

SPRING²¹ + 17TH GCPS

A Joint AIChE and CCPS Meeting

April 18-23, 2021

Securing the Future through Chemical
Engineering & Process Safety Innovations

Process Engineers, Plant Engineers, and Operators contribute unique engineering judgement to each successful enterprise. They are as unique as the diverse fields they serve and they bring their own honed engineering judgement to diverse plants to solve process problems and as such can benefit from specific programming. Take advantage of this users guide developed especially for process and plant engineers to get the best from the Spring Meeting and GCPS. This guide is just a starting point for what the meeting has to offer.

MONDAY, APRIL 19, 2021

TIME (CDT)	PRESENTATION	PROGRAM	TRACK
11:50 AM - 12:10 PM	Digital Twins & Smart Manufacturing – <i>Where Data Analytics Meet Modeling & Optimization</i>	Industry 4.0 & Big Data	Industry 4.0 Topical Conference
1:30 PM - 1:55 PM	Navigating the Growing World of Analytics: Separating the Right Data from Big Data	Industry 4.0 & Big Data	7th Big Data Analytics Topical
1:55 PM - 2:20 PM	Pfizer: Changing Lives with Digital Transformation	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:00 PM - 3:20 PM	In-House Development of Image Analysis Solutions for the Chemical Industry	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:00 PM - 3:20 PM	More Issues with LOPA - from the Originators	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
3:00 PM - 3:20 PM	Simulation of a Moving Bed Chemical Looping System for Electricity Production from Coal Via Chemical Looping Water Splitting	Process Development & Process Intensification	Process Development
3:00 PM - 4:00 PM	Public speaking for ChemEs: improve your oral communication skills	Leadership Development & Management	Leadership Development
3:20 PM - 3:40 PM	Heat Integration and Optimization of Low-Temperature Carbon Dioxide (CO ₂) Removal Via Distillation	Process Development & Process Intensification	Process Development
3:20 PM - 3:40 PM	Materials Modeling - from the Molecule to the Final Product	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:20 PM - 3:40 PM	Opportunities for Continual Risk Reduction By Applying Inherently Safer Design Strategies throughout the Process Lifecycle	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
3:40 PM - 4:00 PM	A Framework to Identify Weak Signals of Process Incidents Using Fram and Machine Learning Algorithms	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:40 PM - 4:00 PM	Protection Layers Integrity Management – an Illusion?	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference

**Information as of 3/17/21 and subject to change.*



An up-to-date program is available at
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TUESDAY, APRIL 20, 2021

TIME (CDT)	PRESENTATION	PROGRAM	TRACK
11:00 AM - 11:20 AM	Evaluation of the Expanded Polystyrene Pyrolysis Process	17th Global Congress on Process Safety	World Perspectives
11:00 AM - 11:20 AM	Impact of Simulation Methods on Column Relief Systems Analysis	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
11:00 AM - 11:20 AM	Improving Integration of Reactive Chemistry into an Established Risk Assessment Culture	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:00 AM - 11:20 AM	Modeling and Simulation of a Process Plant for the Production of Formaldehyde from Methanol	Process Development & Process Intensification	Process Development
11:00 AM - 11:20 AM	Unlocking Value through Better Quantification of Uncertainty in Asset Utilization Loss Using a Data-Driven Stochastic Approach	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:00 AM - 11:30 AM	China's Chemical Industry Risk Prevention and Mitigation through Innovations and Regulatory Implementations	17th Global Congress on Process Safety	World Perspectives
11:20 AM - 11:40 AM	Adsorption of Ibuprofen Using Activated Carbon Obtained from Tire Waste	17th Global Congress on Process Safety	World Perspectives
11:20 AM - 11:40 AM	CFD Modeling of Silicone Rubber Cure Under Gspu over Subsea Line Pipe	Process Development & Process Intensification	Process Development
11:20 AM - 11:40 AM	Data-Driven Approaches for Prediction of Industrial Catalyst Deactivation	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:20 AM - 11:40 AM	Ecolab Process Safety Qualification Process	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:20 AM - 11:40 AM	Is Your SIF Trying to Do Too Much?	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
11:20 AM - 11:40 AM	Leveraging Digital Advances to Optimize Maintenance Activities	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
11:30 AM - 12:00 PM	Inherently Safer Design Practice in Wanhua	17th Global Congress on Process Safety	World Perspectives
11:40 AM - 12:00 PM	Auto Plot Pathfinder : Can Multi-Purpose Optimization Generate a Plant Layout Comparable to a Veteran Engineer ?	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:40 AM - 12:00 PM	CFD Modeling of Silicone Rubber in Sigma Blade Mixers	Process Development & Process Intensification	Process Development
11:40 AM - 12:00 PM	Determination of the Best Vent Stack Design for High-Pressure Hydrocarbon Blowdown Using CFD Modelling – a Case Study	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)

