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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 2022 AIChE Spring Meeting and 18th GCPS in the palm of your hand. Available for free at the Apple or Android App Store.





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This program is as of March 14, 2022. An up-to-date program is available at aiche.org/spring and in the AIChEvents app. Please also consult the FAQs for additional meeting information.

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.

WELCOME FROM THE PRESIDENT



Dear Colleagues:

It is a pleasure to welcome the chemical engineering community to San Antonio and the 2022 AIChE Spring Meeting and 18th Global Congress on Process Safety (GCPS) — our first in-person Spring Meeting and GCPS since 2019.

As people and organizations everywhere take cautious next-steps in emerging from the pandemic, you'll find that AIChE hasn't missed a step in programming this meeting — which showcases the vital work being performed in our profession. This conference presents the best of chemical engineering — with expertise shared by practitioners, thought-leaders, and innovators from across continents.

Our Spring Meeting theme — Transformation Beyond 2050: Sustainability and the Chemical Plant of the Future —underscores many of the meeting's topical conferences and featured events. For example, on Monday morning, **Lori Ryerkerk** (Celanese) sets the stage for our conference with her AIChE Government and Industry Leaders (AGILE) Award keynote on how digitization and sustainability will shape tomorrow's chemical plants.

The Spring Meeting continues its examination of chemical engineering's role in advanced manufacturing, incorporating approaches from process intensification and Industry 4.0. New topical conferences chart progress in industrial wastewater management, as well as new heat exchanger technologies. Additional conferences include the 34th Ethylene Producers' Conference, as well as tracks devoted to refinery processing, gas utilization, clean energy, hydrogen safety, waste plastics, upstream engineering and flow assurance, and workforce equity.

The programming of the Fuels and Petrochemicals Division begins with a plenary co-hosted with the Industry 4.0 Topical Conference, including a presentation by **Brian Roth** (McKinsey and Co.) who will detail the role of artificial intelligence in decarbonization. Later, the Gas Utilization conference welcomes **Henrik Rasmussen** (Haldor Topsoe), who will discuss trends in green and blue hydrogen, ammonia, and methanol for the energy transition.

Safety is brought into focus at our Global Congress on Process Safety (GCPS). Organized by AlChE's Center for Chemical Process Safety (CCPS) and the Safety and Health Division, the GCPS kicks off with a plenary and keynote by **Robert Johnston** (ExxonMobil) on the importance of sharing knowledge gained after incident investigations. In addition to the CCPS International Conference and tracks on loss prevention, plant safety, and process safety management mentoring, the GCPS programs also offers Perspectives on Process Safety from Around the Globe, and concludes with our process safety Case Studies and Lessons Learned sessions.

Meeting-bundle registrants will find a reserved seat at our daily luncheons — where guest speakers will explore some of the conference's overriding themes. Monday's luncheon welcomes **Bhima Sastri** (U.S. DOE), who will delve into the role of carbon capture in meeting net-zero carbon goals. Tuesday's speaker is **Erika Peterman** (BASF), who will discuss the importance of building a process safety culture "beyond the metrics." Then, on Wednesday, **Gavin Towler** (Honeywell) offers reflections on the energy transition.

These are just a few highlights. With so many opportunities available, be sure to download the AIChEvents app, which allows you to maintain a personal schedule and receive program updates on your mobile device. When you do, be sure to schedule time each day to networking with colleagues — and create new connections — at our receptions, poster sessions, and in exhibit area.

Naturally, with the ongoing COVID-19 situation, AIChE is working with our meeting venues to promote a safe environment. Please review the COVID-19 information on the meeting website's FAQ — as well as directives posted in the registration area.

The AIChE Board extends its grateful appreciation to the Spring Meeting Program Chairs — **Ivan Castillo** of Dow and **Cristina Thomas** of 3M — and to the GCPS Chair, **Jérôme Taveau** of Jensen Hughes. The Institute also thanks the meeting's many sponsor organizations and exhibitors for enhancing our events.

Finally, we gratefully acknowledge the contributions of our session chairs, presenters, authors, and volunteers for their generous collaboration and dedication to AIChE and its objectives — year after year.

To all of our attendees — Have a wonderful time at the meeting, and thank you for being a part of it.

Best wishes,

Christine S. Grant

2022 AIChE President

2022 SPRING MEETING & 18TH GCPS **LEADERSHIP, POLICIES AND NOTICES**

2022 SPRING MEETING & 18TH GCPS MEETING LEADERSHIP



Ivan Castillo
Spring Meeting Program Chair
Senior Technology Manager –
Chemometrics and Al Group
Dow Chemical



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



Jérôme Taveau GCPS Chair Senior Consultant Jensen Hughes



John Champion GCPS Vice-Chair EH&S Improvement Leader Dow Chemical

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

2022 SPRING MEETING & 18TH GCPS ORGANIZING COMMITTEE

AICHE Spring Meeting Program Chairs

Ivan Castillo, Dow Inc., *Chair* Cristina Thomas, 3M, *Co-Chair*

Management Division

Mark Swientoniewski, Strata G Donna Bryant, Syngenta Joe Cramer, AlChE Cristina Thomas, 3M

Environmental Division

Richard Siegel, R&B Consulting Services
Gerardo Ruiz-Mercado, U.S. Environmental Protection Agency
Jason Trembly, Ohio University

Computing and Systems Technology Division

Alexander Mitsos, RWTH Aachen University

Process Development Division

Juben Chheda, Shell Projects & Technology

Fuels and Petrochemicals Division

Virginia Sommer, Fluor Christopher S. Buehler, Exponent Inc. Frank Del Nogal, BP America

Young Professionals Committee

Victoria Muir, University of Pennsylvania

Chemical Engineering & the Law Forum

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

Topical B: Leadership Development Professional Skills to Catalyze Your Career

Lori McDowell. Matheson

Topical C: Process Intensification

Ignasi Paula-Riveria, RAPID

Topical D: Industry 4.0 Topical Conference

Ivan Castillo, Dow Inc.

Topical 4: The 32nd Ethylene Producers' Conference

Jake Berret, Nova Chem Mark Schmidt, Dow Walter Postula, Shell Global Solutions Micheal Smith, ExxonMobil Mark Whitney, Linde

Topical 5: Emerging Technologies in Clean Energy

Gus K. Georgeton, LyondellBasell

Topical 6: 20th Topical Conference on Gas Utilization

Virginia Sommer, Fluor Belma Demirel, BP America Frank Del Nogal, BP America

Topical 7: 23rd Topical Conference on

Refinery Processing

Virginia Sommer, Fluor Francesco Coletti, Hexxcell Ltd Ellen Arnold, Honeywell UOP Frank Del Nogal, BP America

Topical 8: Distillation Symposium

Tony Cai, Fractionation Research Inc.

