional Development

Day	Time	Session #	Session Title	Room
Tuesday	3:30 PM	228	TikTok Talk: Simplifying Technical Presentations for Everyone (Science Communication Workshop)*	Regency Ballroom Q

06 - North American Mixing Forum

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	313	Mixing in Biotechnology, Food & Beverage, and Agriculture Sectors	Bayhill 31
Monday	12:30 PM	192	Advances in Computational Analyses of Mixing Processes: Fundamentals	Bayhill 31

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Monday	3:30 PM	122	Advances in Computational Analyses of Mixing Processes: Applications	Bayhill 31
Tuesday	8:00 AM	371	Mixing in Multiphase Systems: Computational Modeling	Bayhill 31
Tuesday	1:00 PM	287	Meet the Industry Candidates Poster Session: Particle Technology Forum, North American Mixing Forum, and Fluid Mechanics*	Regency Ballroom R/S
Tuesday	3:30 PM	423	Mixing in Multiphase Systems: Experiments and Validation of Computational Models	Bayhill 30
Wednesday	8:00 AM	456	Mixing Scale-Up and Scale-Down Issues in Pharmaceutical & Biopharmaceutical Processes	Bayhill 31
Wednesday	12:30 PM	301	Experimental Investigations of Mixing Processes	Bayhill 31
Wednesday	3:30 PM	90	Division Plenary: North American Mixing Forum Awards Session (Invited Talks)	Bayhill 31

07 - Transport and Energy Processes

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces*	Celebration 10
Monday	8:00 AM	316	TEP Graduate Student Award Session	Celebration 11
Monday	12:30 PM	407	Transport and energy processes at electrochemical interfaces I	Celebration 11
Monday	3:30 PM	126	Material Interfaces for Clean Energy: Fundamentals and Applications*	Celebration 10
Monday	3:30 PM	450	Transport and energy processes at electrochemical interfaces II	Celebration 11
Tuesday	8:00 AM	280	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production	Celebration 11
Tuesday	12:30 PM	48	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies I*	Blue Spring I/II
Tuesday	12:30 PM	146	Advanced Electrochemical Energy Storage Technologies I	Celebration 11
Tuesday	12:30 PM	551	Recent Developments in Fuel Processing for Hydrogen Production I*	Challenger 38/39
Tuesday	3:30 PM	232	Advanced Electrochemical Energy Storage Technologies II	Celebration 11
Tuesday	3:30 PM	570	Recent Developments in Fuel Processing for Hydrogen Production II*	Challenger 38/39
Wednesday	8:00 AM	392	Thermal Energy Storage	Celebration 11
Wednesday	12:30 PM	480	Transport In Advanced Fuel Cell and Water Electrolyzer Technologies	Celebration 11
Wednesday	3:30 PM	87	Poster Session: Transport and Energy Processes Division	Regency Ballroom R/S

07A - Multi-Phase/Complex Fluids Transport

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	316	TEP Graduate Student Award Session*	Celebration 11
Tuesday	8:00 AM	280	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production*	Celebration 11
Tuesday	12:30 PM	146	Advanced Electrochemical Energy Storage Technologies I*	Celebration 11
Tuesday	3:30 PM	232	Advanced Electrochemical Energy Storage Technologies II*	Celebration 11
Wednesday	8:00 AM	392	Thermal Energy Storage*	Celebration 11
Wednesday	12:30 PM	480	Transport In Advanced Fuel Cell and Water Electrolyzer Technologies*	Celebration 11

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2023 TECHNICAL PROGRAM GRID

07B - Emerging Energy Processes

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces*	Celebration 10
Monday	8:00 AM	316	TEP Graduate Student Award Session*	Celebration 11
Monday	12:30 PM	407	Transport and energy processes at electrochemical interfaces I*	Celebration 11
Monday	3:30 PM	450	Transport and energy processes at electrochemical interfaces II*	Celebration 11
Tuesday	8:00 AM	280	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production*	Celebration 11
Tuesday	12:30 PM	48	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies I*	Blue Spring I/II
Tuesday	12:30 PM	146	Advanced Electrochemical Energy Storage Technologies I*	Celebration 11
Tuesday	12:30 PM	335	Plasma Catalysis*	Celebration 10
Tuesday	3:30 PM	232	Advanced Electrochemical Energy Storage Technologies II*	Celebration 11
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Wednesday	8:00 AM	392	Thermal Energy Storage*	Celebration 11
Wednesday	12:30 PM	480	Transport In Advanced Fuel Cell and Water Electrolyzer Technologies*	Celebration 11
Wednesday	3:30 PM	87	Poster Session: Transport and Energy Processes Division*	Regency Ballroom R/S

07C - Interfacial Transport

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces*	Celebration 10
Monday	8:00 AM	316	TEP Graduate Student Award Session*	Celebration 11
Monday	12:30 PM	407	Transport and energy processes at electrochemical interfaces I*	Celebration 11
Tuesday	8:00 AM	280	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production*	Celebration 11
Tuesday	12:30 PM	146	Advanced Electrochemical Energy Storage Technologies I*	Celebration 11
Tuesday	3:30 PM	232	Advanced Electrochemical Energy Storage Technologies II*	Celebration 11
Wednesday	8:00 AM	392	Thermal Energy Storage*	Celebration 11
Wednesday	12:30 PM	480	Transport In Advanced Fuel Cell and Water Electrolyzer Technologies*	Celebration 11

07D - Biotechnology and Microsystems

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	254	Undergraduate Research Presentations - Chemicals, Biotechnology, and Environment*	Bayhill 32
Monday	8:00 AM	316	TEP Graduate Student Award Session*	Celebration 11
Tuesday	8:00 AM	280	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production*	Celebration 11
Tuesday	12:30 PM	146	Advanced Electrochemical Energy Storage Technologies I*	Celebration 11
Tuesday	3:30 PM	232	Advanced Electrochemical Energy Storage Technologies II*	Celebration 11
Wednesday	8:00 AM	392	Thermal Energy Storage*	Celebration 11
Wednesday	12:30 PM	480	Transport In Advanced Fuel Cell and Water Electrolyzer Technologies*	Celebration 11

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2023 TECHNICAL PROGRAM GRID

08 - Materials Engineering and Sciences Division

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	187	3D Printing Novel Methods and Applications*	Bayhill 33
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces*	Celebration 10
Monday	12:30 PM	24	Materials Interfaces - Celebrating the Career of John Ekerdt*	Celebration 10
Monday	12:30 PM	109	Special Session In Honor of Prof. Juan de Pablo's 60th Birthday (Invited talks)*	Plaza International Ballroom I
Monday	12:30 PM	318	Undergraduate Research Presentations - Energy, Materials, and Petrochemicals*	Bayhill 32
Monday	12:30 PM	321	3D Printing of Functional Materials*	Bayhill 33
Monday	3:30 PM	126	Material Interfaces for Clean Energy: Fundamentals and Applications*	Celebration 10
Monday	3:30 PM	267	3D Printing of Composites*	Bayhill 33
Tuesday	8:00 AM	212	Material Interfaces for Energy Applications *	Celebration 10
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	335	Plasma Catalysis*	Celebration 10
Wednesday	8:00 AM	72	Division Plenary: Materials Engineering & Sciences Division (Invited Talks)	Celebration 5
Thursday	8:00 AM	396	Biopolymers*	Celebration 9

08A - Polymers

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	4	3D Printing Fundamentals and Applications*	Bayhill 33
Sunday	3:30 PM	611	Polymer thermodynamics, Self-Assembly, and Polymer-Molecule Interactions	Celebration 12
Sunday	3:30 PM	647	Transport Phenomena in Polymers	Celebration 13
Monday	8:00 AM	102	Area Plenary: Emerging Areas in Polymer Science and Engineering I (Invited Talks)	Celebration 5
Monday	8:00 AM	621	Polymer Thermodynamics, Self-Assembly, and Polymer-Molecule Interactions II	Celebration 12
Monday	12:30 PM	24	Materials Interfaces - Celebrating the Career of John Ekerdt*	Celebration 10
Monday	12:30 PM	191	Area Plenary: Emerging Areas in Polymer Science and Engineering II (Invited Talks)	Celebration 5
Monday	12:30 PM	447	Two-Dimensional Materials and Thin Films*	Celebration 13
Monday	12:30 PM	602	Polymer Synthesis and Reaction Engineering	Celebration 12
Monday	3:30 PM	201	Conversion of plastic wastes to high value products*	Bayhill 18
Monday	3:30 PM	266	Rising Stars in Industry – Polymers Research (Invited Talks)	Celebration 5
Monday	3:30 PM	367	Multifunctional Composites*	Celebration 14
Monday	3:30 PM	410	Charged and Ion-Containing Polymers: General Topics	Celebration 13
Tuesday	8:00 AM	452	Charged and Ion-Containing Polymers: Membranes and Interfaces	Celebration 13
Tuesday	8:00 AM	651	Transport Phenomena in Polymers 2	Celebration 14
Tuesday	12:30 PM	376	MOFs, COFs, and Porous Polymer Materials I*	Celebration 14

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2023 TECHNICAL PROGRAM GRID

Tuesday	12:30 PM	378	Polymers in Additive Manufacturing I*	Bayhill 33
Tuesday	12:30 PM	475	Charged and Ion-Containing Polymers: Polyelectrolyte Complexes and Coacervates	Celebration 13
Tuesday	12:30 PM	499	Excellence in Graduate Student Research (Area 08A)	Celebration 5
Tuesday	3:30 PM	338	Poster Session: Materials Engineering & Sciences (08A - Polymers)	Regency Ballroom R/S
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Tuesday	3:30 PM	425	Polymers in Additive Manufacturing II*	Bayhill 33
Tuesday	3:30 PM	532	Particulate and Multiphase Flows: Colloids and Polymers*	Plaza International Ballroom J
Wednesday	12:30 PM	587	Polymer Simulations	Celebration 10
Wednesday	12:30 PM	644	Polymers for Energy Storage and Conversion	Celebration 13
Wednesday	3:30 PM	597	Polymer Simulations 2	Celebration 10
Wednesday	3:30 PM	641	Polymer Viscoelasticity: Mechanics, Processing, and Rheology	Celebration 13
Thursday	8:00 AM	396	Biopolymers	Celebration 9
Thursday	8:00 AM	540	Polymer Networks & Gels: Elastomers & Structure-Property Relationships	Celebration 5
Thursday	8:00 AM	630	Polymer Thin Films, Confinement, and Interfaces	Celebration 10
Thursday	12:30 PM	542	Biomimetic Materials*	Celebration 12
Thursday	12:30 PM	558	Polymer Networks & Gels: Hydrogels & Soft Materials	Celebration 5
Thursday	12:30 PM	637	Polymer Thin Films, Confinement, and Interfaces 2	Celebration 10
Thursday	3:30 PM	527	Polymer Crystallization and Semi-Crystalline Polymers	Celebration 13
Thursday	3:30 PM	576	Polymer Networks & Gels: Reprocessing & Vitrimers	Celebration 5

08B - Biomaterials

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	441	Biomaterials in Industry and the Clinic	Celebration 9
Sunday	3:30 PM	469	Biomaterials Science and Engineering: Faculty Candidates	Celebration 5
Monday	8:00 AM	495	Biomaterials Science and Engineering: Faculty Candidates II	Celebration 9
Monday	12:30 PM	19	Area Plenary: Leaders in Biomaterials (Invited Talks)	Celebration 9
Monday	12:30 PM	446	Biodegradable Polymers from Renewable & Waste Resources and Biocomposites from Industrial Coproduces and Natural Fibers*	Discovery 46
Monday	3:30 PM	265	Biomaterials for Drug Delivery I: Particle Platform	Celebration 12
Tuesday	8:00 AM	549	Cellulose Nano Materials - Crystalline, Fibrous, Gels, Films and Foams for broad applications in medical, energy and the environment. *	Challenger 41/42
Tuesday	8:00 AM	568	Hydrogel Biomaterials I: Cell-Instructive Platforms	Celebration 12
Tuesday	12:30 PM	580	Hydrogel Biomaterials II: Emerging Applications	Celebration 12
Tuesday	3:30 PM	150	Poster Session: Materials Engineering & Sciences (08B - Biomaterials)	Regency Ballroom R/S
Wednesday	12:30 PM	519	Biomaterials: Graduate Student Award Session and IDEAL Discussion Panel	Celebration 5
Wednesday	3:30 PM	351	Biomaterials for Drug Delivery II: Hydrogel Platform	Celebration 12
Wednesday	3:30 PM	395	Biomaterials I: Building Blocks for Novel Functionalities	Celebration 5

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Thursday	8:00 AM	396	Biopolymers*	Celebration 9
Thursday	8:00 AM	436	Biomaterials II: Applications in Healthcare and Beyond	Celebration 13
Thursday	8:00 AM	598	Hydrogel Biomaterials III: Design and Characterization	Celebration 12
Thursday	12:30 PM	247	Biomaterial Scaffolds for Tissue Engineering	Celebration 13
Thursday	12:30 PM	542	Biomimetic Materials	Celebration 12
Thursday	3:30 PM	560	Biomimetic Materials II	Celebration 12