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TUESDAY, APRIL 20, 2021			
TIME (CDT)	PRESENTATION	PROGRAM	TRACK
11:40 AM - 12:00 PM	Effective Pre-Startup Safety Review: Tips and Tools for Ensuring Operational Readiness	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
12:00 PM - 12:30 PM	A Study on the Dynamic Management of Risk in China's Chemical Industry	17th Global Congress on Process Safety	World Perspectives
1:30 PM - 1:50 PM	Current Challenges Performing PSM Audits	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
1:30 PM - 1:50 PM	Digitalization's Impact on Managing Risk	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
1:30 PM - 1:50 PM	Flame Arrestor Failures in Industrial Equipment and Consumer Products	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
1:30 PM - 1:50 PM	Imposter Syndrome	Leadership Development & Management	Management Division
1:30 PM - 1:50 PM	Maximizing Batch Yield in the Presence of Upstream Disturbances with Multivariate Modeling and Numerical Optimization	Industry 4.0 & Big Data	7th Big Data Analytics Topical
1:30 PM - 1:50 PM	Process Safety in Management by Walking Around – Strengthening Leadership in Process Safety	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
1:50 PM - 2:10 PM	Designing and Delivering Operational Excellence	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
1:50 PM - 2:10 PM	How to Apply AI at Scale at a Chemicals Plant	Industry 4.0 & Big Data	7th Big Data Analytics Topical
1:50 PM - 2:10 PM	How to Leverage Attorney-Client Privilege for Effective Incident Investigations	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
1:50 PM - 2:10 PM	Importance of Safety Critical Devices and Emergency Shutdown Systems in a Process Plant	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
1:50 PM - 2:10 PM	Powered By Inclusion (Case Studies)	Leadership Development & Management	Management Division
2:05 PM - 2:30 PM	Quantifying the Risk of NO _x Accumulation in the Ethylene Cold Box from the Use of Polymerization Inhibitors	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
2:10 PM - 2:30 PM	Design and Full-Scale Testing of a Blast-Resistant Roller Shutter Door	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
2:10 PM - 2:30 PM	<i>Five Keys to Successfully Working with Attorneys during Complex investigations of Large-Consequence Incidents</i>	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)

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2:10 PM - 2:30 PM	Industry 4.0 and Control Valve Analytics	Industry 4.0 & Big Data	7th Big Data Analytics Topical
2:10 PM - 2:30 PM	Technical Women's Leadership Forum – What are we waiting for?	Leadership Development & Management	Management Division
2:10 PM - 2:30 PM	The Shift to Dynamic and Simulated Process Safety Risk Management	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
3:00 PM - 3:20 PM	Application of Design of Experiment Based Approach in Coatings Research	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:00 PM - 3:20 PM	Fiber Optic Distributed Sensing for Process Monitoring and Improvement	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
3:00 PM - 3:20 PM	Gone with the Wind : Ventjet Is a New Engineering Model for Atmospheric Dispersion	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
3:00 PM - 3:20 PM	Investigation of Thermal Hazards in Reaction Systems	Process Development & Process Intensification	Process Development
3:00 PM - 3:20 PM	Investigation of Transfer Learning for Image Classification and Impact on Training Sample Size for Image Classification Tasks	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:00 PM - 3:20 PM	Leveraging Existing PHA Studies to Assess Cybersecurity Risk	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
3:20 PM - 3:40 PM	¿Como Alcanzar Una Protección Contra Incendio Eficiente? El Fire Hazard Analysis (FHA) Como Herramienta De Optimización De Seguridad Contra Incendios	17th Global Congress on Process Safety	World Perspectives
3:20 PM - 3:40 PM	Concepts for a Toxic Facility Siting Program	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
3:20 PM - 3:40 PM	Finding the Proverbial "Needle in the Haystack"	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:20 PM - 3:40 PM	Impact of Big Data on Material / Product Development	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:20 PM - 3:40 PM	Integrating Process Safety and Cybersecurity in Chemical Process Industry for Better Ehss Performance	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
3:20 PM - 3:40 PM	Real-Time Spectroscopy Via Multivariate Optical Computing	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
3:20 PM - 3:40 PM	Seven Reasons to Pilot a Chemical Process	Process Development & Process Intensification	Process Development

