

09:30–09:45	Welcome from the conference chair	
09:45–10:40	Plenary speaker	<i>A Reflection of How the Downstream Oil Sector Responded to the Outbreak of COVID-19 and How that Response Mapped to Process Safety Management During the Ensuing Pandemic</i> Simon Wood, UK Petroleum Industries Association (UKPIA)

	Lessons Learned from the COVID-19 Response I	Assurance	Safety Culture I	Modelling I	
	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	
10:45–11:10	<i>Lessons Learned from the COVID-19 Pandemic</i> Keith Plumb, Integral Pharma Services, UK	<i>Process Safety Key Performance Indicators (API-754 Guidelines)</i> Ameer Hamza & Syed Salwat Hosain Rizvi, Engro Polymer & Chemicals, Pakistan	<i>Process Safety Site Visit to Improve PSM Culture</i> Ipek Isteben, Tupras, Turkey	<i>A Case Study for Natural Gas Explosion in a Confined Space</i> Md Easir Arafat Khan, Easir A Khan, Iftekhar Hassan & Sayedil Morsalin, Bangladesh University of Engineering and Technology, Bangladesh	
11:15–11:40	<i>Case Study – Design and Build of New Plant for Production of a Key Ingredient for a COVID-19 Vaccine</i> Carolyn Nicholls, RAS, UK & Robert Hanson, Croda Europe, UK	<i>Analysis of Quantitative Risk Assessment Methodology and Worldwide Comparison on Risk Acceptability Criteria</i> Ravi Kumar Sharma, Indian Institute of Technology, India	<i>Influencing Improvements in Safety Culture Using Qualitative Research Methods: a Regulatory Perspective</i> Nick Shaw, Office for Nuclear Regulation, UK	<i>Applying Standards and Transient Simulations to Find Root Cause of Fire Incident</i> Mira Ezora Zainal Abidin, Siti Fauzuna Othman & Zalina Harun, Petronas, Malaysia	
11:45–12:10	<i>Better Together – Lessons from the Chemical Industry Association in the Pandemic</i> Louise Whiting, Barberton Ltd, UK & Phil Scott, Chemical Industries Association (CIA), UK	<i>Learning from Major Incidents Related to Process Safety Audits</i> Zsuzsanna Gyenes, IChemE Safety Centre, UK	<i>Process Safety Cards “A Good Deal Safer”</i> David Hatch, PS Integrity, UK	<i>Advanced Methodology of Structural Redundancy Analysis for Optimising Passive Fire/Cryogenic Spill Protection</i> Hiroki Takahashi & Yoshinori Hiroya, JGC Corporation, Japan	
12:15–12:40	<i>LOPA Versus Covid – Return to Work</i> Pablo Garcia-Trinanes & Ali Mokhber, University of Greenwich, UK; Christopher Ross, UK	<i>Major Common Issues Arising from Process Safety Management Audits</i> Rod Prior, SHExcellence, South Africa	Facilitated discussion	<i>Comparisons of the Predictions of the Dispersion Model DRIFT Against Data for Hydrogen, Ammonia and Carbon Dioxide</i> Graham Tickle, ESR Technology, UK	
12:40–13:15	Facilitated discussion	Facilitated discussion		Facilitated discussion	

13:15–14:15	Break
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14:15–15:10	Plenary speaker	<i>Cross Sector Learning – What the Chemical and Process Industries Can Learn from the Building Sector</i> Peter Baker, Health and Safety Executive, UK
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	Cross-sector Learning	Analysis of Losses	Risk Assessment	Modelling II	Process Safety Competencies
	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>
15:15–15:40	<i>What the Processing Industry Must Learn from the Boeing 737 MAX Crashes</i> Richard Carter, ACM Facility Safety, Canada	<i>Trends in Offshore Process Equipment Leak Frequencies</i> Brian Bain, DNV, UK	<i>Cumulative Risk Model of Safety Barriers – Case Study</i> Yasser Fathy, Rashid Petroleum, Egypt	<i>Is Your Tank Inert? A CFD Study into the Challenges of Ensuring Inert Atmospheres</i> Alan Collier & Stephen Puttick, Syngenta, UK	<i>Strengthening Regulators' Competence in Learning from Operational Safety Performance</i> Fidel Ilizastigui, Todus Advisors, Cuba
