

# SPRING23 +19<sup>TH</sup> GCPS

A Joint AIChE and CCPS Meeting

March 12-16, 2023

Hilton of the Americas

George R. Brown Convention Center

Houston, TX

# EMBRACING THE FUTURE



# CHEMICAL ENGINEERING

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## 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.



## Download the App

Everything you need to know about the 2023 AIChE® Spring Meeting and 19th GCPS in the palm of your hand. Available for free at the Apple or Android App Store.



## Stay Connected with AIChE

#AIChESpring | #GCPS | @ChEnected

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*This program is as of March 1, 2023. An up-to-date program is available at [aiche.org/spring](https://aiche.org/spring) and in the AIChEvents app. Please also consult the [FAQs](#) for additional meeting information.*

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# WELCOME FROM THE **PRESIDENT**



Dear Colleagues:

On behalf of AIChE's Board of Directors, welcome to Houston and the 2023 AIChE Spring Meeting and 19th Global Congress on Process Safety (GCPS). We are pleased that you've joined us for this year's exploration of the state of chemical engineering technology — highlighting the latest developments in our rapidly advancing fields of practice.

The theme we've chosen for our meeting — Embracing the Future of Chemical Engineering — is in keeping with our recent programming emphasis on the evolution of the profession as it responds to emerging global needs. This transformation, and the new opportunities it brings, is showcased in one of our new topical conferences, devoted to the energy transition.

Our Spring Meeting program also spotlights chemical engineers as leaders of next-generation manufacturing, incorporating perspectives on Industry 4.0, A.I, data analytics, process intensification, and other topics. The program gives consideration to new technologies in clean energy and wastewater management. Other highlights include the 35th Ethylene Producers' Conference and the return of the Kister Distillation Symposium. Additional topical conferences delve into gas utilization, refinery processing, hydrogen safety, plastics circularity, and professional-skills development. We have also devoted sessions to strengthen our profession by working toward a fully equitable and inclusive workforce.

Setting the stage for it all on Monday morning, **Michael Graff** (American Air Liquide) presents the AIChE Government and Industry Leaders (AGILE) keynote on how the chemical engineering profession is inventing the future.

Kicking off the Fuels and Petrochemicals Division's programming is a plenary co-hosted with the Industry 4.0 Topical Conference. This plenary features a talk by **Jens Schmidt** (TES-H2) who will discuss the ways that digitalization is accelerating progress in green hydrogen. Then, at the Ethylene Producers' Conference, **Sarah Marshall** (NOVA Chemical) presents a keynote on "Developing a Road Map to Net Zero" in the energy transition.

AIChE's Center for Process Safety (CCPS) and the Safety and Health Division organize the Global Congress on Process Safety (GCPS), which begins on Monday with a plenary session and a keynote presented by **Chris Tagoe** (LyondellBasell). He will discuss process safety culture as a value "by the power of many." This year, the 25th Process Plant Safety Symposium includes a selection of big-data success stories applied to process safety management (PSM). In addition to the CCPS International Conference and a track devoted to loss prevention, PSM mentoring is highlighted, featuring a panel on inclusivity in the PSM workforce. The GCPS program will present Perspectives on Process Safety from Around the Globe, and conclude with our process safety Case Studies and Lessons Learned sessions.

Ticket holders can look forward to daily luncheons — where invited speakers will expand on some of our meeting's main themes. At Monday's luncheon, **David Yankovitz** (Deloitte) will deliver perspectives on the sustainable use of materials. On Tuesday, our speaker is **Gayle Schueller** (3M), who will describe how science, collaboration, and a sense of urgency can help achieve ESG goals. Then, on Wednesday, we welcome **Rodney Reed** (Harris County [Texas] Fire Marshal's Office), who will discuss emergency response planning.

Those are only a few of the featured events on tap. To keep track of it all, you should download the AIChEvents app to your mobile device, where you can maintain a personal schedule and receive program updates. Also, be sure to visit with our exhibitors and make some new connections at our receptions, poster sessions, and other networking events.

While visiting the exhibits, stop by the AIChE Foundation's *Doing a World of Good* Lounge — and please consider making a philanthropic contribution to support the great work and transformative initiatives of the Foundation.

AIChE continues to work with its meeting venues and stakeholders to promote a safe, healthful, and inclusive meeting environment. Please be cognizant of our meeting code of conduct posted on the meeting homepage and throughout the Meeting.

AIChE gratefully acknowledges our Spring Meeting Program Chairs — **Cristina Thomas** of 3M and **Tony Cai** of Fractionation Research, Inc. — and the GCPS Chair, **John Champion** of Dow. The Institute thanks the meeting's sponsor organizations and exhibitors for their generosity and participation at this meeting.

Finally, we extend our thanks to the session chairs, presenters, authors, and volunteers for their indispensable contributions and their dedication to AIChE and the advancement of our communal objectives.

Thank you for being a part of our conference.

Best wishes,

Billy B. Bardin  
2023 AIChE® President



# 2023 SPRING MEETING & 19TH GCPS **LEADERSHIP, POLICIES AND NOTICES**

## 2023 SPRING MEETING & 19TH GCPS MEETING LEADERSHIP



**Cristina U. Thomas, PhD**  
**Spring Meeting Program Chair**  
Global R&D Services Director/  
R&D GPO, 3M



**Tony Cai**  
**Spring Meeting Program Co-Chair**  
Chief Scientist, FRI



**John Champion**  
**GCPS Chair**  
EH&S Improvement Leader  
Dow Chemicals



**Laura Ankrom**  
**GCPS Vice-Chair**  
Vice President and  
Sr. Process Safety Consultant  
Process Safety Core Consulting, LLC

## 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 Spring 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 Spring 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](#).

### Health and Safety

The Spring Meeting has implemented a set of safety protocols to keep attendees safe. For more information on this, please consult the [Meeting FAQ](#)



# 2023 SPRING MEETING & 19TH GCPS ORGANIZING COMMITTEE

## Separations Division

Anand Vennavelli, Koch-Glitsch

## Management Division

Donna Bryant, Syngenta

Harold Conner, UCOR

Joseph Cramer, AIChE

Gayle Gibson, Accordant Advisors

Aditi Khadilkar, N/A

Daniel Kriozere, Lawrence Livermore National Laboratory

Mark Swientoniewski, Strata G

Cristina Thomas, 3M

## Environmental Division

Gerardo Ruiz-Mercado, U.S. Environmental Protection Agency

Richard Siegel, R&B Consulting Services

Jason Trembly, Ohio University

## Computing and Systems Technology Division

Carl Laird, Sandia National Laboratories

## Process Development Division

Juben Chheda, Shell Oil Inc.

## Chemical Engineering & the Law Forum

Joseph Cramer, AIChE

Paul Townsend, Finnegan, Henderson, Farabow, Garrett & Dunner, LL

## Spring Meeting Poster Session and Networking Reception

Ivan Castillo, Dow Inc.

Juben Chheda, Shell Oil Inc.

## Global Congress on Process Safety

Laura Ankrom, Process Safety Core Consulting

John Champion, The Dow Chemical Company

## Topical 12: Hydrogen Safety

Paul Alderson, Center for Hydrogen Safety

Nick Barilo, AIChE

## Industrial Wastewater Management and Water Reuse Topical Conference

Somnath Basu, Headworks International

Andrew Shaw, Black & Veatch Corporation

## Topical 15: The Energy Transition

Debalina Sengupta, Texas A&M Engineering Experiment Station

Virginia Sommer, Fluor

Saadet Ulas Acikgoz, Honeywell UOP

## Topical 16: Petrochemicals

Christopher Buehler, Exponent, Inc.

Virginia Sommer, Fluor

Saadet Ulas Acikgoz, Honeywell UOP

## Topical 4: The 35th Ethylene Producers Conference

Joseph Berret, NOVA Chemicals

Daryl Bitting, Eastman Chemical Company

Walter Postula, Shell Global Solutions

Mark Schmidt, Dow

Micheal Smith, ExxonMobil Chemical

Micheal Smith, ExxonMobil

Mark Whitney, Linde Engineering

## Topical 5: Emerging Technologies in Clean Energy

Gus Georgetown, Lyondellbasell

Yangchuan Xing, University of Missouri

## Topical 6: 23rd Topical Conference on Gas Utilization

Belma Demirel, BP

Nimir Elbashir, Texas A&M University at Qatar

Virginia Sommer, Fluor

Saadet Ulas Acikgoz, Honeywell UOP

## Topical 7: 26th Topical Conference on Refinery Processing

Ellen Arnold, Honeywell UOP

Francesco Coletti, Hexxcell Ltd.

