SUNDAY

19.00hrs Welcome Buffet

MONDAY

08.00 Registration opens
9.00 OPENING

9.15 PLENARY SESSION
Wildfires and Safety at the Crossroads: Global Lessons and the Path Forward
Prof. Guillermo Rein, Imperial College London, UK

	Discussion		Discussion		Discussion
	Break		Break		Break
A.	**FACADES**	**B.**	**TRANSPORTATION**	**C.**	**ACTIVE FIRE PROTECTION**
	Fire Spread in Combustible Inner Corners of Facade ***Robert McNamee,*** *A Just, RISE, Sweden* (331)		Modeling the Fire Growth in a Railcar ***Jonathan Hodges,*** *Jensen Hughes USA, A Troff, M Osburg, Brandschutz Consult Ingenieurgesellschaft Leipzig, Germany (175)*		Limits of Passive Fire Protection in Unsprinklered Light Hazard Occupancies [or Buildings] ***Yogish Gopala****, Y Xin, S Dorofeev, Factory Mutual Insurance Company, USA (081)*
	Development of New Dutch Stardard for Mid – and Large-Scale Façade Testing ***Paul Hoondert****, R v Mierlo, DGMR Consulting Engineers, Netherlands (151)*		Review of Emergency Egress and Rescue Challenges in Rail Tunnels ***Jacqueline Wilmot****, Brooks Safety Solutions, USA (332)*		Simulation of a Water Mist Curtain used as a Radiation Shield ***Bjarne P. Husted****, Technical University of Denmark/Danish Institute of Fire and Security Technolog, L Laustsen Sørensen, OBH Gruppen, Denmark, L Schiøtt Sørensen, Technical University of Denmark (298)*
	Means for Fire-Safe Green Façade Design on Multi-Storey Buildings ***Thomas Engel****, Technical University of Munich, Germany (180)*		Design Considerations for Ensuring Tenability and Safe Evacuation in Urban Roadways Beneath Complex Air-Right Structures ***Frank Wang****, Jensen Hughes, USA, X Chen, California State University, USA (222)*		Comparing Drone Swarms and Traditional Methods for Industrial Fire Plume Monitoring and Impact Assessment ***Brice Berthelot****, INERIS, F Guerin, Le Havre Normandy University/GREAH Laboratory, F Germain, N Kerthe, Le Havre Normandy University, France* (318)
	Validation of a CFD fire simulation model to predict BS 8414 tests for Cladding Systems ***Zhaozhi Wang****, E Galea, F Jia, J Ewer, University of Greenwich, UK* (045)		Vehicle Fires: Significant Fire Hazard in Transport Infrastructure ***Anja Hofmann****, BAM, A Klippel, Otto-von-Guericke Universität Magdeburg, Germany* (018)		The Impact on ASET of Smoke Alarm Location during House Fires with Varying Ventilation and Growth Rates ***Keon Senez****, E Weckman, University of Waterloo, P Senez, Senez Consulting/University of Waterloo, Canada* (189)
	Discussion		Discussion		Discussion
	Lunch				
A.	**FACADES**	**B.**	**TIMBER**	**C.**	**ACTIVE FIRE PROTECTION**
	Case Study: Reconstruction of the Valencia Tower Fire, Based on Material Testing and Numerical Modelling ***E Guillaume,*** *V Drean, M Lago, C Sautot, Efectis, France* (129)		Flaming and Smouldering Fires in Mass Timber Compartments: CodeRed Retrospective and Research Gaps ***Harry Mitchell****,G Rein, R Amin, Imperial College London, P Kotsovinos, J Schulz, Arup, London, UK* (192)		An Improved Method for Assessing External Fire Spread Risk in the UK ***Ian Fu****, I Inerhunwa, D Hopkin, OFR Consultants, UK* (336)
	Fire Safety in Sustainable Housing: Insights from Recent Building Envelope Fires ***Johan Van Der Graaf,*** *L De Witte, M Kobes, M Leene Netherlands Institute for Public Safety, Netherlands* (122)		Timber Structural Loads on Trial: Design vs. Experiments in Ambient and Fire Conditions ***Antonela Colic,*** *L Bisby, University of Edinburgh, UK, F Wiesner, The University of British Columbia, Canada, M Spearpoint, D Hopkin, OFR Consultants, UK* (238)		Compressed Air Foam and Water Systems Comparison in Real Scale Fire Tests *W-G. El Tayar, CERN, Switzerland/ Lebanese American University, Lebanon,* ***Oriol Rios****, M. Van de veire, M. Leinonen, L. Contini, B. Debrouwere, D. Perovic, CERN, Switzerland* (098)
	Fire Performance Evaluation of Building Integrated Photovoltaic (BIPV) Façade Systems using ANSI/FM 4411 Standard in Inactive and Maximum Power Charged States ***Gaurav Agarwal****, D Zeng, Y Wang, FM Research Division, USA* (325)		Performance Based Design and Stochastic Analysis to Determine the Reliability of Buildings in Fire. Comparison of Different Typologies of Dwellings with Mass Timber Structure Exposed to Fire ***François Consigny****, M Manthey, CSTB,J Kruppa, Poissy, C Douthe, Université Gustave Eiffel, R Leroy, ENSA Paris Malaquais, France* (205)		Interaction of Longitudinal Ventilation and Deluge Fire Suppression Systems in Road Tunnel ***Jakub Bielawski****, W K Cheung, Building Research Institute, Poland/ Hong Kong Polytechnic University, D Luan, Hong Kong Ploytechnic University/Central South University, China, B Racięga, Baltic Fire Laboratory, Poland, X Huang, Hong Kong Polytechnic University, W Węgrzyński, Building Research Institute, Poland, Poland* (173)
	Experimental and Numerical Investigation of Cedar Façade Flame Spread with Respect to Sidewall, *X Sun,* ***Hideki Yoshioka,*** *T Noguchi, The University of Tokyo, Japan, Y Nishio, Building Research Institute, M Kanemastsu, Tokyo University of Science, Japan B Zhou, China University of Mining & Technology, China* (006)		Experimental and Numerical Study of Fire Behavior in a Large Compartment with Composite Concrete Timber Ceiling ***Bouaza Lafdal****, M Heidari, F Robert, CERIB Fire Testing Centre, France* (187)		Fire Protection of Large-Diameter Ducts Using Sprinklers ***Hamed Farmahini Farahani****, B Ditch, Y Xin, FM Research Division, USA* (014)