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3:35 PM - 4:00 PM	Monitoring Ppb Monomer Impurities and Catalyst Poisons with Process GC-MS	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
3:40 PM - 4:00 PM	<i>¿Cuándo Aplicar Un Fera: Fire and Explosion Risk Assessment?</i>	17th Global Congress on Process Safety	World Perspectives
3:40 PM - 4:00 PM	Defining Multivariate Raw Materials Specifications in Industry 4.0	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:40 PM - 4:00 PM	Facility Siting - Negotiating the Minefield of "Maximum Credible Event"	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
3:40 PM - 4:00 PM	How Is Cybersecurity Changing Process Safety?	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
3:40 PM - 4:00 PM	Maximizing Returns from Enterprise Manufacturing Intelligence (EMI) and Multivariate Statistical Process Control (MSPC)	Industry 4.0 & Big Data	7th Big Data Analytics Topical
3:40 PM - 4:00 PM	Scalable Pervaporation Membrane to Enable New Continuous Flow Chemical Synthesis Routes	Process Development & Process Intensification	Process Development
3:40 PM - 4:00 PM	Sensor Ball: An Autonomous Logging Robot for Oil Wells	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
WEDNESDAY, APRIL 21, 2021			
TIME (CDT)	PRESENTATION	PROGRAM	TRACK
10:45 AM - 11:03 AM	Life Management of High Energy Piping	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
11:00 AM - 11:20 AM	Data-Driven Identification of an Industrial Reverse Osmosis Membrane Process: Impact of the Feed Properties, Plant Variables and the Operating Window	Computing and Systems Technology	Industry 4.0 Topical Conference
11:00 AM - 11:20 AM	Leveraging CFD to Effectively Evaluate Sensitivity to Ignition Location When Designing for Explosion Loads	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
11:00 AM - 11:20 AM	Leveraging Process Knowledge and Process Safety Information (PSI) for Process Safety Management (PSM) Success	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
11:00 AM - 11:20 AM	Optimization and Design of Condensers in Oil and Gas Refinery	Process Development & Process Intensification	Process Development
11:00 AM - 11:20 AM	Proactive Approach in Improving Process Safety Performance at Hydrocarbon Industry	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
11:00 AM - 11:20 AM	Selective Pfas Removal from Wastewater By Functionalized Sorbent Media	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference

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11:00 AM - 11:20 AM	Slaying the Dragons That Sabotage Protection Measures to Feed on the Ash of Your Plant	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:00 AM - 11:30 AM	Combining Data-Driven and First Principles Models: A Tutorial	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:03 AM - 11:21 AM	Evaluating Centrifugal Fan Retrofit	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
11:20 AM - 11:40 AM	"I Didn't Inhale, and Never Tried It Again." Proper Handling of Toxic Inhalation Hazard (TIH) Chemicals in Plants and during Transportation.	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:20 AM - 11:40 AM	<i>A Novel Design Methodology for Separation Processes to Minimize the Energy Consumption</i>	Process Development & Process Intensification	Process Development
11:20 AM - 11:40 AM	Adsorption Kinetics of N-Nitrosodimethylamine (NDMA) Onto Activated Carbons	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:20 AM - 11:40 AM	Elucidating Diafiltration Membrane Cascade Design Rules with Superstructure Optimization	Computing and Systems Technology	Industry 4.0 Topical Conference
11:20 AM - 11:40 AM	How Long between Cause and Consequence in a PHA?	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
11:20 AM - 11:40 AM	Integrated Leading Indicators and Their Effectiveness Evaluation	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
11:20 AM - 11:40 AM	Minimizing Risk of Unit Trains of Hazmat	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
11:21 AM - 11:39 AM	Improving Hydrocarbon Contaminant Control in Ethylene Quench Water Units	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
11:39 AM - 11:57 AM	<i>A Successful Program in Process Water Corrosion Control</i>	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
11:40 AM - 12:00 PM	Characterization of Cooling Water Blowdown in District Cooling and Determination of Its Effect on Wastewater Treatment Plants	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:40 AM - 12:00 PM	Conducting Hazops That Are Good and Don't Just Look Good	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
11:40 AM - 12:00 PM	Dynamic Modeling and Nonlinear Parameter Estimation of Nanofiltration Membranes	Computing and Systems Technology	Industry 4.0 Topical Conference
11:40 AM - 12:00 PM	Evaluation Protocols for Flammable and Toxic Dispersion Models	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)