Virginia Sommer, Fluor

Saadet Ulas Acikgoz, Honeywell UOP

## Topical 8: Kister Distillation Symposium

Henry Kister, Fluor Inc

Michael Pritchett, BP

Nicholas Urbanski, Exxonmobil Upstream

Integrated Solutions Company

## Topical B: Leadership Development – Professional Skills to Catalyze your Career

Lori McDowell, Matheson

## Industry 4.0 Topical Conference

Bea Braun, Dow Chemical Company

Ivan Castillo, Dow Inc.

# 2023 SPRING MEETING & 19TH GCPS

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### Symposia Chairs and Co-Chairs

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**Laura Ankrom**, GCPS Vice Chair  
**James Martin**, CCPS Chair  
**Don Connolley**, CCPS Vice Chair  
**Katherine Prem**, PPSS Chair  
**Ian Mylenbusch**, PPSS Vice Chair  
**Irfan Shaikh**, LPS Chair  
**Manuel Herce**, LPS Vice Chair  
**Jennifer Mize**, PSMM Chair  
**Bill Mosier**, PSMM Vice Chair  
**Eduardo Francisco**, PPSAW Chair

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**Eliana Berroteran**  
**Brooke Beveridge**, ExxonMobil  
**Julia Bukowski**, Villanova University  
**Tracy Carter**, Northeastern University  
**J Wayne Chastain**, Eastman Chemical Company  
**Denise Chastain-Knight**, Exida  
**Sebastian Chialvo**, Engineering Systems Inc.  
**Jack Chosnek**, KnowledgeOne LLC  
**Donald Connolley**, Aesolutions  
**Robert Coover**  
**Brenton Cox**, Exponent Inc  
**Eddie Dalton**, BASF Corporation  
**Sean Dee**, Exponent  
**Soham Dutta**, Dow  
**Henry Dwight**, BP Global Wells Organization  
**Victor Edwards**, VHE Technical Analysis  
**Thomas Farrell**, Fike Corporation  
**Daniel Forest**, AFPM  
**Jeffrey Fox**  
**Sandro Franca**  
**William M. Goble**, Exida  
**Kristen Graham**, Bakerrisk  
**Amy Gray**, ESI  
**Frederick Gregory**, Lubrizol Corp  
**Cheryl Grounds**, CCPS Emeritus  
**Juan Gutierrez**, Bayer USA LLC  
**Scott Haney**, Americas Styrenics  
**Steve Hawkins**, Environmental Resources Management, Inc.  
**Fred Henselwood**, NOVA Chemicals  
**Manuel Herce**, E.I. DuPont de Nemours & Co.  
**Rainer Hoff**, Gateway Consulting Group Inc  
**Colin Howat**, C S Howat & Associates DbA Howatrisk  
**Kumar Israni**, Environmental Resources Management (ERM)

**Kathleen Kas**, Dow Chemical Company  
**Trish Kerin**, IChemE  
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**Allison Knight**, 3M  
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**Srihari Maganti**, Brown and Root Industrial Services  
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**Matias Massello**  
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**Davide Moncalvo**, Braunschweiger Flammenfilter GmbH  
**David Moore**, AcuTech Consulting Group  
**Jessica Morris**, Exponent  
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**Katie Mulligan**, The Dow Chemical Company  
**Valecia Murphy**, Huntsman  
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**Ian Mylenbusch**, Southern Company  
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**Katherine Pearson**  
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**Fabio Rossi**, Petrobras  
**Sanjeev Saraf**, Exponent, Inc.  
**Freeman Self**, Bechtel  
**Jatin Shah**, Baker Engineering and Risk Consultants, Inc.  
**Kathleen Shell**, Process Safety Core Consulting  
**Colette Spicer**, ARKEMA  
**Cynthia Spitzenberger**, DNV  
**Angela E. Summers**, SIS-TECH Solutions  
**Jerome Taveau**, Jensen Hughes  
**Amy Theis**, Fauske & Associates, LLC  
**Jennifer Villalobos**, TOTAL Petrochemicals & Refining  
**Matt Walters**, Exponent  
**Qingsheng Wang**, Texas A&M University  
**Julie D. White**, JD White Engineering, LLC  
**Ronald Willey**, AIChE  
**John Wincek**, DEKRA Process Safety  
**Elliot Wolf-Stokes**, The Chemours Company  
**Lydia Wright**, Celanese Chemicals

# SPONSORS 2023 AIChE SPRING MEETING & 19TH GLOBAL CONGRESS ON PROCESS SAFETY

## DIAMOND



## PLATINUM



## GOLD



## SILVER



# SPONSORED TECHNOLOGY WORKSHOPS



Sign up for these informational workshops, from Sustainability Innovation and Integrating PSM into Operational Risk Management to P&ID's and Information Management and Streamlining Your Chemical Management Processes and more. Access valuable insights to help you learn about the latest technologies and find solutions to your current, as well as future, challenges.

## MONDAY, MARCH 13



### SKILLING UP TOWARDS SUSTAINABILITY

3:30 PM - 5:00 PM | Hilton Americas 340AB

Presenters: Chris Cogswell, Elsevier

If you ask most engineering companies today making the transition towards sustainable engineering is a strategic goal in the years ahead. But if you ask employees at those same companies what that means for them, they have no clear idea. In this workshop we will discuss ways employees can take their own steps to gain the skills to become a part of that sustainability transition, and ensure they are ready for when their company makes that change.

## TUESDAY, MARCH 14

YOKOGAWA ♦

### HOW ARE YOU MANAGING RISK TODAY AND IN THE FUTURE?

Tuesday, March 14, 2023: 8:00 AM-9:30 AM, Hilton Americas 338

Presenter: Mark Breese, Yokogawa RAP, SWANSEA, United Kingdom

Risk Assessments are fundamental to managing and mitigating risks and hazards and therefore enabling a safe and effective workplace environment for your workforce and contractors. Traditional risk management techniques are being augmented with technologies which utilize historic process knowledge to create a more predictive and dynamic mitigation strategy. Additionally, organizations are exploring the use of robotics to reduce the likelihood of exposure for operations personnel. All companies considering integrating robotics technology into their facilities should be accustomed with the risk assessment process.



### AI PROCESS OPTIMIZATION FOR REFINERIES AND PETROCHEMICAL PLANTS

Tuesday, March 14, 2023: 8:00 AM-9:30 AM | Hilton Americas 335A

Presenter: Abi Mukund, Imubit

AI is as big as a buzzword as technology today. How do you build the business case for AI at your plant? Come join us as we first define AI back to its scientific definition.



This program is as of March 1, 2023. An up-to-date program is available at [aiche.org/spring](https://aiche.org/spring) and in the AIChEvents app. Please also consult the [FAQs](#) for additional meeting information.





### LEVERAGING TECHNOLOGY ADVANCEMENT TO ENHANCE PROCESS SAFETY PERFORMANCE IN THE ENERGY TRANSFORMATION JOURNEY

**Tuesday, March 14, 2023: 10:15 AM-11:45 AM | Hilton Americas 338**

**Presenter: Nancy Faulk, Siemens Energy AG**

Leveraging technology advancement for continuous enhancement of process safety management is critical to meet the energy transformation requirements. The workshop is a great opportunity to learn about some key technology advancement and share interesting case studies around: - Energy transformation and the implications on process safety - Process optimization by digitalization of asset integrity management - Complex pressure relief and flaring systems data management - Process safety and process decarbonization



### HOW KNOWLEDGE AUTOMATION CLOSSES SKILLS AND KNOWLEDGE GAPS IN YOUR WORKFORCE

**March 14, 2023: 1:30 PM-3:00 PM | Hilton Americas 344AB**

**Presenter: Clint Jeffus, Voovio**

Our industry is dealing with a major challenge, which is growing every day: The Skills Gap. Plants are challenged in recruiting, onboarding and maintaining an effective workforce. Take away some practical and feasible solutions for your plant thanks to Knowledge Automation.