Anand Vennavelli, Koch-Glitsch LP

Gregory Cantley, Marathon Petroleum Company LP

Topical 11: Heat Exchangers

Francesco Coletti, Hexxcell Ltd Nicholas Urbanski, ExxonMobil Virginia Sommer, Fluor

Topical 12: Hydrogen Safety

Nick Barilo, AIChE Paul Alderson, AIChE

Industrial Wastewater Management

and Water Reuse

Somnath Basu, Headworks International **Andrew Shaw,** Black & Veatch Corporation

Global Congress on Process Safety

Jérôme Taveau, Jensen Hughes, Chair

John Champion, The Dow Chemical Company, Vice Chair

Center for Chemical Process Safety International Conference

Sean Dee, Exponent Inc., CCPS Chair

James Martin, Corteva, CCPS Vice Chair

Process Plant Safety Symposium

Nicole Loontjens, Americas Styrenics LLC, *PPSS Chair* **Katherine Prem,** LyondellBasell, *PPSS Vice Chair*

Annual Loss Prevention Symposium

Henry Dwight, BP, LPS Chair Irfan Shaikh, Chevron, LPS Vice Chair

Process Safety Management Mentoring Forum

Katie Mulligan, PSMM Chair, Dow

Jennifer Mize, Eastman Chemical Company, PSMM Vice Chair



2022 SPRING MEETING & 18TH GCPS ORGANIZING COMMITTEE

Process Safety Perspectives from Around the World

Claudemir Peres, Vale SA, *PPSAW Chair* Gustavo Jose Correa, YPF, *PPSAW Vice Chair*,

GGCPS Session Chairs

Ammar Alkhawaldeh, BASF

Laura Ankrom, aeSolutions

Gaurav Arora, Bechtel Energy

Swarup Bade, Covestro

Brooke Beveridge, ExxonMobil

Jennifer Brittain, Advansix

Tracy Carter, Northeastern University

Wayne Chastain, Eastman Chemical Company

Denise Chastain-Knight, exida

Jack Chosnek, Knowledge One LLC

Don Connolley, aeSolutions

Robert Coover, Linde

Brenton Cox. Exponent

Eddie Dalton, BASF

Sean Dee, Exponent

Todd Drennen, Baker Risk

Soham Dutta, The Dow Chemical Company

Vic Edwards, VHE Technical Analysis

Jerry Forest, Celanese

Jeff Fox, CCPS

Eduardo Francisco, Vale SA

Wayne Garland, Eastman Chemical Company

Kristen Graham, Baker Engineering & Risk Consultants, Inc

Fred Gregory, The Lubrizol Corporation

Scott Haney, Ashland

Steve Hawkins, ERM

Manuel Herce, DuPont

Rainer Hoff, Gateway Consulting Group, Inc.

Chris Israni, ERM

 $\textbf{Kathy Kas,} \ \mathsf{The \ Dow \ Chemical \ Company}$

Jim Klein, ABS Consulting

Nathan Knochel, Corteva

Michell Lafond, The Dow Chemical Company

Luis Landa, YPF

Srihari Maganti, Brown and Root

James Martin, Corteva

Matías Massello, PII

Yifei Meng, China University of Petroleum

Davide Moncalvo, Protego

Jessica Morris, Exponent, Inc.

Trey Morrison, Exponent, Inc.

Bill Mosier, Syngenta

Lauren Moyer, Eastman Chemical Company

Neal Muller, Stepan

Valecia Murphy, Huntsman

Phil Myers, Advantage Risk Solutions, Inc.

lan Mylenbusch, Southern Company

Fernando Pawolocki, YPF

Morgan Reed, Oxy

Sam Rodgers, Honeywell Specialty Materials

Freeman Self, Bechtel Energy

Jatin Shah, Baker Engineering & Risk Consultants, Inc

Irfan Shaikh, Chevron

Kathy Shell, Process Safety Core Consulting, LLC

Angelo Solari, P&G

Tom Spicer, University of Arkansas

Cynthia Spitzenberger, DNV GL USA, Inc.

Amy Theis, Dekra

Laura Turci, 3M

Jenniffer Villalobos, Afton Chemical

Matt Walters, Exponent, Inc.

Sam Wang, MKOPSC, Texas A&M University

Julie White, JD White Engineering LLC

Lydia Wilkinson, Celanese

Ron Willey, Northeastern University

John Wincek, DEKRA

Katheryn Zelaya, TUV

Dongfeng Zhao, China University of Petroleum

SPONSORS 2022 AICHE SPRING MEETING & 18TH GLOBAL CONGRESS ON PROCESS SAFETY

DIAMOND







PLATINUM









GOLD















SILVER





CANVASS





















BRONZE













Sponsors as of March 21, 2022

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, APRIL 11



ENHANCE RELIABILITY OF REFINERY OPERATIONS WITH ELECTROLYTE BASED PROCESS SIMULATION SOLUTIONS

1:30 PM - 3:00 PM | Henry B. González Convention Center - 208

Presenter: Ezequiel Vicent

Learn how electrolyte and water chemistry-based reactions and phenomena like corrosion due to phase changes and impurities can significantly impact refinery asset reliability. Electrolyte based process simulation can be used to gain rich insights to create integrity operating windows that can maximize asset performance and mitigate corrosion risk.



REACH YOUR SUSTAINABILITY TARGETS WITH NEW LEVELS OF EFFICIENCY AND INNOVATION

3:30 PM - 5:00 PM | Henry B. González Convention Center - 208

Presenters: Pratik Krishnan, Owen Oesterling

In this workshop, you will learn about AspenTech innovations and how AspenTech University will enable you to maximize business performance and meeting sustainability goals.

TUESDAY, APRIL 12



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

8:00 AM - 9:30 AM | Henry B. González Convention Center - 006D

Presenter: Stephen Nelson

We can show you how to use a simple P&ID to solve your information gaps and create a successful information management retrieval superhighway by using modern technology.



BENCHMARK STREAMLINE YOUR CHEMICAL MANAGEMENT PROCESSES

10:15 AM - 11:45 AM | Henry B. González Convention Center - 006D

Presenters: Doug Martin, Chris Pansing

Join our workshop to learn how digital solutions can help site and business leaders organize, document, and manage chemical inventories, ensure proper reviews as part of new chemical approval requests, facilitate new supplier/product introduction, and standardize the management of change procedures in alignment with Process Safety Management regulatory standards and industry best practices.



This program is as of March 14, 2022. An up-to-date program is available at aiche.org/spring and in the AlChEvents app. Please also consult the FAQs for additional meeting information.

TUESDAY, APRIL 12



THERMOPLASTIC DESIGN CONSIDERATIONS; CHOOSING THE IDEAL MATERIAL FOR A CPI PIPING SYSTEM

10:15 AM - 11:45 AM | Henry B. González Convention Center - 208

Presenter: Stephanie Heffernan

This session will explore different thermoplastic piping system materials for use in CPI Applications. Attendees will learn about relevant material properties and design considerations for selecting a thermoplastic piping system and discuss common applications where thermoplastics can be a cost effective and user friendly solution.



CAN DIGITAL TWINS SOLVE OUR INDUSTRY'S WORKFORCE CHALLENGES?