08D - Inorganic Materials

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	403	Synthesis and Application of Inorganic Materials	Celebration 13
Monday	12:30 PM	24	Materials Interfaces - Celebrating the Career of John Ekerdt*	Celebration 10
Monday	12:30 PM	447	Two-Dimensional Materials and Thin Films	Celebration 13
Tuesday	12:30 PM	376	MOFs, COFs, and Porous Polymer Materials I	Celebration 14
Tuesday	3:30 PM	63	Poster Session: Materials Engineering & Sciences (08D - Inorganic Materials)	Regency Ballroom R/S
Wednesday	12:30 PM	349	MOFs, COFs and Porous Polymer Materials II	Celebration 9
Thursday	8:00 AM	307	Application of Inorganic Materials	Celebration 14
Thursday	12:30 PM	174	Accelerated Discovery of Inorganic Materials: High-Throughput Experiments, Modeling, and Data Science	Celebration 14
Thursday	3:30 PM	248	AIChE Inorganic Materials Graduate Student Award, Sponsored by Chevron	Celebration 14

08E - Electronics and Photonics

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	24	Materials Interfaces - Celebrating the Career of John Ekerdt*	Celebration 10
Monday	3:30 PM	411	Materials for Quantum Science	Celebration 9
Tuesday	8:00 AM	209	Electronic and Photonic Materials: Graduate Student Awards	Celebration 5
Tuesday	8:00 AM	274	Fundamental Theory and Characterization of Optoelectronic Materials	Celebration 9
Tuesday	12:30 PM	50	Area Plenary: Leaders in Electronic and Photonic Materials (Invited Talks from Industry and Academia)	Celebration 9
Tuesday	3:30 PM	151	Poster Session: Materials Engineering & Sciences (08E - Electronic and Photonic Materials)	Regency Ballroom R/S
Wednesday	3:30 PM	461	Understanding Perovskite Semiconductors	Celebration 9
Thursday	12:30 PM	358	Materials and Devices: From Energy Generation to Efficient Usage	Celebration 9
Thursday	3:30 PM	401	Materials for Effective Energy Storage	Celebration 9

08F - Composites

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	181	Advanced Manufacturing of Composites	Celebration 14
Monday	8:00 AM	312	Fibers and Coatings: 1D and 2D Composites	Celebration 14
Monday	12:30 PM	24	Materials Interfaces - Celebrating the Career of John Ekerdt*	Celebration 10

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2023 TECHNICAL PROGRAM GRID

Monday	12:30 PM	261	Bio-inspired Composites	Celebration 14
Monday	3:30 PM	267	3D Printing of Composites*	Bayhill 33
Monday	3:30 PM	367	Multifunctional Composites	Celebration 14
Tuesday	3:30 PM	64	Poster Session: Materials Engineering & Sciences (08F - Composite Materials)	Regency Ballroom R/S
Wednesday	12:30 PM	167	Advanced Hybrid Materials	Celebration 14
Wednesday	12:30 PM	644	Polymers for Energy Storage and Conversion*	Celebration 13
Wednesday	3:30 PM	431	Sustainable Composites	Celebration 14
Thursday	8:00 AM	630	Polymer Thin Films, Confinement, and Interfaces*	Celebration 10

09 - Environmental Division

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	8	Environmental Division Awards and Honors (Invited Talks)	Blue Spring I/II
Monday	8:00 AM	252	Advances in Petroleum Production and Refining*	Challenger 38/39
Monday	8:00 AM	254	Undergraduate Research Presentations - Chemicals, Biotechnology, and Environment*	Bayhill 32
Monday	12:30 PM	188	Emerging Frontiers in Environmental Chemical Engineering	Rainbow Spring I/II
Monday	3:30 PM	117	Poster Session: Environmental Division	Regency Ballroom R/S
Monday	3:30 PM	449	Developments in Shale Gas and Natural Gas*	Challenger 41/42
Monday	3:30 PM	711	CSPI Townhall - Climate Change Policy*	Silver Spring I/II
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	284	Management Award: Leading and Persevering Through Failure*	Bayhill 17
Tuesday	12:30 PM	551	Recent Developments in Fuel Processing for Hydrogen Production I*	Challenger 38/39
Tuesday	3:30 PM	570	Recent Developments in Fuel Processing for Hydrogen Production II*	Challenger 38/39
Wednesday	3:30 PM	83	Poster Session: Fuels and Petrochemicals Division*	Regency Ballroom R/S
Thursday	12:30 PM	356	Applied Math for Energy and Environmental Applications*	Bayhill 23

09A - Air

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	12	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels I*	Columbia 36
Monday	12:30 PM	115	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels II*	Columbia 36
Monday	3:30 PM	205	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels III*	Columbia 36
Tuesday	8:00 AM	279	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels IV*	Columbia 36
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	48	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies I*	Blue Spring I/II
Tuesday	12:30 PM	336	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels V*	Columbia 36
Tuesday	1:00 PM	706	Meet the Industry Candidates Poster Session: General Topics*	Regency Ballroom R/S

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Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Wednesday	8:00 AM	71	Atmospheric Chemistry and Physics: Laboratory, Modeling, and Field Studies	Silver Spring I/II

09B - Water

Day	Time	Session #	Session Title	Room
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Wednesday	8:00 AM	297	Water Reuse and Recycling	Blue Spring I/II
Wednesday	12:30 PM	79	Advanced Treatment Technologies for Water I	Blue Spring I/II
Wednesday	3:30 PM	169	Advanced Treatment Technologies for Water II	Blue Spring I/II
Thursday	8:00 AM	245	Remediation of Emerging Contaminants and Legacy Compounds	Blue Spring I/II

09C - Solid and Hazardous Waste

Day	Time	Session #	Session Title	Room
Tuesday	8:00 AM	131	Waste Plastic - Recycle, Reuse and Remediation Strategies I	Rainbow Spring I/II
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	3:30 PM	227	Waste Plastic - Recycle, Reuse and Remediation Strategies II	Rainbow Spring I/II
Wednesday	8:00 AM	162	Environmental Advance in Nuclear and Hazardous Waste Processing and Disposal*	Atlantic
Thursday	8:00 AM	91	Fundamentals and Applications for Municipal Solid Waste Treatment and Valorization	Rainbow Spring I/II
Thursday	12:30 PM	94	Fundamentals and Applications for Waste Treatment and Valorization I*	Rainbow Spring I/II

09D - Process Development

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	496	Fuel and Energy Decarbonization*	Regency Ballroom O
Monday	12:30 PM	591	Value-Added Chemicals from Natural Gas*	Challenger 41/42
Tuesday	3:30 PM	68	Advances in Life Cycle Assessment*	Regency Ballroom U
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Wednesday	8:00 AM	428	Resilient and Sustainable Supply Chains and Product Systems*	Regency Ballroom U
Wednesday	12:30 PM	389	Process Innovation in Bioprocesses*	Coral Spring I/II
Wednesday	3:30 PM	34	Process Intensification and Modular Manufacturing: Intensified Reaction and Separation Processes*	Celebration 16
Wednesday	3:30 PM	243	Sustainable Fuel from Renewable Resources*	Silver Spring I/II
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O
Thursday	8:00 AM	398	Design, Analysis, and Optimization of Sustainable Energy Systems and Supply Chains I*	Plaza International Ballroom K
Thursday	8:00 AM	399	Process Design: Innovation for Sustainability*	Plaza International Ballroom J

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2023 TECHNICAL PROGRAM GRID

09E - Legislation and Regulation

Day	Time	Session #	Session Title	Room
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Thursday	12:30 PM	93	Extreme Weather and Natural Disasters - An Environmental and Legal Perspective	Blue Spring I/II

09F - Fundamentals

Day	Time	Session #	Session Title	Room
Tuesday	8:00 AM	273	Sustainability Fundamentals and Metrics Applications	Silver Spring I/II
Tuesday	12:30 PM	219	Fundamentals of Environmental Kinetics and Food, Energy, and Water Systems	Silver Spring I/II
Thursday	12:30 PM	94	Fundamentals and Applications for Waste Treatment and Valorization I	Rainbow Spring I/II
Thursday	3:30 PM	176	Fundamentals and Applications for Waste Treatment and Valorization II	Rainbow Spring I/II

09G - Sustainability

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	12	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels I*	Columbia 36
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces*	Celebration 10
Monday	11:00 AM	14	Featured MPC Session: Sustainability and the Circular Economy Panel Discussion*	Plaza International Ballroom G/H
Monday	12:30 PM	115	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels II*	Columbia 36
Monday	12:30 PM	188	Emerging Frontiers in Environmental Chemical Engineering *	Rainbow Spring I/II
Monday	3:30 PM	121	Leadership and Management of Sustainable Solutions in Industry*	Bayhill 17
Monday	3:30 PM	205	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels III*	Columbia 36
Monday	3:30 PM	449	Developments in Shale Gas and Natural Gas*	Challenger 41/42
Tuesday	8:00 AM	133	Decarbonization by Electrification*	Regency Ballroom O
Tuesday	8:00 AM	279	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels IV*	Columbia 36
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	139	Breakthroughs in Sustainable Chemical Production and Process *	Bayhill 18
Tuesday	12:30 PM	222	Decarbonization by Electrification: Reactors & Reactions 1*	Regency Ballroom O
Tuesday	12:30 PM	284	Management Award: Leading and Persevering Through Failure*	Bayhill 17
Tuesday	12:30 PM	336	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels V*	Columbia 36
Tuesday	3:30 PM	156	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies II*	Blue Spring I/II
Tuesday	3:30 PM	292	Decarbonization by Electrification: Reactors & Reactions 2*	Regency Ballroom O
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Wednesday	8:00 AM	344	Decarbonization by Electrification: Reactors & Reactions 3*	Regency Ballroom O
Wednesday	12:30 PM	80	CO ₂ Industrial, Engineering and R&D Approaches	Silver Spring I/II
Wednesday	12:30 PM	391	Decarbonization by Electrification: Separations*	Regency Ballroom O

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2023 TECHNICAL PROGRAM GRID

Wednesday	3:30 PM	243	Sustainable Fuel from Renewable Resources	Silver Spring I/II
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O
Thursday	12:30 PM	356	Applied Math for Energy and Environmental Applications*	Bayhill 23
Thursday	3:30 PM	175	Environmental Issues involving Biochar	Blue Spring I/II

09H - Climate Change

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	18	Design and Analysis of Carbon Capture and Negative Emissions Technologies - Experimental	Blue Spring I/II
Monday	3:30 PM	121	Leadership and Management of Sustainable Solutions in Industry*	Bayhill 17
Tuesday	8:00 AM	130	Design and Analysis of Carbon Capture and Negative Emissions Technologies - Models	Blue Spring I/II
Tuesday	8:00 AM	133	Decarbonization by Electrification*	Regency Ballroom O
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	48	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies I*	Blue Spring I/II
Tuesday	12:30 PM	222	Decarbonization by Electrification: Reactors & Reactions 1*	Regency Ballroom O
Tuesday	3:30 PM	156	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies II*	Blue Spring I/II
Tuesday	3:30 PM	226	Design and Optimization of Integrated Energy Systems	Silver Spring I/II
Tuesday	3:30 PM	292	Decarbonization by Electrification: Reactors & Reactions 2*	Regency Ballroom O
Wednesday	8:00 AM	344	Decarbonization by Electrification: Reactors & Reactions 3*	Regency Ballroom O
Wednesday	8:00 AM	455	New processes for efficient CO ₂ capture and utilization under mild conditions*	Bayhill 18
Wednesday	12:30 PM	80	CO ₂ Industrial, Engineering and R&D Approaches*	Silver Spring I/II
Wednesday	12:30 PM	391	Decarbonization by Electrification: Separations*	Regency Ballroom O
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O

09I - Fossil Energy

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	252	Advances in Petroleum Production and Refining*	Challenger 38/39
Monday	3:30 PM	449	Developments in Shale Gas and Natural Gas*	Challenger 41/42
Tuesday	8:00 AM	529	Properties and Phase Equilibria for Fuels and Petrochemicals*	Challenger 38/39
Tuesday	12:30 PM	48	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies I	Blue Spring I/II
Tuesday	12:30 PM	551	Recent Developments in Fuel Processing for Hydrogen Production I*	Challenger 38/39
Tuesday	3:30 PM	156	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies II	Blue Spring I/II
Tuesday	3:30 PM	570	Recent Developments in Fuel Processing for Hydrogen Production II*	Challenger 38/39
Tuesday	3:30 PM	582	Unconventional Oil and Natural Gas: Science & Technology Advancement*	Columbia 37