	Investigating the Fire Behaviour of Wooden Slat or Rib Constructions: Influence of Dimensions and Spacing ***Konrad Wilkens**, P van Hees, Lund University, Sweden, M Pauner, Danish Institute of Fire and Security Technology, Denmark* (046)		Experimental Investigation on Timber Charring Rate in Standard, and Custom Parametric and Traveling Fire Time-Temperature Curves, *W Węgrzyński, J Bielawski, **Piotr Turkowski**, Building Research Institute, P Sikora, West Pomeranian University of Technology, Poland* (278)		Evaluation of Suppression Performance of High-Expansion Foam Fire-Extinguishing Systems for Pure Car and Truck Carriers ***Susumu Ota**, Japan Ship Technology Research Association, Y Suzuki, S Sakai, Kashiwa Tech Co, Y Oka, Yokohama National University, Japan* (084)
	Discussion		A Review of Factors Affecting the Self-Extinction of CLT Compartments Based on Large-Scale Fire Experiments ***Carmen Gorska**, D Hopkin, OFR Consultants, UK* (265)		Discussion
	Break		Break		Break
A	**FACADES**			**C**	**ACTIVE FIRE PROTECTION**
	Fire Hazards of Exterior Wall Assemblies Containing Combustible Components – 10 Year Update ***Alex Webb**, N White, CSIRO, Australia, A Kimball, Fire Protection Research Foundation, USA* (299)		Timber Session Discussion **B INVESTIGATION**		Design Approaches for Oxygen Reduction Systems for Warehouse Storage Applications ***Patrick van Hees**, J Aström, Lund University, Sweden, M Nilsson, Zurich Insurance Group, Switzerland, B Meacham, Crux Consulting, USA* (041)
	Assessment of Fire Performance of Facades in a Round Robin using the European Approach ***Johan Anderson**, J Sjostrom, RISE, Sweden, R Chiva, Efectis, France, F Dumont, University of Liege, Belgium, O Lalu, BRE, UK, A Hofmann, BAM, Germany, P Toth, EMI, Hungary* (038)		Representative Large-Scale Tests of a Three Storey Balcony Fire Incident ***Michael Spearpoint**, D Hopkin, OFR Consultants, UK, K Chotzoglou, Efectis, UK, D Morrisset, University of Queensland, Australia* (035)		Gravity Smoke Vents in Storage Occupancies ***Alex Krisman**, Y Gopala, Y Wang, Y Xin, S Dorofeev, FM Research Division, USA* (049)
	Innovative Strategies for Rectifying Combustible Cladding in Existing Buildings ***Jonathan Barnett**, A Estacio, J Millar, FSFPE FIEAust, Australia* (062)		Impact of Architectural Finishes on Drywall Fire Patterns *M Binte Mannan, N Zefeng Lei Cai, S I Stoliarov, **Shuna Ni,** University of Maryland, USA* (273)		Re-Evaluation of Selected Chemicals with regard to Recommended Firefighting Foams – Updating the ChemInfo Database ***Julia Backhaus, D** Schmitz, R Goertz University of Wuppertal, M Wachsmuth, German Environment Agency - Umweltbundesamt, Germany* (163)
	Discussion		Discussion		Discussion
	POSTER SESSION A				
19.00	**Social Evening – Founders Building**				

TUESDAY

A.	**WILDLAND FIRES**	**B.**	**CHEMISTRY/FLAME RETARDANTS**	**C.**	**FIRE SAFETY ENGINEERING**
8.40	Preventing Wildfire Disasters: It Starts With Design ***Birgitte Messerschmidt**, M Steinberg, NFPA, USA* (099)	8.40	Fire Retardancy Featuring Sustainability: Food for Thought between Fake Fiction and Future ***Bernhard Schartel**, BAM, Germany* (022)	8.40	A Probabilistic Model for the Thermal Response of Gypsum Wallboard ***Mark McKinnon**,M J DiDomizio, G T Bellamy, D Chaudhari, UL Research Institutes, USA* (251)
	Wildfire Directional Indicators – The Science and the Practice ***Vytenis Babrauskas**, Fire Science and Technology Inc, K Parker, Parker Fire Services Consulting, USA* (025)		Fire Behavior of Intumescent Materials in O2 Rich Environment ***Serge Bourbigot**, University of Lille/Institut Universitaire de France, J Sarazin, University of Lille, France* (056)		Predicting External Flames Through Vertical Openings in a Compartment with an Exposed Timber Soffit ***Edwin Ayala**, Semper, M Davison, C Maluk, DAMA, UK* (316)
	Wildland Urban Interface Codes ***Marcelo Hirschler**, GBH International, USA* (047)		The ongoing debate about Flame Retardants, Fire Safety, Smoke Emissions and Toxicity ***Adrian Beard**, PINFA, Belgium/Clarient, Germany, M Butler, WilliamBlythe, UK, T Esche, BASF, Switzerland, S Kroon, ICL Industrial Products, The Netherlands* (253)		The Support of European Commission Joint Research Centre (EC JRC) to the Implementation of Fire Safety Engineering for the Built Environment ***Francesca Sciarretta**, A Athanasopoulou, G Tsionis European Commission - JRC.E.3, Italy* (324)
	Predicting Heat Flux from Firebrand Piles to Horizontal Surfaces ***Brian Lattimer**, S Wong,Virginia Tech, J L. Hodges, Jensen Hughes, USA* (064)		PROVIISIONAL Influence of Cladding and Insulation Materials on Façade's External Fire Spread ***Kate Nguyen**, RMIT University, Australia* (244)		A Simple Methodology to Improve the Fire Safety of a Furnished Room ***Anna Bergstrand**, B Sundström, R McNamee, RISE, Sweden* (333)
	Discussion		Discussion		Discussion
	Break		Break		Break

