

Hazards32

18–20 October 2022, Harrogate, UK

Process safety conference

Reconnect with the major hazards
community



IChemE ADVANCING
CHEMICAL
ENGINEERING
WORLDWIDE

Hazards 32

18–20 October 2022, Harrogate, UK

Hazards 32 will bring the major hazards community together to reconnect and rebuild networks in person again after two years of virtual knowledge-sharing.

This industry-focused event will share good practice, current thinking and lessons learned in process safety and hazard management, helping to advance the understanding and application of managing major hazards for the benefit of society.

Hazards 32 in summary

- 80+ technical presentations from industry practitioners, researchers and regulators
- Facilitated discussion time and Q&A
- Inspirational plenary speakers
- Trevor Kletz Hazards Lecture
- Exhibition hall
- Social and networking opportunities

Who should attend?

Hazards 32 is an ideal event for anyone who is active in process safety and risk management for chemical process facilities or other facilities dealing with hazardous materials. Process safety and loss prevention professionals working at all levels and across all industry sectors will benefit from attending.

Networking

Hazards was last held in-person in May 2019. Our virtual conferences have continued to facilitate knowledge-transfer and learning since, but they couldn't replicate the valuable networking opportunities available at a face-to-face event.

There will be plenty of time in the *Hazards 32* programme for networking with fellow professionals, including a welcome drinks reception in the exhibition hall and an informal social event, helping you to rebuild networks and make new contacts.

We've also built plenty of time into the programme for facilitated discussion on our session themes. This will help to continue the conversations, identify the common issues facing practitioners and encourage networking.

Programme

Presentations from industry practitioners, researchers and regulators will share examples of good practice, new approaches and valuable lessons learned that you can apply to your own operations, and will also explore some of the challenges and opportunities in process safety today.

Session themes:

- Asset Integrity
- Assurance
- ATEX/DSEAR
- Clean Energy
- Consequence Assessment & Modelling
- Digitalisation
- Education
- Environment
- Fire & Explosion Hazards
- Human Factors
- Hydrogen Hazards
- Hydrogen Network
- Lessons Learned
- Process Safety Competencies
- Process Safety Management
- Risk Assessment
- Safer Plant
- Safety Instrumented Functions (SIFs)
- Safety Leadership

Speakers



**Dame
Judith Hackitt**

Trevor Kletz Hazards
Lecture



Jasper Clark

Marsh Energy & Power
Plenary Speaker
Embedding Good Practice



Jane Lassey

Health and Safety Executive
Plenary Speaker
New Technologies



Peter Davidson

Tank Storage Association
Plenary Speaker
Leadership



Steve Elliott

Chemical Industries Association
Plenary Speaker
Cross-Sector Learning

Watch on-demand

Conference attendees will be able to watch video recordings of the presentations after the event, to catch up on ones they missed or revisit content that interested them most.