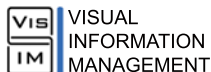


### PROCESS SIMULATION USING SYMMETRY

**Tuesday, March 14, 2023: 3:30 PM-5:00 PM | Hilton Americas 336A**

**Presenter: Victor Quiroga, SLB**

The purpose of this workshop is to show how the Symmetry Process Simulation Platform can help you to improve your workflow on overpressure studies



### P&ID'S AND INFORMATION MANAGEMENT - HOW THEY CAN PLAY TOGETHER

**Tuesday, March 14, 2023: 3:30 PM-5:00 PM | Hilton Americas 344AB**

**Presenter: Stephanie Nelson, Open Range Application, LLC**

In this workshop we can help you understand how to create a value-added P&ID that achieves ease of use and provides a holding place for PSI which in turn will create ownership for the PSI and PSM data at your facility and improve your auditing success.



### INTEGRATED PHAS, BOWTIES AND BARRIER MANAGEMENT

**Tuesday, March 14, 2023: 3:30 PM-5:00 PM | Hilton Americas 336B**

**Presenter: Paul Tours, Wolters-Kluwer Enablon**

There are many areas of process safety that have been improving through innovation and leveraging information management systems. This workshop will explore the integration of process hazard analysis with bowtie and barrier management systems.

# ONSITE INFORMATION

## Onsite Registration Hours

GRB CONV. CTR. EXHIBIT HALL E

Sunday, March 12	12:00 PM – 7:30 PM
Monday, March 13	7:00 AM – 5:30 PM
Tuesday, March 14	7:30 AM – 5:30 PM
Wednesday, March 15	7:30 AM – 5:00 PM

Remote registration is also available at the GRB Conv. Ctr. Exhibit Hall E on Sunday and Monday.

## 2023 AIChE® Spring Meeting and 19th GCPS Exhibit Hours

GRB Conv. Ctr. Exhibit Hall E

Sunday, March 12	6:00 PM – 7:30 PM Open during Conference Opening Reception
Monday, March 13	9:00 AM – 7:00 PM Poster Reception from 5:00 PM – 7:00 PM
Tuesday, March 14	9:00 AM – 6:30 PM Happy Hour from 5:15 PM – 6:30 PM
Wednesday, March 15	9:00 AM – 11:00 AM

## 2023 AIChE® Spring Meeting and 19th GCPS

### Speaker Ready Room

GRB 362

Sunday, March 12	12:00 PM – 7:30 PM
Monday, March 13	7:00 AM – 6:00 PM
Tuesday, March 14	7:30 AM – 6:00 PM
Wednesday, March 15	7:30 AM – 5:00 PM



### Wireless Internet

Hilton of the Americas  
SSID: Hilton Meetings  
Password: hilton2023

GRB Convention Center  
SSID: AIChESpringGCPS  
Password: EmbraceTheFuture

### Mobile App

Download the free mobile app to maximize your Spring Meeting & 19th GCPS experience. Visit the App Store or Google Play and search for “AIChE Events”.



## Lost and Found

For questions and help with Lost and Found, please go to the registration desk located at the GRB Conv. Ctr. Exhibit Hall E



## WIC Family Accommodations Room/Mothers' Room

The GRB Conv. Ctr. Exhibit Hall E AIChE have arranged for a mothers' room onsite which will be available for the duration of the Meeting. The room will have a refrigerator and furniture.



## Recording & Photography Policy

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## The Spring Meeting Scavenger Hunt Is On!

Collect and find codes throughout the conference to earn points and climb the leaderboard. Be one of the 5 lucky winners of a fantastic prize! Details can be found at [aiche.org/hunt](http://aiche.org/hunt). Winners will be announced at the Wednesday morning Coffee Break, March 13, between 9:30 AM -10:15 AM.

# ONSITE INFORMATION

## COFFEE BREAKS & REFRESHMENTS



Monday, March 13	9:00 AM – 9:30 AM & 3:00 PM – 3:30 PM
Tuesday, March 14	9:30 AM – 10:15 AM & 3:00 PM – 3:30 PM
Wednesday, March 15	9:30 AM – 10:15 AM

GRB Conv. Ctr. Exhibit Hall E



### **AGILE Keynote Continental Breakfast**

Monday March 13 • 7:00 AM – 8:00 AM  
George R. Brown Convention Center  
Grand Ballroom BC

## RECEPTIONS



### **AIChE® Spring Meeting & GCPS**

#### **Opening Reception**

Sunday, March 12 • 6:00 PM – 7:30 PM

Sponsored by



### **Poster Sessions**

Monday, March 13 • 5:00 PM – 7:00 PM  
GRB Conv. Ctr. Exhibit Hall E



### **Happy Hour**

Tuesday, March 14 • 5:15 PM – 6:30 PM  
GRB Conv. Ctr. Exhibit Hall E

## PROFESSIONAL HEADSHOTS & GIVEAWAYS



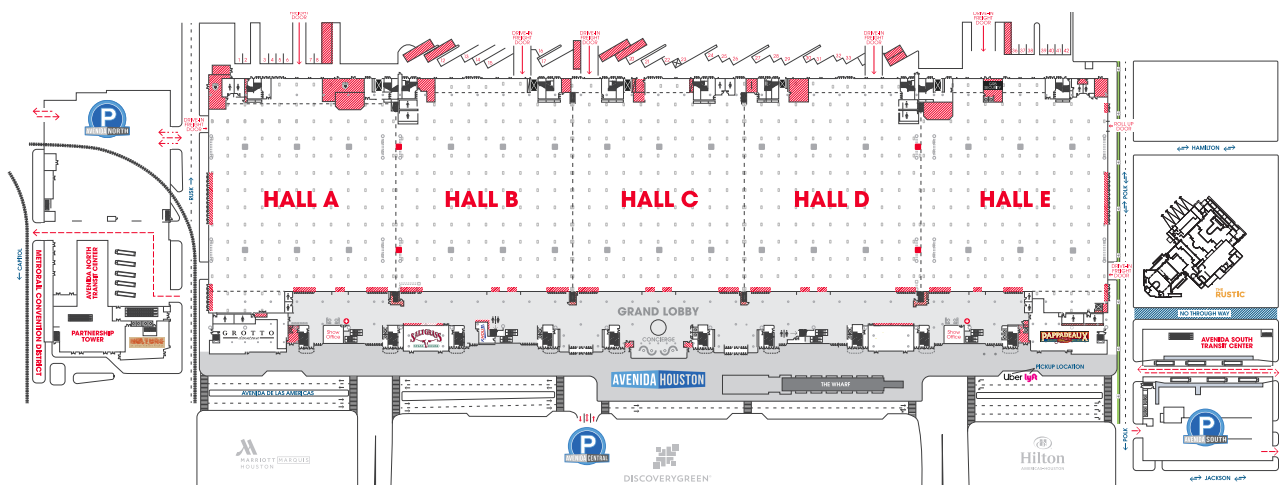
### **AIChE & Exhibitor Giveaways**

Enter and win! Entry tickets can be picked up from exhibitor booths on Monday – Tuesday. Follow #AIChEGiveaways for updates.  
GRB Conv. Ctr. Exhibit Hall E