1:30 PM - 3:00 PM | Henry B. González Convention Center - 208

Presenters: Clint Jeffus, Francis Montemurro

We will look at how Digital Twins can solve the challenges of the workforce and close this gap. Successful Digital Twins must capture tribal (people) knowledge and include the use of (procedure) simulators with data on competency. The ability to educate and test operators on equipment specific procedures provides valuable data on how reliable those operators are. You can measure your people's availability, reliability and productivity.

💨. Wolters Kluwer 🛮 DYNAMIC BARRIER MANAGEMENT: INTEGRATING PSM INTO OPERATIONAL RISK MANAGEMENT

3:30 PM - 5:00 PM | Henry B. González Convention Center - 006D

Presenter: Alwin Van Aggelen

In the workshop it will be demonstrated how Process Safety Management can be seamlessly integrated with Operational Risk Management.

rescale

FAST TRACK COMPUTATIONAL CHEMISTRY WITH TURN-KEY HPC IN THE CLOUD

3:30 PM - 5:00 PM | Henry B. González Convention Center - 208

Presenter: Nithin Jacob

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 (HPC) in the cloud has unlocked acceleration opportunities for computational fluid dynamics, computational chemistry and molecular dynamic simulations to discover new drugs, materials. In this workshop, we'll provide a demo walkthrough of running computational chemistry codes such as GROMACS, LAMMPS on the Rescale Platform.

WEDNESDAY, APRIL 13



RENEWABLE ENERGY: INTEGRATING PROCESS SAFETY, ASSET INTEGRITY, AND RISK MANAGEMENT

10:15 AM - 11:45 AM | Henry B. González Convention Center - 006D

Presenters: Nancy Faulk, Camila Costa da Fonseca, Payam Jamshidi, Christopher Ng

This interactive workshop provides an overview of key renewable technologies and uses case studies to illustrate how this new energy landscape affects process safety, asset integrity, and risk management.

ONSITE INFORMATION

Onsite Registration Hours

Henry B. Gonzalez Convention Center, Hall 4B

Sunday, April 10	12:00 PM - 7:30 PM
Monday, April 11	7:00 AM - 5:30 PM
Tuesday, April 12	7:30 AM - 5:30 PM
Wednesday, April 13	7:30 AM - 5:00 PM

Remote registration is also available at the Hyatt Regency on Sunday and Monday.

2022 AIChE Spring Meeting and 18th GCPS Exhibit Hours

Henry B. Gonzalez Convention Center, Hall 4B

Sunday, April 10 Open during Conference	6:00 PM – 7:30 PM ce Opening Reception
Monday, April 11 Poster Reception from	9:00 AM - 7:00 PM n 5:00 PM - 7:00 PM
Tuesday, April 12 Happy Hour from 5	9:00 AM - 6:30 PM 5:15 PM - 6:30 PM
Wednesday, April 13	9:00 AM - 11:00 AM

2022 AIChE Spring Meeting and 18th GCPS Speaker Ready Room

Henry B. Gonzalez Convention Center, Hall 4 West Registration

Sunday, April 10	12:00 PM - 7:30 PM
Monday, April 11	7:00 AM - 6:00 PM
Tuesday, April 12	7:30 AM - 6:00 PM
Wednesday, April 13	7:30 AM - 5:00 PM



Wireless Internet

We are pleased to offer wireless internet to Meeting attendees.

 $\textbf{SSID(Network Name):} \ \mathsf{AIChESpringGCPS}$

Password: welcomeback



Mobile App

Download the free mobile app to maximize your Spring Meeting & 18th 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 Henry B. Gonzalez Convention Center, Hall 4B



WIC Family Accommodations Room/Mothers' Room

The Hyatt Regency & Henry B. Gonzalez Convention Center 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.



Shipping & Printing at the Hilton Americas &

Henry B. Gonzalez Convention Center UPS: 900 E Market St Ste 101

San Antonio, TX 78205

Grand Hyatt:
FedEx
600 E Market St
San Antonio, Texas 78205



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. Winners will be announced at the Wednesday morning Coffee Break, April 13, between 9:30 AM -10:15 AM.

ONSITE INFORMATION

COFFEE BREAKS & REFRESHMENTS



Monday, April 11	9:00 AM - 9:30 AM & 3:00 PM - 3:30 PM
Tuesday, April 12	9:30 AM - 10:15 AM & 3:00 PM - 3:30 PM
Wednesday, April 13	9:30 AM - 10:15 AM

Henry B. Gonzalez Convention Center, Exhibit Hall 4B



AGILE Keynote Continental Breakfast

Monday April 11 • 7:00 AM — 8:00 AM Henry B Gonzalez Convention Center, Lila Cockrell Theatre Foyer Sponsored by Celanese

RECEPTIONS



AIChE Spring Meeting & GCPS Opening Reception

Sunday, April 10 • 6:00 PM – 7:30 PM Henry B. Gonzalez Convention Center, Exhibit Hall 4B Sponsored by



Poster Sessions

Monday, April 11 • 5:00 PM – 7:00 PM Henry B. Gonzalez Convention Center, Exhibit Hall 4B



Happy Hour

Tuesday, April 12 • 5:15 PM – 6:30 PM Henry B. Gonzalez Convention Center, Exhibit Hall 4B

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. Henry B. Gonzalez Convention Center, Exhibit Hall 4B



Professional Headshot Photos

Monday, April 11 9:00 AM - 7:00 PM

Tuesday, April 12 9:00 AM - 6:30 PM

Henry B. Gonzalez Convention Center, Exhibit Hall 4B

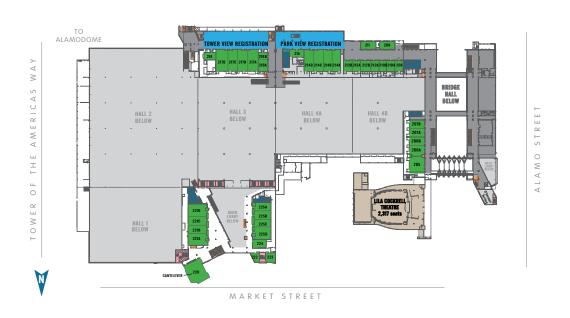
New for this year: update your LinkedIn profile picture or resume photo with a complimentary headshot photograph.

