

Time	Sunday, August 12th 2018
16:00-20:00	12 th ISHPMIE - Registration (Century Foyer) Westin Crown Center 1 East Pershing Road, Kansas City http://westincrowncenterkansascity.com/

Time	Monday, August 13 th 2018 (9:00-16:30)		
7:30-8:30	Breakfast (Century A Ballroom)		
8:00-8:30	Registration (Century Foyer)		
8:30-9:00	Opening Ceremony (Century B Ballroom): Brad Batz, President and Chief Executive Officer, Fike Corporation, USA		
9:00-10:00	Plenary Lecture 1 (Century B Ballroom): Dr. John Going, Fike Corporation (retired), USA Fike Corporation and explosion protection		
10:00-10:30	Group Photo/Coffee Break		
10:30-12:00	1.1- Dust Explosions - Ignition Jérôme Taveau (Pershing E&W Rooms)	1.2- Gas Explosions - Ignition (1) Ritsu Dobashi (Pershing N Room)	1.3- Fires & Fireballs Jenq-Renn Chen (Pershing S Room)
10:30-11:00	Ignition energy evaluation for dust clouds <u>M. Nifuku</u> , P. Amyotte, M. Clouthier, A. Addo, K. Wakabayashi, S. Usuba, T. Matsunaga, National Institute of Advanced Industrial Science and Technology, Japan	Experimental and numerical investigation of the ignition by electrical discharges close to the minimum ignition energy <u>S. Essmann</u> , <u>J. Kummer</u> , D. Markus, U. Maas, PTB, Germany	Experimental study on thermal runaway risk of 18650 lithium ion battery under side-heating condition <u>H. Li</u> , G. Zhong, Y. Wang, H. Chen, Q. Wang, University of Science and Technology, China
11:00-11:30	Ignition temperature and ignition energy of humid dusts <u>D. Gabel</u> , U. Krause, Otto-von-Guericke University, Germany	Metrological and simulation-based characterization of the non-contact measurement of electrostatic charge by means of electric field meters <u>C. Schierding</u> , D. Moeckel, C. Ladda, M. Beyer, PTB, Germany	Experimental research on the explosive boiling process of overheated liquids <u>J. Ren</u> , S. Fan, B. Zhao, M. Bi, Dalian University of Technology, China
11:30-12:00		Characterization of shock-sensitive deposits from the hydrolysis of hexachlorodisilane <u>Y.-J. Lin</u> , C.-H. Liu, S.-H. Wang, H.-Y. Tsai, J.-R. Chen, E. Y. Ngai, R. Ramachandran, National Kaohsiung First University of Science and Technology, Taiwan	Elimination of the risk of uncontrolled destruction of acetylene pressure cylinders under fire conditions via shooting <u>J. Hora</u> , P. Lepik, M. Mynarz, A. Dudacek, J.Karl, University of Ostrava, Czech Republic
12:00-13:30	Lunch (Century A Ballroom)		
13:30-15:00	1.4- Dust Explosions - Testing (1) Trygve Skjold (Pershing E&W Rooms)	1.5- Gas Explosions - Ignition (2) Masaharu Nifuku (Pershing N Room)	1.6- Hybrid Explosions (1) Paul Amyotte (Pershing S Room)
13:30-14:00	Nanopowders explosion: influence of the dispersion characteristics <u>A. Santandrea</u> , S. Pacault, L. Perrin, A. Vignes, O. Dufaud, University of Lorraine, France	Electrical discharges caused by opening contacts in an ignitable atmosphere, Part I: analysis of electrical parameters at ignition limits <u>C. Uber</u> , M. Hilbert, A. Felgner, D. Hüser-Espig, M. Kurrat, U. Gerlach, PTB, Germany	Investigation of the explosion severity of multiphase hybrid mixtures <u>E. Addai</u> , P. Amyotte, U. Krause, Dekra Insight, USA