A.	WILDLAND FIRES	B.	COMBUSTION/TOXICITY	C.	FIRE DYNAMICS
	Simulation of Firebrand-Driven Wildland-Urban Interface (WUI) Fire Spread at Landscape-Scale ***Arnaud Trouve**, Y Qin, University of Maryland, D Purnomo, M Theodori, M Zamanialaei, M Gollner, University of California, C. Lautenberger, CloudFire, USA* (296)		Characterization and Assessment of Smoke Emissions from Smouldering Forest Fires: A Combined Experimental and Numerical Approach ***Kira Piechnik**, A Klippel, Otto-von-Guericke-University, A Hofmann, BAM, Germany* (027)		High Resolution Predictions of the Sample Heat Flux during a Cone Calorimeter Test ***Jason Floyd**, UL Research Institutes, J Hodges, Jensen Hughes, USA* (028)
	Burning Rates of Individual Firebrands on Shredded Paper Beds ***Savannah Wessies**, J C. Yang NIST, USA* (185)		Characterisation of fire gases produced from wood during flaming and non-Flaming combustion in controlled oxygen atmospheres ***Evalyne Arinaitwe**, K Wilkens, M McNamee, J Rex, V Malmborg, J Pagels, Lund University, Sweden* (235)		New Methods to Predict the Burning Rate of Unconfined Liquid Fuel Spill Fires ***Jason Huczek**, Marc Janssens, Southwest Research Institute, USA* (077)
	Vulnerability Thresholds for Shutters Exposed to Vegetation Fire in WUI ***Camille Luciani**, V Tihay-Felicelli, F Morandini, A Pieri, P-A Santoni, T Barboni, Université de Corse, France* (034)		PFAS Detection from MDF Crib Burns with PTFE ***Aika Davis**, R L. Falkenstein-Smith, A Maizel, T G. Cleary, NIST, USA* (068)		Automated characterization of radiant heat sources exemplified by the H-TRIS ***Michael Plagge,** Danish Institute of Fire and Security Technology (DBI), Denmark and Lund University, Sweden, D Lindsay, DBI, Denmark, B Husted, DBI/Technical University of Denmark (DTU), Denmark, M Jorgensen, DTU, Denmark, G Fontaine, University of Lille, France, S Bourbigot, University of Lille/Institut Universitaire de France, France, P van Hees, Lund University, Sweden* (229)
	Fire Spread Hazards in Humanitarian and Informal Settlements: A Large-Scale Experimental Study ***Sam Stevens**, D Antonellis Kindling Safety, UK, A van Wyk, Kindling Safety, UK, /Stellenbosch Unviersity, South Africa, David Rush, University of Edinburgh, UK* (193)		Gas Emissions from Smoldering Bio-Based Insulation : Insights from Two Experimental Approaches ***Lydia Hammad**, CSTB/ IMT Mines Alès, V Marchetti, S Moularat, R Anton, CSTB, France, R F. Milkalsen, RISE Fire Research, Norway , R Sonnier, IMT Mines Alès, France* (247)		Addressing Transient Phenomena in Uncertainty Budgets for Heat Release Rate Measurement Systems ***Bart Sette**,Jensen Hughes, Belgium* (301)
	Role of Bulk Density and Ignition Location on Burning Dynamics of Surrogate Vegetative Fuel ***Eric Mueller,** K Sung, A Hamins, R McDermott, NIST, USA* (320)		The Nature of Toxicants Moving Across the Layers of Fire Suits ***Svetlana Tretsiakova- McNally**, Y K Chen, J Zhang, A Nadjai, Ulster University, UK* (118)		Fire Behaviour and Smoke Explosion in Combustible Compartments ***Aatif Khan**, B Leslie, H Jones, K Nuzum, Z Conventry, University of Canterbury,New Zealand, C Fleischmann, UL Research Institutes, USA* (086)
	Discussion		Discussion		Discussion
	Lunch		Lunch		Lunch
A.	**WILDLAND FIRES**	**B.**	**PYROLYSIS**	**C.**	**FIRE DYNAMICS**
	Experimental Investigation of Smouldering Behaviour in Natural and Synthetic Peat Samples ***Hafizha Mulyasih**, G Rein, Imperial College London, UK, D Tarasi, A Voulgarakis, Imperial College London/Technical Universtiy of Crete, Greece* (190)		Uncertainty Quantification and Propagation of Pyrolysis Kinetics Parameters used in Fire Models ***Morgan Bruns**, P Canez, St. Mary's University, I Leventon, NIST, USA* (207)		A Preliminary Numerical Assessment of the Interaction between ESFR Sprinklers and Smoke Control Systems In High-Rack Warehouses ***Borja Rengel,** V Drean, E Guillaume, Efectis, France* (130)
	PROVISIONAL An Experimental Investigation into the Transition from Thin to Thick Fuels ***Sara McAllister**, M Finney, USDA Forest Service, USA* (079)		Measurement of the Average Molecular Formula of Gaseous Pyrolyzates Produced by Combustible Solids ***Isaac Leventon**, A Tripi, R Greene, K McGrattan, NIST, USA* (307)		Leveraging AI modelling for FDS with Simvue: monitor and optimise for more sustainable simulations ***James Panayis**, M Field, V Gopakumar, A Lahiff, K Zarebski, A Abraham, United Kingdom Atomic Energy Authority,UK, J Hodges, Jensen Hughes, USA* (168)
	Wildfire Emissions from European Boreal Fuels: Effects of Fuel Type and Moisture Content ***Robert Svensson**, J Sjöström, F Vermina Plathner, A Sandinge, P Blomqvist, RISE, Sweden, E Arinaitwe, M McNamee, Lund University, Sweden* (335)		Influence of Experimental Conditions and Reaction Mechanism for Modeling of the Thermal Decomposition of Woody Biomass ***Grayson Bellamy**, S Stoliarov,University of Maryland, M McKinnon, UL Research Institutes, USA* (289)		The Radiance Method: For Fine Mesh Smoke Measurements ***Jennifer Ellingham**, E Weckman, University of Waterloo, Canada* (182)
	Experimental Analysis of Fire Behavior in Pine Forests and Agricultural Fields: Large-Scale Tests conducted within the TREEADS Project ***Andrea Klippel,** L Heydick, K Piechnik, F Köhler, Otto-von-Guericke-Universität Magdeburg, A Hofmann, H Wu, B Klaffke, BAM, Germany* (033)		Measurement of the Smoldering and Flaming Heats of Combustion of Vegetative Fuels ***Isaac Leventon**, K De Lannoye, R Greene, NIST, USA* (308)		CFD Predictions of Fire Spread over Wood Cribs in Large Open-Plan Compartments under Two Different Ventilation Conditions ***Chang Liu**, University of Edinburgh, X Dai, University of Liverpool, M Ming, S Welch, University of Edinburgh, UK* (302)
	Ensemble of Wildfire Models in Probabilistic Trigger Boundaries ***Nikolaos Kalogeropoulos**, H Mitchell, G Rein, Imperial College London, UK* (097)		Impact of Surface Fouling on the Accuracy of Schmidt-Boelter Heat Flux Gauge Measurements ***Matthew J DiDomizio,** N G Sauer, B Morrissey, N W Dow, UL Research Institutes, USA* (259)		Model for Firebrand Heat and Mass Transfer Using CFD-DEM Approach ***Debadrita Das**, F E Garcia, A Jeffers, University of Michigan, USA* (306)

	Discussion		Discussion		Ignition behavior of Hydrogen and its mixtures with Ammonia under varying conditions ***Dieter Gabel**, U Krause, Otto-von-Guericke University Magdeburg, Germany* (026)
	Break		Break		Break
A.	**RISK**	**B.**	**CHEMISTRY/FLAME RETARDANTS**		
	Diverse Perspectives for Safer Fire Designs: The Case for Convergence Research ***Brian Meacham**, Crux Consulting, USA, Sandra Vaiciulyte, Universidad Nacional Autonoma de Mexico* (008)		Detailed Fire Chemistry With Fire Dynamics Simulator ***Jason Floyd**, UL Research Institutes, C Paul, NIST/The George Washington University, R McDermott, NIST, USA* (023)		FDYN Session Discussion
	Environmental Benefits of Early Fire Detection & Suppression ***Margaret McNamee**, R McNamee, Lund University, Sweden, B Meacham, Crux Consulting, USA, F Amon, RISE, Sweden* (016)		Understanding Fuel Transport Through Foam: From Nanoscale Interactions to Macroscale Dynamics *A Ates, R Qiao, **Brian Y Lattimer**, Virginia Tech, USA, M D Madsen,T E Long, Arizona State University, USA* (210)	**C.**	**EDUCATION**
	Development of a National-Scale Interoperable Fire Incident Data Platform ***Craig Weinschenk**, J D Evans, UL Research Institutes, USA* (292)		Characterization of Flammability and Species Yields for PMMA Burning at Constant Equivalence Ratios in a Fire Propagation Apparatus (FPA) ***Farnaz Beygi Khosroshahi**, F Raffan-Montoya, S I Stoliarov, University of Maryland, USA* (078)		Fire Resilience of Physical Civil Infrastructure Conference: Research Needs from the US ***Erica Fischer**, N Elhami-Khorsani, R Emberley, T Gernay, A Kimball, B Messerschmidt, S Quiel, Oregon State University, USA* (263)
	Fire Safety of Lithium-Lead Component Room in Demo Fusion Power Plant ***Tuula Hakkarainen**, T Korhonen, N Verma, VTT Technical Research Centre of Finland, Finland* (234)		Screening Flame Spread and Thermal Protection Performance of Fabrics Using Milligram-Scale Samples ***Thomas Roche**, F Raffan-Montoya, S I Stoliarov, University of Maryland, A B Morgan, University of Dayton Research Instiitute, S kulkarni, R Nagarajan, University of Massachusetts-Lowell R Mosurkal, University of Massachusetts-Lowell/US Army Combat Capabilities Development Command, USA* (322)		An Exploratory Study of Social Vulnerability Assessment in Support of Fire & Rescue Service (Frs) Response ***Camille Geeraert**, M McNamee, L Hovart, Lund University, F Amon, RISE, Sweden* (159)
	Discussion		Discussion		Discussion
18.00	Conference Close Day 2				
19.00	**Social Evening – Royal Ascot**				