HENRY B. GONZÁLEZ CONVENTION CENTER LEVELS

BALLROOM



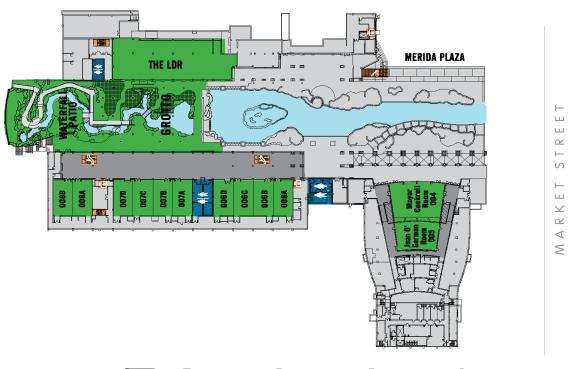
MEETING LEVEL

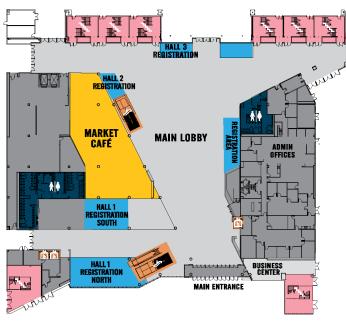


HENRY B. GONZÁLEZ CONVENTION CENTER LEVELS

RIVER LEVEL





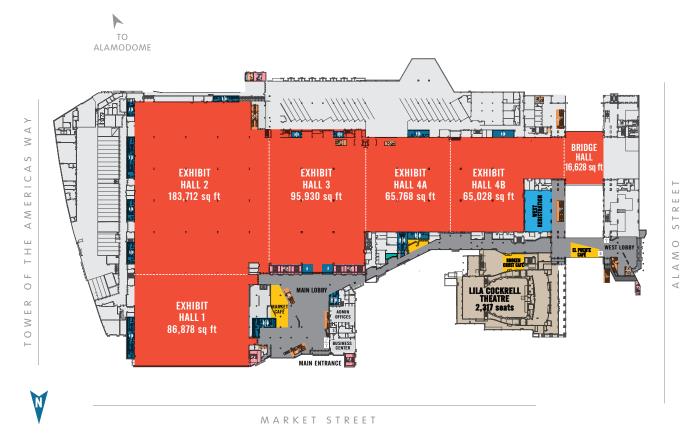




MARKET STREET

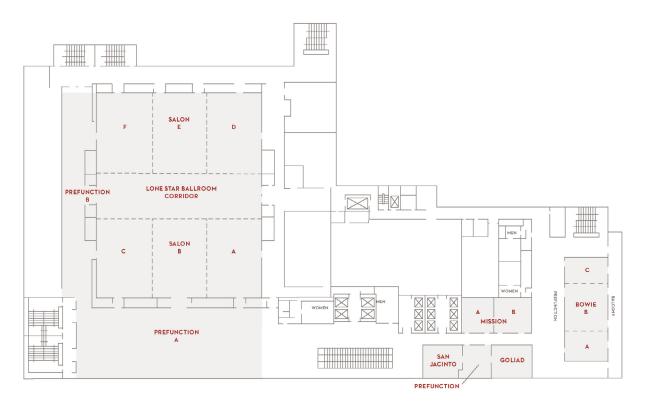
HENRY B. GONZÁLEZ CONVENTION CENTER LEVELS

STREET LEVEL-

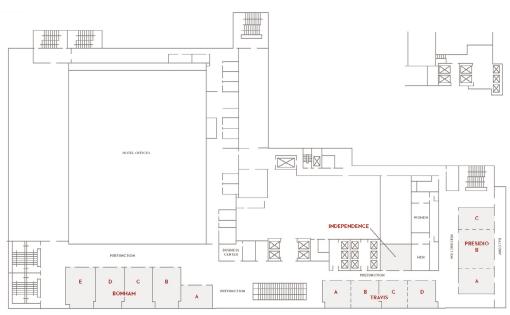


GRAND HYATT LEVELS

SECOND FLOOR

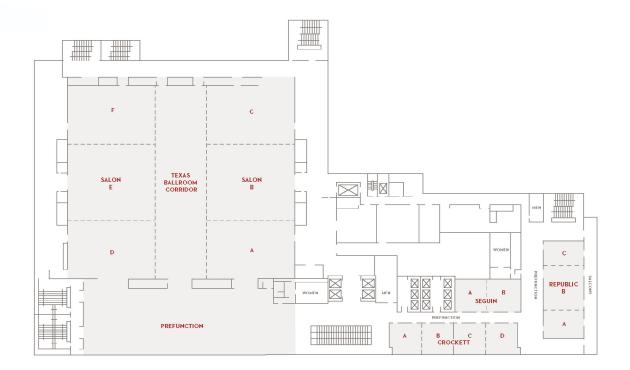


THIRD FLOOR



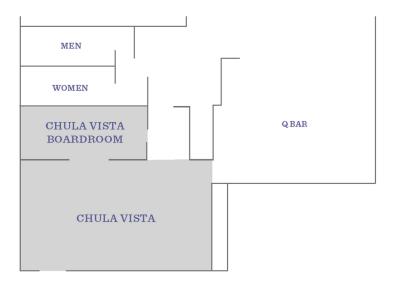
GRAND HYATT LEVELS

FOURTH FLOOR

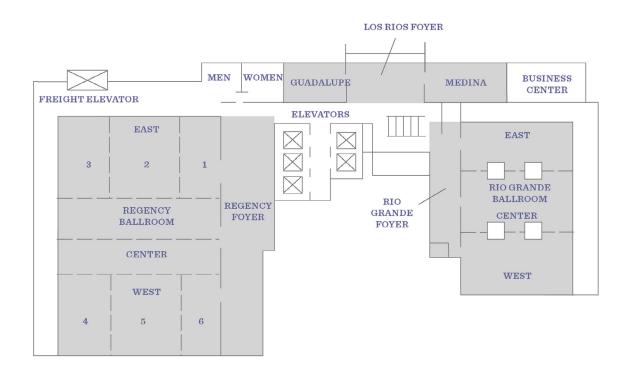


HYATT REGENCY SAN ANTONIO RIVERWALK LEVELS

LOBBY LEVEL-

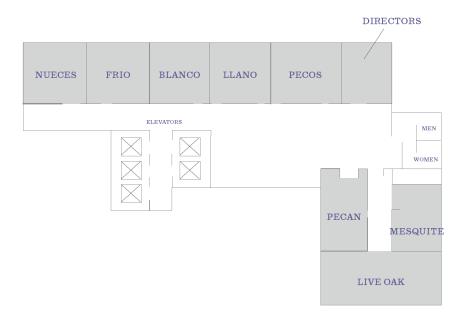


BALLROOM LEVEL



HYATT REGENCY SAN ANTONIO RIVERWALK LEVELS

HILL COUNTRY LEVEL -



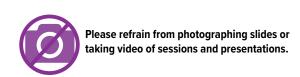
2022 SPRING MEETING & 18TH GCPS PROGRAM GRID KEY

The full technical program of the 2022 Spring Meeting & 18th GCPS is comprised of original programming from AlChE's divisions and forums, topical conferences, and communities.

See below for a list of the subject areas covered at the 2022 Spring Meeting & 18th GCPS.