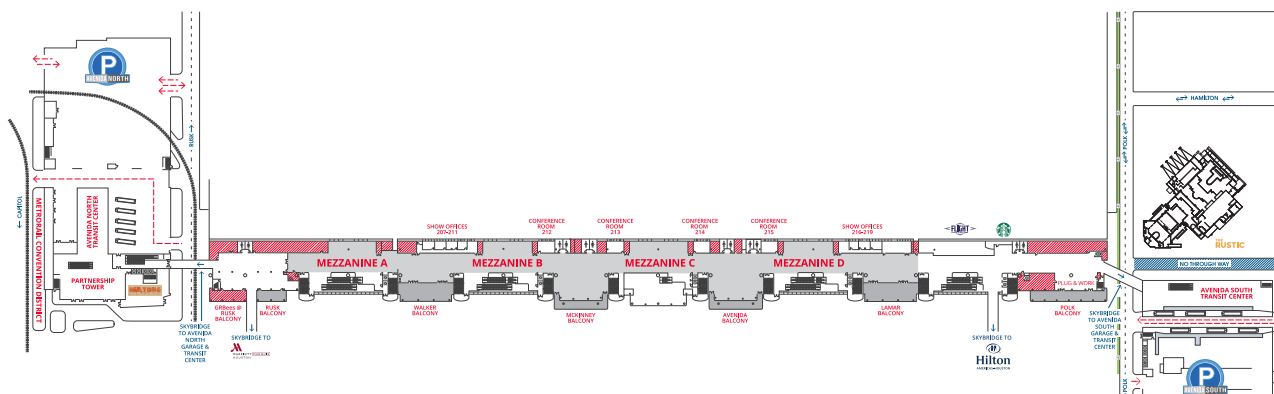
# VENUE FLOOR PLANS

## GEORGE R. BROWN CONVENTION CENTER

### FLOOR ONE



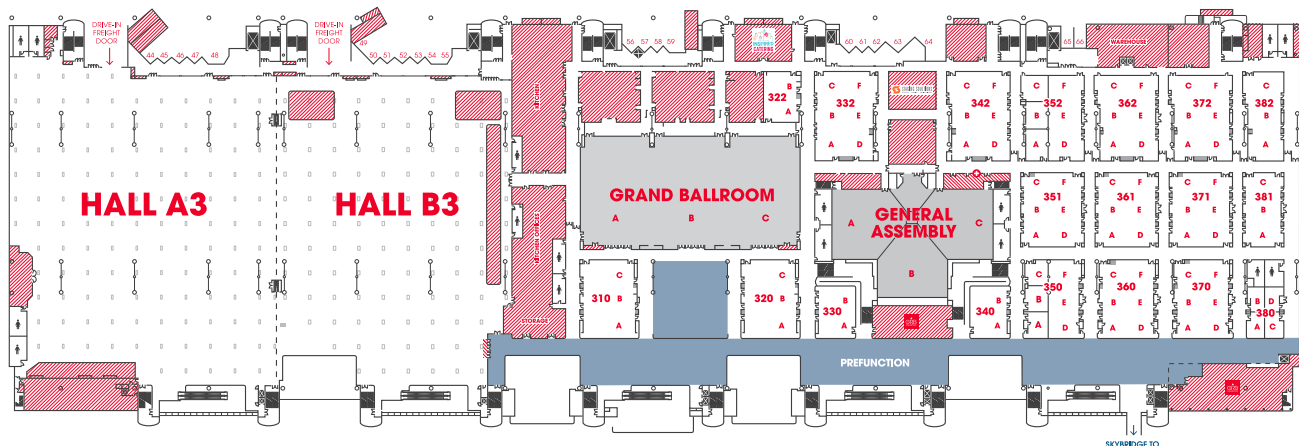
### FLOOR TWO



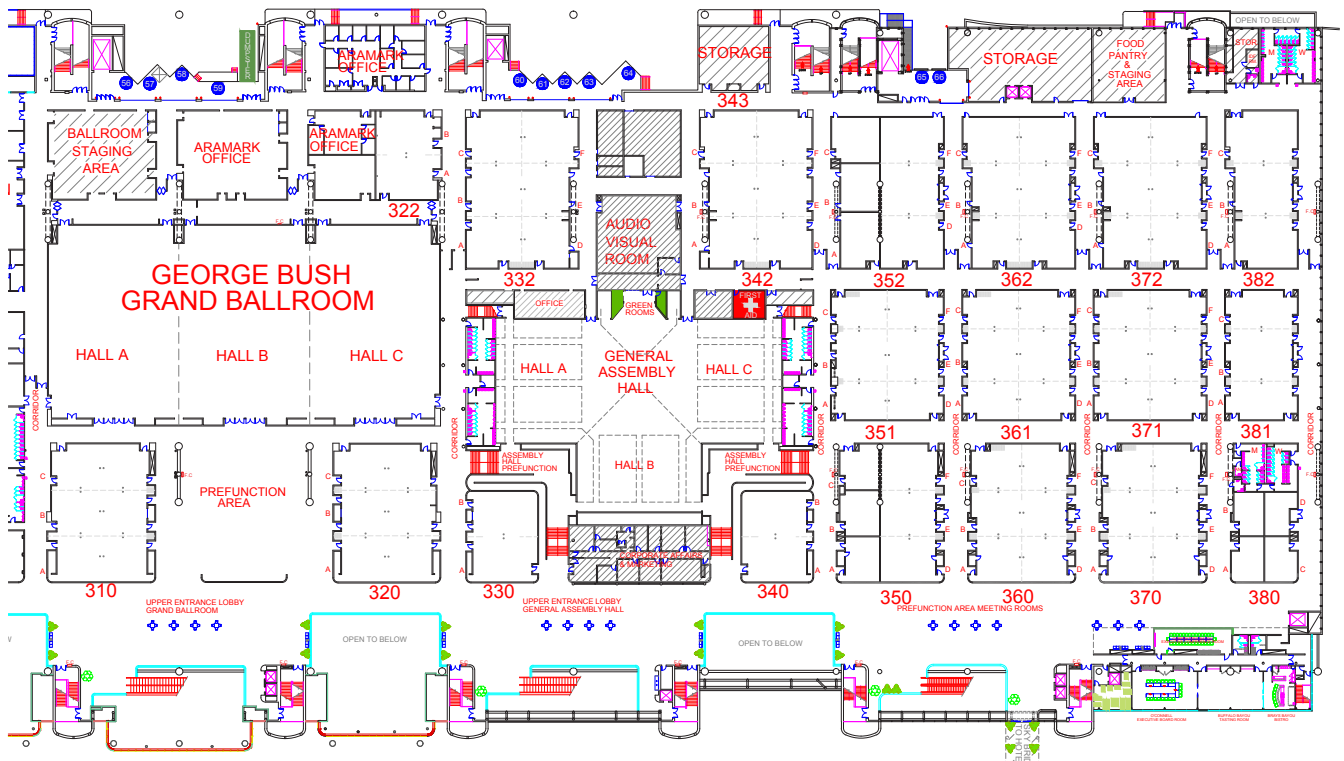
# VENUE FLOOR PLANS

## GEORGE R. BROWN CONVENTION CENTER

### FLOOR THREE



### GRAND BALLROOM

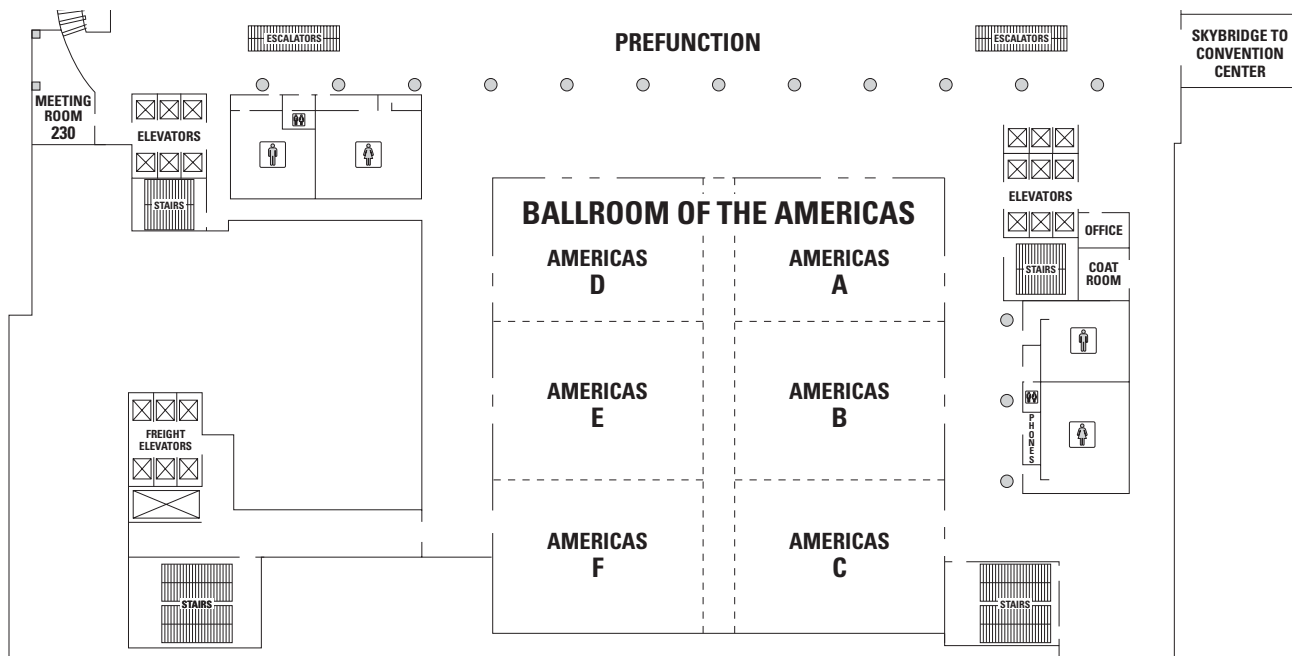




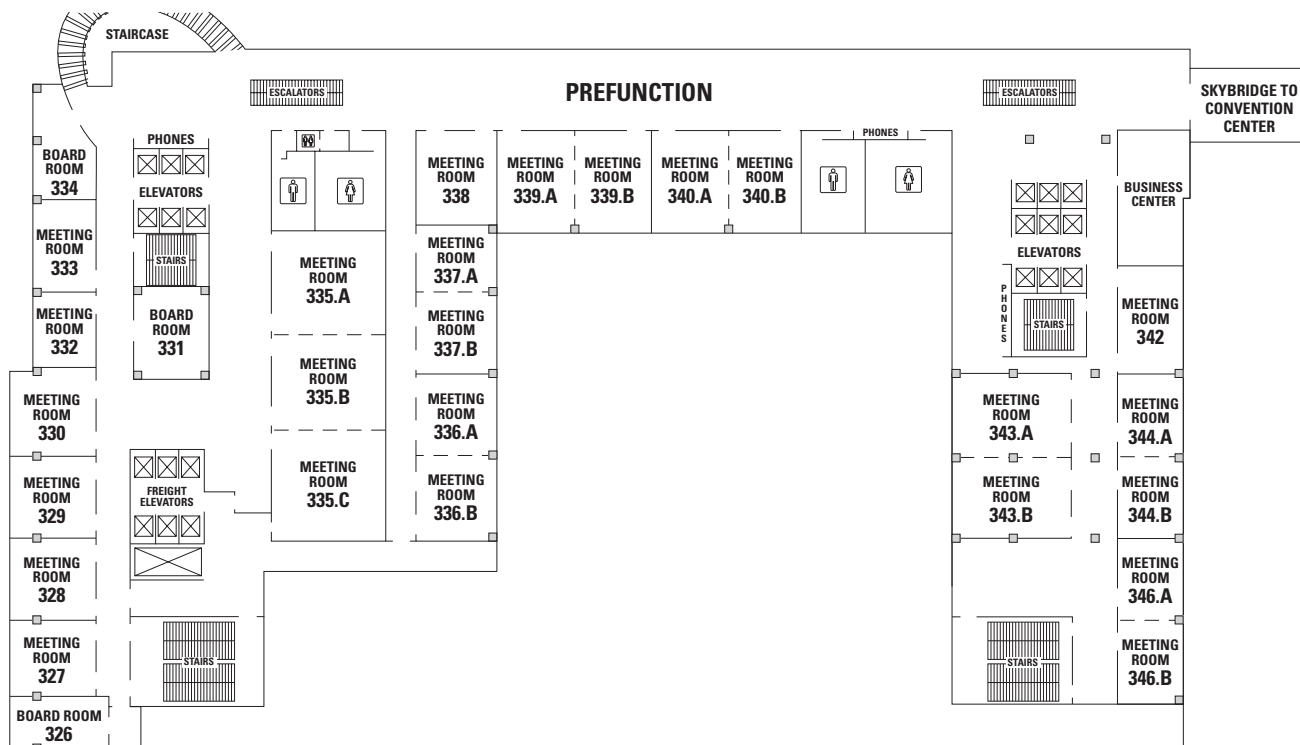