10:30–12:30	Workshop	Bowties Making Sense of Safety (prior registration required)	 Wolters Kluwer enablon	
13:00–13:15	Opening session	Welcome – Ken Rivers, Chair, <i>Hazards 32</i> Technical Committee		
13:15–14:00	 Plenary speaker Jane Lassey	<i>Regulatory and Business Strategies in a Rapidly Changing World</i> Jane Lassey, Director, Chemicals, Explosives and Microbiological Hazards Division, Health and Safety Executive, UK		
	Hydrogen Hazards I	Consequence Assessment & Modelling I	Asset Integrity	Lessons Learned I
14:10–14:35	<i>COMAH in the Hydrogen Economy</i> Jack Davy, Wood, UK	<i>Pipeline Release Rate Model (PiRRaM) for Pressure Liquefied Gases</i> Andrew Newton, Health and Safety Executive, UK	<i>Ageing Plants – Corrosion is the Real Enemy but There Are Other Problems</i> Robert Canaway, Suregrove, UK	<i>Learning from Global Upstream Process Safety Event Data</i> Mariana Carvalho & Wendy Poore, International Association of Oil & Gas Producers (IOGP), UK; David Fargie, BP, UK; Kirsty Walker, Schlumberger, UK
14:40–15:05	<i>Hydrogen Safety Case Gap Analysis and Regulation Review</i> Widya Wahyuni, ERM, UK	<i>Assessment of Vent Pipework Structural Support Response to Internal Explosion</i> Andrew Benton, ESR Technology, UK	<i>Failure of a 30 Inch Pipeline Due to Atmospheric Corrosion</i> Keith Birkitt, James Hobbs & Ian Chapman, Health and Safety Executive, UK	<i>Lessons Learnt on Inherent Safety in Legacy High-Hazard Plant – a Case Study</i> Malcolm Toft & Peter Hunt, Axiom Engineering Associates, UK
15:10–15:35	<i>The Development of Supplements to IGEN/TD/1 Edition 6 and IGEN/TD/13 Edition 1 for Hydrogen Service</i> Andrew Cosham, Ninth Planet Engineering; Jane Haswell, Gary Senior, Tony Stonehewer & Nikki Barker, Pipeline Integrity Engineers, UK; Mike Acton, DNV, UK; Ian McCluskey, Institution of Gas Engineers & Managers (IGEM), UK	<i>Can We Simplify Explosion Assessment at the Project Concept Stage? A Comparison Between Simplistic Models and CFD Simulations</i> Pablo Giacopinelli, Karina Almedia Leñero & Graham Morrison, Gexcon, UK	Facilitated discussion	<i>Management and Technical Factors Emerging from the Inspection Activity After a Major Accident in Italy</i> Romualdo Marrazzo, ISPRA, Italy; Paolo Bragatto, INAIL, Italy; Armando De Rosa, CNVVF, Italy
15:40–16:00	Refreshment break in the exhibitor area			
	Hydrogen Hazards II	Consequence Assessment & Modelling II	Process Safety Competencies	Fire & Explosion Hazards
16:00–16:25	<i>Validation of Hydrogen Jet Fire Model in FRED</i> Steven Betteridge & Pratap Sathiah, Shell, UK	<i>Progress in CFD Simulation of Deflagration Using PDRFOAM</i> Sriram Raghunath, Pratap Sathiah & Pradeep Kumar Pavalavanni, Shell, India	<i>It's the People, Dammit! Assessing Process Safety Competence: One Company's Approach</i> Ken Patterson, Ken Patterson Process Safety, UK; Gillian Wigham Synthomer, UK; Paul Bruffell, Consultant, Malaysia	<i>Application of Finite Element Methods for Evaluating Hazards to Non-Structural Equipment</i> David Powell & D Bogosian, Baker Engineering and Risk Consultants, USA
16:30–16:55	<i>Is Ventilation Your Trustworthy Old Friend When It Comes to Hydrogen? An Investigation of Hydrogen Dispersion and Vented Explosions</i> Karina Almeida Leñero & Pablo Giacopinelli, Gexcon, UK	<i>A Shielded Thermal Flux and Impacted Jet Fire Model</i> Andrew Lawson & Ed Walton, ESR Technology, UK	<i>Elevating Competency Frameworks Through eLearning Solutions: Lessons Learned from COVID & Beyond</i> Kristin Robbins & Lisa Ruth, IoMosaic, USA	<i>Fire and Gas Mapping: Comparative Impact of Different Standards</i> Shamsudeen Hassan & Lorna Henson, ESR Technology, UK
17:00–17:25	<i>DSEAR and RGP in a Novel Nuclear Application</i> Keith Johnson, Matthew Webber, Jeff Tattersall & Gareth Davies, Sellafield Ltd, UK	<i>Validation of Recent Improvements in Phast Dispersion Modelling</i> Frank Hart & Mike Harper, DNV, UK	<i>Facilitator Competence for Human Reliability Assessments</i> Lorraine Braben, Braben Consulting, UK	<i>Analysing & Managing Flammable Atmosphere Risks Using Bowties</i> David Hatch, Process Safety Integrity, UK
17:30–18:00	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion
18:00–18:15	Updates and welcome	Steven Flynn, Deputy Chair, IChemE Major Hazards Committee Axiom Engineering Associates, Welcome Reception Sponsor		
18:15–19:45	Welcome reception in the exhibitor area		Sponsored by  Axiom Engineering Associates Ltd Maximising Assets - Minimising Risk	

This is a draft programme and is subject to change.