15:45–16:10	<i>Thinking Outside the Box: Lessons and Experience that the Major Hazard and Nuclear Sectors Can Learn from Each Other</i> Ian Phillips, Office for Nuclear Regulation (ONR), UK	<i>Analysis of Accidents and Good Inspection Practices for the Management of Ageing of Industrial Plants</i> Romualdo Marrazzo & Fabrizio Vazzana, Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), Italy	<i>Use of Live Barrier Models to Manage Risk</i> Rae Ann Joseph, Atlantic LNG, Trinidad & Tobago	<i>Monte Carlo CFD Simulations for Quantifying Uncertainty Associated with Vapour Cloud Explosions</i> Christopher Stirling, Viper Blast, UK & Jordi Dunjó, Bright Calcs LLC, USA	<i>Practical Experience of Rolling out Process Safety Competency Assessments Across a Large Multinational Company</i> Graeme Ellis, Matthey, UK
16:15–16:40	<i>A Case Study of The Halo and Safety Culture in Motorsport</i> Andrew Laird & Dr Esther Ventura-Medina, University of Strathclyde, UK	<i>Analysis of Worldwide Transportation of Dangerous Goods Incidents for Regulatory and Safety Management Systems Improvement</i> Alexander Robert Damphouse, Fereshteh Sattari & Lianne Lefsrud, University of Alberta, Canada	<i>Evaluation, Visualisation and Monitoring of Cumulative Risk Exposure Resulting from Safety Critical Hardware and Human Barriers Deviation</i> Tayo Olunsanya, Olu Adeyemi & Seyi Olusanya, Melios Ltd, UK	<i>Addressing the Unique Challenges of Hydrogen Gas Detection in 3D Fire and Gas Mapping</i> Khama Maiti, Chris Dysart, Alex Lebas, Lloyd Samaniego, Hasanah Shamsuri, Ahmad Muzammil & Filippo Derosa, Monaco Engineering Solutions, UK	<i>Linking Critical Competencies with Major Accident Hazards</i> Chris Proud, Andrew Lawson & Luke Butcher, ESR Technology, UK; Andy Brazier, AB Risk, UK
16:40–17:15	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion



All times are Greenwich Mean Time (GMT)

09:30–10:25	Plenary speaker	Keeping Risk in Perspective: Learning to Manage Black Swan Risks Professor Atula Abeysekera, Imperial College London			
	Lessons Learned from the COVID-19 Response II Presentation summaries >>>	Environment Presentation summaries >>>	Human Factors Presentation summaries >>>	Process Safety Management Presentation summaries >>>	Pressure Relief Presentation summaries >>>
10:30–10:55	Managing Process Safety by Digitalisation During the Pandemic Ahmet Kemal Ozoral, Seckin Gokce & Eda Akkus, Tupras, Turkey	Flood Risk Management – Are You Prepared? Brad Eccles & Steve Fitzgibbon, ABS Consulting, UK	The Impact of Cognitive Bias in Safety Trish Kerin, IChemE Safety Centre, Australia	Effective Field Engagement and Management of Higher Consequence Scenarios Martin R Ovenden, ExxonMobil, UK	Assessment of Operators' Response Time on Safe Operation of Distillation Columns: a Process Dynamic Analysis Zalina Harun & Zulfan Adi Putra, Petronas, Malaysia
11:00–11:25	Risk Based Prioritisation of Maintenance Backlog Items Chetan Birajdar, Ricardo Bandini & Khama Matiti, MES International, UK	Guidance to Provide an Economic Value (or Series of Values) Which Can Be Applied When Undertaking a CBA Under Major Hazard Establishments for Environmental Purposes Rocio Salado, RPA Ltd, UK	Human Factors Issues in Turnarounds (TARs) Jamie Henderson & Richard Marshall, Human Reliability, UK	Hazard Management in NOVA Sclairtech Technology Polyethylene Plant Amit Kanch, Nova Chemicals, India	Mechanical Response of Shells to Tube Rupture in Shell-and-Tube Heat Exchangers Colin Deddis, Greymore Engineering Services, UK; Mark Scanlon, Energy Institute, UK; Alan Clayton, Consultant, UK; Rob Kulka, TWI, UK
11:30–11:55	Lessons Learned and the Pros & Cons of Virtual HAZOP Azzam Younes, AyEnergi Consulting, UK	The Application of Satellite Data for Detection and Monitoring of Methane Emissions and the Integration Opportunities with Weather and Plant Sensor Data Darren Steele, Stiperstone Analytics, UK & Dr Ian Spence, GHGSat, UK	Managing Operator Fatigue – It's About More Than Just Sleep. Incorporating Lessons Learned from Offshore Wind into Process Safety in Onshore Major Hazard Facilities Stefi McMaster, University of Hull, UK & Jenny Hull, RAS, UK	Applying Process Safety Experiences and Lessons Learnt to Achieve Improvements in Plant Up-Time and Stability of Production Anees Iqbal Ansari & Mohammad Moonis, Pleiades Global, UK	Detailed Analysis of Temperature and Pressure Behaviour During Reaction Runaway for Vent Sizing Yuto Mizuta Turo, Motohiko Sumino, Hiroaki Nakata, Yuichiro Izato & Atsumi Miyake, Mitsubishi Chemical Corporation, Japan