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2023 TECHNICAL PROGRAM GRID

10 - Computing Systems and Technology Division

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	99	Division Plenary: CAST (Invited Talks)	Regency Ballroom Q
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces*	Celebration 10
Monday	12:30 PM	15	CAST Director's Student Presentation Award Finalists (Invited Talks)	Bayhill 23
Tuesday	9:15 AM	714	Combining Machine Learning and Simulation for the Virtual Optimisation of Bulk Solids Handling Processes at the Micro and Macro Scales*	Gulf
Tuesday	12:30 PM	216	Software Tools and Implementations for Process Systems Engineering	Bayhill 23
Tuesday	1:00 PM	147	Meet the Industry Candidates Poster Session: Computing And Systems Technology Division*	Regency Ballroom R/S

10A - Systems and Process Design

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	310	Process Design in Energy and Sustainability: Towards a net zero carbon economy	Bayhill 24
Monday	8:00 AM	314	Industry 4.0, Digital Twins, and Digital Transformation*	Plaza International Ballroom J
Monday	12:30 PM	258	Industrial Applications in Design and Operations	Bayhill 24
Tuesday	3:30 PM	60	Interactive Session: Systems and Process Design	Regency Ballroom R/S
Tuesday	3:30 PM	226	Design and Optimization of Integrated Energy Systems*	Silver Spring I/II
Tuesday	3:30 PM	453	Membrane Process Development and Process Intensification: Energy and Decarbonization*	Barrel Spring I
Wednesday	8:00 AM	101	Process Intensification and Modular Manufacturing: Modeling and Simulation*	Celebration 16
Wednesday	8:00 AM	161	Advances in Process Design I	Bayhill 23
Wednesday	8:00 AM	479	Membrane Process Development and Process Intensification: Water, Pharma, and Chemicals*	Barrel Spring I
Wednesday	12:30 PM	235	Advances in Process Design II	Bayhill 23
Wednesday	3:30 PM	393	Sustainable Process Synthesis, Design, and Intensification	Bayhill 25
Wednesday	3:30 PM	459	Modeling, Control, and Optimization of Energy Systems I*	Bayhill 26
Thursday	12:30 PM	356	Applied Math for Energy and Environmental Applications*	Bayhill 23
Thursday	3:30 PM	400	Design and Operations Under Uncertainty*	Bayhill 23
Thursday	3:30 PM	489	Modeling, Control, and Optimization of Energy Systems II*	Bayhill 25

10B - Systems and Process Control

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	491	Predictive Control and Optimization	Bayhill 26
Monday	12:30 PM	317	Applications of Dynamic Modeling and Dynamic Optimization for Control	Bayhill 26
Monday	3:30 PM	33	Invited Session In Honor of Prof. Babatunde A. Ogunnaike	Bayhill 25
Tuesday	8:00 AM	207	Advances in Process Control I	Bayhill 23

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2023 TECHNICAL PROGRAM GRID

Tuesday	3:30 PM	149	Interactive Session: Systems and Process Control	Regency Ballroom R/S
Wednesday	8:00 AM	295	Advances in Process Control II	Bayhill 25
Wednesday	12:30 PM	386	Data-driven Modeling, Estimation and Optimization for Control I	Bayhill 25
Wednesday	3:30 PM	459	Modeling, Control, and Optimization of Energy Systems I	Bayhill 26
Thursday	8:00 AM	433	Data-driven Modeling, Estimation and Optimization for Control II	Bayhill 25
Thursday	3:30 PM	489	Modeling, Control, and Optimization of Energy Systems II	Bayhill 25

10C - Systems and Process Operations

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	440	Planning, Scheduling, Supply Chain and Logistics I	Bayhill 25
Monday	12:30 PM	258	Industrial Applications in Design and Operations *	Bayhill 24
Monday	12:30 PM	471	Planning, Scheduling, Supply Chain and Logistics II	Bayhill 25
Monday	3:30 PM	119	Advances in Optimization I	Bayhill 24
Tuesday	8:00 AM	206	Advances in Optimization II	Bayhill 24
Tuesday	12:30 PM	282	Data-driven and Surrogate Optimization in Operation I	Bayhill 26
Tuesday	3:30 PM	61	Interactive Session: Systems and Process Operations	Regency Ballroom R/S
Wednesday	12:30 PM	347	Data-driven and Surrogate Optimization in Operation II	Bayhill 26
Wednesday	3:30 PM	430	Data-driven optimization*	Bayhill 23
Thursday	8:00 AM	434	Planning and Operation of Energy Systems	Bayhill 23
Thursday	3:30 PM	400	Design and Operations Under Uncertainty	Bayhill 23

10D - Applied Mathematics and Numerical Analysis

Day	Time	Session #	Session Title	Room
Tuesday	8:00 AM	413	Industrial Applied Mathematics	Bayhill 26
Tuesday	12:30 PM	373	Applied Math for Metabolic and Bioreactor Systems	Bayhill 24
Tuesday	3:30 PM	58	Interactive Session: Applied Mathematics and Numerical Analysis	Regency Ballroom R/S
Wednesday	8:00 AM	296	Applied Math for Biomedical Systems	Bayhill 24
Wednesday	12:30 PM	165	Advances in Computational Methods and Numerical Analysis - I	Bayhill 24
Wednesday	3:30 PM	241	Advances in Computational Methods and Numerical Analysis - II	Bayhill 24
Thursday	12:30 PM	356	Applied Math for Energy and Environmental Applications	Bayhill 23

10E - Information Management and Intelligent Systems

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	95	Advances in machine learning and intelligent systems I	Bayhill 23
Monday	3:30 PM	199	Advances in machine learning and intelligent systems II	Bayhill 23
Tuesday	8:00 AM	327	Data-driven and hybrid modeling for decision making I	Bayhill 25
Tuesday	12:30 PM	374	Data-driven and hybrid modeling for decision making II	Bayhill 25

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2023 TECHNICAL PROGRAM GRID

Tuesday	3:30 PM	59	Interactive Session: Data and Information Systems	Regency Ballroom R/S
Wednesday	3:30 PM	430	Data-driven optimization	Bayhill 23
Thursday	8:00 AM	305	Data science and analytics for process applications	Bayhill 24
Thursday	12:30 PM	463	Industrial applications in Design and Operations II	Bayhill 25
Thursday	12:30 PM	487	Process monitoring & fault detection I	Bayhill 24
Thursday	3:30 PM	509	Process monitoring & fault detection II	Bayhill 24

12 - Process Development Division

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	96	Highly Efficient DOE for Rapid Process Development*	Celebration 6
Sunday	3:30 PM	183	Process Intensification – Novel Technologies for Carbon Capture and Carbon Recycling*	Bayhill 27
Monday	8:00 AM	9	Environmentally Friendly Product and Process Development for Sustainability*	Bayhill 28
Monday	8:00 AM	104	Decarbonization for Alkene Production	Bayhill 27
Monday	12:30 PM	263	Process Development: Design, Risk Reduction, Implementation and Operations*	Bayhill 22
Monday	12:30 PM	320	Decarbonization for Methanol Production	Bayhill 27
Monday	3:30 PM	202	Decarbonization for Ammonia Production	Bayhill 27
Monday	3:30 PM	368	Panel Discussion and Speed Networking: Chemical Process and Product Design Careers in Industry & Academia	Bayhill 22
Tuesday	8:00 AM	42	Laboratory and Pilot Plant Safety*	Bayhill 28
Tuesday	8:00 AM	132	Sustainability in the Pharmaceutical Industry (Invited Talks)*	Celebration 6
Tuesday	8:00 AM	277	Decarbonization for Hydrogen/Chemicals production and CO ₂ valorization	Bayhill 27
Tuesday	12:30 PM	54	Experiences in Teaching Process Safety*	Bayhill 29
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S
Tuesday	3:30 PM	231	Manufacturing Technology Improvements for Chemical/Energy Industries*	Bayhill 27
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Tuesday	3:30 PM	712	Process Electrification Panel - Co-Organized by EPIX*	Windermere Ballroom W
Tuesday	4:30 PM	713	Process Electrification Roundtable Discussions - Co-Organized by EPIX*	Windermere Ballroom W
Wednesday	8:00 AM	76	Challenges and Best Practices in Technology Commercialization I*	Bayhill 27
Wednesday	8:00 AM	164	Process Intensification - Novel Reactors*	Bayhill 28
Wednesday	12:30 PM	82	Process Intensification – Novel Integration Concepts*	Bayhill 28
Wednesday	12:30 PM	168	Challenges and Best Practices in Technology Commercialization II*	Bayhill 27
Wednesday	12:30 PM	238	Crystallization and Precipitation of Pharmaceutical and Biological Molecules*	Manatee Spring II
Wednesday	3:30 PM	85	Poster Session: Process Development	Regency Ballroom R/S

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2023 TECHNICAL PROGRAM GRID

12A - Process Research and Innovation

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	9	Environmentally Friendly Product and Process Development for Sustainability	Bayhill 28
Tuesday	12:30 PM	143	Process Research for Improved Throughput & Efficiency, and Reduced Cost	Bayhill 27
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18
Tuesday	3:30 PM	712	Process Electrification Panel - Co-Organized by EPIXC*	Windermere Ballroom W
Tuesday	4:30 PM	713	Process Electrification Roundtable Discussions - Co-Organized by EPIXC*	Windermere Ballroom W
Wednesday	12:30 PM	483	In the Spirit of Innovation*	Challenger 38/39

12B - Pilot Plants

Day	Time	Session #	Session Title	Room
Tuesday	8:00 AM	42	Laboratory and Pilot Plant Safety	Bayhill 28
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S

12C - Technology Transfer and Manufacturing

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	263	Process Development: Design, Risk Reduction, Implementation and Operations	Bayhill 22
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S
Tuesday	3:30 PM	231	Manufacturing Technology Improvements for Chemical/Energy Industries	Bayhill 27
Wednesday	8:00 AM	76	Challenges and Best Practices in Technology Commercialization I	Bayhill 27
Wednesday	12:30 PM	168	Challenges and Best Practices in Technology Commercialization II	Bayhill 27

12E - Process Intensification & Microprocess Engineering

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	183	Process Intensification – Novel Technologies for Carbon Capture and Carbon Recycling	Bayhill 27
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S
Tuesday	3:30 PM	712	Process Electrification Panel - Co-Organized by EPIXC*	Windermere Ballroom W
Tuesday	4:30 PM	713	Process Electrification Roundtable Discussions - Co-Organized by EPIXC*	Windermere Ballroom W
Wednesday	8:00 AM	164	Process Intensification - Novel Reactors	Bayhill 28
Wednesday	12:30 PM	82	Process Intensification – Novel Integration Concepts	Bayhill 28

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2023 TECHNICAL PROGRAM GRID

12G - Product Design				
Day	Time	Session #	Session Title	Room
Tuesday	12:30 PM	54	Experiences in Teaching Process Safety	Bayhill 29
Tuesday	12:30 PM	142	Materials and Processes for Water Purification and Desalination	Bayhill 28
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S

14 - Nuclear Engineering Division				
Day	Time	Session #	Session Title	Room
Monday	8:00 AM	363	Theory, Modeling, and Simulation of Nuclear Chemical Processes	Atlantic
Monday	12:30 PM	193	Graduate Student and Early Career Investigations	Atlantic
Monday	3:30 PM	323	Theory, Modeling, and Simulation of Materials in Fusion Plasma	Atlantic
Tuesday	12:30 PM	52	Wilson Award Presentation and Lecture (Invited Talks)	Atlantic
Tuesday	1:00 PM	223	Meet the Industry Candidates Poster Session: Nuclear Engineering Division*	Regency Ballroom R/S
Tuesday	3:30 PM	289	Separation Advances in Nuclear Chemical Processing	Atlantic
Wednesday	8:00 AM	162	Environmental Advance in Nuclear and Hazardous Waste Processing and Disposal	Atlantic

15 - Food, Pharmaceutical & Bioengineering Division				
Day	Time	Session #	Session Title	Room
Monday	12:30 PM	110	Faculty Candidate Session: Food, Pharmaceuticals, and Bioengineering I	Celebration 15
Tuesday	8:00 AM	208	Faculty Candidate Session: Food, Pharmaceuticals, and Bioengineering II	Celebration 15
Tuesday	12:30 PM	283	Faculty Candidate Session: Food, Pharmaceuticals, and Bioengineering III	Celebration 15
Tuesday	3:30 PM	66	Division Plenary: Food, Pharmaceutical, and Bioengineering Division (Invited Talks)	Regency Ballroom P
Wednesday	12:30 PM	458	Next-Gen Manufacturing in Pharma, Food, and Bioprocessing I*	Bayhill 32
Wednesday	3:30 PM	304	Advances in Bioseparations*	Coral Spring I/II

15A - Food				
Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	180	Bioprocess Design and Scale-up	Celebration 15
Monday	8:00 AM	250	Biorenewable resource engineering for food, health and environmental applications	Celebration 15
Monday	3:30 PM	29	Poster session: Food and Bioprocess Engineering	Regency Ballroom R/S
Tuesday	12:30 PM	138	Biomanufacturing of Food and Bioproducts	Celebration 4
Wednesday	8:00 AM	342	Novel Process Technologies in Food and Biomanufacturing	Celebration 15
Wednesday	12:30 PM	387	Synthetic Biology and Microbiome in Agriculture, Food, and Health	Celebration 15