09:15–10:00	 Plenary speaker Peter Davidson	<i>The Mechanics of Process Safety Leadership: What Have We Learnt?</i> Peter Davidson, Executive Director, Tank Storage Association, UK		
10:00-10:30 Refreshment break in the exhibitor area				
	Consequence Assessment & Modelling III	Risk Assessment	Safety Leadership	Process Safety Management
10:30–10:55	<i>Investigating a Complex Energetic Decomposition Incident Using Kinetic Modelling to Establish Safe Manufacturing Conditions</i> Stephen Rowe & Keith Middle, DEKRA, UK	<i>The Risk Assessment Matrix – Fit for Purpose?</i> Adrian Wright, TGE Gas Engineering, UK	<i>Viral Safety Transformation</i> Urbain Bruyère, ERM, UK	<i>How Stena Drilling's Innovative Process Safety COVID-19 Response Helped To Improve Regulatory Compliance, Cost Efficiencies and Productivity</i> Chris Carbaugh, Stena Drilling, UK
11:00–11:25	<i>Steel Fragilisation Due to Emergency Depressurisation to Protect Gas Compressor: Experiment and Modelling</i> Vincent Blanchetière, Kevin Gault, Yanshu Wang & Maxime Charrier, GRTgaz, France	<i>LOPA – What's the Target?</i> Carolyn Nicholls & Jordan Smith, RAS, UK	<i>Safety Leadership – a Nuclear Industry Perspective</i> Nick Shaw, Office for Nuclear Regulation, UK	<i>Process Safety Management: Beyond the Norm</i> Nor Afida binti Sikandar Bacha & Yogendren Sevakumaran, PETRONAS, Malaysia
11:30–11:55	<i>Developing a Solid-Flame Model for Assessing Consequences of Rectangular Pool Fires and Trench Fires</i> Yongfu Xu, David Worthington & Adeyemi Oke, DNV, UK	<i>Bridging the Gaps in Industrial Risk Assessment and Emergency Response Planning</i> Andre Perseval, Shamrock HSE, Trinidad & Tobago; Mark Baldeo, Arkulus Solutions, Trinidad & Tobago	<i>Mind the Gap</i> Andrea Longley, Scott Bader, UK	<i>Integrating PHA Data into Day-to-Day Operations</i> Owaiz Ebrahim, Carol Li, Susan Barney, Richard Carter & Roxanne Mai, Risk Alive Analytics, Canada; Ameer Hamza & Syed Salwat Hosain Rizvi, Engro Polymer & Chemicals, Pakistan
12:00–12:25	<i>Development of a Resilience Model for the Analysis of Process Systems at the Early Design Stage</i> Freya Vesey & Joan Cordiner, University of Sheffield, UK	<i>Risk Based Prioritisation of Maintenance Backlog</i> Chetan Birajdar & Mark Jefferson, Koch Technology Solutions, UK	<i>Elevating Process Safety Leadership and Culture</i> Yogendren Sevakumaran, Muhammad Nazri Jaafar & Mohamad Hanif Yusof, PETRONAS, Malaysia	<i>Contaminated Wounds: a Risk Assessment Challenge</i> Tim Boland, Richard Cooper & Gareth Davies, Sellafield Ltd, UK
12:30–13:00	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion
13:00-14:00 Lunch break in the exhibitor area				
	Safer Plant I	Education I	Digitalisation I	Safety Instrumented Functions (SIFs)