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11:40 AM - 12:00 PM	Means to Achieve Backflow Prevention of Hazardous Chemicals from Process Vessels to Utility Pipelines and Its Importance during HAZOP Studies	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:40 AM - 12:00 PM	Process Safety Leading Indicators Dictates Lagging Indicators	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
1:15 PM - 1:40 PM	Anti-Erosion Coating for Improving Transfer Line Exchanger Durability	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
1:15 PM - 1:40 PM	Vertical Thermosyphon Reboiler Operation Troubleshooting	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
1:30 PM - 1:50 PM	Driving Continuous Process Safety Improvement from Investigated Incidents	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
1:30 PM - 1:50 PM	Lifting the Fog Off Hydrocarbon Mist Explosions	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
1:30 PM - 1:50 PM	Use of ISO 14001 Standard to Improve Environmental Footprint in Automotive Sector - a Case Study	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
1:30 PM - 1:50 PM	Writing in the Margins: Considerations for Safe Operating Limits	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
1:30 PM - 2:00 PM	Operationalizing Advanced Analytics for Process Industries	Industry 4.0 & Big Data	7th Big Data Analytics Topical
1:35 PM - 2:05 PM	A Real-World Case Study: (Re)Assessing Distillation Tower Instrumentation & Controls for Optimal Operations	Kister Distillation Symposium	The 33rd Ethylene Producers Conference
1:40 PM - 2:05 PM	Enhancing the Overall Efficiency of Steam Cracking Furnaces	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
1:40 PM - 2:05 PM	Furnace Modernization: An Economical Way to Upgrade Your Existing Furnace to Improve Energy Performance and Reduce CO ₂ Emissions	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
1:50 PM - 2:10 PM	Addressing Common PSM Audit Findings on Operating Limits and Safe Limits	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
1:50 PM - 2:10 PM	Fire Relief Sizing for Heavy Petroleum with Cracking	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
1:50 PM - 2:10 PM	Pandemic Risk Management; Protecting People While Ensuring Business Continuity	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference

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1:50 PM - 2:10 PM	Technical Review: Suitable Conventional and Emerging Water Treatment Systems for Cwbd Management	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
2:00 PM - 2:30 PM	Osisoft: Providing Foundational Infrastructure to Enable Organizational Layers of Analytics	Industry 4.0 & Big Data	7th Big Data Analytics Topical
2:05 PM - 2:30 PM	Destructive Examination of Ultra-Selective Exchangers (USX's)	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
2:10 PM - 2:30 PM	Construction of Ultrasonic and Magnetic Reactor for Rapid Clarification of Turbid Metamorphic Diesel Oil	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
2:10 PM - 2:30 PM	Controle De Risco Em Planos De Bloqueio De Tubulação Usando Gêmeo Digital	17th Global Congress on Process Safety	World Perspectives
2:10 PM - 2:30 PM	Determining the Effectiveness of the Human Safeguard	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
2:10 PM - 2:30 PM	Large Volume Liquid Hydrogen Releases: Key Results and Outcome of Modelling Exercises	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
2:10 PM - 2:30 PM	Relief System Design Revalidation Warranted during Current Pandemic	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
2:50 PM - 3:20 PM	The DO'S and DON'TS of Distillation Control — The Practitioner's Perspective	Kister Distillation Symposium	The 33rd Ethylene Producers Conference
3:10 PM - 3:35 PM	Utilizing a Digital Connected Platform to Improve Combustion Safety and Asset Reliability	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
3:20 PM - 3:50 PM	Improved Distillation Composition Control	Kister Distillation Symposium	The 33rd Ethylene Producers Conference
3:35 PM - 4:00 PM	Deep Learning Optimization for Ethylene Producers	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
4:00 PM - 4:30 PM	<i>Catalyst Safety Assessment: A Risks Assessment of Catalysts/Adsorbents in the Transient Phases of Start-up</i>	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
THURSDAY, APRIL 22, 2021			
TIME (CDT)	PRESENTATION	PROGRAM	TRACK
9:30 AM - 9:50 AM	Practical Use Cases for Artificial Intelligence and Machine Learning	Industry 4.0 & Big Data	7th Big Data Analytics Topical
9:50 AM - 10:10 AM	Top Five Criteria to Selecting a Successful AI Use Case	Industry 4.0 & Big Data	7th Big Data Analytics Topical