WEDNESDAY

A.	**TESTING**	**B.**	**MATERIALS**	**C.**	**HUMAN BEHAVIOUR IN FIRE**
8.40	Evaluation of the Effectiveness of Roof Coating for Mitigating Rooftop Photovoltaic Panel Fire ***Dong Zeng,** FM Research Division, T Rodrique, FM, D Boardman, FM Approvals, USA* (258)	8.40	Evaluation of Surface Coatings for Experiments in the Fire Propagation Apparatus ***Gaurav Agarwal**, D Zeng, Y Wang, FM Research Division, USA* (326)	8.40	Comparing Behavioural Data Collection Methods for Wildfire Evacuation Drills ***Enrico Ronchi**, A-K Dugstad, Lund University, Sweden, M Berthiaume, N Benichou, Max Kinateder, NRCC, Canada, P Geoerg, Association for the Promotion of German Fire Protection, /Johanniter Univ of Applied Sciences, Germany, S Gwynne, Lund University/University of Greenwich, UK, Hui Xie,University of Greenwich, K Kubose-Peutz, Movement Strategies, UK, A Kimball, Fire Protection Research Foundation, USA* (036)
	Fire Protection of Stockers in Semiconductor Facilities ***M. Sitki Ulcay**, FM Research, USA* (321)		Smoldering-to-Flaming Transition in Wood Fiber Insulation: A Controlled- Atmosphere-Cone-Calorimeter Study ***Patrick Sudhoff**, Danish Institute of Fire and Security Technology, Denmark, J Åström, Lund University, Sweden (116)*		A Framework for Traffic Evacuation Modelling in Wildfire Scenarios ***Arthur Rohaert**, J Wahlqvist, C Johnsson, E Ronchi, Lund University, Sweden* (052)
	An Analysis of Sprinkler Performance from Fire Tests of 18650 Lithium-Ion Cells in Plastic Trays Within Rack Storage Test Configurations ***Benjamin Gaudet, P.E.**, UL Solutions; P Friday, The Reliable Automatic Sprinkler Co., USA* (262)		Repeatability of Microscale Combustion Calorimeter Data for Layered Materials ***Marc Janssens**, J Huczek, Southwest Research Institute, USA* (076)		Evacuation Challenges and Design Considerations for Inward Opening Doors in Fire Emergencies *Martin Forssberg, **Alexander M Elias**, J Lundin, Brandskyddslaget, Hakan Frantzich, Lund University, Sweden (071)*
	ASTM E3367: Conception and Development of a New Standard Test based on Cone Calorimetry ***Isaac Leventon**, A Sharma, Ickchan Kim Mauro Zammarano, NIST, USA* (188)		Evaluating Variability in the Fire Behavior of multiple version of commercially available PMMA and Identifying a Replacement MaCFP-PMMA ***Karen De Lannoye**, I Leventon, M Heck, NIST, USA* (191)		***PROVISIONAL*** Impact of Using Wheelchairs and Carrying Luggage on Egress Performance at Bottlenecks ***Max Kinateder**, NRCC/Carleton University, Canada Carleton University, Canada, Paul Geoerg, Vereinigung zur Forderung des Deutschen Brandschutzes, Germany, A K Boomers, Forschungszentrum Jülich,Germany, M Berthiaume, NRCC/University of Ottowa, Canada, M Boltes, Forschungszentrum Jülich, Germany (172)*
	Discussion		Discussion		Discussion