# VENUE FLOOR PLANS

## HILTON AMERICAS-HOUSTON

### LEVEL TWO



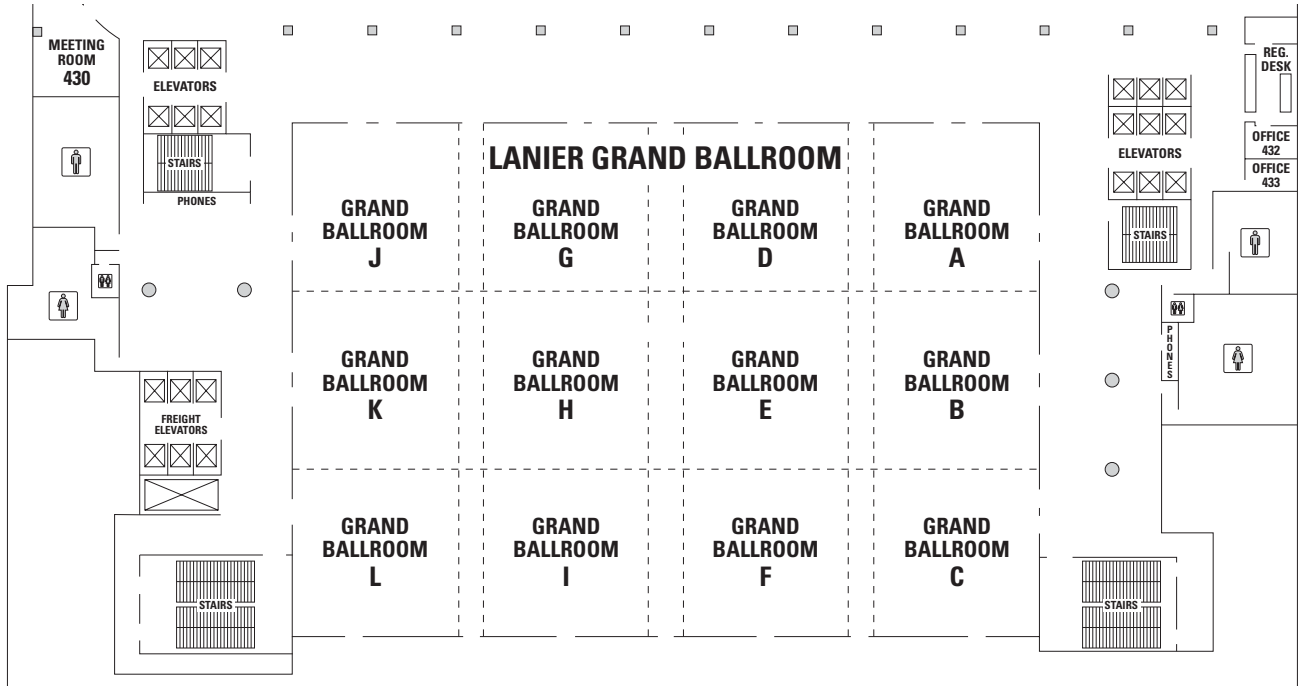
### LEVEL THREE



# VENUE FLOOR PLANS

## HILTON AMERICAS-HOUSTON

### LEVEL FOUR



### AREA MAP



# 2023 SPRING MEETING & 19TH GCPS

## PROGRAM GRID KEY

The full technical program of the 2023 Spring Meeting & 19th GCPS 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 Spring Meeting & 19th GCPS.