02	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
ТВ	Topical B: Leadership Development – Professional Skills to Catalyze your Career
TC	Process Intensification
TD	Industry 4.0 Topical Conference
	TDA - 8th Analytics and Artificial Intelligence
	TDB - 3rd Enabling Industry Technologies Topical

T1	Global Congress on Process Safety
	T1A - 24th Process Plant Safety Symposium (PPSS)
	T1B - 37th Center for Chemical Process Safety (CCPS) International Conference
	T1C - 56th Annual Loss Prevention Symposium (LPS)
	T1D - 11th Process Safety Management Mentoring (PSMM) Forum
	T1E - Perspectives on Process Safety from Around the World
T4	The 34th Ethylene Producers Conference
T5	Topical 5: Emerging Technologies in Clean Energy
T6	Topical 6: 22nd Topical Conference on Gas Utilization
T7	Topical 7: 25th Topical on Refinery Processing
T8	Topical 8: Distillation Symposium
T11	2nd Topical Conference on Heat Exchangers
T12	Hydrogen Safety
T14	Industrial Wastewater Management and Water Reuse Topical Conference



Property Key

Hyatt Regency = Hyatt Regency San Antonio Riverwalk HBG Conv. Ctr. = Henry B. Gonzalez Convention Center

02A - Distillation and Absorption					
Day Time Session # Session Title Property Room					
Tuesday, April 12	8:00 AM	81	Separations Process Fundamentals	HBG Conv. Ctr.	210AB

05 - Management Division					
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	1:30 PM	25	Leadership Lessons Learned: 13 years running a profes-sional institute	HBG Conv. Ctr.	006D
Monday, April 11	3:30 PM	47	Role of Leadership in Evolving Organizational Culture	HBG Conv. Ctr.	006D
Tuesday, April 12	1:30 PM	116	Young Leader Award Recipient Presentation: Actively Man-aging Yourself to Manage Your Career	HBG Conv. Ctr.	006D

09 - Environmental Division					
Day	Time	Session #	Session Title	Property	Room
Tuesday, April 12	8:00 AM	63	Carbon Management and Sustainability I	HBG Conv. Ctr.	206B
Tuesday, April 12	10:15 AM	84	Carbon Management and Sustainably II	HBG Conv. Ctr.	206B
Tuesday, April 12	1:30 PM	105	Environmental Issues and Controls in Select Indus-trial Sectors I	HBG Conv. Ctr.	206B
Tuesday, April 12	3:30 PM	124	Environmental Issues and Controls in Select Indus-trial Sectors II	HBG Conv. Ctr.	206B
Wednesday, April 13	8:00 AM	147	Plastic Waste Management and Circular Economy I	HBG Conv. Ctr.	206B
Wednesday, April 13	10:15 AM	170	Plastic Waste Management and Circular Economy II	HBG Conv. Ctr.	206B
Wednesday, April 13	1:30 PM	180	Plastic Waste Management and Circular Economy III	HBG Conv. Ctr.	206B



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

This program is as of March 14, 2022. An up-to-date program is available at aiche.org/spring and in the AlChEvents app.

10 - Computing Systems and Technology Division					
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	3:30 PM	34	Computers in Operations: Process Safety and Control II	HBG Conv. Ctr.	211
Tuesday, April 12	8:00 AM	73	Process Modeling and Simulation I	HBG Conv. Ctr.	211
Tuesday, April 12	10:15 AM	92	Process Modeling and Simulation II	HBG Conv. Ctr.	211
Tuesday, April 12	1:30 PM	111	Process Modeling and Simulation III	HBG Conv. Ctr.	211
Tuesday, April 12	3:30 PM	119	10000 Process Modeling and Simulation IV	HBG Conv. Ctr.	211
Wednesday, April 13	8:00 AM	136	Decision-Making for Industrial Process Systems	HBG Conv. Ctr.	211

12 - Process Development Division					
Day Time Session # Session Title Property Room					
Monday, April 11	5:00 PM	59	Poster Session: Process Development Divi-sion	HBG Conv. Ctr.	Exhibit Hall 4B

12A - Process Research and Innovation					
Day	Time	Session #	Session Title	Property	Room
Tuesday, April 12	8:00 AM	71	Modeling Tools and Techniques for Process R&D	HBG Conv. Ctr.	207A
Tuesday, April 12	10:15 AM	82	Advances in Process Design and Development	HBG Conv. Ctr.	207A
Tuesday, April 12	1:30 PM	99	Advanced Carbon Reduction Technologies	HBG Conv. Ctr.	207A

12B - Pilot Pla	12B - Pilot Plant							
Day	Time	Session #	Session Title	Property	Room			
Tuesday, April 12	3:30 PM	129	Pilot Plant and Laboratory Safety	HBG Conv. Ctr.	207A			
Wednesday, April 13	8:00 AM	146	Pilot Plants for Process Scale-up I	HBG Conv. Ctr.	207A			
Wednesday, April 13	10:15 AM	169	Pilot Plants for Process Scale-up II	HBG Conv. Ctr.	207A			
Wednesday, April 13	1:30 PM	179	Pilot Plants for Process Scale-up III	HBG Conv. Ctr.	207A			





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12C - Tech Transfer and Manufacturing								
Day	Time	Session #	Session Title	Property	Room			
Monday, April 11	1:30 PM	16	Cost-Effective Commercialization of New Processes or Products I	HBG Conv. Ctr.	207A			
Monday, April 11	3:30 PM	35	Cost-Effective Commercialization of New Processes or Products II	HBG Conv. Ctr.	207A			
Wednesday, April 13	3:30 PM	192	Overcoming Manufacturing Challenges in a Circular Economy	HBG Conv. Ctr.	207A			

16 - Fuels and Petrochemicals Division							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	9:30 AM	2	F&PD: Industry 4.0 & Fuels and Petrochemicals Divi-sion Joint Plenary	HBG Conv. Ctr.	214CD		
Monday, April 11	1:30 PM	26	Process Control and Optimization Developments I	HBG Conv. Ctr.	212AB		
Monday, April 11	3:30 PM	46	Process Control and Optimization Developments II	HBG Conv. Ctr.	212AB		
Monday, April 11	5:00 PM	55	Poster Session: Fuels and Petrochemicals Division	HBG Conv. Ctr.	Exhibit Hall 4B		
Tuesday, April 12	10:15 AM	91	Panel Discussion: How Does the Oil and Gas Indus-try Adapt to Our Changing World	HBG Conv. Ctr.	214CD		
Tuesday, April 12	1:30 PM	102	Developments in Bio and Renewable Petrochemicals	HBG Conv. Ctr.	212AB		
Tuesday, April 12	3:30 PM	135	Sustainability Developments for Petrochemical Pro-duction	HBG Conv. Ctr.	212AB		
Wednesday, April 13	8:00 AM	137	Electrifying Refining & Petrochemical Production	HBG Conv. Ctr.	214CD		
Wednesday, April 13	10:15 AM	157	Advances in Catalysis	HBG Conv. Ctr.	214CD		