14:00-14:30	Effect of particle size reduction due to dust dispersion on minimum ignition energy <u>P. Bagaria</u> , A. Dastidar, C. Mashuga, Texas A&M University, USA	Electrical discharges caused by opening contacts in an ignitable atmosphere, Part II: spectroscopic investigation and estimation of temperature <u>C. Uber</u> , T. Runge, J. Brunzendorf, M. Kurrat, U. Gerlach, PTB, Germany	Modelling the lower explosion limit of hybrid mixtures: a thermochemical approach <u>Z. Abbas</u> , <u>D. Gabel</u> , V. Silva, R. Zinke, A. Darbanan, U. Krause, Otto-von-Guericke University, Germany
14:30-15:00	Burning properties and flame propagation of varying size of pulverised rice husk <u>M. Saeed</u> , <u>G. Andrews</u> , H. Phylaktou, B. Gibbs, University of Leeds, UK	Studies on reacting gas jets by planar laser-induced fluorescence <u>F. Seitz</u> , J. Brunzendorf, D. Markus, <u>H. Grosshans</u> , R. Schießl, Karlsruhe Institute of Technology, Germany	Role of particle diameter in the lower flammability limits of hybrid mixtures containing coal dust and methane gas <u>C. Cloney</u> , R. Ripley, M. Pegg, P. Amyotte, F. Khan, Dalhousie University, Canada
15:00-15:30	Coffee Break		
15:30-16:30	1.7- Dust Explosions - Testing (2) Wei Gao (Pershing E&W Rooms)	1.8- Gas Explosions - Ignition (3) Michael Beyer (Pershing N Room)	1.9- Hybrid Explosions (2) Chris Cloney (Pershing S Room)
15:30-16:00	The effect of particle size on partial inerting characteristics of combustible dusts <u>P. Chaudhari</u> , C. Mashuga, Texas A&M University, USA	Experimental investigation on the explosion risk of magnetic-drive pumps <u>L. Simon</u> , <u>P. Miakatsindilab</u> , H.-J. Groß, Bayer AG, Germany	Coal dust, lycopodium and niacin used in hybrid mixtures with methane and hydrogen in 1-m ³ and 20-L chambers <u>B. Janovsky</u> , J. Skrinisky, J. Cupak, J. Veres, University of Pardubice, Czech Republic
16:00-16:30	Niacin, lycopodium and polyethylene powder explosibility in 20-L and 1-m ³ test chambers <u>E. Addo</u> , A. Dastidar, J. Taveau, L. Morrison, F. Khan, P. Amyotte, Dalhousie University, Canada	Mist explosions using the Hartmann dust explosion equipment <u>F. Imran</u> , G. Morley, M. Saeed, <u>G. Andrews</u> , H. Phylaktou, University of Leeds, UK	Studying the effect of sodium bicarbonate on hybrid flames: burner vs. 20-L sphere experiments <u>S. Rockwell</u> , J. Taveau, Eastern Kentucky University, USA
17:00-19:00	12 th ISHPMIE - Welcome Reception Benton's, Floor B (18 th floor), Westin Crown Center Please use the lobby elevators		

Time	Tuesday, August 14 th 2018 (13:30-16:30)		
7:30-8:30	Breakfast (Century A Ballroom)		
8:00-8:30	Registration (Century Foyer)		
9:00-12:00	Fike Remote Testing Facility: Explosion Protection and Pressure Relief Demonstrations (Blue Springs): Group 1 Please check-in at the Westin Crown Center lobby, buses will leave promptly at 09:00 Time off for Group 2		
12:30-13:30	Lunch (Century A Ballroom)		
13:30-15:00	2.1- Dust Explosions - Metals (1) Ashok Dastidar (Pershing E&W Rooms)	2.2- Gas Explosions - Testing (1) Erdem Ural (Pershing N Room)	2.3- HYSEA project (1) Andrzej Pekalski (Pershing S Room)
13:30-14:00	Stabilized, flat iron flames on a hot-product counterflow burner M. McRae, P. Julien, S. Salvo, S. Goroshin, D. Frost, J. Bergthorson, McGill University, Canada	Safety characteristics of flammable gases and liquids: a review S. Zakel, E. Brandes, V. Schröder, PTB, Germany	Vented hydrogen deflagrations in 20-ft ISO containers T. Skjold, Gexcon, Norway