### 02A Separations Division

02A - Distillation and Absorption

### 05 Management Division

05A - Professional Development and Licensing

### 09 Environmental Division

### 10 Computing Systems and Technology Division

### 12 Process Development Division

12A - Process Research and Innovation

12C - Technology Transfer and Manufacturing

### 16 Fuels and Petrochemicals Division

### 24 Chemical Engineering & the Law Forum

### TB Topical B: Leadership Development – Professional Skills to Catalyze your Career

### TC Process Intensification

### TD Industry 4.0 Topical Conference

TDA - 9th Analytics and Artificial Intelligence

TDB - 4th Enabling Industry Technologies Topical

### T1 Global Congress on Process Safety

T1A - 25th Process Plant Safety Symposium (PPSS)

T1B - 38th Center for Chemical Process Safety (CCPS) International Conference

T1C - 57th Annual Loss Prevention Symposium (LPS)

T1D - 12th Process Safety Management Mentoring (PSMM) Forum

T1E - Perspectives on Process Safety from Around the World

### T4 The 35th Ethylene Producers Conference

### T5 Topical 5: Emerging Technologies in Clean Energy

### T6 Topical 6: 23rd Topical Conference on Gas Utilization

### T7 Topical 7: 26th Topical on Refinery Processing

### T8 Topical 8: Kister Distillation Symposium

### T12 Hydrogen Safety



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

# 2023 SPRING MEETING & 19TH GCPS TECHNICAL PROGRAM GRID

## Property Key

Hilton Americas = Hilton Americas - Houston

GRB = George R. Brown Convention Center

## 02A - Distillation and Absorption

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	24	Separations Process Fundamentals	Hilton Americas	336A
Monday, March 13	5:00 PM	43	Poster Session: Separations Division	GRB	Exhibit Hall E

## 05 - Management Division

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	18	Role of Leadership in Process Safety in Evolving Organizational Culture	Hilton Americas	337B
Tuesday, March 14	1:30 PM	88	Managing to Deliver Corporate Sustainability Commitments	Hilton Americas	335A

## 09 - Environmental Division

Day	Time	Session #	Session Title	Property	Room
Tuesday, March 14	8:00 AM	47	Carbon Management and Sustainability I	Hilton Americas	336A
Tuesday, March 14	10:15 AM	64	Carbon Management and Sustainability II	Hilton Americas	336A
Tuesday, March 14	1:30 PM	79	Environmental Issues and Controls in Select Industrial Sectors	Hilton Americas	336A

## 10 - Computing Systems and Technology Division

Day	Time	Session #	Session Title	Property	Room
Tuesday, March 14	8:00 AM	46	Computers in Operations: Process Safety and Control	Hilton Americas	336B
Tuesday, March 14	10:15 AM	63	Process Modeling and Simulation	Hilton Americas	336B



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

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# 2023 SPRING MEETING & 19TH GCPS

## TECHNICAL PROGRAM GRID

### 10A - Computing and Systems Technology Division

Day	Time	Session #	Session Title	Property	Room
Tuesday, March 14	1:30 PM	78	Process Modeling and Simulation II	Hilton Americas	336B

### 12 - Process Development Division

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	5:00 PM	42	Poster Session: Process Development Division	GRB	Exhibit Hall E
Tuesday, March 14	10:15 AM	72	Modeling Tools and Techniques for Process R&D II	Hilton Americas	339A
Tuesday, March 14	3:30 PM	105	Advances in Process Design and Development II	Hilton Americas	339A

### 12A - Process Research and Innovation

Day	Time	Session #	Session Title	Property	Room
Tuesday, March 14	8:00 AM	55	Modeling Tools and Techniques for Process R&D I	Hilton Americas	339A
Tuesday, March 14	1:30 PM	89	Advances in Process Design and Development	Hilton Americas	339A
Wednesday, March 15	8:00 AM	118	Advanced Carbon Reduction Technologies	Hilton Americas	339A

### 12B - Pilot Plant

Day	Time	Session #	Session Title	Property	Room
Wednesday, March 15	10:15 AM	134	Process Scale Up and Safety	Hilton Americas	339A

### 12C - Tech Transfer and Manufacturing

Day	Time	Session #	Session Title	Property	Room
Wednesday, March 15	1:30 PM	141	Cost-Effective Commercialization of New Processes or Products	Hilton Americas	339A



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# 2023 SPRING MEETING & 19TH GCPS TECHNICAL PROGRAM GRID

## 18 - Liaison Functions

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	8:00 AM	1	2023 AIChE Spring Meeting & 19th GCPS AGILE Award Keynote Address	Hilton Americas	Ball Room of the Americas A-F
Monday, March 13	12:00 PM	13	2023 AIChE Spring Meeting & 19th GCPS Monday Luncheon Keynote	Hilton Americas	Ball Room of the Americas A-F
Tuesday, March 14	11:45 AM	77	2023 AIChE Spring Meeting & 19th GCPS Tuesday Luncheon Keynote	Hilton Americas	Ball Room of the Americas A-F
Wednesday, March 15	11:45 AM	138	2023 AIChE Spring Meeting & 19th GCPS Wednesday Luncheon Keynote	Hilton Americas	Ball Room of the Americas A-F

## 24 - Chemical Engineering & the Law Forum

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	3:30 PM	29	Intellectual Property Law Panel	Hilton Americas	337B

## STW - Sponsored Technology Workshops

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	3:30 PM	0	Skilling up towards Sustainability	Hilton Americas	340AB
Tuesday, March 14	8:00 AM	0	How Are You Managing Risk Today and Into the Future?	Hilton Americas	338
Tuesday, March 14	8:00 AM	0	AI Process Optimization for Refineries and Petrochemical Plants	Hilton Americas	335A
Tuesday, March 14	10:15 AM	0	Leveraging Technology Advancement to enhance process safety performance in the energy transformation journey	Hilton Americas	338
Tuesday, March 14	1:30 PM	0	How Knowledge Automation closes skills and knowledge gaps in your workforce	Hilton Americas	344AB
Tuesday, March 14	3:30 PM	0	P&ID's and Information Management - How they can play together	Hilton Americas	344AB
Tuesday, March 14	3:30 PM	0	Integrated PHAs, Bowties and Barrier Management	Hilton Americas	336B
Tuesday, March 14	3:30 PM	0	Process Simulation using Symmetry	Hilton Americas	336A



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# 2023 SPRING MEETING & 19TH GCPS

## TECHNICAL PROGRAM GRID

### T1A - 25th Process Plant Safety Symposium (PPSS)

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	10:30 AM	5	Data Success Stories	GRB	361
Monday, March 13	1:30 PM	14	Predictive Maintenance	GRB	361
Monday, March 13	3:30 PM	32	Plant Process Safety and Cyber Impacts – Cybersecurity and Beyond	GRB	361
Tuesday, March 14	8:00 AM	51	The Changing Face of PSM	GRB	361
Tuesday, March 14	10:15 AM	65	Developing Process Safety Influencers	GRB	361
Tuesday, March 14	1:30 PM	80	Focused Risk Analysis Approaches and Techniques in Support of LOPA	GRB	361
Tuesday, March 14	3:30 PM	0	Yoda Panel	GRB	361
Tuesday, March 14	8:00 AM	112	Improving PHA Leadership and Study Outcomes I	GRB	361
Wednesday, March 15	10:15 AM	128	Improving PHA Leadership and Study Outcomes II	GRB	361

### T1B - 38th Center for Chemical Process Safety (CCPS) International Conference

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	10:30 AM	6	Effective Process Safety Management Programs I	GRB	360
Monday, March 13	1:30 PM	12	Effective Process Safety Management Programs II	GRB	360
Monday, March 13	3:30 PM	31	Extreme Adverse Events	GRB	360
Tuesday, March 14	8:00 AM	48	Featured CCPS Projects: Emerging Topics, Tools, and References	GRB	360
Tuesday, March 14	10:15 AM	66	Emerging Process Safety in Developing Nations	GRB	360
Tuesday, March 14	1:30 PM	82	Learning from Each Other: Application of Process Safety Principles to Other Industries	GRB	360
Tuesday, March 14	3:30 PM	99	Emerging Technologies to improve Process Safety Performance	GRB	360
Wednesday, March 15	8:00 AM	115	Process Safety Culture: Sense of Vulnerability	GRB	360
Wednesday, March 15	10:15 AM	127	Human Performance	GRB	360



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# 2023 SPRING MEETING & 19TH GCPS TECHNICAL PROGRAM GRID

## T1C - 57th Annual Loss Prevention Symposium (LPS)

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	10:30 AM	7	Facility Siting, Consequence Analysis, and Risk Assessment I	GRB	370
Monday, March 13	1:30 PM	13	Facility Siting, Consequence Analysis, and Risk Assessment II	GRB	370
Monday, March 13	3:30 PM	30	Emergency Planning and Response	GRB	370
Tuesday, March 14	8:00 AM	49	Fires, Explosions, Combustible Dusts, and Chemical Reactivity I	GRB	370
Tuesday, March 14	10:15 AM	67	Fires, Explosions, Combustible Dusts, and Chemical Reactivity II	GRB	370
Tuesday, March 14	1:30 PM	81	Hydrogen Safety	GRB	370
Tuesday, March 14	3:30 PM	98	Alternative Energy Infrastructure Safety	GRB	370
Wednesday, March 15	8:00 AM	111	Engineered Safety Systems and Mitigation Technologies I	GRB	370
Wednesday, March 15	10:15 AM	126	Engineered Safety Systems and Mitigation Technologies II	GRB	370