18 - Liaison Functions							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	8:00 AM	1	2022 AIChE Spring Meeting and 18th GCPS AGILE Award Keynote Address	HBG Conv. Ctr.	Lila Cockrell Theatre		
Monday, April 11	11:45 AM	13	2022 AIChE Spring Meeting & 18th GCPS Monday, April 11 Luncheon Keynote	HBG Conv. Ctr.	Stars at Night Ballroom B3-B4		
Tuesday, April 12	12:00 PM	98	2022 AIChE Spring Meeting & 18th GCPS Tuesday, April 12 Luncheon Keynote	HBG Conv. Ctr.	Stars at Night Ballroom B3-B4		
Wednesday, April 13	12:00 PM	173	2022 AIChE Spring Meeting & 18th GCPS Wednesday, April 13 Luncheon Keynote	HBG Conv. Ctr.	Stars at Night Ballroom B3-B4		



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24 - Chemical Engineering & the Law Forum							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	3:30 PM	42	Intellectual Property Law Panel	HBG Conv. Ctr.	206B		

T1 - Global Congress on Process Safety							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	9:40 AM	7	GCPS Welcoming Plenary and Keynote	HBG Conv. Ctr.	Lila Cockrell Theatre		
Monday, April 11	5:00 PM	52	GCPS - Process Safety Poster Session	HBG Conv. Ctr.	Exhibit Hall 4B		
Monday, April 11	5:00 PM	53	GCPS Alternate Presentations & Posters	HBG Conv. Ctr.	Exhibit Hall 4B		
Wednesday, April 13	1:30 PM	185	GCPS Joint Session: Case Histories and Lessons Learned	HBG Conv. Ctr.	Lila Cockrell Theatre		

T1A - 24th Process Plant Safety Symposium (PPSS)							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	10:30 AM	8	Applying PSM in Non-Regulated Businesses	HBG Conv. Ctr.	008AB		
Monday, April 11	1:30 PM	18	Cybersecurity and Process Safety	HBG Conv. Ctr.	008AB		
Monday, April 11	3:30 PM	51	Yoda Panel	HBG Conv. Ctr.	008AB		
Tuesday, April 12	8:00 AM	74	Process Safety and Environmental, Social, and Gov-ernance Criteria	HBG Conv. Ctr.	008AB		
Tuesday, April 12	10:15 AM	93	Safeguard Verification	HBG Conv. Ctr.	008AB		
Tuesday, April 12	1:30 PM	109	PHA Traps	HBG Conv. Ctr.	008AB		
Tuesday, April 12	3:30 PM	127	Identifying Hazards for the Transient Operating State	HBG Conv. Ctr.	008AB		
Wednesday, April 13	8:00 AM	142	Inherently Safer Design	HBG Conv. Ctr.	008AB		
Wednesday, April 13	10:15 AM	166	Inconceivable! Technologies Improving Process Safety	HBG Conv. Ctr.	008AB		





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T1B - 37th Center for Chemical Process Safety (CCPS) International Conference						
Day	Time	Session #	Session Title	Property	Room	
Monday, April 11	10:30 AM	9	Effective Process Safety Programs I	HBG Conv. Ctr.	006ABC	
Monday, April 11	1:30 PM	20	Effective Process Safety Programs II	HBG Conv. Ctr.	006ABC	
Monday, April 11	3:30 PM	45	Proactive Process Safety	HBG Conv. Ctr.	006ABC	
Tuesday, April 12	8:00 AM	67	Featured CCPS Projects: Emerging Topics, Tools, and References	HBG Conv. Ctr.	006ABC	
Tuesday, April 12	10:15 AM	88	Fostering Process Safety Culture and Compliance with Standards	HBG Conv. Ctr.	006ABC	
Tuesday, April 12	1:30 PM	106	Leadership Forum: The Role of Training and Competency in Developing the Next Generation of Process Safety Leaders	HBG Conv. Ctr.	006ABC	
Tuesday, April 12	3:30 PM	132	Putting Together the Puzzles of Hazard Identification and Risk Analysis	HBG Conv. Ctr.	006ABC	
Wednesday, April 13	8:00 AM	151	The Many Hats of a Process Safety Professional – A Career Perspective	HBG Conv. Ctr.	006ABC	
Wednesday, April 13	10:15 AM	164	Good, Better, Best: Administrative and Engineering Controls	HBG Conv. Ctr.	006ABC	

T1C - 56th Annual Loss Prevention Symposium (LPS)							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	10:30 AM	10	Facility Siting, Consequence Analysis, and Risk Assessment I	HBG Conv. Ctr.	007BCD		
Monday, April 11	1:30 PM	21	Facility Siting, Consequence Analysis, and Risk Assessment II	HBG Conv. Ctr.	007BCD		
Monday, April 11	3:30 PM	33	Combustible Dust Hazards	HBG Conv. Ctr.	007BCD		
Tuesday, April 12	8:00 AM	68	Fires, Explosions and Reactivity I	HBG Conv. Ctr.	007BCD		
Tuesday, April 12	10:15 AM	87	Fires, Explosions and Reactivity II	HBG Conv. Ctr.	007BCD		
Tuesday, April 12	1:30 PM	104	Engineered Safety Systems and Mitigation Tech-nologies I	HBG Conv. Ctr.	007BCD		
Tuesday, April 12	3:30 PM	123	Engineered Safety Systems and Mitigation Tech-nologies II	HBG Conv. Ctr.	007BCD		
Wednesday, April 13	8:00 AM	138	Emergency Planning and Response	HBG Conv. Ctr.	007BCD		
Wednesday, April 13	10:15 AM	158	Alternative Energy Infrastructure Safety	HBG Conv. Ctr.	007BCD		



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T1D - 11th Process Safety Management Mentoring (PSMM) Forum							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	10:30 AM	12	Tutorials in Loss Prevention Symposium (LPS) I	HBG Conv. Ctr.	004		
Monday, April 11	1:30 PM	29	What Should be Keeping You Up at Night But Isn't: Things Everyone Should Know about Process Safety	HBG Conv. Ctr.	004		
Monday, April 11	3:30 PM	50	Tutorials in Process Plant Safety Symposium (PPSS)	HBG Conv. Ctr.	004		
Tuesday, April 12	8:00 AM	64	Conduct of Operations	HBG Conv. Ctr.	004		
Tuesday, April 12	10:15 AM	96	Tutorials in Center for Chemical Process Safety (CCPS) International Conference	HBG Conv. Ctr.	004		
Tuesday, April 12	1:30 PM	115	Tutorials in Loss Prevention Symposium (LPS) II	HBG Conv. Ctr.	004		
Tuesday, April 12	3:30 PM	131	PSM Story Time	HBG Conv. Ctr.	004		
Wednesday, April 13	8:00 AM	153	What is Hiding Under the Radar?	HBG Conv. Ctr.	004		
Wednesday, April 13	10:15 AM	172	The Day PSM Hit Home	HBG Conv. Ctr.	004		