14:00–14:25	<i>Safe Plant Reinstatement Following Intrusive Work: New Energy Institute Guidance</i> Peter Webb, BeyondRisk, UK	<i>Pay it Forward... or Backwards! The Importance of Mentorship and Knowledge Sharing</i> Kaley Clusker, Atkins, UK	<i>Big Data and Cyber Security: What Our Systems Are Telling Us and Why We Need to Listen</i> David Allen, ABB, UK	<i>SIF Testing – It's More Complicated Than You Think</i> Andy Brazier, AB Risk, UK
14:30–14:55	<i>Operational Tabletop Drills to Improve Emergency Response Capabilities and Process Safety Culture</i> Esra Mermi, Tupras, Turkey	<i>From Theory to Practice: a Training Course to Spread the Safety Rules and Warnings About Hydrogen Safety</i> Romain Jambut, Vincent Blanchetière & Gilles Chatelet, GRTgaz, France; Christopher Henoch, CNPP, France; Anne Leprince, Storengy, France; Claire Saint-Macary, Terega, France	<i>Effective Management of Change (MOC) Digitalisation</i> Liew KuoFung & YeeKiong Thien, PETRONAS, Malaysia	<i>Final Element Failure Alarms: Are They an Essential Feature of Managing Functional Safety for Your SIFs?</i> Ian Kemble, ABB, UK
15:00–15:25	<i>Behavioural Safety: Completing the Plan-Do-Check-Act Cycle with Cultural Cause Analysis</i> Brad Eccles & Rick Curtis, ABS Group, UK	<i>Discussion: IChemE's Role in Teaching Process Safety to Chemical Engineering Undergraduates</i> Ken Patterson, Ken Patterson Process Safety, UK	<i>Digitalising for Value Generation – How, When and Where to Use Big Data Analytics for Remote Monitoring and Inspection of Operating Assets</i> Will Leonard, ABB Energy Industries, UK	Facilitated discussion
15:30-16:00 Refreshment break in the exhibitor area				
	Safer Plant II	Education II	Digitalisation II	Hydrogen Network
16:00–16:25	<i>Taking a Leap from a Compliance-Based to a Risk-Based Process Safety Approach</i> Syed Salwat Hosain Rizvi & Ameer Hamza, Engro Polymers & Chemicals, Pakistan	<i>How I Became A Better Safety Engineer</i> Keith Miller, Safety & Reliability Group, IMechE, UK	<i>Is It the Time Right to Digitise the HAZOP?</i> Paul Seccombe & Bernt Eldor, Kairos Technology, UK	<i>Gas Transmission Network Conversion to Hydrogen: Impact on Explosive Atmosphere Sizing</i> Vincent Blanchetière, Romain Jambut & Pierre Quillatre, GRTgaz, France
16:30–16:55	<i>Process Safety: Keeping the Peace in a Post War Age</i> Angus Keddie, Process Safety Matters, UK	<i>IChemE Major Hazards Management Agenda</i> Steven Flynn, Institution of Chemical Engineers (IChemE), UK	<i>E-Hazop: a Fresh Approach to Reviewing Electrical Systems</i> Rob Fogg, ABB, UK	<i>Comparison of the Risks Associated with Natural Gas and Hydrogen Distribution Networks</i> Andrew Phillips & Ann Halford, DNV, UK; Russ Oxley, Northern Gas Networks, UK
17:00–17:30	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion
19:00–22:00 Social event at the Double Tree by Hilton Harrogate Majestic Hotel & Spa (ticket only)				