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2023 TECHNICAL PROGRAM GRID

15C - Bioengineering				
Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	360	Biosensors for Metabolites	Celebration 2
Sunday	3:30 PM	468	Computational and Analytical Tools for Efficient Biomanufacturing	Celebration 1
Monday	8:00 AM	443	Biosensors for Proteins	Celebration 2
Monday	8:00 AM	511	Engineering Cells, Culture Conditions, and Cell-Free Production for Desired Biomanufacturing Targets	Celebration 1
Monday	12:30 PM	109	Special Session In Honor of Prof. Juan de Pablo's 60th Birthday (Invited talks)*	Plaza International Ballroom I
Monday	12:30 PM	405	Biosensors for Nucleic Acids	Celebration 2
Monday	12:30 PM	634	Scaling Up: Approaches for Streamlining Biomanufacturing Time to and Output of Product	Celebration 1
Monday	3:30 PM	27	Poster session: Bioengineering	Regency Ballroom R/S
Tuesday	8:00 AM	128	In Honor of Prof. Liang-Shih Fan, the 2022 Recipient of the Warren K. Lewis Award I (Invited Talks)*	Regency Ballroom P
Tuesday	8:00 AM	614	Metabolic Engineering in Non-Traditional Hosts	Celebration 1
Tuesday	8:00 AM	623	New approaches for gene and protein regulation; Cell-free systems and DNA assembly platforms	Celebration 2
Tuesday	12:30 PM	530	Engineering microorganisms for novel chemistry and interactions	Celebration 2
Tuesday	12:30 PM	579	Metabolic Engineering - Applications in Health	Celebration 1
Wednesday	8:00 AM	296	Applied Math for Biomedical Systems*	Bayhill 24
Wednesday	8:00 AM	341	Biosensors for Cells	Celebration 1
Wednesday	8:00 AM	605	Metabolic Engineering II - General topics	Celebration 2
Wednesday	12:30 PM	553	Engineering Protein Therapeutics	Celebration 1
Wednesday	12:30 PM	639	Systems and Quantitative Biology: Metabolic Modeling	Celebration 2
Wednesday	3:30 PM	505	Computational, Structure, Biophysical Protein Engineering	Celebration 1
Wednesday	3:30 PM	596	Metabolic Engineering I - Biosynthesis	Celebration 2
Wednesday	3:30 PM	648	Systems and Quantitative Biology: Modeling Traits, Regulation, and Interactions	Celebration 3
Thursday	8:00 AM	172	Advances in Biocatalysts and Biocatalytic Processes	Celebration 1
Thursday	8:00 AM	629	New Methods in Protein Engineering	Celebration 2
Thursday	8:00 AM	645	Systems and Quantitative Biology: Microbial Communities	Celebration 3
Thursday	12:30 PM	246	Biobased and Bioderived Processes for Value Added Chemicals and Advanced Materials	Celebration 1
Thursday	12:30 PM	309	Biocatalysis and Enzyme Engineering	Celebration 2
Thursday	3:30 PM	575	Machine Learning Based Protein Engineering	Celebration 1

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15D - Engineering Fundamentals in Life Science				
Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	610	Patterning and Synthetic Biomaterials	Celebration 3
Sunday	3:30 PM	618	Systems and Quantitative Biology: Disease Mechanisms, Biomarkers, and Therapies I	Celebration 4
Monday	8:00 AM	100	3D Culture: Organoids and Spheroids	Celebration 3
Monday	8:00 AM	627	Systems and Quantitative Biology: Disease Mechanisms, Biomarkers, and Therapies II	Celebration 4
Monday	12:30 PM	109	Special Session In Honor of Prof. Juan de Pablo's 60th Birthday (Invited talks)*	Plaza International Ballroom I
Monday	12:30 PM	512	Design Considerations for Drug Delivery Vehicles	Celebration 3
Monday	12:30 PM	635	Systems and Quantitative Biology: Integrative Omics Analysis	Celebration 4
Monday	3:30 PM	28	Poster session: Engineering Fundamentals in Life Science	Regency Ballroom R/S
Tuesday	8:00 AM	567	Drug Delivery Strategies for Immunomodulation	Celebration 4
Tuesday	8:00 AM	592	Micro- and Nano-scale Technologies in Life Sciences	Celebration 3
Tuesday	12:30 PM	604	Microfluidic Cell Culture Platforms and Bioreactors	Celebration 3
Tuesday	1:00 PM	706	Meet the Industry Candidates Poster Session: General Topics*	Regency Ballroom R/S
Wednesday	8:00 AM	296	Applied Math for Biomedical Systems*	Bayhill 24
Wednesday	8:00 AM	502	Decoding the Cell Microenvironment: Chemical and Physical Signaling and Cellular Responses	Celebration 3
Wednesday	8:00 AM	534	Drug and Gene Delivery	Celebration 4
Wednesday	12:30 PM	236	Biomolecular Engineering I: Discovery, Design, and applications of novel CRISPR Tools	Celebration 3
Wednesday	12:30 PM	586	Micro- and Nano-Scale Technologies for Drug Delivery	Celebration 4
Wednesday	3:30 PM	394	Biomolecular Engineering II: The design, modulation, and analysis of engineered proteins and peptides for therapeutic applications	Celebration 4
Wednesday	3:30 PM	460	Cell and Tissue Engineering: Tissue Engineered Models	Celebration 15
Thursday	8:00 AM	306	Biomolecular Engineering III: The design, engineering, and study of therapeutics and their disease targets	Celebration 4
Thursday	8:00 AM	556	Drug Delivery Investigations	Celebration 15
Thursday	12:30 PM	357	Biomolecular Engineering IV: Enabling tools for studies of the life sciences	Celebration 3
Thursday	12:30 PM	437	Cell and Tissue Engineering: Engineering the Immune Response	Celebration 4
Thursday	3:30 PM	490	Cellular Engineering Approaches to Modulate Gene Expression and Functions for Biomedical Applications	Celebration 2

16 - Fuels and Petrochemicals Division				
Day	Time	Session #	Session Title	Room
Monday	8:00 AM	12	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels I*	Columbia 36
Monday	8:00 AM	252	Advances in Petroleum Production and Refining	Challenger 38/39
Monday	12:30 PM	111	Advances in Biofuels Production and Alternative Fuels I	Challenger 38/39
Monday	12:30 PM	115	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels II*	Columbia 36

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Monday	12:30 PM	318	Undergraduate Research Presentations - Energy, Materials, and Petrochemicals*	Bayhill 32
Monday	12:30 PM	591	Value-Added Chemicals from Natural Gas	Challenger 41/42
Monday	3:30 PM	200	Advances in Biofuels Production and Alternative Fuels II	Challenger 38/39
Monday	3:30 PM	205	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels III*	Columbia 36
Monday	3:30 PM	449	Developments in Shale Gas and Natural Gas	Challenger 41/42
Tuesday	8:00 AM	279	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels IV*	Columbia 36
Tuesday	8:00 AM	280	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production*	Celebration 11
Tuesday	8:00 AM	369	Developments in Electrochemical Reactors, Fuel Cells, and Electrolyzers I	Columbia 37
Tuesday	8:00 AM	529	Properties and Phase Equilibria for Fuels and Petrochemicals	Challenger 38/39
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	336	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels V*	Columbia 36
Tuesday	12:30 PM	417	Developments in Electrochemical Reactors, Fuel Cells, and Electrolyzers II	Columbia 37
Tuesday	12:30 PM	551	Recent Developments in Fuel Processing for Hydrogen Production I	Challenger 38/39
Tuesday	3:30 PM	570	Recent Developments in Fuel Processing for Hydrogen Production II	Challenger 38/39
Tuesday	3:30 PM	582	Unconventional Oil and Natural Gas: Science & Technology Advancement	Columbia 37
Wednesday	8:00 AM	343	Developments in Alternative Fuels and Enabling Technologies	Challenger 38/39
Wednesday	12:30 PM	483	In the Spirit of Innovation	Challenger 38/39
Wednesday	3:30 PM	83	Poster Session: Fuels and Petrochemicals Division	Regency Ballroom R/S
Thursday	8:00 AM	507	Integrated Biorefineries: Technologies and TEA/LCA I	Bayhill 29
Thursday	12:30 PM	526	Integrated Biorefineries: Technologies and TEA/LCA II	Bayhill 29

17 - Forest and Plant Bioproducts Division

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	590	Lignin for Sustainable Industrial Uses	Bayhill 30
Sunday	3:30 PM	601	Modification, functionalization and processing of biomaterials	Bayhill 31
Monday	8:00 AM	251	Advanced Separations Processes in Bioprocessing and Biomaterials	Discovery 45
Monday	8:00 AM	562	Computational method aided biomass and waste utilization	Discovery 46
Monday	12:30 PM	364	Advances in lignocellulose processing, conversion, and valorization I	Discovery 45
Monday	12:30 PM	446	Biodegradable Polymers from Renewable & Waste Resources and Biocomposites from Industrial Coproducts and Natural Fibers	Discovery 46
Monday	3:30 PM	409	Advances in lignocellulose processing, conversion, and valorization II	Discovery 45
Monday	3:30 PM	578	High-value and Platform Chemicals from Renewable Resources and Wastes	Discovery 46
Tuesday	8:00 AM	329	Advances in lignin chemistry, isolation, and depolymerization	Discovery 46
Tuesday	8:00 AM	549	Cellulose Nano Materials - Crystalline, Fibrous, Gels, Films and Foams for broad applications in medical, energy and the environment.	Challenger 41/42
Tuesday	12:30 PM	49	Division Plenary: Valorization of Waste Plastics (Invited Talks)	Challenger 41/42
Tuesday	3:30 PM	157	Andrew Chase Award in Honor of Dr. Deborah Mielewski (Invited Talks)	Challenger 41/42
Wednesday	8:00 AM	477	Biomass Characterization, Pretreatment, and Fractionation I	Discovery 45

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Wednesday	8:00 AM	516	Catalytic and Thermochemical Conversion of Lignocellulosic Materials I	Discovery 46
Wednesday	12:30 PM	503	Biomass Characterization, Pretreatment, and Fractionation II	Discovery 45
Wednesday	12:30 PM	536	Catalytic and Thermochemical Conversion of Lignocellulosic Materials II	Discovery 46
Wednesday	3:30 PM	240	Poster Session: Advances in Forest and Plant Biomass Utilization	Regency Ballroom R/S

18A - Miscellaneous

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	96	Highly Efficient DOE for Rapid Process Development	Celebration 6
Monday	11:00 AM	14	Featured MPC Session: Sustainability and the Circular Economy Panel Discussion	Plaza International Ballroom G/H
Monday	3:30 PM	708	How to Maintain Productivity in a Crisis	Rainbow Spring I/II
Monday	4:45 PM	709	Networking for Nerds: Find and Forge Relationships that Deliver ROI for All	Rainbow Spring I/II
Tuesday	3:30 PM	712	Process Electrification Panel - Co-Organized by EPIXC	Windermere Ballroom W
Tuesday	4:30 PM	713	Process Electrification Roundtable Discussions - Co-Organized by EPIXC	Windermere Ballroom W

18B - Public Affairs and Information Committee (PAIC)

Day	Time	Session #	Session Title	Room
Monday	1:30 PM	710	Chemical Engineering Policy (WISE) Award Recipient Talks (Invited Talks)	Silver Spring I/II
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall	Atlantic

18C - Young Professionals Committee (YPC)

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	178	Workshop: Career Planning for Prospective Faculty*	Bayhill 22
Monday	8:00 AM	254	Undergraduate Research Presentations - Chemicals, Biotechnology, and Environment	Bayhill 32
Monday	12:30 PM	106	Minority Affairs Community (MAC) & Young Professionals (YP) Panel Discussion: Rebranding Yourself for a New Career Path*	Peacock Spring
Monday	12:30 PM	190	Leading and Managing Industry-Academia Collaborations and Partnerships*	Bayhill 17
Monday	12:30 PM	318	Undergraduate Research Presentations - Energy, Materials, and Petrochemicals	Bayhill 32
Monday	3:30 PM	26	IDEAL Featured Session: A Conversation on Equity, Diversity, and Inclusion*	Plaza International Ballroom G/H
Tuesday	8:00 AM	41	Charting Your Course from Academia to a Successful Professional Career (Panel Discussion/Workshop)	Regency Ballroom Q
Tuesday	8:00 AM	330	Non-Traditional Career Opportunities in Chemical Engineering for MBA's, Legal Practitioners, and Ph.D.'s *	Bayhill 17
Tuesday	12:30 PM	140	Three Minute Thesis (3MT®) Competition	Regency Ballroom Q
Tuesday	12:30 PM	284	Management Award: Leading and Persevering Through Failure*	Bayhill 17
Tuesday	3:30 PM	228	TikTok Talk: Simplifying Technical Presentations for Everyone (Science Communication Workshop)	Regency Ballroom Q
Tuesday	3:30 PM	380	Young Leader Award: Connecting Innovation and Sustainability for Positive Impacts and Value Creation*	Bayhill 17