14:00-14:30	An experimental setup for quasi two-dimensional flame propagation in heterogeneous mixtures J. Palečka, S. Goroshin, P. Julien, D. Frost, J. Bergthorson, McGill University, Canada	Lower explosion point under non-atmospheric conditions A. Lucassen, M. Beyer, S. Zakel, PTB, Germany	Comparison of engineering and CFD model predictions for overpressures in vented explosions A. Sinha, V. Rao, J. Wen, University of Warwick, UK
14:30-15:00	Scaling up metal dusts deflagrations severity J. Taveau, S. Lemkowitz, S. Hochgreb, D. Roekaerts, Fike Corporation, USA	Effect of elevated pressures and temperatures on the upper explosion limit of flammable gas in oxygen X. Yu et al., Dalian University of Technology, China	Blind-prediction: estimating the consequences of vented hydrogen deflagrations for inhomogeneous mixtures in 20-ft ISO containers T. Skjold, H. Hisken, L. Bernard, L. Mauri, G. Atanga, S. Lakshminpathy, M. Carcassi, M. Schiavetti, V. Rao, A. Sinha, I. Tolias, S. Giannissi, A. Venetsanos, J. Stewart, O. Hansen, C. Kumar, L. Krumenacker, F. Laviron, R. Jambut, A. Huser, Gexcon, Norway
15:00-15:30	Coffee Break		
15:30-16:30	2.4- Dust Explosions - Metals (2) Philippe Julien (Pershing E&W Rooms)	2.5- Gas Explosions - Testing (2) Gordon Andrews (Pershing N Room)	2.6-HYSEA project (2) Jef Snoeys (Pershing S Room)
15:30-16:00	Combustion characteristics of aluminum alloy and mixtures of metal powders M. Millogo, S. Bernard, P. Gillard, University of Orléans, France	Effects of hydrogen addition on methane/air explosion characteristics at elevated pressure Y. Li, X. Yan, W. Ji, C. Luo, F. Yao, J. Yu, Dalian University of Technology, China	Phenomenological modelling of external cloud formation in vented explosions A. Sinha, J. Wen, University of Warwick, UK
16:00-16:30	Iron and aluminum powder explosibility in 20-L and 1-m³ test chambers M. Clouthier, J. Taveau, A. Dastidar, L. Morrison, R. Zalosh, R. Ripley, F. Khan, P. Amyotte, Dalhousie University, Canada	Flash points measurement of water/alkane immiscible mixtures with alcohol addition X. Shen, Z. Wang, Q. Lu, G. Xiu, East University of Science and Technology, China	Fluid structure interactions modelling in vented lean deflagrations V. Rao, J. Wen, University of Warwick, UK

Time	Wednesday, August 15 th 2018 (9:00-16:00)		
7:30-8:30	Breakfast (Century A Ballroom)		
8:30-9:00	Registration (Century Foyer)		
9:00-10:00	Plenary Lecture 2 (Century B Ballroom): Dr. Philippe Julien, McGill University, Canada Metal combustion: Bridging the gap between fundamental science and application in industrial loss prevention		
10:00-10:30	Coffee Break		
10:30-12:00	3.1- Dust Explosions - Modeling (1) Thomas Farrell (Pershing E&W Rooms)	3.2- Gas Explosions - Flame Propagation (1) Sergey Dorofeev (Pershing N Room)	3.3- Gas Explosions - Venting (1) Franco Tamanini (Pershing S Room)
10:30-11:00	Predicting dust deflagration behavior using a burn rate model M. Murphy, G. Melhem, ioKinetic, USA	Experimental study on the onset of flame acceleration due to cellular instabilities Y. Sato, W. Kim, T. Johzaki, T. Endo, Hiroshima University, Japan	Mixture reactivity effects on explosion venting B. Fakandu, H. Phylaktou, G. Andrews, Nigeria Military Academy, Nigeria
11:00-11:30	Modelling of explosion venting fireballs A. Ibaretta, F. Colella, M. Wolf, S. O'Hern, T. Myers, Exponent, USA	Study of flame instabilities using a slot burner apparatus S. Salvo, P. Julien, S. Goroshin, J. Bergthorson, McGill University, Canada	Vented deflagration of inhomogeneous hydrogen-air mixture M. De Stefano, X. Rocourt, I. Sochet, N. Daudey, EDF SEPTEN, France