T1E - Perspectives on Process Safety from Around the Globe							
Day	Time	Session #	Session Title	Property	Room		
Monday April 11	10:30AM	11	Spanish Session: Análisis de riesgo y toma de decisiones	HBG Conv. Ctr.	005		
Monday April 11	1:30PM	27	Spanish Session: Gestion del la seguridad de procesos con base en riesgo I	HBG Conv. Ctr.	005		
Monday April 11	3:30 PM	48	Spanish Session: Gestion del la seguridad de procesos con base en riesgo II	HBG Conv. Ctr.	005		
Tuesday, April 12	8:00 AM	75	Spanish Session: Sistemas instrumentados	HBG Conv. Ctr.	005		
Tuesday, April 12	10:15 AM	94	Spanish Session: Análisis de consecuencias y planes de emergencia	HBG Conv. Ctr.	005		
Tuesday, April 12	1:30 PM	110	Portuguese Session: Gestão da Segurança de Processos baseada em Risco I	HBG Conv. Ctr.	005		
Tuesday, April 12	3:30 PM	130	Portuguese Session: Gestão da Segurança de Processos baseada em Risco II	HBG Conv. Ctr.	005		



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T4 - The 34th Ethylene Producers Conference							
Day	Time	Session #	Session Title	Property	Room		
Monday, April 11	9:30 AM	5	Ethylene Plant Maintenance & Reliability	HBG Conv. Ctr.	Hemisfair Ballroom C3		
Monday, April 11	9:30 AM	6	Ethylene Plant Rotating Equipment	HBG Conv. Ctr.	Hemisfair Ballroom C1		
Monday, April 11	2:00 PM	31	Ethylene Plant Operations	HBG Conv. Ctr.	Hemisfair Ballroom C1		
Monday, April 11	2:00 PM	32	Panel Session – Energy Transition & Decarboni-zation – "Big Picture View"	HBG Conv. Ctr.	Hemisfair Ballroom C3		
Tuesday, April 12	8:00 AM	78	Decarbonization/Circular Economy	HBG Conv. Ctr.	Hemisfair Ballroom C3		
Tuesday, April 12	8:00 AM	79	Ethylene Plant Feedstock Contaminants	HBG Conv. Ctr.	Hemisfair Ballroom C1		
Tuesday, April 12	2:00 PM	118	Ethylene Plant Technology Fundamentals	HBG Conv. Ctr.	Hemisfair Ballroom C1		
Wednesday, April 13	8:00 AM	154	Ethylene Plant General Environmental	HBG Conv. Ctr.	Hemisfair Ballroom C3		
Wednesday, April 13	8:00 AM	155	Industry 4.0 in Ethylene Production	HBG Conv. Ctr.	Hemisfair Ballroom C1		
Wednesday, April 13	2:00 PM	186	Ethylene Plant Safety	HBG Conv. Ctr.	Hemisfair Ballroom C1		
Thursday, April 14	8:00 AM	194	Distillation Tutorial	HBG Conv. Ctr.	Hemisfair Ballroom C1		

Day	Time	Session #	Session Title	Property	Room
Monday, April 11	1:30 PM	17	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production I	HBG Conv. Ctr.	206A
Monday, April 11	3:30 PM	36	CO ₂ Capture, Utilization, and Disposal: Key to Clean Energy Production II	HBG Conv. Ctr.	206A
Monday, April 11	5:00 PM	54	Poster Session: Emerging Technologies in Clean Energy	HBG Conv. Ctr.	Exhibit Hall 4E
Tuesday, April 12	8:00 AM	62	Alternative Fuels Including Biofuels, Hydrogen, Re-newable Hydrogen, and Syngas I	HBG Conv. Ctr.	206A
Tuesday, April 12	10:15 AM	83	Alternative Fuels Including Biofuels, Hydrogen, Re-newable Hydrogen, and Syngas II	HBG Conv. Ctr.	206A
Tuesday, April 12	1:30 PM	100	Alternative Fuels Including Biofuels, Hydrogen, Re-newable Hydrogen, and Syngas III	HBG Conv. Ctr.	206A
Tuesday, April 12	3:30 PM	120	Alternative Fuels Including Biofuels, Hydrogen, Re-newable Hydrogen, and Syngas IV	HBG Conv. Ctr.	206A
Wednesday, April 13	8:00 AM	152	Trending Technologies for Clean and Efficient Energy	HBG Conv. Ctr.	206A



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T6A - Topical	6: 22nd Topi	cal Conference	e on Gas Utilization		
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	1:30 PM	24	Keynote - Production of Synthesis Gas from Conven-tional and Unconventional Resources	HBG Conv. Ctr.	210AB
Monday, April 11	3:30 PM	39	Direct Conversion of Methane	HBG Conv. Ctr.	210AB
Tuesday, April 12	8:00 AM	70	Keynote - 22nd Topical Conference on Gas Utilization	HBG Conv. Ctr.	214CD
Tuesday, April 12	1:30 PM	107	LNG Safety I	HBG Conv. Ctr.	210AB
Tuesday, April 12	3:30 PM	128	LNG Safety II	HBG Conv. Ctr.	210AB
Wednesday, April 13	8:00 AM	144	Keynote - Conversion of Syngas I	HBG Conv. Ctr.	210AB
Wednesday, April 13	10:15 AM	160	Conversion of Syngas II	HBG Conv. Ctr.	210AB
Wednesday, April 13	1:30 PM	182	Techno-Economic and Environmental Aspects	HBG Conv. Ctr.	210AB
Wednesday, April 13	3:30 PM	191	LNG Plant Design and Operation	HBG Conv. Ctr.	210AB

T7 - Topical 7:	25th Topica	on Refinery	Processing		
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	1:30 PM	19	Digital Transformation in Refinery: Artificial Intelligence, Augmented/Virtual Reality Applications	HBG Conv. Ctr.	214CD
Monday, April 11	3:30 PM	43	Meeting Net Zero Targets: Refinery Sustainability	HBG Conv. Ctr.	214CD
Tuesday, April 12	1:30 PM	112	Refinery Profitability, Flexibility, and Optimization	HBG Conv. Ctr.	214CD
Tuesday, April 12	3:30 PM	122	Energy Efficiency	HBG Conv. Ctr.	214CD
Wednesday, April 13	1:30 PM	175	Hydrogen in Refining	HBG Conv. Ctr.	214CD





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T8 - Topical 8	: Distillation	Symposium			
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	3:30 PM	40	Influencing Policy in Support of Climate Solutions (PAIC)	HBG Conv. Ctr.	007A
Tuesday, April 12	8:00 AM	77	Making the Most Out of AIChE as a Young Pro-fessional (YP) Member	HBG Conv. Ctr.	007A
Tuesday, April 12	8:00 AM	226	Women in Chemical Engineering (WIC) Networking Breakfast & Keynote (Ticketed Event)	HBG Conv. Ctr.	Stars at Night Ballroom B1
Tuesday, April 12	10:15 AM	97	WIC Panel	HBG Conv. Ctr.	007A
Tuesday, April 12	1:30 PM	103	Industrial safety programs and implementations inclusive of individuals with disabilities (Invited Talks)	HBG Conv. Ctr.	007A
Tuesday, April 12	3:30 PM	126	IDEAL Leadership Panel	HBG Conv. Ctr.	007A
Wednesday, April 13	8:00 AM	145	Leadership Development: Professional Skills to Catalyze Your Career I	HBG Conv. Ctr.	007A
Wednesday, April 13	10:15 AM	168	Leadership Development: Professional Skills to Catalyze Your Career II	HBG Conv. Ctr.	007A
Wednesday, April 13	1:30 PM	178	Negotiation for Chemical Engineers: Negotiation Strategies and Tactics and Evaluating a Job Offer	HBG Conv. Ctr.	007A
Wednesday, April 13	3:30 PM	189	Branding for Nerds: Know and Market Your Value	HBG Conv. Ctr.	007A