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2023 TECHNICAL PROGRAM GRID

18D - Publication Committee

Day	Time	Session #	Session Title	Room
Tuesday	3:30 PM	67	AICHe Journal Futures: New Directions in Chemical Engineering Research (Invited Talks)	Manatee Spring I

18E - Awards Committee

Day	Time	Session #	Session Title	Room
Monday	1:45 PM	408	The Langer Prize for Innovation and Entrepreneurial Excellence Award Presentation and Lecture	Plaza International Ballroom G/H
Monday	6:15 PM	270	Cato T. Laurencin Regenerative Engineering Founder's Award Lecture	Plaza International Ballroom G/H
Tuesday	11:15 AM	214	Andreas Acrivos Award for Professional Progress in Chemical Engineering Lecture	Plaza International Ballroom G/H
Tuesday	6:15 PM	340	D.I.C. Wang Award Lecture	Plaza International Ballroom G/H
Wednesday	11:15 AM	77	John M. Prausnitz AICHe Institute Lecture	Plaza International Ballroom G/H
Wednesday	4:30 PM	382	SBE's James E. Bailey Award Lecture	Plaza International Ballroom G/H
Wednesday	6:15 PM	171	William R. Schowalter Lecture	Plaza International Ballroom G/H

18L - International Committee

Day	Time	Session #	Session Title	Room
Wednesday	12:30 PM	81	Emerging Junior Investigator Open Innovation Forum (Invited Talks)	Celebration 6
Wednesday	3:30 PM	170	KICHe-US Chapter Open Forum (Invited Talks)	Celebration 6

18P - Climate Solutions

Day	Time	Session #	Session Title	Room
Monday	3:30 PM	711	CSPI Townhall - Climate Change Policy	Silver Spring I/II

20 - Catalysis and Reaction Engineering Division

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	439	In Honor of Ray Gorte's Achievements (Invited Talks)	Florida Ballroom A
Sunday	3:30 PM	561	Catalysis on Low Dimensional Materials	Plaza International Ballroom J
Sunday	3:30 PM	646	CO ₂ Upgrading I: Mechanistic Insight	Plaza International Ballroom D
Sunday	3:30 PM	659	Combustion Kinetics and Emissions	Plaza International Ballroom I
Sunday	3:30 PM	688	Low Carbon Hydrogen Generation	Plaza International Ballroom F
Sunday	3:30 PM	701	Reaction Engineering in Pharmaceuticals and Fine Chemicals	Plaza International Ballroom E

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2023 TECHNICAL PROGRAM GRID

Monday	8:00 AM	493	Pioneers of Catalysis and Reaction Engineering (Invited Talks)	Florida Ballroom A
Monday	8:00 AM	633	Catalytic Upcycling of Waste Plastics I: Pyrolysis and Gasification	Florida Ballroom B
Monday	8:00 AM	650	CO ₂ Upgrading II: Electrochemical Approaches	Plaza International Ballroom D
Monday	8:00 AM	661	Data Science and Machine Learning Approaches to Catalysis I: Data-enhanced Multiscale Simulations	Florida Ballroom C
Monday	8:00 AM	686	Intensified Reactor Design and Reactive Separations	Plaza International Ballroom F
Monday	8:00 AM	699	Reaction Chemistry & Engineering I	Plaza International Ballroom E
Monday	12:30 PM	470	Mid Career Researchers in Catalysis and Reaction Engineering Recognition Symposium (Invited Talks)	Florida Ballroom A
Monday	12:30 PM	638	Catalytic Upcycling of Waste Plastics II: Hydro-conversion	Florida Ballroom B
Monday	12:30 PM	654	CO ₂ Upgrading III: Alternative Approaches	Plaza International Ballroom D
Monday	12:30 PM	662	Data Science and Machine Learning Approaches to Catalysis II: Catalytic Materials Design	Florida Ballroom C
Monday	12:30 PM	670	Electrochemical Engineering: Reactor Design and Reaction Transport Processes in Electrocatalysis I	Plaza International Ballroom F
Monday	12:30 PM	700	Reaction Chemistry & Engineering II	Plaza International Ballroom E
Monday	3:30 PM	366	In Memoriam of Maria Flytzani-Stephanopoulos (Invited Talks)	Florida Ballroom A
Monday	3:30 PM	642	Catalytic Upcycling of Waste Plastics III: Non-conventional techniques	Florida Ballroom B
Monday	3:30 PM	655	CO ₂ Upgrading IV: Alternative Approaches II	Plaza International Ballroom D
Monday	3:30 PM	663	Data Science and Machine Learning Approaches to Catalysis III: Data Workflows and Automation	Florida Ballroom C
Monday	3:30 PM	664	Electrocatalysis & Photocatalysis I: Electrocatalytic CO ₂ and CO Reduction	Plaza International Ballroom E
Monday	3:30 PM	671	Electrochemical Engineering: Reactor Design and Reaction Transport Processes in Electrocatalysis II	Plaza International Ballroom F
Tuesday	8:00 AM	127	In Honor of the 2022 R.H. Wilhelm Award Winner I (Invited Talks)	Florida Ballroom A
Tuesday	8:00 AM	133	Decarbonization by Electrification*	Regency Ballroom O
Tuesday	8:00 AM	658	CO ₂ Upgrading V: Mechanistic Insight II	Plaza International Ballroom D
Tuesday	8:00 AM	665	Electrocatalysis & Photocatalysis II: Electrocatalytic Materials	Plaza International Ballroom E
Tuesday	8:00 AM	681	Hydrocarbon Conversion I: Insights from Modeling and Theory	Florida Ballroom B
Tuesday	8:00 AM	689	Microporous and Mesoporous Materials I: Materials Design	Florida Ballroom C
Tuesday	8:00 AM	695	New Developments in Computational Catalysis I: Physics-based Methods	Plaza International Ballroom F
Tuesday	12:30 PM	215	In Honor of the 2022 R.H. Wilhelm Award Winner II (Invited Talks)	Florida Ballroom A
Tuesday	12:30 PM	222	Decarbonization by Electrification: Reactors & Reactions 1*	Regency Ballroom O
Tuesday	12:30 PM	335	Plasma Catalysis*	Celebration 10

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2023 TECHNICAL PROGRAM GRID

Tuesday	12:30 PM	666	Electrocatalysis & Photocatalysis III: Electrocatalytic Transformation of Organic Molecules	Plaza International Ballroom E
Tuesday	12:30 PM	682	Hydrocarbon Conversion II: Fundamentals of Catalyst Design	Florida Ballroom B
Tuesday	12:30 PM	690	Microporous and Mesoporous Materials II: Structure-Property Relationships	Florida Ballroom C
Tuesday	12:30 PM	696	New Developments in Computational Catalysis II: Data-Driven Methods	Plaza International Ballroom F
Tuesday	12:30 PM	697	Nitrogen Chemistry I: Nitrogen Electrochemistry	Plaza International Ballroom D
Tuesday	3:30 PM	292	Decarbonization by Electrification: Reactors & Reactions 2*	Regency Ballroom O
Tuesday	3:30 PM	419	In Honor of Klavs Jensen's 70th Birthday (Invited Talks)	Florida Ballroom A
Tuesday	3:30 PM	581	Catalyst Design, Synthesis, and Characterization I: Design of Catalytic Nanoparticle Alloys	Plaza International Ballroom F
Tuesday	3:30 PM	667	Electrocatalysis & Photocatalysis IV: Oxygen Electrocatalysis	Plaza International Ballroom E
Tuesday	3:30 PM	683	Hydrocarbon Conversion III: Reactor and Process Design Strategies	Florida Ballroom B
Tuesday	3:30 PM	691	Microporous and Mesoporous Materials III: Kinetics and Mechanisms	Florida Ballroom C
Tuesday	3:30 PM	698	Nitrogen Chemistry II: Nitrogen Thermochemistry	Plaza International Ballroom D
Wednesday	8:00 AM	293	In Honor of the 2021 R.H. Wilhelm Award Winner I (Invited Talks)	Florida Ballroom A
Wednesday	8:00 AM	344	Decarbonization by Electrification: Reactors & Reactions 3*	Regency Ballroom O
Wednesday	8:00 AM	477	Biomass Characterization, Pretreatment, and Fractionation I*	Discovery 45
Wednesday	8:00 AM	516	Catalytic and Thermochemical Conversion of Lignocellulosic Materials I*	Discovery 46
Wednesday	8:00 AM	594	Catalyst Design, Synthesis, and Characterization II: Control of Catalytic Site Speciation and Distribution	Plaza International Ballroom F
Wednesday	8:00 AM	668	Electrocatalysis & Photocatalysis V: Photoelectrocatalysis and Photocatalysis	Plaza International Ballroom E
Wednesday	8:00 AM	672	Emerging Catalytic and Dynamic Reactor Designs	Florida Ballroom C
Wednesday	8:00 AM	675	Fundamentals of Catalysis and Surface Science I: Catalysis over Oxides and Nitrides	Plaza International Ballroom D
Wednesday	8:00 AM	694	Next Generation of CRE: a Professional Development Panel & Morning Refreshments	Florida Ballroom B
Wednesday	12:30 PM	345	In Honor of the 2021 R.H. Wilhelm Award Winner II (Invited Talks)	Florida Ballroom A
Wednesday	12:30 PM	503	Biomass Characterization, Pretreatment, and Fractionation II*	Discovery 45
Wednesday	12:30 PM	536	Catalytic and Thermochemical Conversion of Lignocellulosic Materials II*	Discovery 46
Wednesday	12:30 PM	607	Catalyst Design, Synthesis, and Characterization III: Modifying Domain Size and Transport Properties	Plaza International Ballroom F
Wednesday	12:30 PM	669	Electrocatalysis & Photocatalysis VI: The Role of Microenvironments in Electrocatalysis	Plaza International Ballroom E
Wednesday	12:30 PM	676	Fundamentals of Catalysis and Surface Science II: C1 Catalysis	Plaza International Ballroom D
Wednesday	12:30 PM	692	Modeling and Analysis of Chemical Reactors	Florida Ballroom C
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O
Wednesday	3:30 PM	521	Poster Session: Catalysis and Reaction Engineering (CRE) Division	Regency Ballroom R/S

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2023 TECHNICAL PROGRAM GRID

Thursday	8:00 AM	616	Catalyst Design, Synthesis, and Characterization IV: Experimental and Computational Catalyst Characterization	Plaza International Ballroom F
Thursday	8:00 AM	673	Environmental and Automotive Catalysis I: Emerging Catalytic Technologies	Florida Ballroom C
Thursday	8:00 AM	677	Fundamentals of Catalysis and Surface Science III: Catalysis over Metals	Plaza International Ballroom D
Thursday	8:00 AM	680	Green Chemical Reaction Engineering for Sustainability	Plaza International Ballroom E
Thursday	8:00 AM	693	Multi-Scale Modeling	Florida Ballroom B
Thursday	8:00 AM	703	Thermal and Thermocatalytic Biomass Conversion and Biorefining I	Florida Ballroom A
Thursday	12:30 PM	541	Catalysis and Reaction Engineering in Liquid and Multiphase Systems I: Reaction Mechanisms	Plaza International Ballroom E
Thursday	12:30 PM	625	Catalyst Design, Synthesis, and Characterization V: Tailoring Bulk and Surface Structures	Plaza International Ballroom F
Thursday	12:30 PM	674	Environmental and Automotive Catalysis II: Catalysis for Emissions Control	Florida Ballroom C
Thursday	12:30 PM	678	Fundamentals of Catalysis and Surface Science IV: Electrocatalysis	Plaza International Ballroom D
Thursday	12:30 PM	684	Intensified Processes I	Florida Ballroom B
Thursday	12:30 PM	704	Thermal and Thermocatalytic Biomass Conversion and Biorefining II	Florida Ballroom A
Thursday	3:30 PM	559	Catalysis and Reaction Engineering in Liquid and Multiphase Systems II: Reaction Mechanisms and Reactor Design	Plaza International Ballroom E
Thursday	3:30 PM	632	Catalyst Design, Synthesis, and Characterization VI: Catalyst Synthesis and Preparation	Plaza International Ballroom F
Thursday	3:30 PM	679	Fundamentals of Catalysis and Surface Science V: Catalysis over Metals, Bimetallics and Single Metal Atoms	Plaza International Ballroom D
Thursday	3:30 PM	685	Intensified Processes II	Florida Ballroom B
Thursday	3:30 PM	687	Intersection Between Thermal and Electrocatalysis	Florida Ballroom C
Thursday	3:30 PM	702	Reaction Path Analysis	Florida Ballroom A