This is a draft programme and is subject to change.

08:30–09:15	 Plenary speaker Steve Elliott	<i>Building a Safer Future</i> Steve Elliott, Chief Executive, Chemical Industries Association (CIA) & Chair, Building a Safer Future (BSF), UK		
09:15–10:00	 Trevor Kletz Hazards Lecture Dame Judith Hackitt	<i>Learning Lessons – Why Is It So Difficult and Why Ethics Are So Important in Engineering</i> Dame Judith Hackitt, Chair, Enginuity, UK		
10:00–10:30	Panel discussion	<i>Meeting the Major Process Safety Challenges in Industry</i>		
10:30–11:00	Refreshment break in the exhibitor area			
	ATEX/DSEAR I	Clean Energy I	Assurance	Lessons Learned II
11:00–11:25	<i>20 Years of DSEAR – a Retrospective View</i> Tony Ennis, Haztech Consultants, UK	<i>Battery Warehouses – the Major Accident Challenge</i> Pat Swords, PM Group, Ireland	<i>Major Common Issues Arising from Process Safety Management Audits</i> Rod Prior, SHExcellence, South Africa	<i>Statistical Analysis of Oil and Gas Industry Accidents in Europe Using Human and Organisational Factors</i> Bassey Okon Bassey, Cranfield University, UK; Tochukwu O. Ajare, UK Research and Innovation, UK; Omoruyi P. Odigie, Ledcor, Canada
11:30–11:55	<i>Application of Energy Institute EI15 (formerly IP15) 4th Edition Code of Practice for Hazardous Area Allocation</i> Adam Connell & Matthew Price, INEOS, UK	<i>The Process Safety Professional in a Net Zero World</i> Ian Sutton, Ian Sutton Technical Books, USA	<i>The Good, Bad and the Ugly – Pandemic-Driven Acceleration in Audit Technology</i> David M. Einolf, Endeavour EHS, USA; Nick Ashley, W R Grace & Co, USA; Luverna Menghini, BP, USA	<i>Shipping and Storing Polymerizable Substances: a Styrene Incident, Complex New Legislation and How to Do It Right</i> Stephen Rowe, Kamran Rohan Arif & Adelia Moraleja Perez, DEKRA, UK
12:00–12:25	<i>ATEX & UKEX – We Don't Know What We Don't Know</i> Scott Harding, Woodcock & Wilson, UK	<i>Evaluating Electrolyzer Hazards in Production of Green Hydrogen and Ammonia</i> Murtaza Gandhi, Baker Engineering and Risk Consultants, USA	Facilitated discussion	<i>IChemE Publications Update: Lessons Learned</i> Peter Marsh, IChemE Safety and Loss Prevention Special Interest Group; TBC, Loss Prevention Bulletin Editorial Panel
12:35–13:20	 Plenary speaker Jasper Clark	<i>Turning Good Practice into Common Practice</i> Jasper Clark, Risk Engineering Hub Leader, Marsh Energy & Power, UK		
13:20–14:15	Lunch break in the exhibitor area			
	ATEX/DSEAR II	Clean Energy II	Human Factors	Environment
14:15–14:40	<i>CLP and DSEAR Conundrums – the Practical Implications and the Contribution to COMAH</i> Keith Johnson, Sellafield Ltd, UK	<i>Recommendations for the Selection of Equation of State During Design and Operation of Impure CO₂ Transport</i> Craig McKay, Wood, UK	<i>SCTA: Killing Two Birds with One Stone</i> Clive de Salis, DEKRA, UK	<i>Vulnerability Review and Assessment for Safety and Environmental Critical Equipment to Control Escalation Risks on Atmospheric Storage Tank Sites</i> Ian Herbert, Vulcan Hazard Management, UK; John Evans, Thornton Tomasetti, UK; Mark Scanlon and Laszlo Komaromi, Energy Institute, UK
14:45–15:10	<i>Hazardous Area Classification of a Multipurpose Chemical Plant</i> Prashanth Shivakumar, PSK Pharma Solutions, UK	<i>Modelling CO₂ Pipeline Ruptures Using Computational Fluid Dynamics – a Review of Model Setup Parameters Which Affect CO₂ Plume Behaviour and Demonstration of Findings</i> Peter Johnson, Feargus Schofield & Saffron Wyse, Thornton Tomasetti, UK	<i>Brain-Centred Performance: the Final Frontier in Workplace Safety</i> Sebastian Blair, DEKRA, UK	<i>Valuation of Environmental Receptors for Cost-Benefit-Analysis (CBA) in a Control of Major Accident Hazards (COMAH) Context – Phase 2</i> Amaia O'Reilly, Energy Institute, UK
15:15–15:40	Facilitated discussion	<i>Cryogenic Storage of Anhydrous Ammonia</i> Tomm Childs, TGE Gas Engineering, UK	<i>Human Factors Integration. The Beginning is a Good Place to Start</i> Kayley Clusker, Atkins, UK	<i>On the Lookout for Gas Leaks – a Remote Sensing Approach for Detecting Dangerous Gas Emissions Within Chemical Plants</i> Gerd Behme, Grandperspective, Germany
15:45–16:15		Facilitated discussion	Facilitated discussion	Facilitated discussion
16:15–16:30	Closing session			

This is a draft programme and is subject to change.

Venue

Harrogate Convention Centre
King's Road
Harrogate HG1 5LA

www.harrogateconventioncentre.co.uk

Fees and registration

Visit www.icheme.org/hazards32 to see the conference fees and to register.

Sponsorship and exhibition packages

Sponsoring or exhibiting at *Hazards 32* is an excellent opportunity to raise your profile within the international major hazards community before and during the event. We have packages to suit all budgets, allowing you to showcase your products and services, engage with attendees, and generate new leads.

To discuss how your company can get involved, please contact our colleagues at Media-Shed on +44 (0)20 7183 1815 or at ichemeevents@media-shed.co.uk.

Contact us

Contact us at [hazards@icheme.org](mailto: hazards@icheme.org)

“ Come and be curious, come and learn something, come and meet some great people who are really passionate about this subject and can help you. ”

Ken Rivers
Chair of the *Hazards 32* technical committee



www.icheme.org

IChemE is a registered charity in England and Wales, and a charity registered in Scotland (SC 039661)