	Break		Break		Break
A.	**ELECTRIFICATION**	**B**	**MATERIALS**	**C.**	**HUMAN BEHAVIOUR IN FIRE**
	Enhancing the Fire Safety of Stationary Lithium-Ion Battery Systems: Solutions for Managing Thermal Runaway Risks ***Tomohiro Kawai**, N Takata, Mitsubishi Chemical Corporation, H Yoshioka, The University of Tokyo, Japan* (037)		Composite Fence Flammability and Wind-Driven Fire Spread ***Erik Johnsson**,K Butler, NIST, USA* (261)		KISS Nightclub Fire – An Analysis of a Survey Answered by Survivors ***Rosaria Ono**, W Negrisolo, University of Sao Paulo, F Vittorino, Technological Research Institute of Sao Paulo State, Brazil* (177)
	Investigation and comparison of the Thermal Runaway Characteristics of Sodium-ion batteries and Li-ion batteries depending on the State of Charge level ***Florian Köhler**, K Amano, U Krause, Otto-von-Guericke-University Mageburg, Germany* (139)		Fire Dynamics and Surface Oxygen Measurement for Vertical, Buoyancy-driven Turbulent Fire Spread *D M Chaudhari, **Parham Dehghani,** G Bellamy, UL Research Institutes, USA* (279)		When to Stay Put and when to Go: Warnings, Escape Behaviour, Smoke Exposure and Survivability in the Grenfell Tower Fire ***David Purser**, Hartford Environmental Research /University of Central Lancashire, UK (181)*
	Fire Test Bench for Simulating EV Battery Thermal Runaway Conditions ***Igor B Bezerra Rego**, G Fontaine, University of Lille, S Bourbigot, Univeristy of Lille/ Institut Universitaire de France, France* (166)		Experimental Investigation of Burning Liquids in Reduced Oxygen ***Joakim Astrom**, P van Hees, M Runefors, N Johansson, Lund University, Sweden* (060)		Experimental Study on Stairwell Evacuation Dynamics with Low-Speed Evacuees ***Manabu Tange**, Shibaura Institute of Technology, N Funaki, J Yamaguchi, Obayashi Corporation, T Sano, Waseda University, Y Ohmiya, Tokyo University of Science, Japan* (221)
	E-bike:Include the Micro-Mobility in Fire Safety Engineering. Case Study of Bike Storage Fire ***Camille Waharte**, T Fateh, Efectis UK/Ireland* (184)		Effect of Oxygen Concentration on the Fire Behaviour, Gas and Aerosol Production of an Assembly of Cross-Laminated Timber and Wood Fiber ***Gaëlle Fontaine**, Centrale Lille Institut, A Lamande, University of Paris-Est/University of Lille, V Marchetti, University of Paris-Est, S Bourbigot, Centrale Lille Institut/Institut Universitaire de France, France* (147)		Evaluating Donning Performance of Thermal Protective Immersion Suits: Recommended Applications for Passenger Ship Evacuation Models ***Ria Bruenig**, S Erlanda, H Oltedal Western Norway University of Applied Sciences (HVL), E Galea, Western Norway University of Applied Sciences (HVL) /University of Greenwich, UK, B Batalden, Western Norway University of Applied Sciences (HVL)/ UiT The Arctic University of Norway, S Deere, University of Greenwich, UK* (061)
	Engineering Safety in EVs: Analysis of Occupant Safety using a multifunctional Real-Scale Model Car ***Tim Rappsilber**, S Krüger, T Raspe, BAM, Germany* (164)		Sensitivity Study of Input Parameters in Modeling Flame Spread in Bench-Scale Experiments Using the SPyro Model in FDS ***Anna Troff**, M Osburg, Brandschutz Consult, Germany, A Belt, L Arnold, Forschungszentrum Jülich, Germany, J Hodges, Jensen Hughes, USA* (178)		Integrating Wildfire and Evacuation Models for People- Centric Hazard Mapping ***Nan Xiang**, **Helena Morris**, A Valencia, B Evans, P Thompson, University of Canterbury, New Zealand (137)*
	Discussion		Discussion		Discussion
	Lunch				
	POSTER SESSION B				
A.	**ELECTRIFICATION**	**B.**	**ARTIFICIAL INTELLIGENCE**	**C.**	**HUMAN BEHAVIOUR IN FIRE**
	Fire-Safe Design for Zero-Emission Bus Depots and Public Transport Hubs ***Margrethe Kobes**, J Reinders, M Spoelstra, Netherlands Institute for Public Safety* (024)		The Ignition Frequency of Structural Fires in Singapore 2012-2023 A Deep Neural Network Approach ***Samson Tan**, Staarch, Singapore, T T Teoh, Staarch/ Nanyang Technological University, Singapore, P Joseph, K Moinuddin, Victoria University, Australia* (012)		Effect of Lighting Conditions in Evacuation Routes on the Visibility Distance for Exit Light ***Yuki Akizuki***, K Hoshino, Y Hori, *University of Toyama, H Yamaguchi, Y Deguchi, National Institute for Land and Infrastructure Management, Japan* (314)
	Classification of Modern Vehicle (Ev/Ice) Hazards & Protection of Parking Structures ***Victoria Lutz**, NFPA Fire Protection Research Foundation, USA, K S Arsava, RISE, Norway, A Lonnermark, RISE, Sweden* (091)		On the Use of Machine Learning for Detection of Lithium-Ion Battery Early-Stage Thermal Runaway ***Andy Tam**, I S Emon, H Fang, A Putorti Jr, NIST, USA, J Chen, J Deng, Xi'an University of Science and Technology, China* (309)		An Examination of Phased Evacuation in Multi-Purpose Residential Buildings, ***Yuyao Xue**, M Spearpoint, OFR Consultants, UK, E Ronchi, Lund Univesity, Sweden* (072)
	CODES The 9 mm Magic Number and the Implications for Timber Cladding in Fire ***Danny Hopkin**, M Spearpoint, Y Kanellopoulos, C Mayfield, OFR Consultants, UK* (146)		AI-Driven Identification of Fire Hazards in CERN Accelerator Complex ***Oriol Rios**, D Perovic, S La Mendola, L Contini, B Debrouwere, F Consanego, CERN, A Apollonio, T Cartier-Michaud, Reshape Systems, Switzerland* (287)		Machine Learning for Fire Evacuation Assessment in Road Tunnel Fires ***Arturo Cuesta**, J Gonzalez-Villa, D Alvear, University of Cantabria, Spain* *E Ronchi Lund University, Sweden, O Uhlik, Brno University of Technology, Czech Republic* (179)
	A Round-Robin Study from 12 UK Fire Services pon the Fire Safety Oo Open-Sided Car Parks: Is Current Guidance Adequate? ***Morvarid Koohkherzri**, University of Liverpool, C Hopkin, University of Liverpool/Ashton Fire, M Houghton, Ashton Fire, UK, M Manes, X Dai, University of Liverpool, UK* (209)		Discussion		Experimental Investigation of Strategies Aiming at Effective Fire Evacuation using Evacuation Alert System in Single and Dual Staircase High-Rise Residential Buildings *S Ndlovu, J Fowler, G Catelblanco, K Khan, T Graham, T Bradford, C L Liyanage, **Eleni Asimakopoulou**, University of Central Lancashire, UK* (150)
	Discussion				Discussion
	Final Wrap-Up				
	Conference Close				
	Provisional programme, the organisers reserve the right to make changes to the programme where necessary.				

POSTERS MONDAY 30th June

(Confirmed to date)

ACTIVE FIRE PROTECTION

Use of Scaling Laws for Hot Smoke Tests Design
***Sylvain Desanghere**, Setec, France (*112)

Control Effect of Water Film Flow on Temperature Rise in Glass under Heating Condition of Opening Fire Plume
***Shuo Zhang**, Fujita Corporation, S Sonobe, Y-H Wang, Y Ohmiya, Tokyo University of Science, Japan (*140)

The Current State of Early Deep-seated Fire Detection for Waste and Recycling Materials
***Amy Grainger**, Kiwa Fire Safety Compliance/ University of Central Lancashire, UK, T L Graham, E Asimakopoulou, University of Central Lancashire, UK (*241)

Advancing Air Quality Monitoring in Industrial Emergencies: Real-Time Pollutant Measurement Using Low-Cost Sensors
***Brice Berthelot**, INERIS, F Germain, N Kerthe, Le Havre Normandy University, F Guerin, Le Havre Normandy University/ GREAH Laboratory, S Le Meur, Atmo Normandie, France (*319)

Embodied Carbon of Passive Fire Protection in Timber B021uildings
***Mansoure Dormohamadi**, Aalborg University and DBI, K Kanafani, H Birgisdottir, E Hoxha, Aalborg University, A Dragsted, K Livkiss, DBI - Danish Fire and Security Institute, Denmark (010)*

FACADES

The performance of Open State Cavity Barriers in ventilated façades: an experimental study
***Soukayna Azdad,** K. Chotzoglou, T Fateh, Efectis, UK, A Robb, BENX, UK (051)*

Correlating Cone Calorimeter and SBI Fire Test Results for ETICS with a range of Material Combinations
***Giombattista Traina,** Istituto Giordano, Italy, U Rojas Alva, A Jug, FRISSBE, Slovenian National Building and Civil Engineering Institute (ZAG), Slovenia, P Cancelliere, Italian Fire Rescue and Service (CNVVF), Italy, A Lucherini, FRISSBE, Slovenian National Building and Civil Engineering Institute (ZAG), Slovenia/FAMNIT, University of Primorska, Slovenia (094)*

A Decision-making Framework for Fire Safe Use of Vertical Greenery Systems
***Carmen Guchelaar**, Delft University of Technology/DGMR Consulting Engineers, P Hoondert, B Peters, DGMR Consulting Engineers, Netherlands* (155)

