

FALL 2021 CONFERENCE

PURDUE PROCESS SAFETY AND ASSURANCE CENTER (P2SAC)

AGENDA AT A GLANCE

Monday-Wednesday, December 6-8, 2021

Monday, December 6, 2021: Tutorials
(8:00 am – 5:15 pm)

Tuesday, December 7, 2021: Safety conference
(8:00 am – 5:15 pm)

Wednesday, December 8, 2021: Discussions of
safety management systems
(9:00 am – 10:45 am)

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PURDUE PROCESS SAFETY AND ASSURANCE CENTER (P2SAC)**

AGENDA FOR TUTORIALS

Monday, December 6, 2021

8:00 – 8:15	Osman Basaran (Professor of ChE and Academic Director of P2SAC): Welcome, overview and agenda
8:15 – 10:15	Edward Marszal (Kenexis): Fire and gas mapping for gas detector placement
10:15 – 10:30	Break
10:30 – 12:30	Elizabeth Raines (Fauske): Reactive vent sizing
12:30 – 1:15	Lunch
1:15 – 2:15	Han Xia (Lilly): Explosive/self-reactive material classification/shipping around the world
2:15 – 3:15	George Harriott (Air Products): Pipeline dynamics (gas: leak location or liquid: leak detection)
3:15 – 3:30	Break
3:30 – 5:00	Min Sheng (Corteva): Practical use of ARC analysis for thermal stability
5:00 – 5:15	Ray Mentzer and Osman Basaran (Professors of ChE and Directors of P2SAC): Wrap up

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AGENDA FOR SAFETY CONFERENCE

Tuesday, December 7, 2021

8:00 – 8:15	Osman Basaran (Professor of ChE and Academic Director of P2SAC): Welcome, overview and agenda
8:15 – 8:45	Ray Mentzer (Professor of ChE and Executive Director of P2SAC): Welcome and overview of P2SAC research and teaching activities
8:45 – 9:15	Fareed Sayeed (Lilly): The use of quantum chemical calculations for thermal hazard assessments
9:15 – 9:45	Connor Barrett and Jeff Sperry (Vertex): Bicyclo[1.1.1]pentanes – a rising process safety challenge
9:45 – 10:15	Prasad Goteti (Honeywell): Connected process plants to improve safety in the digital world
10:15 – 10:30	Break
10:30 – 11:00	Bryan Boudouris (Professor of ChE, Purdue): Low-power, low-cost gas sensors with high specificity for hydrogen gas
11:00 – 11:30	Erdem Arslan (Air Products): Reliability availability and maintainability (RAM) studies for industrial plants design and optimization
11:30 – 12:00	Abe Schuitman (Corteva): Sustainability metrics for small molecule development
12:00 – 12:30	Laurence Pearlman (Marsh) and Peter Rutigliano (Mercer Sirota): Using elements of safety culture as a predictor of process safety outcomes
12:30 – 1:15	Lunch

1:15 – 1:45	Brett Savoie (Professor of ChE): Quantum chemical prediction of molecular thermodynamics to assess reaction safety and scale-up
1:45 – 2:15	Katherine Young (UG-Purdue) et al. (Purdue): Experimental versus predicted heats of reaction for some common reaction types in pharma industry
2:15 – 2:45	Vilas Pol (Professor of ChE): Battery safety
2:45 – 3:15	Daniel Valco (Corteva): Thermal instability and associated potential safety hazards of $[\text{Rh}(\text{ethylene})_2\text{Cl}]_2$ catalyst
3:15 – 3:30	Break
3:30 – 4:00	Xuemin Chen (Dow): Industrial perspectives on highly energetic materials
4:00 – 4:30	Daniel Nguyen (ioKinetic): Leveraging the adiabatic calorimetry for optimal emergency relief sizing
4:30 – 5:00	Joe Jakubowicz (UG-Purdue) et al. (Purdue): Tool to calculate LFL and UFL of flammable mixtures with inerts
5:00 – 5:15	Ray Mentzer and Osman Basaran : Wrap up

**FALL 2021 CONFERENCE
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AGENDA FOR DISCUSSIONS OF SAFETY MANAGEMENT SYSTEMS

Wednesday, December 8, 2021

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| 9:00 – 9:15 | Ray Mentzer and Osman Basaran (Professors of ChE and Directors of P2SAC): preamble |
| 9:15 – 9:45 | Laura Turci, Ross Bass and Jonathan Slater (3M): 3M's EHS management systems – an element-based approach |
| 9:45 – 10:15 | Leslie Day and Thomas Noah (CountryMark): The application of management systems within CountryMark |
| 10:15 – 10:45 | Ray Mentzer and Osman Basaran (Professors of ChE and Directors of P2SAC): open discussion and conference conclusion |