20A - Catalysis

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	403	Synthesis and Application of Inorganic Materials*	Celebration 13
Monday	8:00 AM	496	Fuel and Energy Decarbonization*	Regency Ballroom O
Tuesday	12:30 PM	514	Novel Approaches to CO ₂ Utilization I*	Regency Ballroom V
Tuesday	3:30 PM	291	Chemical and Catalytic Conversions and Processes for Renewable Feedstocks *	Regency Ballroom T
Wednesday	8:00 AM	384	Electrochemistry & Electrochemical Engineering for Environmental & Sustainability Applications*	Orlando Ballroom M
Wednesday	8:00 AM	571	Interfacial Phenomena in Electrochemical and Electrokinetic Systems*	Regency Ballroom P
Wednesday	3:30 PM	521	Poster Session: Catalysis and Reaction Engineering (CRE) Division*	Regency Ballroom R/S
Thursday	12:30 PM	308	Electrochemical Advances to Enable Efficient Oxygen, Hydrogen and Water Reactions I*	Orlando Ballroom M

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2023 TECHNICAL PROGRAM GRID

20B - Reaction Engineering				
Day	Time	Session #	Session Title	Room
Wednesday	8:00 AM	164	Process Intensification - Novel Reactors*	Bayhill 28
Wednesday	3:30 PM	34	Process Intensification and Modular Manufacturing: Intensified Reaction and Separation Processes*	Celebration 16
Wednesday	3:30 PM	521	Poster Session: Catalysis and Reaction Engineering (CRE) Division*	Regency Ballroom R/S

21 - Computational Molecular Science and Engineering Forum				
Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	545	Recent Advances in Multiscale Methodologies	Rock Spring I/II
Monday	8:00 AM	361	Automated Molecular and Materials Discovery: Integrating Machine Learning, Simulation, and Experiment	Rock Spring I/II
Monday	12:30 PM	107	Spotlights in Thermodynamics and Computational Molecular Science (Invited Talks)	Rock Spring I/II
Monday	3:30 PM	197	Poster Session: Computational Molecular Science and Engineering Forum	Regency Ballroom R/S
Tuesday	8:00 AM	451	Machine Learning for Soft and Hard Materials	Rock Spring I/II
Tuesday	8:00 AM	566	Software Engineering in and for the Molecular Sciences	Peacock Spring
Tuesday	12:30 PM	474	Machine Learning for Soft and Hard Materials II	Rock Spring I/II
Tuesday	3:30 PM	420	Automated Molecular and Materials Discovery: Integrating Machine Learning, Simulation, and Experiment II	Rock Spring I/II
Tuesday	3:30 PM	615	Modeling of Interfacial Systems*	Plaza International Ballroom I
Wednesday	8:00 AM	294	Applications of Molecular Modeling to Study Interfacial Phenomena	Rock Spring I/II
Wednesday	12:30 PM	346	Applications of Molecular Modeling to Study Interfacial Phenomena II	Rock Spring I/II
Wednesday	3:30 PM	88	Plenary Session: Computational Molecular Science and Engineering Forum (Invited Talks)	Rock Spring I/II
Thursday	8:00 AM	525	Recent Advances in Molecular Simulation Methods	Rock Spring I/II
Thursday	8:00 AM	588	The Industrial Fluid Properties Simulation Challenge	Peacock Spring
Thursday	12:30 PM	508	Practical Applications of Computational Chemistry and Molecular Simulation	Rock Spring I/II
Thursday	3:30 PM	544	Recent Advances in Molecular Simulation Methods II	Rock Spring I/II

22 - Nanoscale Science and Engineering Forum				
Day	Time	Session #	Session Title	Room
Monday	8:00 AM	185	Nanoscale Science and Engineering Forum Division Plenary	Discovery 43
Monday	12:30 PM	262	Nanoscale Science Engineering Forum (NSEF)	Discovery 44
Monday	12:30 PM	319	Nanoscale Science Engineering Forum (NSEF): Faculty Candidate	Discovery 43
Monday	3:30 PM	30	Poster Session: Nanoscale Science and Engineering Forum	Regency Ballroom R/S
Monday	3:30 PM	118	Poster Session: NSEF Graduate Student Poster Competition	Regency Ballroom R/S

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2023 TECHNICAL PROGRAM GRID

22A - Carbon Nanomaterials

Day	Time	Session #	Session Title	Room
Tuesday	8:00 AM	37	Area Plenary: Carbon Nanomaterials (Invited Talks)	Discovery 43
Tuesday	9:00 AM	281	Carbon Nanomaterials: Graduate Student Award Session	Discovery 43
Tuesday	12:30 PM	220	Carbon Nanomaterials I: Dispersion, Surface Structure, and Biointeractions	Discovery 43
Tuesday	3:30 PM	158	2D and 3D Nanomaterials	Discovery 43

22B - Bionanotechnology

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	3	Area Plenary: Bionanotechnology (Invited Talks)	Bayhill 29
Tuesday	8:00 AM	370	Bionanotechnology Graduate Student Award Session	Discovery 44
Tuesday	12:30 PM	141	Bionanotechnology for Gene and Drug Delivery	Discovery 44
Tuesday	3:30 PM	229	Bionanotechnology for Gene and Drug Delivery II	Discovery 44
Wednesday	8:00 AM	426	Nanostructured Biomimetic and Biohybrid Materials and Devices	Discovery 44
Wednesday	12:30 PM	299	Bionanotechnology for Sensors and Imaging	Discovery 44
Wednesday	3:30 PM	352	Bionanotechnology for Sensors and Imaging II	Discovery 44

22C - Nanomaterials for Energy Applications

Day	Time	Session #	Session Title	Room
Monday	12:30 PM	406	Materials for Thermochemical and Electrochemical Energy Storage*	Bayhill 18
Tuesday	12:30 PM	51	Plenary Session for Nanomaterials for Energy Applications (Invited Talks)	Discovery 45
Tuesday	3:30 PM	159	Machine Learning for Nanomaterials for Energy Applications	Discovery 45
Wednesday	12:30 PM	300	Nanomaterials for Energy Storage	Discovery 43
Wednesday	3:30 PM	244	Nanomaterials for Energy Conversion	Discovery 43

23 - Sustainable Engineering Forum

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces*	Celebration 10
Monday	11:00 AM	14	Featured MPC Session: Sustainability and the Circular Economy Panel Discussion*	Plaza International Ballroom G/H
Monday	12:30 PM	188	Emerging Frontiers in Environmental Chemical Engineering *	Rainbow Spring I/II
Monday	12:30 PM	446	Biodegradable Polymers from Renewable & Waste Resources and Biocomposites from Industrial Coproducts and Natural Fibers*	Discovery 46
Monday	3:30 PM	711	CSPI Townhall - Climate Change Policy*	Silver Spring I/II
Tuesday	8:00 AM	132	Sustainability in the Pharmaceutical Industry (Invited Talks)*	Celebration 6
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18

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Wednesday	8:00 AM	516	Catalytic and Thermochemical Conversion of Lignocellulosic Materials I*	Discovery 46
Wednesday	12:30 PM	391	Decarbonization by Electrification: Separations*	Regency Ballroom O
Wednesday	12:30 PM	536	Catalytic and Thermochemical Conversion of Lignocellulosic Materials II*	Discovery 46
Wednesday	12:30 PM	585	Interfacial Phenomena in Energy and Sustainability*	Regency Ballroom P
Wednesday	3:30 PM	86	Poster Session: Sustainability Science and Engineering, Biorefineries, and Energy	Regency Ballroom R/S
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O

23A - Sustainability Science and Engineering

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	444	Sustainable Management and Uses of Post-Consumer Materials and Waste	Regency Ballroom U
Monday	12:30 PM	195	Climate Change and Engineering Sustainability	Regency Ballroom U
Monday	3:30 PM	121	Leadership and Management of Sustainable Solutions in Industry*	Bayhill 17
Monday	3:30 PM	125	Big Data and Analytics for Sustainability	Regency Ballroom U
Tuesday	8:00 AM	133	Decarbonization by Electrification*	Regency Ballroom O
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	222	Decarbonization by Electrification: Reactors & Reactions 1*	Regency Ballroom O
Tuesday	12:30 PM	286	Design for Circular Economy	Regency Ballroom U
Tuesday	12:30 PM	500	Special Topics in Crystallization: Energy, Sustainability, and Amorphous Precipitation*	Manatee Spring II
Tuesday	3:30 PM	68	Advances in Life Cycle Assessment	Regency Ballroom U
Tuesday	3:30 PM	292	Decarbonization by Electrification: Reactors & Reactions 2*	Regency Ballroom O
Wednesday	8:00 AM	344	Decarbonization by Electrification: Reactors & Reactions 3*	Regency Ballroom O
Wednesday	8:00 AM	428	Resilient and Sustainable Supply Chains and Product Systems	Regency Ballroom U
Wednesday	12:30 PM	585	Interfacial Phenomena in Energy and Sustainability*	Regency Ballroom P
Wednesday	3:30 PM	86	Poster Session: Sustainability Science and Engineering, Biorefineries, and Energy*	Regency Ballroom R/S
Wednesday	3:30 PM	243	Sustainable Fuel from Renewable Resources*	Silver Spring I/II
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy*	Regency Ballroom O
Thursday	8:00 AM	399	Process Design: Innovation for Sustainability	Plaza International Ballroom J
Thursday	12:30 PM	356	Applied Math for Energy and Environmental Applications*	Bayhill 23
Thursday	12:30 PM	359	Green Chemistry and Engineering-I	Plaza International Ballroom J

23B - Sustainable Biorefineries

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	105	Advances in Algae Cultivation, Conversion and Products	Regency Ballroom T

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2023 TECHNICAL PROGRAM GRID

Monday	12:30 PM	111	Advances in Biofuels Production and Alternative Fuels I*	Challenger 38/39
Monday	3:30 PM	36	Feedstock Conversion Interface Consortium – Understanding Feedstock Variability to Enable Next Generation Biorefineries (Invited Talks)	Regency Ballroom T
Monday	3:30 PM	200	Advances in Biofuels Production and Alternative Fuels II*	Challenger 38/39
Tuesday	8:00 AM	332	Feedstock Logistics for Biorefineries	Regency Ballroom T
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	48	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies I*	Blue Spring I/II
Tuesday	12:30 PM	221	Biological Conversions and Processes for Renewable Feedstocks	Regency Ballroom T
Tuesday	3:30 PM	291	Chemical and Catalytic Conversions and Processes for Renewable Feedstocks	Regency Ballroom T
Wednesday	8:00 AM	427	Production of Low-carbon Fuels from Biomass: Design, Simulation, and Economic Analysis	Regency Ballroom T
Wednesday	8:00 AM	516	Catalytic and Thermochemical Conversion of Lignocellulosic Materials I*	Discovery 46
Wednesday	12:30 PM	390	Life Cycle Analysis of Bio-Based Fuels, Energy, and Chemicals	Regency Ballroom T
Wednesday	12:30 PM	536	Catalytic and Thermochemical Conversion of Lignocellulosic Materials II*	Discovery 46
Thursday	8:00 AM	486	Value-Added Biorefinery Co-Products	Plaza International Ballroom I
Thursday	8:00 AM	507	Integrated Biorefineries: Technologies and TEA/LCA I*	Bayhill 29
Thursday	12:30 PM	466	Reactor Engineering for Biomass Feedstocks	Plaza International Ballroom I
Thursday	12:30 PM	526	Integrated Biorefineries: Technologies and TEA/LCA II*	Bayhill 29

23C - Sustainable Energy

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	98	CO ₂ Capture for Industrial Point Sources	Regency Ballroom T
Monday	8:00 AM	12	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels I*	Columbia 36
Monday	8:00 AM	186	Concentrated Solar Power Generation and Chemical Processing I	Regency Ballroom V
Monday	8:00 AM	253	Efficient Processing of Lignin to Bioproducts and Biofuels*	Bayhill 18
Monday	8:00 AM	496	Fuel and Energy Decarbonization	Regency Ballroom O
Monday	12:30 PM	115	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels II*	Columbia 36
Monday	12:30 PM	264	Concentrated Solar Power Generation and Chemical Processing II	Regency Ballroom V
Monday	12:30 PM	548	Sustainable approaches for chemical production	Regency Ballroom O
Monday	3:30 PM	121	Leadership and Management of Sustainable Solutions in Industry*	Bayhill 17
Monday	3:30 PM	126	Material Interfaces for Clean Energy: Fundamentals and Applications*	Celebration 10
Monday	3:30 PM	205	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels III*	Columbia 36
Monday	3:30 PM	325	Concentrated Solar Power Generation and Chemical Processing III	Regency Ballroom V
Monday	3:30 PM	450	Transport and energy processes at electrochemical interfaces II*	Celebration 11
Monday	3:30 PM	565	Sustainable Energy: Generation and Storage	Regency Ballroom O