Indexing the Fire Hazard of External Wall Cladding Systems
***Cameron MacLeod**, A Law, University of Edinburgh, UK, N Butterworth, Design Fire Consultants, UK (212)*

The Influence of the Type of Spacer Bar used in the Insulated Glazed Unit on the Behavior of the Glazed Constructions in Fire Conditions
*J Kinowski, **Bartłomiej Sedłak**, P Sulik , Building Research Institute, Poland (239)*

Fire Spread in Facade Cavities: Experimental and Numerical Analysis of Combustible Suspension Systems
*M Næraa-Nicolajsen, A S Los, Technical University of Denmark, Denmark, A Imraish, Universitat Politècnica de Catalunya, Spain, J George, K Livkiss, **Bjarne P. Husted**, Danish Institute of Fire and Security Technology, Denmark (297)*

FIRE DYNAMICS

Influence of Wind on Building Fires and its Consideration in Fire Modeling: A CFD Case Study of an Atrium
***Andrea Klippel**, C Lindner, M Nowak, F Kohler, Otto-von-Guericke Universität Magdeburg, Germany (020)*

An Industrial-Scale CFD Model for the Fire Growth and Suppression of Plastic Commodities
***Alex Krisman**, FM Research Division, USA (048)*

In-Situ Measurements of a Retrofit Stairwell Pressurization Smoke Control System of an Office Building
***Kazunori Harada**, D Nii, Kyoto University, Japan (134)*

Potential of Fast Fire Spread in Large Compartments with Exposed Timber
***Andreas Saeter Boe**, D Aprisa, K Hox, RISE Fire Research, Sweden (145)*

Computational Evaluation of FDS on HPC Systems: Cavity Fire Simulation
***Haiyang Fang**, D Lange, M A Orabi, University of Queensland, Australia* (170)

A Novel Framework in Verifying Mesh Optimisation in Fire Dynamic Simulator
***Afrin Basit,** Kings College London, UK (215)*

Apartment Door Boundary Condition for Fire Field Modelling
***Stewart Miles**, Kiwa Fire Safety Compliance, UK (256)*

Characterization of Flame Geometry in Turbulent Wind-Driven Flames,
***A V Singh**, Alankrit Srivastava, Indian Institute of Technology Kanpur, India (274)*

Predictive Simulation of Fire Dynamics in Mass Timber Compartments
***Topi Julin**, Jensen Hughes, Finland (276)*

Development of BIM-based Coupled Fire and Evacuation Simulation Model using the Zone Model
***Ryun-Seok Oh**, C Y Lee, J Jeon, J-H Choi, Pukyong National University, G Kim, Cospec Innolab, C-H Hwang, Daejeon University, S Choo, Kyungpook National University, South Korea (281)*

A Unified Framework for Thermal Radiation Modeling: Fully Coupled RTE Solver Incorporating Gas and Condensed Phase Spectral Models
Soroush Rashidzadeh, S Hostikka, Aalto University, Finland, F Alinejad, University of Maryland, USA (285)

Parametric Analyses of Environmental Conditions on Horizontal Evacuation Routes taking into Account Various Fire Safety Systems - Smoke Ventilation, Sprinkler System, Mist System
Grzegorz Krajewski, W Węgrzyński, J Bielawski, Building Research Institute, Poland (280)

FSE

Cybernetic Design in Fire Engineering: Mall Space Ecosystem
***Fabio Alaimo Ponziani**, A Tinaburri, Ministry of the Interior, Italy (004)*

Digital Workflows through OpenBIM for Fire Safety Engineering
***Asim Siddiqui**, C Chanthan, P Lawrence, University of Greenwich, UK, M Spearpoint, OFR Consultants, UK (082)*

Evaluating an Engineering Approach for Analysing Heat Transfer and Generation in a Structural Element with Biobased Insulation
***Konrad Wilkens Flecknoe-Brown,** N Johansson, Lund University, Sweden (156)*

Validation of FDS for Critical Air Velocities in Enclosure Openings
***Joel Jacobsson**, Southern Alvsborg Fire Service, Sweden/ Lund University, Sweden, M Runefors, J Wahlqvist, Lund University, Sweden, H Ingason, RISE/Lund University, Sweden (204)*

Predictive Capabilities of Fire Dynamics Simulator (FDS) for Thermal Impact of Fires on Inert Surfaces: An Evaluation
***Ouassim Benaroussi**, A Coimbra, B Ismail, EM Koutaiba, CSTB, France (271)*

Performance-Based Study of Insulation Failure in Fire-Rated Walls with Steel Beam Penetrations using FEM
***Izzy Inerhunwa**, Y Li, S Subramaniyan, A Mezaraups, J Harkin, OFR Consultants, UK (304)*

Quantitative Evacuation Assessment Model – From Fire Science to Engineering
***Razieh Khaksari Haddad**, WSP, UK (039)*

INVESTIGATION

Gas Dispersion and Explosion Simulation. A Forensic Case Study
***Alberto Tinaburri**, F A Ponziani, National Fire Corp, Italy (323)*

RISK

Fire Insurance Rating and Fire Risk Indexing: A Short History
***Vasilis Koutsomarkos**, A Law, HSE/University of Edinburgh, UK (216)*

Challenges in the Development of Experimental Methods for Niche Risk Scenarios
***Alastair Temple**, J Anderson, F Kahl, P Otxoterena, H Sokoti, RISE, Sweden (043)*

TESTING

New Standard Upholstered Furniture Fire Tests
***Marcelo Hirschler**, GBH International, USA (095)*

Heat Release Rate Evaluation of Aircraft Cabin Materials: A New Representative Method
***Kimkévin HA**, University of Lille/Safran Composites, P Tranchard, Airfoils Advanced Solutions, P Bachelet, University of Lille, A Ramgobin, Saftan Seats, M-O Auge, Safran Composites, S Bourbigot, University of Lille/Institute Universitaire de France, France* (142)

Differences in Total Heat Flux Meter Calibration Scales among different Laboratories
***Chiel Donkers**, Hukseflux Thermal Sensors, Netherlands* (161)

Fire Safety of Roofs with Photovoltaic Systems: A Synthesis of Methodologies and Insights
***Giombattista Traina**, Istituto Giordano, Italy, F Parolini, University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland, M Cunegatti, F Ragiotto, ANPE, G Manzini, RSE, P Cancelliere, Italian Fire Rescue Service, Italy (169)*

Fire Safety Testing: Internal fire exposure for BIPV/BAPV Products
***Nerea Otano-Aramendi**, X Olano-Azkune, A Odriozola-Alberdi, TECNALIA, Spain, O Aurrekoetxea-Arratibel, TECNALIA, Spain/ University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland, F Parolini, P Bonomo, N J Abdul (SUPSI), Switzerland (186)*

Impact of an External Combusting Surface on Methanol Pool Fire Regression Rate
***Ethan Philion**, A Davidson, J Gales, York University, J Dabrowski, V Gupta, B Weckman, University of Waterloo, Canada(249)*