11:55–12:30	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion
12:30–13:30	Break				
13:30–14:25	Plenary speaker	Dropped in the Deep End – a Personal Senior HSE Management Journey Terry Cooper, Offshore Petroleum Regulator for Environment and Decommissioning (OPRED), UK			
	Identifying & Embedding Good Practice in Process Safety Presentation summaries >>>	Clean Technologies – Hydrogen I Presentation summaries >>>	DSEAR Presentation summaries >>>	Process Hazard Analysis Presentation summaries >>>	
14:30–14:55	The Message from Losses – What You Need to Know and Learn From to Prevent Major Accidents Paul Clarke & Scott McNeil, Marsh, UK	Hydrogen Projects – Business as Usual? Clare Dunkerley, Otto Simon, UK	To Zone or Not to Zone Jonathan Lowe, RPS Group, UK	Latest HAZOP Practice James Fairburn, Chevron, UK	
15:00–15:25	Why Did They Do That? How To Conduct A Human Factors Incident Investigation Steve Cutchen, retired Incident Investigator, Chemical Safety Board (CSB), USA	Ammonia, Methane, Hydrogen Oh My! Understanding Hazards from Alternative Power to Gas Options Darren Malik & Kelly Thomas, BakerRisk, USA	Comparison of Hazardous Area Classification David Watts, Pablo Giacopinelli & Gary Pilkington, Gexcon, UK	Process Hazard Analysis for Smaller Changes: Tips and Tools for Avoiding Misses and Improving Quality Jody Olsen, Consultant, USA	
15:30–15:55	Embedding the Lessons of Hard Knocks–Trying Not to Repeat Our Mistakes Time and Time Again Ken Patterson, Consultant, UK & Gillian Wigham, Synthomer, UK	Developments and Uncertainties in Hydrogen Fuels Risk Assessment Michael Moosemiller, Baker Engineering & Risk Consultants, USA & Rob Magraw, BakerRisk Europe, UK	Application of Functional Safety to a Burner Management System – How to Avoid Common Pitfalls Michael Scott, aeShield, USA	Minimising Human Error in PHA Documentation Carol Li & Ronjit Mukherjee, Risk Alive Analytics, Canada	
16:00–16:25	Identifying and Embedding Good Practice in Process Safety – Safety Culture/Leadership Peter Culbert, Exida, Ireland	Quantification of the Risks Associated with a Hydrogen Gas Distribution Network Andrew Phillips, Mike Acton & Ann Halford, DNV, UK; R Oxley & D Evans, Northern Gas Networks, UK	The Role of an Innovative Approach to DSEAR in Accelerated Early Career Development Rebecca Phillip & Adriana Reyes Cordoba, Atkins Global, UK	Facilitated discussion	
16:25–17:00	Facilitated discussion	Facilitated discussion	Facilitated discussion		



09:30–10:25	Plenary speaker	Managing Cyber Security Risks: a Regulator's Perspective Sarabjit Purewal, Health and Safety Executive, UK			
	Digitalisation I	Clean Technologies – Other	Safety Culture II	Mist Hazards	Risk Analysis
	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>
10:30–10:55	Best Practices to Optimise Management of Change System and Manage the MOC Digital Transition Hussain Alabduljabbar, Saudi Aramco, Saudi Arabia	Managing the Major Accident Potential of Carbon Capture and Storage CO ₂ Hamish Holt & Michael Simms, DNV, UK	The Safety Culture of the Regulator Marc McBride, Office for Nuclear Regulation, UK	Demystifying Mist Explosion Hazards Stephanie El-Zahlanieh, Idalba Souza Dos Santos, Hugo Tostain & Olivier Dufaud, University of Lorraine, France; Alexis Vignes, INERIS, France; Simon Gant, Health and Safety Executive, UK	Preliminary Hazard Analysis and Mitigation for the Prevention of Catalyst Regeneration Vessel's Catastrophic Rupture Manesha Thiyaga Rajan, Noor Arnida Abdul Talip & Hasnor Hassaruddin Hashim, Petronas, Malaysia