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TIME (CDT)	PRESENTATION	PROGRAM	TRACK
10:10 AM - 10:30 AM	Democratizing Data Analytics for the Process Manufacturing Expert	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:00 AM - 11:20 AM	Machine-Learned Decision Trees for Predicting Gold Nanorod Dimensions from Spectra Alone	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:00 AM - 11:20 AM	Overview of a Continuous Process Test Bed Being Built and the Mobile Worker Use Cases That Use Augmented Reality Backed By Digital Twin Technology	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
11:00 AM - 11:20 AM	Reactive Metal Waste Particulate Combustibility	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
11:00 AM - 11:20 AM	Risk Assessment and Safeguarding of Lithium Ion Battery Containing Facilities	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:20 AM - 11:40 AM	Anomaly Detection in Process Data Using Generative Adversarial Networks (GAN)	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:20 AM - 11:40 AM	Dangerous When Wet: Exploring Important Differences in Common Water Reactivity Testing Methodologies	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
11:20 AM - 11:40 AM	HIRA in Mining Companies Is Necessary and a Big Challenge.	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
11:20 AM - 11:40 AM	Structure Packing Fire Risk and Mitigation Plan at Distillation Column – Eneos Corporation Oita Refinery	17th Global Congress on Process Safety	World Perspectives
11:20 AM - 11:40 AM	Using Digital Process Twin Technology to Drive Operational Excellence in Utility Systems	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
11:40 AM - 12:00 PM	Got Dust?: Performing a Dust Hazard Analysis (DHA)	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
11:40 AM - 12:00 PM	How Well CAN WE Predict Causes behind the Pipeline Incidents?	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:40 AM - 12:00 PM	Novel Approach to Developing Hazardous Area Classification Boundaries	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
11:40 AM - 12:00 PM	Sparse Identification of Nonlinear Dynamics for Digital Twins	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
11:40 AM - 12:00 PM	The Analysis of the Very Serious Marine Casualty Accidents with Container Ships in the Last 20 Years Shows How Process Safety Can Provide Valuable Information That Can Prevent It	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference

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11:40 AM - 12:00 PM	The Method of Reviewing HAZOP Worksheet with Risk Evaluation	17th Global Congress on Process Safety	World Perspectives
1:30 PM - 1:50 PM	“If You <i>Really</i> Think It’s That Important—Show Me, Don’t Tell Me!”	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
1:30 PM - 1:50 PM	Improving Operations with Digital Twins	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
1:30 PM - 1:50 PM	Mobile Computing for Procedure Execution Facilitation to Reduce Risk	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
1:30 PM - 1:50 PM	Nothing Lasts Forever: Items Missing from Your Preventative Maintenance System	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
1:30 PM - 1:55 PM	Topological Data Analysis for Multivariate Process Monitoring: Inspirations from Neuroscience	Industry 4.0 & Big Data	7th Big Data Analytics Topical
1:50 PM - 2:10 PM	Autonomous Process Model Identification	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
1:50 PM - 2:10 PM	C.P. Snow’s “Two Cultures” Challenging CCPS Process Safety Culture - Chemical Engineers’ Roadmap to Bridging Engineering to the Humanities	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
1:50 PM - 2:10 PM	Control Room Design – Could We Have Anticipated a Pandemic?	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
1:50 PM - 2:10 PM	How Safe Is Your Safe Haven?	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
1:50 PM - 2:10 PM	Managing Process Safety Effectively through Proactive Emergency Response Management	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
1:55 PM - 2:20 PM	Applying Reinforcement Learning for Batch Trajectory Optimization in an Industrial Chemical Process	Industry 4.0 & Big Data	7th Big Data Analytics Topical
2:10 PM - 2:30 PM	Good or Great? the Seven Practices of Great Process Safety Leaders	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
2:10 PM - 2:30 PM	Human Factors for Process Safety: A Handbook By the Centre for Chemical Process Safety and the Energy Institute	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
2:10 PM - 2:30 PM	The Digital Reactor – Using a Process Twin to Ensure Safe, Operable and Optimized Performance	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical

**Information as of 3/17/21 and subject to change.*



An up-to-date program is available at
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A Joint AIChE and CCPS Meeting