Should Fire Tests be Conducted with Photovoltaic Modules in Active Operation?
***Olaia Aurrekoetxea-Arratibel**, TECNALIA/ University of the Basque Country UPV/EHU, N Otano-Aramendi, X Olano-Azkune, D Valencia-Caballero, I Vidaurrazaga, TECNALIA, X Oregi, University of the Basque Country UPV/EHU, Spain (160)*

TIMBER

Embodied Carbon Assessment of Active Fire Protection in Multi-Storey Residential Buildings: A Case Study Approach
***Mansoure Dormohamadi**, Aalborg University/ DBI, K Kanafani, H Birgisdottir, E Hoxha, Aalborg University, A Dragsted, P Vargas Rolón, DBI, Denmark (009)*

Residual Withdrawal Strength of Self-Tapping Screws Inserted into Glued Laminated Timber After Fire Test
***Riho Onojima**, Y Miyazu, Y Ohmiya, Y Wang, Tokyo University of Science, Y Sato, Y Tomita, K Masuda, Fujita Corporation, Japan (123)*

Influence of Glass Breakage on Ventilation and Fire Behaviour in Large Timber Compartments: A Numerical Simulation Study
***Deonisius Pradipta Aprisa**, Norwegian University of Science and Technology (NTNU), A Saeter Boe, L Jiang, RISE Fire Research, Norway, K Leikanger Friquin, SINTEF Community, Anne Steen-Hansen, NTNU, RISE Fire Research, Norway (196)*

Modelling Thermal Deformation of a Steel Truss
***Katie Chin**, C Jeanneret, J Gales, York University, Canada, R Al-Hamd, Albertay, UK, P Kotsovinos, University of Petras, Greece, Canada (202)*

Structural Response of Steel-Composite Structures in Under-Ventilated Travelling Fires: Numerical Insights from the BST/FRS 1993 Fire Tests
***Zhuojun Nan**, Delft University of Technology, Netherlands, Xu Dai, University of Liverpool, UK (254)*

TRANSPORT

Engineering Method to Calculate the Heat Radiation on Façades due to a Pool Fire
***Kevin Terlouw**, DGMR Consulting Engineers, The Hague, Netherlands, P Robijn Meijers. DGMR Consulting Engineers, Arnhem, Netherlands* (165)

Experimental Investigation of the Effect of Ceiling Geometry and Slope on Smoke Characteristics and Gas Temperature in Tunnels
***Simon Cox**, E Asimakopoulou, T Bradford, University of Central Lancashire, UK* (105)

Elaboration on Passive and Active Fire Safety Measures in Road Tunnels with a Substantial Risk of Intensive Fires
***Lars Schiøtt Sørensen**, B P Husted, Technical University of Denmark (DTU), Denmark, M Galuppi, M Lombardi, D Beradi, Sapienza University of Rome, Italy* (224)

POSTERS WEDNESDAY 2nd JULY

AI

Use of Recurrent Neural Network Surrogate Model for Façade Fire Investigation
***Sai Pavan Kumar Balabomma**, B Matuszewski, E Asimakopoulou, University of Central Lancashire, UK (245)*

Physics-Informed Surrogate Modelling for the Maximum Temperature of Protected Steel Elements in Fire
*R Yarmohammadian, B Jovanovic, A Franchini, **Ruben Van Coile**, Ghent University, Belgium (117)*

CHEMISTRY/FLAME RETARDANTS

Investigation of theThermal Decomposition of Additively used Organophosphorus Flame Retardants using the example of Polybutylen Terephthalate/DOPO-HQ Composite Material
***Daniel Schmitz**, R Goertz,* University of Wuppertal*, Germany (074)*

Antimony Trioxide (ATO) as Synergist to Brominated Flame Retardants: Can we live without it? Can we reduce the use of ATO without compromising?
Melis Arin, Imran Waseem, E Eden, E Keizman and **Lein Tange**, ICL, Netherlands (338)

CODES

Performance Based Fire Safety Regulation After Grenfell Towers
***Vincent Brannigan**, University of Maryland, USA (017)*

Re-Evaluation of Single Escape Routes in Residential Buildings in the Netherlands
***Pim van Rede**, L De Witte, J van der Graaf, Netherlands Institute for Public Safety, Netherlands (120)*

COMBUSTION/TOXICITY

Generation of Polycyclic Aromatic Hydrocarbons from a Self-Extinguished Propane Diffusion Flame
***Ryan Falkenstein-Smith**, A Davis, T Cleary, NIST, USA (063)*

Assessing the Toxic Contribution of Fire Smoke from the Contents of Residential Spaces
***Micheal Spearpoint**, Y Kanellopoulos, OFR Consultants, UK (126)*

The use of Quasi-Steady State Experimental Methods for the Purpose Measuring Chemical Yields for use in Fire Hazard Assessment
*R Bray, Ulster University, A Singh, Worcester Polytechnic Institute, USA, **S Tretsiakova-McNally**, J Zhang, Ulster University, UK (293)*

EDUCATION

CFITrainer.net – An Asynchronous Distance Learning Solution Supporting Fire and Explosion Investigation Education and Certification
***Robert Schaal**, Gulf Coast FIRE Investigation, D Heenan, Fire Investigations USA, D Robin, Fire Sequence Investigations, USA (275)*

Transition Programme to Become a Fire Safety Engineer
*F Binte Mohd Faudzi, **Rachel Bayliss**, J Schulz, Z Protcenko, B Perrott, ARUP, UK* (214)

ELECTRIFICATION

Thermal Runaway Mitigation in Second-Life Battery Packs for BESS Applications Using Direct Injection
***Pierrick Mindykowski,** R Bisschop, A. Arnqvist, Volvo Energy, Sweden, T Farrell, Fike Corporation, USA, J Colombiano, E Guillaume, Efectis, France (059)*

Revisiting LFP Li-Ion Battery Fire Risk Profile
***Caroline Gaya**, A Bordes, A Lecocq, J Lesage, T Delbaere, C Rabette, G Marlair, INERIS, France (088)*

SBiPV Phase 1: Fire Modelling of a Building with Building-Integrated Photovoltaics (BIPVs) Systems
***Dahai Qi**, I Reda, M Sayed: Université de Sherbrooke, Y Ko: NRC/ Université de Sherbrooke, Canada (100)*

Guidelines of the Sustainable Transport Forum1 on the Fire Safety of Electric Vehicle Recharging Points in Covered Car Parks
***Eugenio Quintieri**, Fire Safe Europe, Belgium, AVERE, Fire Safe Europe, European Commission (149)*

Analysis of Hazards of Home Storage Systems Powered by Lithium-Ion Batteries
***Simon Holz**, L O C Magalhaes, B Schaufelberger, M T Gedara, J Kuder, S Schopferer, Fraunhofer EMI, Germany* (153)

Thermal Runaway in Lithium-Ion Batteries: How Emergency Cooling Regains Control
***Katja Klicker**, R Goertz, University of Wuppertal, Germany (231)*

Instrumental-Analytical Investigation of Venting Gases from Lithium-Ion Traction Batteries with Lithium Iron Phosphate Cathode
***Monique Glockmann**, R Goertz, University of Wuppertal, Germany (240)*