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Tuesday	8:00 AM	44	Sustainable Engineering Forum Plenary Session (Invited Talks)	Regency Ballroom V
Tuesday	8:00 AM	212	Material Interfaces for Energy Applications *	Celebration 10
Tuesday	8:00 AM	279	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels IV*	Columbia 36
Tuesday	8:00 AM	369	Developments in Electrochemical Reactors, Fuel Cells, and Electrolyzers I*	Columbia 37
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	48	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies I*	Blue Spring I/II
Tuesday	12:30 PM	336	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels V*	Columbia 36
Tuesday	12:30 PM	417	Developments in Electrochemical Reactors, Fuel Cells, and Electrolyzers II*	Columbia 37
Tuesday	12:30 PM	514	Novel Approaches to CO ₂ Utilization I	Regency Ballroom V
Tuesday	3:30 PM	156	Design and Analysis of Sustainable Carbon Capture and Emissions Control Technologies II*	Blue Spring I/II
Tuesday	3:30 PM	533	Novel Approaches to CO ₂ Utilization II	Regency Ballroom V
Wednesday	8:00 AM	343	Developments in Alternative Fuels and Enabling Technologies*	Challenger 38/39
Wednesday	8:00 AM	457	Engineering Geologic Carbon Dioxide Storage Systems I	Regency Ballroom V
Wednesday	8:00 AM	516	Catalytic and Thermochemical Conversion of Lignocellulosic Materials I*	Discovery 46
Wednesday	12:30 PM	484	Engineering Geologic Carbon Dioxide Storage Systems II	Regency Ballroom V
Wednesday	12:30 PM	536	Catalytic and Thermochemical Conversion of Lignocellulosic Materials II*	Discovery 46
Wednesday	3:30 PM	86	Poster Session: Sustainability Science and Engineering, Biorefineries, and Energy*	Regency Ballroom R/S
Thursday	8:00 AM	398	Design, Analysis, and Optimization of Sustainable Energy Systems and Supply Chains I	Plaza International Ballroom K
Thursday	12:30 PM	356	Applied Math for Energy and Environmental Applications*	Bayhill 23
Thursday	12:30 PM	438	Design, Analysis, and Optimization of Sustainable Energy Systems and Supply Chains II	Plaza International Ballroom K

24 - Chemical Engineering & the Law Forum

Day	Time	Session #	Session Title	Room
Monday	3:30 PM	32	Issues in Law for Practicing Engineers	Bayhill 26
Monday	3:30 PM	711	CSPI Townhall - Climate Change Policy*	Silver Spring I/II
Tuesday	8:00 AM	330	Non-Traditional Career Opportunities in Chemical Engineering for MBA's, Legal Practitioners, and Ph.D.'s *	Bayhill 17
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Thursday	12:30 PM	93	Extreme Weather and Natural Disasters - An Environmental and Legal Perspective*	Blue Spring I/II

26 - Pharmaceutical Discovery, Development and Manufacturing Forum

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	547	Advances in Process Control for Continuous Manufacturing Processes	Celebration 7
Sunday	3:30 PM	653	Predictive Scale-Up/Scale-Down for Pharmaceuticals and Biopharmaceuticals #1	Celebration 8

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Monday	8:00 AM	256	Advancements in Drug Product Engineering and Material Science	Celebration 7
Monday	8:00 AM	563	Control Strategies for Biopharmaceutical and Pharmaceutical Process Design and Development	Celebration 6
Monday	8:00 AM	657	Process models for drug substance, drug product, and biopharmaceuticals Part 1	Celebration 8
Monday	12:30 PM	194	Particle Technology in Product Design and Manufacturing*	Bayhill 20
Monday	12:30 PM	448	Advances in Engineering for Pharmaceutical Development and Manufacturing	Celebration 6
Monday	12:30 PM	497	Advances in New Modalities: New Modalities & Technologies	Celebration 8
Monday	12:30 PM	603	Continuous Processing in Drug Product	Celebration 7
Monday	3:30 PM	198	Poster Session: Pharmaceutical Discovery, Development, and Manufacturing	Regency Ballroom R/S
Monday	3:30 PM	613	Continuous Processing in Drug Substance	Celebration 7
Monday	3:30 PM	643	Enabling Technology Relevant to Drug Product	Celebration 8
Tuesday	8:00 AM	132	Sustainability in the Pharmaceutical Industry (Invited Talks)	Celebration 6
Tuesday	8:00 AM	372	Advances in Drug Discovery Processes (including HTE)	Celebration 8
Tuesday	8:00 AM	660	Process models for drug substance, drug product, and biopharmaceuticals Part 2	Celebration 7
Tuesday	12:30 PM	418	Advances in Drug Discovery Processes (Including HTE) Part 2	Celebration 6
Tuesday	12:30 PM	656	Predictive Scale-Up/Scale-Down for Pharmaceuticals and Biopharmaceuticals #2	Celebration 7
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S
Tuesday	3:30 PM	583	Advances in Process Development for Formulation and Pharmaceutical Applications Using Automation and PATs	Celebration 8
Tuesday	3:30 PM	628	Data-driven approaches, ML/AI and model uncertainty to better process understanding	Celebration 7
Tuesday	3:30 PM	636	Enabling Technologies Relevant to Drug Substance	Celebration 6
Wednesday	8:00 AM	75	Division Plenary: Pharmaceutical Discovery, Development, and Manufacturing Forum (Invited Talks)	Regency Ballroom Q
Wednesday	8:00 AM	456	Mixing Scale-Up and Scale-Down Issues in Pharmaceutical & Biopharmaceutical Processes*	Bayhill 31
Wednesday	12:30 PM	640	Enabling Technologies through Data-Rich Experimentation and Process Modeling	Celebration 8
Wednesday	12:30 PM	652	Pharma 4.0 (Advanced Controls, Process Automation, Data Analytics, etc.) - Technologies & Infrastructure	Celebration 7
Wednesday	3:30 PM	523	Advances in New Modalities: Separations & Formulation	Celebration 8
Wednesday	3:30 PM	624	Continuous Processing: Next Generation Advancements	Celebration 7
Thursday	8:00 AM	355	Advancements in Drug Substance Processing and Material Science	Celebration 8
Thursday	8:00 AM	485	Advances in New Modalities: Discovery and Production	Celebration 7
Thursday	12:30 PM	543	Advances in Novel Pharmaceutical Process Design, Development, and Control using Data-Rich Experiments and/or Models	Celebration 8

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2023 TECHNICAL PROGRAM GRID

Thursday	12:30 PM	600	Computational solid state pharmaceuticals	Celebration 7
Thursday	3:30 PM	649	Pharma 4.0 (Advanced Controls, Process Automation, Data Analytics, etc.) - Processes and Applications	Celebration 8

POSTERSESSIONS - Poster Sessions

Day	Time	Session #	Session Title	Room
Sunday	1:00 PM	2	Meet the Faculty and Post-Doc Candidates Poster Session*	Regency Ballroom R/S
Monday	3:30 PM	30	Poster Session: Nanoscale Science and Engineering Forum*	Regency Ballroom R/S
Monday	3:30 PM	29	Poster session: Food and Bioprocess Engineering	Regency Ballroom R/S
Monday	3:30 PM	27	Poster session: Bioengineering	Regency Ballroom R/S
Monday	3:30 PM	28	Poster session: Engineering Fundamentals in Life Science	Regency Ballroom R/S
Monday	3:30 PM	116	Poster Session: Fluid Mechanics*	Regency Ballroom R/S
Monday	3:30 PM	117	Poster Session: Environmental Division*	Regency Ballroom R/S
Monday	3:30 PM	118	Poster Session: NSEF Graduate Student Poster Competition*	Regency Ballroom R/S
Monday	3:30 PM	322	Poster Session: Interfacial Phenomena (Area 1C)*	Regency Ballroom R/S
Tuesday	11:00 AM	136	Women in Engineering (WIC) Poster Session*	Regency Ballroom R/S
Tuesday	1:00 PM	147	Meet the Industry Candidates Poster Session: Computing And Systems Technology Division*	Regency Ballroom R/S
Tuesday	1:00 PM	223	Meet the Industry Candidates Poster Session: Nuclear Engineering Division*	Regency Ballroom R/S
Tuesday	1:00 PM	287	Meet the Industry Candidates Poster Session: Particle Technology Forum, North American Mixing Forum, and Fluid Mechanics*	Regency Ballroom R/S
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals*	Regency Ballroom R/S
Tuesday	1:00 PM	706	Meet the Industry Candidates Poster Session: General Topics*	Regency Ballroom R/S
Tuesday	3:30 PM	58	Interactive Session: Applied Mathematics and Numerical Analysis*	Regency Ballroom R/S
Tuesday	3:30 PM	59	Interactive Session: Data and Information Systems*	Regency Ballroom R/S
Tuesday	3:30 PM	60	Interactive Session: Systems and Process Design*	Regency Ballroom R/S
Tuesday	3:30 PM	61	Interactive Session: Systems and Process Operations*	Regency Ballroom R/S
Tuesday	3:30 PM	63	Poster Session: Materials Engineering & Sciences (08D - Inorganic Materials)*	Regency Ballroom R/S
Tuesday	3:30 PM	64	Poster Session: Materials Engineering & Sciences (08F - Composite Materials)*	Regency Ballroom R/S
Tuesday	3:30 PM	65	Poster Session: General Topics on Separations *	Regency Ballroom R/S
Tuesday	3:30 PM	149	Interactive Session: Systems and Process Control*	Regency Ballroom R/S
Tuesday	3:30 PM	150	Poster Session: Materials Engineering & Sciences (08B - Biomaterials)*	Regency Ballroom R/S
Tuesday	3:30 PM	151	Poster Session: Materials Engineering & Sciences (08E - Electronic and Photonic Materials) *	Regency Ballroom R/S
Tuesday	3:30 PM	154	Poster Session: Waste Plastics*	Regency Ballroom R/S

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2023 TECHNICAL PROGRAM GRID

Tuesday	3:30 PM	224	Poster Session: Thermodynamics and Transport Properties (Area 1A)*	Regency Ballroom R/S
Tuesday	3:30 PM	225	Poster Session: Fundamentals and Applications of Adsorption and Ion Exchange*	Regency Ballroom R/S
Tuesday	3:30 PM	338	Poster Session: Materials Engineering & Sciences (08A - Polymers)*	Regency Ballroom R/S
Tuesday	3:30 PM	379	Poster Session: Chemical Engineering Education*	Regency Ballroom R/S
Wednesday	3:30 PM	83	Poster Session: Fuels and Petrochemicals Division*	Regency Ballroom R/S
Wednesday	3:30 PM	84	General Poster Session	Regency Ballroom R/S
Wednesday	3:30 PM	85	Poster Session: Process Development*	Regency Ballroom R/S
Wednesday	3:30 PM	86	Poster Session: Sustainability Science and Engineering, Biorefineries, and Energy*	Regency Ballroom R/S
Wednesday	3:30 PM	303	Poster Session: Particle Technology Forum*	Regency Ballroom R/S
Wednesday	3:30 PM	521	Poster Session: Catalysis and Reaction Engineering (CRE) Division*	Regency Ballroom R/S

STW - Sponsored Technology Workshops

Day	Time	Session #	Session Title	Room
Tuesday	9:15 AM	714	Combining Machine Learning and Simulation for the Virtual Optimisation of Bulk Solids Handling Processes at the Micro and Macro Scales	Gulf

T1 - Meet the Candidates Poster Sessions

Day	Time	Session #	Session Title	Room
Sunday	1:00 PM	2	Meet the Faculty and Post-Doc Candidates Poster Session	Regency Ballroom R/S
Tuesday	1:00 PM	147	Meet the Industry Candidates Poster Session: Computing And Systems Technology Division	Regency Ballroom R/S
Tuesday	1:00 PM	223	Meet the Industry Candidates Poster Session: Nuclear Engineering Division	Regency Ballroom R/S
Tuesday	1:00 PM	287	Meet the Industry Candidates Poster Session: Particle Technology Forum, North American Mixing Forum, and Fluid Mechanics	Regency Ballroom R/S
Tuesday	1:00 PM	337	Meet the Industry Candidates Poster Session: Process & Product Development and Manufacturing in Chemicals & Pharmaceuticals	Regency Ballroom R/S
Tuesday	1:00 PM	706	Meet the Industry Candidates Poster Session: General Topics	Regency Ballroom R/S

T2 - Entrepreneurship in Chemical Engineering

Day	Time	Session #	Session Title	Room
Monday	1:45 PM	408	The Langer Prize for Innovation and Entrepreneurial Excellence Award Presentation and Lecture*	Plaza International Ballroom G/H
Wednesday	12:30 PM	348	Entrepreneurial Mindset and Chemical Engineering (Invited talks)*	Bayhill 17
Wednesday	3:30 PM	89	Innovation and Entrepreneurship in Chemical Engineering*	Bayhill 17

T3 - Applications of Data Science to Molecules and Materials

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	95	Advances in machine learning and intelligent systems I*	Bayhill 23
Monday	12:30 PM	261	Bio-inspired Composites*	Celebration 14

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2023 TECHNICAL PROGRAM GRID

Monday	3:30 PM	125	Big Data and Analytics for Sustainability*	Regency Ballroom U
Tuesday	8:00 AM	327	Data-driven and hybrid modeling for decision making I*	Bayhill 25
Wednesday	12:30 PM	386	Data-driven Modeling, Estimation and Optimization for Control I*	Bayhill 25
Wednesday	3:30 PM	430	Data-driven optimization*	Bayhill 23
Thursday	8:00 AM	305	Data science and analytics for process applications*	Bayhill 24
Thursday	8:00 AM	599	Molecular and Data Science Modeling of Adsorption*	Manatee Spring I
Thursday	12:30 PM	174	Accelerated Discovery of Inorganic Materials: High-Throughput Experiments, Modeling, and Data Science*	Celebration 14