11:00–11:25	Improving Loss Prevention in High Hazard Industries Through the Evaluation of Safety Culture and Error Traps from Structured and Unstructured Data Using Machine Learning Gus Carroll & Dr Nyala Noe, Empirisys, UK; Dr Mike Orley, Centrica Storage, UK	Smoke, Sparks, Flames or Explosions? An Experimental Study into How Lithium-ion Cell Failure Varies in Open Field Katie Abbott, Jonathan Buston & Jason Gill, Health & Safety Executive, UK	Leadership Matters – Real World Examples of Process Safety Leadership Good Practice Ashley Hynds & Colin Chambers, WSP, UK	Ignitability of Diesel Fuel Mists over a Vertical Distance Louise O'Sullivan & Dr Richard Bettis, Health & Safety Executive, UK; Dr Anthony Giles, Cardiff University, UK	New International Failure Frequency Database for High Pressure Gas Installations Mike Acton, C Humphreys & Z Wattis, DNV, UK; H Olafsen, Energinet, Denmark
11:30–11:55	Cyber Attacks on Process Plants and Understanding What is Needed Clive de Salis, Dekra, UK	Experimental Understanding of Displacement and Forces Generated Due to Swelling During Lithium-ion Pouch Cell Failure Gemma Howard, Jason Gill & Jonathan Buston, Health & Safety Executive, UK	From Zero Accidents to Safety, Quality and Productivity Urbain Bruyere, Consultant, UK	Flammability Testing for Heavy Oil Mists Hannes Engel, Gexcon, UK	Assessing the Risks When Expanding Process Plants or Building New Units on Compact Sites Robert Canaway, Suregrove, UK
11:55–12:30	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion	Facilitated discussion
12:30–13:30	Break				
13:30–14:25	Plenary speaker	Title to be confirmed (Climate Change and Decarbonisation Technologies) To be confirmed			
	Digitalisation II	Clean Technologies – Hydrogen II	Fire and Explosion Hazards	Case Histories	
	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	Presentation summaries >>	
14:30–14:55	Power in the Wrong Hands: the Rise of Cybersecurity Risk in the Chemical Industry Ian Bramson, ABS Group, USA	Review of the Current Understanding of Hydrogen Jet Fires and the Potential Effect on PFP Performance Michael Johnson & Robert Crewe, DNV, UK; Graham Boaler & John Evans, Thornton Tomasetti, UK	Fight or Flight: What's your Fire Response? Kristen Graham & Karen Vilas, Baker Engineering & Risk Consultants, USA	Human-Factors and Automation-Related Accidents in the Railway Industry Mona Ahmadi Rad, Lianne M Lefsrud, Michael Hendry & Daniel Blais, University of Alberta, Canada	
15:00–15:25	Using Artificial Intelligence and Machine Learning Techniques to Analyse Incident Reports Fereshteh Sattari, Daniel Kurian, Renato Macciotta & Lianne Lefsrud, University of Alberta, Canada	Maximum Overpressure and Flame Velocity of Methane/ Hydrogen Layers Vented Deflagrations in a Large-Scale Enclosure David Eduardo Torrado Beltran, James Fletcher, Andrew Tooke & Philip Hooker, Health & Safety Executive, UK; Thomas Isaac, Progressive Energy, UK; Dave Lander, Consultant, UK	SafePool Seckin Gokce, Ahmet Can Serfidan, Eyup Azizoglu & Gokhan Gedik, Tupras, Turkey	Investigating Unusual Powder Decomposition Incidents Stephen Rowe, Clive de Salis, Simon Gakhar & Andrew Jennings, Dekra Organisational & Process Safety, UK	
15:30–15:55	Practical Guidance for Applying Data Science Techniques in Health & Safety Scott Kimbleton & Graziella Caputo, IBM, USA	Assessment of Enclosure Ventilation Safety for Hydrogen Fuelled Gas Turbines Tristan Vye & Aidan Wimshurst, Frazer Nash Consultancy, UK	The Use of Ester Based Transformer Liquids for Reduced Fire Risk and Lower Costs James Reid, M&I Materials, UK	Investigation into a Microbiologically Induced Corrosion (MIC) Failure of an Onshore Pipeline Keith Birkitt, Aneta Nemcova & Ian Chapman, Health & Safety Executive, UK	
16:00–16:25	SME vs Big Data Generated PHA Checklists Roxanne Mai & Ronjit Mukherjee, Risk Alive Analytics, Canada	The Use of CFD for the Design of Hydrogen Bulk Storage Areas Michael Bristow, Pablo Giacopinelli, Graham Morrison & Gary Pilkington, Gexcon, UK	Facilitated discussion	Facilitated discussion	
16:25–17:00	Facilitated discussion	Facilitated discussion			