Venting Behaviour of a Li-Ion Pouch Cell: Experimental Analysis and Derivation of Source Term for CFD Simulation
***Benjamin Schaufelberger**, L O C Magalhaes, T Kisters, J Kuder, S Schopferer, Fraunhofer EMI, Germany, P Herrmann, Farasis Energy Europe, Germany, T Hall, Kautex Textron, Germany (255)*

Fire Safety of BIPV and BAPV on Roofs and Facades of Buildings
***Peter van de Leur**, DGMR Consulting Engineers, Netherlands (300)*

HUMAN BEHAVIOUR IN FIRE

Elderly Evacuation Choices: Stairs, Escalators, and Elevators in Department Store Fires
***Yoshikazu Deguchi**, National Institute for Land and Infrastructure Management, T Moribe, H Yoshioka, University of Tokyo, Japan (053)*

Analysis of Noise Levels in Crowded Environments: A Case Study of the Busan Fireworks Festival
***Jun-Seok Lee**, R-S Oh, J-H Choi, Pukyong National University, South Korea (282)*

Evaluation of Influencing Factors of Voice Alarm Sound Sources using EEG Analysis
***Ji- Won Gu**, Jun-Ho Choi, R-S Oh, Pukyong National University, South Korea (284)*

Evacuation Safety and Local Crowd Density in Arenas
***Ahmed Hamdy Elsharkawi**, Ashton Fire, UK, E Ronchi, Lund University, Sweden (032)*

Influence of Continuous Arrangement of the Digital Signage Displaying Dynamic Arrow on Evacuation Route Choice
***Kosuke FUJII,** National Research Institute of Fire and Disaster, Japan, Y Kanazawa, T SANO, Waseda University, Japan (227)*

Detailed Examination of Walking Speed and Crowd Density Before and After Passing Through the Bottleneck Along the Straight Passage
***Akihide JO**, Takenaka Corporation, T Sano, Waseda University, Y Ohmiya, Tokyo University of Science, Japan (217)*

Public Awareness Analysis of Major Fire Disasters via Weibo Social Media Data
***Xiaoyu Sun**, The Hong Kong Polytechnic University/University of Glasgow, UK, Y Ding, X Hunag, The Hong Kong Polytechnic University (233)*

Pierside Evacuation of Ships and Barges
***Courtney Myers**, Jensen Hughes, M Hurley, SenezCo, USA (007)*

Hospital Department Evacuation – Time Estimation and Resource Management
***Judit Rauscher,** OFR Consultants, Manchester (305)*

Analysis of Passenger Ship Evacuation in Fire Emergency Scenario
***Tezar Pratama**, Sunaryo, Universitas Indonesia, Indonesia (312)*

MATERIALS

Fire Performance of Impact-Resistant 3D-Printed Polymer Lattices for Naval Vessels
***M. Rokib Hassan**, B Jones, K Sampson, H Li, L Gaburici, C Paquet, Baril-Gosselin, P Collins, National Research Council Canada, Canada (015)*

Chances of Backdraft Occurrence – Critical Temperatures and the Combination of Fuels
*Chia Lung (Farian) Wu, Central Police University, **W-Y Juan**, National Cheng Kung University, C-Y Hung, Chang Jung Christian University, Taiwan (113)*

Prediction of the Thermal Environment During Cabinet Fires Based on Experiments
***Virginie Drean**, A Rabilloud, B Girardin, G LeGoff, E Guillaume, Efectis, France, N Raxach, CEA Commissariat a l'Energie Atomique, France (128)*

Ignition and Burning Characterization of Electrical Cables Using Fire Propagation Apparatus (FPA)
***Alain Alonso**, M Lárazo, D Alvear, Universidad de Cantabria, E Pérez, E Opazo, Prysmian Cables Spain, Spain* (176)

A Mechanical Model for Surface Cracking of Wood Under Fire Heating due to Pyrolysis
***Anyang Sun**, K Harada, D Nii, Kyoto University, Japan (246)*

Thermal Insulation of Building Composed Roofs as a Factor of Fire Resistance
***Pawel Roszkowski,** Jadwiga Fangrat, Building Research Institute, Poland(294)*

PYROLYSIS

Principles of Separating Heat Transfer Modes with Sensors
***Jonathan Hodges**, Jensen Hughes, J Floyd, M DiDomizio, UL Research Institutes, USA(029)*

A Box Model Approach for Predicting Burning of Porous Materials
***Vojtěch Šálek**, Dr Matsugi, Y Nakamura, Toyohashi University of Technology, T Yamashita, T Setoguchi, Y Kenji, Mitsubishi Heavy Industries, Japan(054)*

A Charring Model of Glue Laminated Timber Wall Considering Shrinkage, Cracking, and Falling Off Surface Layer
***Shoma Makino**, Obayashi Corporation, K Harada, A Sun, D Nii, Kyoto University, Japan(069)*

Comprehensive Comparison of Pyrolysis Codes with a Focus on Their Energy Conservation Modelling
***Youssouf Abdelhafiz**, EDF R&D Lab Chatou/University of Toulouse, A Amokrane, EDF R&D Chatou, G Debenest, University of Toulouse, S Bourbigot, University of Lille/ Institute Universitaire de France, France (111)*

Historical Review of the First Solid-Phase Burning Model
***Alexander Castagna**, Y Geng, G Rein, Imperial College London,* UK(208)

WILDLAND FIRES

The 2023 Lahaina Fire; A Post Event Investigation
***Faraz Hedayati**, X Monroy, E Sluder, H Fallahian, M Shabanian, The Insurance Institute for Home & Safety, USA (001)*

Influence of Local Vegetation on Ignition and Fire Spread of Vegetation Fires
***Hongyi Wu**, R Christiani, A Hofmann, BAM, Germany, F Buhk, IMFSE, Belgium/Lund University, Sweden (019)*

Design of an Apparatus for Ember Generation - Analysis of Ember-Induced Ignitability of Vegetation Samples
***Andrea Klippel**, K Piechnik, M Weisbecker, F Köhler, C Nanduri, Otto-von-Guericke Universität Magdeburg, Germany (021)*

Influence of Surface Geometry on Firebrand Pile Heat Transfer
*S Wong, **Mahbobur Rahman**, B Lattimer, Virginia Tech, J Hodges, Jensen Hughes USA (065)*

Correlation Between Fuel Height and Convective Heat Transfer in the Propagating Excelsior Fire
***Mohamadsadegh Sadeghi**, M Ghodrat, H Kleine, University of New South Wales, Australia, D Sutherland, UNSW Canberra, Australia, A Simeoni, WPI, USA (067)*

Revisiting Fire Behavior on Surface Fuel Bed using a Dimensional Analysis
***Bruno Guillaume**, M Dembele, A Streit, A Wasserman, Efectis France, L Terrei, A Collin, P Boulet, Universite de Lorraine, France* (080)

Fire and Rescue Service Preparedness for Natural Hazards
***Johan Björck**, Lund University, Sweden / WSP Sverige AB, M McNamee, Lund University, Sweden (143)*

Wildfires Initiated by Power Lines: Mechanisms, Risks, and Preventative Strategies
***Auriane Javaloyes**, P Adamopoulos, N Kalogeropoulos, G Rein, Imperial College London, UK (206)*