T5 - Material Interfaces as Energy Solutions

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	257	Model Based Design and Optimization for Hybrid Materials and Interfaces	Celebration 10
Monday	12:30 PM	24	Materials Interfaces - Celebrating the Career of John Ekerdt	Celebration 10
Monday	12:30 PM	407	Transport and energy processes at electrochemical interfaces I*	Celebration 11
Monday	3:30 PM	126	Material Interfaces for Clean Energy: Fundamentals and Applications	Celebration 10
Monday	3:30 PM	565	Sustainable Energy: Generation and Storage *	Regency Ballroom O
Tuesday	8:00 AM	212	Material Interfaces for Energy Applications	Celebration 10
Tuesday	8:00 AM	331	Frontiers in New Materials and Membranes for Bioseparations*	Coral Spring I/II
Tuesday	12:30 PM	335	Plasma Catalysis	Celebration 10
Wednesday	12:30 PM	585	Interfacial Phenomena in Energy and Sustainability*	Regency Ballroom P
Thursday	12:30 PM	358	Materials and Devices: From Energy Generation to Efficient Usage*	Celebration 9
Thursday	3:30 PM	401	Materials for Effective Energy Storage*	Celebration 9

T6A - Digital Manufacturing

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	314	Industry 4.0, Digital Twins, and Digital Transformation	Plaza International Ballroom J
Monday	12:30 PM	196	Cybersecurity and High-Performance Computing in Next-Gen Manufacturing	Plaza International Ballroom J
Monday	3:30 PM	268	Future of Manufacturing and Emerging Technologies	Plaza International Ballroom J
Tuesday	8:00 AM	135	Applied Artificial Intelligence, Big Data, and Data Analytics Methods for Next-Gen Manufacturing Efficiency I	Bayhill 32
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	377	Modeling, Optimization, and Control in Next-Gen Manufacturing I	Bayhill 32
Tuesday	3:30 PM	69	Advances in smart monitoring, optimization and control of process manufacturing	Bayhill 32
Wednesday	8:00 AM	429	Next-Gen Manufacturing in Chemical and Energy Systems	Bayhill 32
Wednesday	12:30 PM	458	Next-Gen Manufacturing in Pharma, Food, and Bioprocessing I	Bayhill 32

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2023 TECHNICAL PROGRAM GRID

T6C - 3D Printing and Advanced Manufacturing

Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	4	3D Printing Fundamentals and Applications	Bayhill 33
Monday	8:00 AM	187	3D Printing Novel Methods and Applications	Bayhill 33
Monday	12:30 PM	321	3D Printing of Functional Materials	Bayhill 33
Monday	3:30 PM	267	3D Printing of Composites	Bayhill 33
Tuesday	8:00 AM	134	3D Printing in Catalysts, Reaction, and Energy Industry	Bayhill 33
Tuesday	12:30 PM	378	Polymers in Additive Manufacturing I	Bayhill 33
Tuesday	3:30 PM	425	Polymers in Additive Manufacturing II	Bayhill 33

T7 - Regenerative Engineering Society

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	10	Regenerative Engineering Society	Regency Ballroom P
Monday	12:30 PM	114	Regenerative Engineering Society II	Regency Ballroom P
Monday	1:30 PM	710	Chemical Engineering Policy (WISE) Award Recipient Talks (Invited Talks)*	Silver Spring I/II
Monday	3:30 PM	203	Regenerative Engineering Society III	Regency Ballroom P

T8 - Decarbonization of the Chemical Industry through Electrification

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	104	Decarbonization for Alkene Production*	Bayhill 27
Monday	12:30 PM	320	Decarbonization for Methanol Production*	Bayhill 27
Monday	3:30 PM	31	Poster Session: Decarbonization by Electrification	Regency Ballroom R/S
Monday	3:30 PM	202	Decarbonization for Ammonia Production*	Bayhill 27
Tuesday	8:00 AM	133	Decarbonization by Electrification	Regency Ballroom O
Tuesday	8:00 AM	277	Decarbonization for Hydrogen/Chemicals production and CO ₂ valorization *	Bayhill 27
Tuesday	12:30 PM	222	Decarbonization by Electrification: Reactors & Reactions 1	Regency Ballroom O
Tuesday	3:30 PM	292	Decarbonization by Electrification: Reactors & Reactions 2	Regency Ballroom O
Tuesday	3:30 PM	712	Process Electrification Panel - Co-Organized by EPIXC*	Windermere Ballroom W
Tuesday	4:30 PM	713	Process Electrification Roundtable Discussions - Co-Organized by EPIXC*	Windermere Ballroom W
Wednesday	8:00 AM	344	Decarbonization by Electrification: Reactors & Reactions 3	Regency Ballroom O
Wednesday	12:30 PM	391	Decarbonization by Electrification: Separations	Regency Ballroom O
Wednesday	3:30 PM	432	Decarbonization by Electrification: Systems & Policy	Regency Ballroom O

T9 - Sensors for Sustainability

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	315	Sensors and Monitoring for Health	Celebration 16
Monday	12:30 PM	365	Student Competition in Sensors (Sponsored)	Celebration 16

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2023 TECHNICAL PROGRAM GRID

Monday	3:30 PM	269	Next-Gen Sensors	Celebration 16
Tuesday	8:00 AM	213	Field-Deployable Sensors	Celebration 16
Tuesday	12:30 PM	56	Topical Plenary: Environmental Analytical Technology: Sensor Applications in Sustainability (Invited Talks)	Celebration 16
Tuesday	3:30 PM	153	General Poster Session in Sensors	Regency Ballroom R/S

TC - Engineering for Inclusion

Day	Time	Session #	Session Title	Room
Monday	3:30 PM	26	IDEAL Featured Session: A Conversation on Equity, Diversity, and Inclusion	Plaza International Ballroom G/H
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Wednesday	12:30 PM	519	Biomaterials: Graduate Student Award Session and IDEAL Discussion Panel*	Celebration 5

TCA - Minority Affairs Committee (MAC)

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	254	Undergraduate Research Presentations - Chemicals, Biotechnology, and Environment*	Bayhill 32
Monday	11:00 AM	13	MAC Eminent Engineers Awards Poster Session	Regency Ballroom R/S
Monday	12:30 PM	106	Minority Affairs Community (MAC) & Young Professionals (YP) Panel Discussion: Rebranding Yourself for a New Career Path	Peacock Spring
Monday	12:30 PM	318	Undergraduate Research Presentations - Energy, Materials, and Petrochemicals*	Bayhill 32
Monday	3:30 PM	26	IDEAL Featured Session: A Conversation on Equity, Diversity, and Inclusion*	Plaza International Ballroom G/H
Tuesday	12:30 PM	140	Three Minute Thesis (3MT®) Competition*	Regency Ballroom Q
Tuesday	3:30 PM	228	TikTok Talk: Simplifying Technical Presentations for Everyone (Science Communication Workshop)*	Regency Ballroom Q
Wednesday	12:30 PM	519	Biomaterials: Graduate Student Award Session and IDEAL Discussion Panel*	Celebration 5
Wednesday	12:30 PM	707	LatinX Voices in ChE	Bayhill 20

TCB - Women in Chemical Engineering Committee (WIC)

Day	Time	Session #	Session Title	Room
Monday	3:30 PM	26	IDEAL Featured Session: A Conversation on Equity, Diversity, and Inclusion*	Plaza International Ballroom G/H
Tuesday	11:00 AM	136	Women in Engineering (WIC) Poster Session*	Regency Ballroom R/S
Tuesday	1:30 PM	137	Connecting the Dots in Industry (Invited Talks)*	Orlando Ballroom N
Tuesday	3:30 PM	288	WIC Drop-in Mentoring	Orlando Ballroom N
Wednesday	12:30 PM	519	Biomaterials: Graduate Student Award Session and IDEAL Discussion Panel*	Celebration 5

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2023 TECHNICAL PROGRAM GRID

TCC - LGBTQ+ and Allies Community				
Day	Time	Session #	Session Title	Room
Monday	3:30 PM	26	IDEAL Featured Session: A Conversation on Equity, Diversity, and Inclusion*	Plaza International Ballroom G/H
Tuesday	2:00 PM	148	Tuesday LGBTQ+ & Allies Safe Zone Workshop	Bayhill 31
Tuesday	3:30 PM	62	Collaborative Discussion: Empathy in Action - Catalyzing Inclusivity for LBGT+ and Marginalized Communities in ChemE	Bayhill 31
Wednesday	10:40 AM	234	Wednesday LGBTQ+ & Allies Safe Zone Workshop	Bayhill 21
Wednesday	12:30 PM	519	Biomaterials: Graduate Student Award Session and IDEAL Discussion Panel*	Celebration 5

TCE - The Role of Intersectionality in Chemical Engineering				
Day	Time	Session #	Session Title	Room
Monday	3:30 PM	26	IDEAL Featured Session: A Conversation on Equity, Diversity, and Inclusion*	Plaza International Ballroom G/H
Tuesday	12:30 PM	335	Plasma Catalysis*	Celebration 10

TDA - Green Process and Product Engineering				
Day	Time	Session #	Session Title	Room
Monday	8:00 AM	253	Efficient Processing of Lignin to Bioproducts and Biofuels	Bayhill 18
Monday	12:30 PM	406	Materials for Thermochemical and Electrochemical Energy Storage	Bayhill 18
Monday	12:30 PM	446	Biodegradable Polymers from Renewable & Waste Resources and Biocomposites from Industrial Coproducts and Natural Fibers*	Discovery 46
Monday	3:30 PM	201	Conversion of plastic wastes to high value products	Bayhill 18
Tuesday	8:00 AM	40	Topical Plenary: Frontiers in Green Process and Product Engineering (Invited Talks)	Bayhill 18
Tuesday	8:00 AM	132	Sustainability in the Pharmaceutical Industry (Invited Talks)*	Celebration 6
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	139	Breakthroughs in Sustainable Chemical Production and Process	Bayhill 18
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis	Bayhill 18
Wednesday	8:00 AM	455	New processes for efficient CO ₂ capture and utilization under mild conditions	Bayhill 18
Wednesday	12:30 PM	388	Ionic Liquids: Novel Separation, Catalytic reaction and Electrochemical Processes	Bayhill 18

TDB - Process Intensification & Modular Chemical Processing				
Day	Time	Session #	Session Title	Room
Sunday	3:30 PM	183	Process Intensification – Novel Technologies for Carbon Capture and Carbon Recycling*	Bayhill 27
Monday	12:30 PM	591	Value-Added Chemicals from Natural Gas*	Challenger 41/42
Tuesday	3:30 PM	339	Integrated Process Engineering and Economic Analysis*	Bayhill 18

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Wednesday	8:00 AM	101	Process Intensification and Modular Manufacturing: Modeling and Simulation	Celebration 16
Wednesday	8:00 AM	164	Process Intensification - Novel Reactors*	Bayhill 28
Wednesday	8:00 AM	429	Next-Gen Manufacturing in Chemical and Energy Systems*	Bayhill 32
Wednesday	12:30 PM	82	Process Intensification – Novel Integration Concepts*	Bayhill 28
Wednesday	12:30 PM	189	Process Intensification and Module Manufacturing: Intensified Process Fundamentals	Celebration 16
Wednesday	3:30 PM	34	Process Intensification and Modular Manufacturing: Intensified Reaction and Separation Processes	Celebration 16
Thursday	8:00 AM	173	Continuous Crystallization Processes*	Manatee Spring II

TH - Sustainable Pathways Toward Hydrogen and Synthetic Fuels

Day	Time	Session #	Session Title	Room
Monday	8:00 AM	12	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels I	Columbia 36
Monday	12:30 PM	115	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels II	Columbia 36
Monday	3:30 PM	205	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels III	Columbia 36
Tuesday	8:00 AM	279	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels IV	Columbia 36
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	336	Sustainable Pathways to Clean Hydrogen and Synthetic Fuels V	Columbia 36

TJ - Waste Plastics

Day	Time	Session #	Session Title	Room
Tuesday	8:00 AM	131	Waste Plastic - Recycle, Reuse and Remediation Strategies I*	Rainbow Spring I/II
Tuesday	9:00 AM	715	Public Affairs and AIChE: A PAIC Town Hall*	Atlantic
Tuesday	12:30 PM	57	Plenary Session: Waste Plastics (Invited Talks)	Rainbow Spring I/II
Tuesday	3:30 PM	154	Poster Session: Waste Plastics	Regency Ballroom R/S
Wednesday	8:00 AM	298	Conversion of Waste Plastic into Liquid Fuels	Rainbow Spring I/II
Wednesday	12:30 PM	239	Analysis and Assessment for Solving the Plastic Waste Crisis	Rainbow Spring I/II
Wednesday	3:30 PM	354	Recycling and Upcycling of Plastic Waste	Rainbow Spring I/II

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