## T1D - 12th Process Safety Management Mentoring (PSMM) Forum

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	10:30 AM	8	Tutorials in Loss Prevention Symposium (LPS)	GRB	371
Monday, March 13	1:30 PM	16	What is Process Safety Culture and How Does It Apply to Me?	GRB	371
Monday, March 13	3:30 PM	34	The Faces of Process Safety: Process Safety Mentoring for Our IDEAL Workforce	GRB	371
Tuesday, March 14	8:00 AM	52	What Should be Keeping You Up at Night but Isn't: Things Everyone Should Know about Process Safety	GRB	371
Tuesday, March 14	10:15 AM	69	Tutorials in Center for Chemical Process Safety (CCPS)	GRB	371
Tuesday, March 14	1:30 PM	84	What is Hiding Under the Radar?	GRB	371
Tuesday, March 14	3:30 PM	101	Tutorials in Process Plant Safety Symposium (PPSS)	GRB	371
Wednesday, March 15	8:00 AM	114	Lies We Tell Ourselves – Cognitive Bias and Human Performance in Process Safety	GRB	371
Wednesday, March 15	10:15 AM	130	The Day PSM Hit Home	GRB	371



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# 2023 SPRING MEETING & 19TH GCPS

## TECHNICAL PROGRAM GRID

T1 - Global Congress on Process Safety					
Day	Time	Session #	Session Title	Property	Room
Monday, March 13	9:30 AM	2	GCPS Welcoming Plenary and Keynote*	Hilton Americas	Ball Room of the Americas A-F
Monday, March 13	10:30 AM	9	Using Credible Failure Rates for SIS Ensures Process Safety Panel*	GRB	372 ABDE
Monday, March 13	1:30 PM	15	Spanish Session: Sistemas instrumentados	GRB	372 ABDE
Monday, March 13	3:30 PM	33	Spanish Session: Análisis de consecuencias y planes de emergencia	GRB	372 ABDE
Monday, March 13	5:00 PM	40	GCPS - Process Safety Poster Session	GRB	Exhibit Hall E
Tuesday, March 14	8:00 AM	50	Spanish Session: Análisis de riesgo y toma de decisiones	GRB	372 ABDE
Tuesday, March 14	10:15 AM	68	Spanish Session: Gestion del la seguridad de procesos con base en riesgo	GRB	372 ABDE
Tuesday, March 14	1:30 PM	83	Portuguese Session: Gestão da Segurança de Processos baseada em Risco I	GRB	372 ABDE
Tuesday, March 14	3:30 PM	100	Portuguese Session: Gestão da Segurança de Processos baseada em Risco II	GRB	372 ABDE
Wednesday, March 15	8:00 AM	113	Japan's Process Safety Progress	GRB	372 ABDE
Wednesday, March 15	10:15 AM	0	Process Safety Activities in China	GRB	372 ABDE
Wednesday, March 15	1:30 PM	146	GCPS Joint Session: Case Histories and Lessons Learned*	Hilton Americas	Ball Room of the Americas A-F



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# 2023 SPRING MEETING & 19TH GCPS TECHNICAL PROGRAM GRID

## T4 - The 35th Ethylene Producers Conference

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	9:30 AM	4	Industry 4.0 in Ethylene Production	Hilton Americas	Lanier Grand Ballroom DE
Monday, March 13	1:30 PM	11	EPC Keynote: Developing a Roadmap to Net Zero	Hilton Americas	Lanier Grand Ballroom CF
Monday, March 13	2:30 PM	26	Ethylene Plant Maintenance & Reliability	Hilton Americas	Lanier Grand Ballroom DE
Monday, March 13	2:30 PM	27	Heaters/H <sub>2</sub> Firing – Decarbonization Options	Hilton Americas	Lanier Grand Ballroom GJ
Tuesday, March 14	8:00 AM	60	Contaminants and Impurities in Ethylene Plants	Hilton Americas	Lanier Grand Ballroom GJ
Tuesday, March 14	8:00 AM	61	Ethylene Plant Technology Fundamentals	Hilton Americas	Lanier Grand Ballroom DE
Tuesday, March 14	2:00 PM	95	Caustic System Tutorial	Hilton Americas	Lanier Grand Ballroom DE
Tuesday, March 14	2:00 PM	96	Ethylene Plant Rotating Equipment	The Rustic	Lanier Grand Ballroom GJ
Wednesday, March 15	8:00 AM	123	Ethylene Plant General Environmental	Hilton Americas	Lanier Grand Ballroom DE
Wednesday, March 15	8:00 AM	124	Ethylene Plant Operations	Hilton Americas	Lanier Grand Ballroom GJ
Wednesday, March 15	2:00 PM	148	Ethylene Plant Safety	Hilton Americas	Lanier Grand Ballroom DE
Thursday, March 16	8:00 AM	155	Circular Economy/Decarbonization	Hilton Americas	Lanier Grand Ballroom DE

## T5 - Topical 5: Emerging Technologies in Clean Energy

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	5:00 PM	45	Poster Session: Emerging Technologies in Clean Energy	GRB	Exhibit Hall E
Tuesday, March 14	1:30 PM	92	Alternative Fuels Including Biofuels, Hydrogen, Renewable Hydrogen, and Syngas I	Hilton Americas	337B
Tuesday, March 14	3:30 PM	107	Alternative Fuels Including Biofuels, Hydrogen, Renewable Hydrogen, and Syngas II	Hilton Americas	337B
Wednesday, March 15	1:30 PM	144	CO <sub>2</sub> Capture, Utilization, and Disposal: Key to Clean Energy Production I	Hilton Americas	337B
Wednesday, March 15	3:30 PM	153	CO <sub>2</sub> Capture, Utilization, and Disposal: Key to Clean Energy Production II	Hilton Americas	337B



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# 2023 SPRING MEETING & 19TH GCPS

## TECHNICAL PROGRAM GRID

### T6A - Topical 6: 22nd Topical Conference on Gas Utilization

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	21	Keynote - 22nd Topical Conference on Gas Utilization	Hilton Americas	344AB
Monday, March 13	3:30 PM	37	LNG & Hydrogen Safety	Hilton Americas	344AB
Tuesday, March 14	8:00 AM	57	Gas Utilization (Methane, Ethane, and CO <sub>2</sub> )	Hilton Americas	344AB
Tuesday, March 14	10:15 AM	74	Decarbonization of Gas Processing	Hilton Americas	344AB

### T7 - Topical 7: 25th Topical on Refinery Processing

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	22	Meeting Net Zero Targets: Developments in Sustainability & Emission Reduction I	Hilton Americas	343B
Monday, March 13	3:30 PM	38	Meeting Net Zero Targets: Developments in Sustainability & Emission Reduction II	Hilton Americas	343B
Tuesday, March 14	8:00 AM	58	Renewable Fuels I	Hilton Americas	340AB
Tuesday, March 14	10:15 AM	75	Renewable Fuels II	Hilton Americas	340AB
Tuesday, March 14	1:30 PM	93	Fouling Mitigation and Cleaning	Hilton Americas	343B
Tuesday, March 14	3:30 PM	108	Refinery Profitability, Flexibility, and Optimization	Hilton Americas	343B
Wednesday, March 15	8:00 AM	122	Industrial Wastewater Management and Water Reuse I	Hilton Americas	343B
Wednesday, March 15	10:15 AM	137	Industrial Wastewater Management and Water Reuse II	Hilton Americas	343B