11:30-12:00	Turbulence modulation modelling in the CFD simulator FLACS-DustEx M. Ghaffari, T. Skjold, L. Mauri, A. Hoffmann, R. Eckhoff, K. Van Wingerden, Gexcon, Norway	Flame-speed oscillations phenomena of propagating premixed flames in semi-closed pipes T. Mogi, N. Ito, L. Murakami, R. Dobashi, University of Tokyo, Japan	The influence of vessel volume at constant K_v for vented gas explosions G. Andrews, H. Phylaktou, B. Fakandu, R. Kasmani, G. Tomlin, University of Leeds, UK
12:00-13:30	Lunch (Century A Ballroom)		
13:30-15:30	3.4- Dust Explosions - Modeling (2) Tim Myers (Pershing E&W Rooms)	3.5- Gas Explosions - Flame Propagation (2) Lorenz Boeck (Pershing N Room)	3.6- Gas Explosions - Venting (2) Regis Bauwens (Pershing S Room)
13:30-14:00	A brief review on effect of particle size on burning velocity: application in FLACS-DustEx M. Ghaffari, T. Skjold, A. Hoffmann, R. Eckhoff, K. Van Wingerden Gexcon, Norway	Propagation behavior of a self-ignited flame in high-pressure hydrogen flow in a tube T. Ando, M. Asahara, T. Saburi, S. Kubota, T. Miyasaka, National Institute of Advanced Industrial Science and Technology, Japan	Accounting for turbulence in gas explosion venting design J. Daubech, E. Leprette, A. Duclos, C. Proust, INERIS, France
14:00-14:30	Effect of particle size on dispersion of stratified dust layers S. Lai, R. Houim, E. Oran, University of Maryland, USA	Experimental analysis of lean premixed flame in complex geometries V. Gabriel, U. Krause, B. Muthukumar, Z. Abbas, A. Darbanan, S. Qin, Otto-von-Guericke University, Germany	Drag loading in vented gas explosion testing R. Crewe, C. Robinson, M. Johnson, P. Cronin, D. Allason, DNV GL, UK
14:30-15:00	Numerical simulation of layered coal-dust explosions behind propagating shock wave K. Shimura, A. Matsuo, Keio University, Japan	Further insight into the gas flame acceleration mechanisms in pipes, Part I: experimental work J. Daubech, E. Leprette, C. Proust, G. Lecocq, INERIS, France	Influence of a wall close to a vent outlet B. Fakandu, I. Khan, G. Andrews, H. Phylaktou, Nigeria Military Academy, Nigeria
15:30-16:00	Modulation of particle-laden flows by electrostatic charges H. Grosshans, PTB, Germany	Further insight into the gas flame acceleration mechanisms in pipes, Part II: numerical work G. Lecocq, E. Leprette, J. Daubech, C. Proust, INERIS, France	Prevention of gasoline vapor explosions in portable fuel containers A. Rangwala, R. Zalosh, Worcester Polytechnic University, USA

Time	Thursday, August 16 th 2018 (13:30-17:00)		
7:30-8:30	Breakfast (Century A Ballroom)		
8:00-8:30	Registration (Century Foyer)		
9:00-12:00	Fike Remote Testing Facility: Explosion Protection and Pressure Relief Demonstrations (Blue Springs): Group 2 Please check-in at the Westin Crown Center lobby, buses will leave promptly at 09:00 Time off for Group 1		
12:30-13:30	Lunch (Century A Ballroom)		
13:30-15:00	4.1- Coal Mines Safety (1) Marcia Harris (Pershing E&W Rooms)	4.2- Large-Scale VCEs (1) Kelly Thomas (Pershing N Room)	4.3- Gas Explosions - Modeling (1) Laurence Bernard (Pershing S Room)