T11A - Heat Ex	kchangers				
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	1:30 PM	23	Keynote - Les Jackowski, Chevron: Operational Issues Caused By Incorrect Heat Exchanger Design Choices	HBG Conv. Ctr.	209
Monday, April 11	3:30 PM	44	New Technologies	HBG Conv. Ctr.	209
Tuesday, April 12	1:30 PM	108	Maintenance and Reliability	HBG Conv. Ctr.	209
Wednesday, April 13	8:00 AM	140	Fouling Mitigation and Cleaning Technologies I	HBG Conv. Ctr.	209
Wednesday, April 13	10:15 AM	162	Fouling Mitigation and Cleaning Technologies II	HBG Conv. Ctr.	209
Wednesday, April 13	1:30 PM	174	Design, Simulation and Optimization of Heat Exchangers I	HBG Conv. Ctr.	209
Wednesday, April 13	3:30 PM	190	Design, Simulation and Optimization of Heat Exchangers II	HBG Conv. Ctr.	209





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T12 - Hydroge	en Safety Top	ical Conferer	ce		
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	5:00 PM	56	Poster Session: Hydrogen Safety	HBG Conv. Ctr.	Exhibit Hall 4B
Wednesday, April 13	10:15 AM	165	Hydrogen Safety & Industrial Applications as part of the Energy Transition I	HBG Conv. Ctr.	206A
Wednesday, April 13	1:30 PM	176	Hydrogen Safety & Industrial Applications as part of the Energy Transition II	HBG Conv. Ctr.	206A

T14A - Industi	ial Wastewa	ter Managem	ent and Water Reuse Topical Conference		
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	5:00 PM	57	Poster Session: Industrial Wastewater Management and Water Reuse Topical Conference	HBG Conv. Ctr.	Exhibit Hall 4B
Wednesday, April 13	8:00 AM	150	Technology Innovations in Water and Wastewater Treatment Plenary Session	HBG Conv. Ctr.	207B
Wednesday, April 13	10:15 AM	167	Industrial Wastewater Management and Water Reuse I	HBG Conv. Ctr.	207B
Wednesday, April 13	1:30 PM	177	Industrial Wastewater Management and Water Reuse II	HBG Conv. Ctr.	207B
Wednesday, April 13	3:30 PM	188	Application of Process Simulators for Industrial Wastewater, Water, and Water Reuse	HBG Conv. Ctr.	207B

TCA - Proces	ss Intensificati	on			
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	1:30 PM	22	Intensified Reaction and Separation Processes	HBG Conv. Ctr.	207B
Monday, April 11	3:30 PM	41	Initiatives in Process Intensification and Modular Chemical Processing	HBG Conv. Ctr.	207B
Monday, April 11	5:00 PM	60	Poster Session: Process Intensification	HBG Conv. Ctr.	Exhibit Hall 4B
Tuesday, April 12	8:00 AM	72	Power-To-Products: Challenges and Opportunities	HBG Conv. Ctr.	207B
Tuesday, April 12	10:15 AM	90	Modeling and Simulation of Intensified Processes	HBG Conv. Ctr.	207B

TD - Industr	y 4.0 Topical C	onference				
Day	Time	Session #	Session Title	Property	Room	
Monday, April 11	9:30 AM	3	Industry 4.0 & Fuels and Petrochemicals Division Joint Plenary	HBG Conv. Ctr.	214CD	
Monday, April 11	1:30 PM	14	Analytics & Al Plenary	HBG Conv. Ctr.	214AB	
Monday, April 11	5:00 PM	58	Poster Session: Industry 4.0, Analytics & Al	HBG Conv. Ctr.	Exhibit Hall 4B	



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TDA - 8th Ana	TDA - 8th Analytics and Artificial Intelligence				
Day	Time	Session #	Session Title	Property	Room
Monday, April 11	3:30 PM	37	Data Analytics and Statistics	HBG Conv. Ctr.	214AB
Tuesday, April 12	8:00 AM	65	Data Analytics and Smart Manufacturing I	HBG Conv. Ctr.	214AB
Tuesday, April 12	10:15 AM	85	Data Analytics and Smart Manufacturing II	HBG Conv. Ctr.	214AB
Tuesday, April 12	1:30 PM	101	Data-Driven and Hybrid Approaches to Development of New Products I	HBG Conv. Ctr.	214AB
Tuesday, April 12	3:30 PM	121	Data-Driven and Hybrid Approaches to Development of New Products II	HBG Conv. Ctr.	214AB
Wednesday, April 13	8:00 AM	139	Emerging Technologies in Data Analytics	HBG Conv. Ctr.	214AB
Wednesday, April 13	8:00 AM	143	Invited Tutorial Session - Approaches in Data Analyt-ics	HBG Conv. Ctr.	213AB
Wednesday, April 13	10:15 AM	159	Analytics & Al - Industry Perspective	HBG Conv. Ctr.	214AB
Wednesday, April 13	1:30 PM	183	Vendors' Perspective (Session Speakers Invited)	HBG Conv. Ctr.	214AB
Wednesday, April 13	3:30 PM	187	Analytics and Fundamental Modeling	HBG Conv. Ctr.	214AB

Day	Time	Session #	Session Title	Property	Room
Monday, April 11	3:30 PM	38	Digital Twins, Augmented Reality, and Advanced Simulation	HBG Conv. Ctr.	213AB
Tuesday, April 12	8:00 AM	66	Digital Transformation in Industry 4.0 I	HBG Conv. Ctr.	213AB
Tuesday, April 12	10:15 AM	86	Digital Transformation in Industry 4.0 II	HBG Conv. Ctr.	213AB
Tuesday, April 12	1:30 PM	113	Sensor Topic: If You Cannot Measure It, You Can-not Improve It I	HBG Conv. Ctr.	213AB
Tuesday, April 12	3:30 PM	133	Sensor Topic: If You Cannot Measure It, You Can-not Improve It II	HBG Conv. Ctr.	213AB
Wednesday, April 13	10:15 AM	161	Cybersecurity in the Chemical Industry (invited ses-sion)	HBG Conv. Ctr.	213AB
Wednesday, April 13	1:30 PM	181	Sustainable Engineering in Industry 4.0	HBG Conv. Ctr.	213AB
Wednesday, April 13	3:30 PM	193	Robotics, Cyberphysical, and Autonomous Systems	HBG Conv. Ctr.	213AB



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