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# 2023 SPRING MEETING & 19TH GCPS TECHNICAL PROGRAM GRID

## T8 - Topical 8: Distillation Symposium

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	25	Kister Distillation Symposium 2023: Honoring the Contributions of Elizabeth and Norman Lieberman: Troubleshooting, Practical Engineering, and Inspiration to Engineers	Hilton Americas	Lanier Grand Ballroom A
Tuesday, March 14	8:00 AM	62	Kister Distillation Symposium 2023: Troubleshooting and Revamp in Ethylene Plant, Gas Processing, Petrochemical, and Refinery Columns	Hilton Americas	Lanier Grand Ballroom A
Tuesday, March 14	1:30 PM	94	Kister Distillation Symposium 2023: Legacy of Jose Bravo: Breaking Technologies for Overcoming the Energy Transition Challenges in Distillation	Hilton Americas	Lanier Grand Ballroom A
Wednesday, March 15	8:00 AM	125	Kister Distillation Symposium 2023: Legacy of Dr. Walter Stupin: Distillation Simulations Are Only Good when the VLE and Physical Properties Predictions Are Good	Hilton Americas	Lanier Grand Ballroom A
Wednesday, March 15	1:30 PM	147	Kister Distillation Symposium 2023: New Insights into Distillation Control, Reboilers, and Condensers	Hilton Americas	Lanier Grand Ballroom A
Thursday, March 16	8:00 AM	156	Kister Distillation Symposium 2023: Troubleshooting: The Lessons Learned Applied to Better Operation	Hilton Americas	Lanier Grand Ballroom A
Thursday, March 16	1:30 PM	157	Kister Distillation Symposium 2023: Dividing Wall Columns: The Rapidly Expanding Technology and Other Exciting Technologies Leading the Way to Energy Transition	Hilton Americas	Lanier Grand Ballroom A

## T12 - Hydrogen Safety Topical Conference

Day	Time	Session #	Session Title	Property	Room
Wednesday, March 15	8:00 AM	119	Hydrogen Safety & Industrial Applications as part of the Energy Transition I	Hilton Americas	344AB

## T15A - The Energy Transition

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	19	INVITED: Energy Transition Roundtable with Energy Leaders*	Hilton Americas	340AB
Tuesday, March 14	1:30 PM	90	Feedstock Expansion for Energy Transition	Hilton Americas	340AB
Tuesday, March 14	3:30 PM	106	New Technologies in Energy Transition	Hilton Americas	340AB
Wednesday, March 15	8:00 AM	120	Design for Energy Transition	Hilton Americas	340AB
Wednesday, March 15	10:15 AM	135	Modeling for Energy Transition	Hilton Americas	340AB
Wednesday, March 15	1:30 PM	142	Analysis for Energy Transition	Hilton Americas	340AB
Wednesday, March 15	3:30 PM	151	Transportation Considerations in Energy Transition	Hilton Americas	340AB



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# 2023 SPRING MEETING & 19TH GCPS

## TECHNICAL PROGRAM GRID

### T16A - Petrochemicals

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	20	Developments in Petrochemicals	Hilton Americas	343A
Monday, March 13	3:30 PM	36	Advances in Catalysis	Hilton Americas	343A
Monday, March 13	5:00 PM	44	Poster Session: Fuels and Petrochemicals Division	GRB	Exhibit Hall E
Tuesday, March 14	8:00 AM	56	Process Control and Optimization Developments I	Hilton Americas	343A
Tuesday, March 14	10:15 AM	73	Process Control and Optimization Developments II	Hilton Americas	343A
Tuesday, March 14	1:30 PM	91	Process Control and Optimization Developments III	Hilton Americas	343A
Wednesday, March 15	8:00 AM	121	Sustainability Developments for Refining and Petrochemicals I	Hilton Americas	343A
Wednesday, March 15	10:15 AM	136	Sustainability Developments for Refining and Petrochemicals II	Hilton Americas	343A
Wednesday, March 15	1:30 PM	143	Real-Time Applications of Data Analytics and Machine Learning I	Hilton Americas	343A
Wednesday, March 15	3:30 PM	152	Real-Time Applications of Data Analytics and Machine Learning II	Hilton Americas	343A

### TB - Topical B: Leadership Development – Professional Skills to Catalyze your Career

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	1:30 PM	23	Rock the podium: Masterclass on delivering virtual and in-person presentations	Hilton Americas	335A
Monday, March 13	3:30 PM	39	Create Your Unicorn Career: Becoming an intreprenuer to innovate and design your customized career	Hilton Americas	335A
Tuesday, March 14	8:00 AM	59	Women in Chemical Engineering (WIC) Networking Breakfast & Keynote (Ticketed Event)	Hilton Americas	Lanier Grand Ballroom A
Tuesday, March 14	10:15 AM	76	WIC Panel	Hilton Americas	335A
Tuesday, March 14	3:30 PM	109	Professional Skills to Catalyze Your Career	Hilton Americas	335A
Wednesday, March 15	1:30 PM	145	Process Safety Engineering Across the Industry - Panel Discussion	Hilton Americas	335A
Wednesday, March 15	3:30 PM	154	Reynolds number to data frames: retraining your mind to think about analytics – Panel Discussion	Hilton Americas	335A



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# 2023 SPRING MEETING & 19TH GCPS

## TECHNICAL PROGRAM GRID

### TD - Industry 4.0 Topical Conference

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	9:30 AM	3	Industry 4.0 / Fuels and Petrochemicals Division Joint Plenary	Hilton Americas	Lanier Grand Ballroom B
Monday, March 13	1:30 PM	17	Analytics & AI Plenary	Hilton Americas	Lanier Grand Ballroom B
Monday, March 13	3:30 PM	35	Show me the value! Triumphs and challenges with attributing benefits from Industry 4.0 initiatives	Hilton Americas	335C
Monday, March 13	5:00 PM	110	Poster Session: Industry 4.0/Analytics & AI	GRB	Exhibit Hall E

### TDA - 9th Analytics and Artificial Intelligence

Day	Time	Session #	Session Title	Property	Room
Monday, March 13	3:30 PM	28	Analytics and Fundamental Modeling	Hilton Americas	335B
Tuesday, March 14	8:00 AM	53	Data Analytics and Smart Manufacturing I	Hilton Americas	335B
Tuesday, March 14	10:15 AM	70	Data Analytics and Smart Manufacturing II	Hilton Americas	335B
Tuesday, March 14	1:30 PM	87	Emerging Technologies in Data Analytics	Hilton Americas	335B
Tuesday, March 14	3:30 PM	103	Data Analytics and Statistics	Hilton Americas	335C
Tuesday, March 14	3:30 PM	104	Optimization and Machine Learning in Chemical Manufacturing	Hilton Americas	335C
Wednesday, March 15	8:00 AM	116	Data-Driven and Hybrid Approaches to Development of New Products I	Hilton Americas	335B
Wednesday, March 15	10:15 AM	131	Data-Driven and Hybrid Approaches to Development of New Products II	Hilton Americas	335B
Wednesday, March 15	10:15 AM	133	Invited Tutorial Session - Approaches in Data Analytics I	Hilton Americas	338
Wednesday, March 15	1:30 PM	140	Vendors' Perspective (Session Speakers Invited)	Hilton Americas	335B
Wednesday, March 15	3:30 PM	149	Analytics & AI - Industry Perspective	Hilton Americas	335B
Wednesday, March 15	3:30 PM	150	Invited Tutorial Session - Approaches in Data Analytics II	Hilton Americas	335C



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# 2023 SPRING MEETING & 19TH GCPS

## TECHNICAL PROGRAM GRID

TDB - 4th Enabling Industry Technologies Topical					
Day	Time	Session #	Session Title	Property	Room
Tuesday, March 14	8:00 AM	54	Digital Transformation in Industry 4.0 I	Hilton Americas	335C
Tuesday, March 14	10:15 AM	71	Digital Transformation in Industry 4.0 II	Hilton Americas	335C
Tuesday, March 14	1:30 PM	85	Cybersecurity in the Chemical Industry I	Hilton Americas	338
Tuesday, March 14	1:30 PM	86	Digital Transformation panel discussion at AIChE Spring meeting 2023	Hilton Americas	335C
Tuesday, March 14	3:00 PM	97	Cybersecurity in the Chemical Industry II	Hilton Americas	338
Wednesday, March 15	8:00 AM	117	Sensors and analyzers for Online Measurements	Hilton Americas	335C
Wednesday, March 15	10:15 AM	132	Digital Twins, Augmented Reality, and Advanced Simulation	Hilton Americas	335C
Wednesday, March 15	1:30 PM	139	Robotics, Cyberphysical, and Autonomous Systems	Hilton Americas	335C



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# SPRING24 +20<sup>TH</sup> GCPS

A Joint AIChE and CCPS Meeting

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**March 24–28, 2024**

New Orleans Hilton Riverside  
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