13:30-14:00	Examination of classified rock dust (treated and untreated) performance in a 20-L explosion chamber I. Perera, M. Harris, M. Sapko, NIOSH, USA	The importance of deflagration to detonation transition in explaining major vapour cloud explosion incidents M. Johnson, A. Pekalski, V. Tam, B. Burgan, DNV GL, UK	Numerical analysis of the influence of the region outside the vent on indoor gas explosion hazards K. Yang, L. Pang, B. Song, P. Lv, J. Gao, Beijing Institute of Petrochemical Technology, China
14:00-14:30	Laboratory assessment of various rock dust foams C. Brown, M. Harris, I. Perera, M. Sapko, NIOSH, USA	Detonations in industrial vapour cloud explosions G. Chamberlain, E. Oran, A. Pekalski, Waverton Consultancy Ltd, UK	Complex approach to assess the accidental gas explosions in buildings M. Myrnarz, A. Tulach, S. Lichorobiec, University of Ostrava, Czech Republic
14:30-15:00	Comparison of low temperature ashing (LTA) and CDEM explosibility determinations N. Rayyan, M. Harris, C. Brown, I. Perera, NIOSH, USA	Advanced technique to study deflagration to detonation transition (DDT) at large scales S. Davis, D. Botwinick, J. Pagliaro, D. Engel, K. Van Wingerden, M. Johnson, Gexcon US, USA	Explosion and fire risk analysis in ventilated battery rooms N. Warner, A. Huser, T. Elvehøy, M. Pierce, T. Rice, C. Spitzenberger, N. Rivedal, G. Haugom, DNV GL, UK
15:00-15:30	Coffee Break		
15:30-17:00	4.4- Coal Mines Safety (2) Inoka Perera (Pershing E&W Rooms)	4.5- Large-Scale VCEs (1) Mike Johnson (Pershing N Room)	4.6- Gas Explosions - Modeling (2) Scott Davis (Pershing S Room)
15:30-16:00	Correlation analysis of thermal properties of coal gangue and its characteristics of spontaneous combustion B. Li, W. Gao, J. Deng, C.-M. Shu, Li Ma, M. Bi, Dalian University of Technology, China	Vented deflagration tests in congested enclosures and comparison with predictive methods K. Thomas, P. Diakow, D. Malik, B. Horn, E. Vivanco, BakerRisk, USA	A physics-based numerical model for explosions in vented vessel-pipe systems L. Boeck, R. Bauwens, S. Dorofeev, FM Global, USA
16:00-16:30	Factors affecting the performance of trickle dusters for preventing explosive dust accumulations in return airways M. Sapko, M. Harris, I. Perera, I. Zlochower, E. Weiss, URS Corporation, USA	Assessing the influence of real releases on explosions: motivation and previous work T. Skjold, H. Hisken, L. Mauri, G. Atanga, L. Bernard, K. Van Wingerden, A. Foissac, P. Quillatre, V. Blanchetière, A. Dutertre, D. Kostopoulos, A. Pekalski, D. Allason, M. Johnson, E. Leprette, D. Jamois, Gexcon, Norway	Explosion risk study on liquefied propellants ejected from a space vehicle J. Dougal, M. William-Louis, P. Gillard, T. Abensur, J.-P. Duthheil, Y. Boué, PRISME Laboratory, France
16:30-17:00	Metal dust explosions in Sweden K. Nessvi, L. Evaldsson, Process Safety Group, Sweden	Explosion safety gap reduction with water curtain D. Allason, C. Medina, M. Johnson, A. Pekalski, A. Dutertre, D. Mansfield, DNV GL, UK	
19:00-21:00	12th ISHPMIE - Banquet Lidia's 101 West 22 nd Street, Kansas City http://lidias-ks.com 15 minutes' walk from the Westin Crown Center Hotel shuttle will leave from 18:00-19:00 and return from 20:30-21:30 Keynote Speaker: Guy Colonna, National Fire Protection Association, USA		

Time	Friday, August 17 th 2018 (9:00-14:30)		
7:30-8:30	Breakfast (Century A Ballroom)		
8:30-9:00	Registration (Century Foyer)		
9:00-10:00	Plenary Lecture 3 (Century B Ballroom): Pr. Jennifer Wen, University of Warwick, UK Bridging the gaps between academic research and industrial application in explosion modelling		