April 18-23, 2021

Securing the Future through Chemical
Engineering & Process Safety Innovations

THURSDAY, APRIL 22, 2021

TIME (CDT)	PRESENTATION	PROGRAM	TRACK
2:10 PM - 2:30 PM	You Have SIS Bypassed Right Now and Don't Know It	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
2:20 PM - 2:45 PM	Leveraging Digital Image Data for Real-Time Inspection & Quality Prediction	Industry 4.0 & Big Data	7th Big Data Analytics Topical
2:45 PM - 3:10 PM	Charge Gas Compression Efficiency Monitoring	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
3:00 PM - 3:20 PM	"Why Do I Have Relief System Inadequacies NOW?" Incidents and Industry Events That Have Influenced Changes in Relief System Design	17th Global Congress on Process Safety	10th Process Safety Management Mentoring (PSMM) Forum
3:00 PM - 3:20 PM	DHA Findings - so You're out of Compliance, What Now?	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
3:00 PM - 3:20 PM	How Do You Trust Your Asset and Process Safety Information If You Don't Frequently Measure Its Quality?	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
3:00 PM - 3:20 PM	Measuring Vital Signs of Process Safety Culture	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
3:00 PM - 3:20 PM	Too Many or Not Enough? a Methodology for Fire and Gas Detector Layouts at LNG Facilities	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
3:10 PM - 3:35 PM	Challenges of Ethylene Process Compressor Trains from Design to Start-up and Operability	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
3:20 PM - 3:40 PM	How to Make Your DHA Make a Difference	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
3:20 PM - 3:40 PM	In Process Safety - Is 14 Audit Findings a Good Vital Sign	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
3:20 PM - 3:40 PM	Measurements in Optimization Models	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
3:20 PM - 3:40 PM	What Is the Safest Hazard Assessment Approach for Distances to Storage Tanks?	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
3:40 PM - 4:00 PM	Develop a CFD Heat Transfer Model for Using High Expansion Foam in an LNG Spillage	17th Global Congress on Process Safety	55th Annual Loss Prevention Symposium (LPS)
3:40 PM - 4:00 PM	Making Zero a Reality: Selecting & Measuring the "Right" Zero	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference

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THURSDAY, APRIL 22, 2021			
TIME (CDT)	PRESENTATION	PROGRAM	TRACK
3:40 PM - 4:00 PM	Semi-Rigorous Models for Virtual Analyzers in Distillation Units	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
3:40 PM - 4:00 PM	Taking Action on Your DHA Action Items	17th Global Congress on Process Safety	23rd Process Plant Safety Symposium (PPSS)
FRIDAY, APRIL 23, 2021			
TIME (CDT)	PRESENTATION	PROGRAM	TRACK
9:30 AM - 9:55 AM	Design and Implementation of a Reliable and Cost-Effective Surge and Control System on Centrifugal Compressors	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
10:10 AM - 10:30 AM	Dam(n) Safety Lessons: Risk Based Process Safety Principles Applied to a 2020 Dam Failure	17th Global Congress on Process Safety	36th Center for Chemical Process Safety (CCPS) International Conference
10:20 AM - 10:45 AM	Development and Installation of SIL2 Torquemeter for Functional Safety Process Control of Steam Turbine Driven Compressor	The 33rd Ethylene Producers Conference	The 33rd Ethylene Producers Conference
11:00 AM - 11:20 AM	Mitigating Threats and Malware through Enhanced Awareness, Detection & Response	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
11:00 AM - 11:30 AM	“Digital Transformation 4.0” - Production Optimization with AI	Industry 4.0 & Big Data	7th Big Data Analytics Topical
11:20 AM - 11:40 AM	Top 3 Mistakes When Protecting Your SIS from Cyber-Attack	Industry 4.0 & Big Data	2nd Enabling Industry Technologies Topical
11:30 AM - 12:00 PM	Unlocking the Potential of AI: How to Implement AI-Based Predictive Analytics for Process Safety	Industry 4.0 & Big Data	7th Big Data Analytics Topical



THE BENEFITS OF VIRTUAL

- Allows for a more flexible schedule throughout the conference week, so you can drop in and out as needed.
- In case you miss a session, presentations will be recorded for you to access recordings for approximately one month after the event.
- Virtual networking can be fun and easier for some than networking in person, you can get to know people by chat.
- Participate in highly interactive live Q&A sessions and networking rooms.
- Get educated, network, and stay safe & healthy at the same time.
- Save on travel expenses and time out of the office.

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