10:00-10:30	Coffee Break		
10:30-12:00	5.1- Case Histories (1) Martin Clouthier (Pershing E&W Rooms)	5.2- Detonations & DDTs Matei Radulescu (Pershing N Room)	5.3- Gas Explosions - Risk Management Wookyung Kim (Pershing S Room)
10:30-11:00	Measurement of minimum ignition temperatures of dust clouds: history, present, future R. Eckhoff, University of Bergen, Norway	Detonation transition criteria from the interaction of supersonic shock-flame complexes with different shaped obstacles W. Rakotoarison, A. Pekalski, M. Radulescu, University of Ottawa, Canada	Inerting of pipelines containing vapors of complex hydrocarbon mixtures J. Karl, T. Hussein, D. Maxa, M. Stukbauer, Technical Institute of Fire Protection in Prague, Czech Republic
11:00-11:30	A case study of multiple explosions of chemicals under fire conditions E. Salzano, M. Debernardi, D. Riccio, E. Danzi, L. Marmo, University of Bologna, Italy	Numerical simulations on the scaling of the blast wave originating inside a shock tube Y. Sugiyama, T. Matsumura, K. Wakabayashi, National Institute of Advanced Industrial Science and Technology, Japan	Experimental investigation on effects of CO ₂ additions on spontaneous ignition of high-pressure hydrogen during its sudden release into a tube L. Gong, Q. Duan, J. Liu, M. Li, K. Jin, J. Sun, University of Science and Technology, China
11:30-12:00	Dust explosion risk in metal workings E. Danzi, L. Marmo, Politecnico di Torino, Italy	Numerical simulation of deflagration and detonation of homogeneous hydrogen-carbon monoxide-air mixtures C. Barfuss, D. Heilbronn, T. Sattelmayer, Technical University of Munich, Germany	Hydrogen for maritime applications: knowledge gaps and prospects L. Bernard, V. Haugan, H. Hisken, T. Skjold, Gexcon, Norway
12:00-13:30	Lunch (Century A Ballroom)		
13:30-15:00	5.4- Case Histories (2) Dieter Gabel (Pershing E&W Rooms)	5.5- Dust Explosions - Mitigation Enrico Danzi (Pershing N Room)	5.6- Gas Explosions - Mitigation Jennifer Wen (Pershing S Room)
13:30-14:00	Lessons learned from a milling explosion S. Smyth, B. Cox, T. Hetrick, R. Ogle, Exponent, USA	Inhibition of aluminum dust explosion by NH ₄ HPO ₄ and NaHCO ₃ H. Jiang, M. Bi, B. Li, W. Gao, Dalian University of Technology, China	Suppression of flame propagation in a long duct by segregation with inert gases H.-N. Yang, Y.-J. Lin, C.-H. Liu, M.-G. Chin, C.-C. Wang, H.-Y. Tsai, J.-R. Chen, National Kaohsiung First University of Science and Technology, Taiwan
14:00-14:30	Importance of properly designing dust explosion protection systems, Case study: 2014 Georgia Pacific Corrigan facility fire and explosion S. Davis, J. Pagliaro, Gexcon US, USA	Impact of dust-fueled flash fires on personal protective equipment fabrics S. O'Hern, M. Stern, J. Vickery, D. Anderson, A. Ibarreta, T. Myers, Exponent, USA	Damage to residential properties in the far field of a vapour cloud explosion E. Ural, LPSTI, USA
15:00-16:00	Farewell Reception and Best Paper Awards Benton's, Floor B (18 th floor), Westin Crown Center Please use the lobby elevators		

Time	Saturday, August 18th 2018
12:00-18:00	<p data-bbox="913 126 1390 203">Post-event Kansas City Double Decker Sight Seeing Tour https://kcdoubledeckertours.godaddysites.com</p> <p data-bbox="913 224 1390 321">If you are interested in attending, please email ishpmie@fike.com or contact Melissa Morefield during the conference</p>