Sunday, 9 February 2014

	9:00	**Registration - Kirkwood KE04**		
Workshop Session 1 10:00 - 12:00		**Wildfires and Climate Change**	**Multi-Objective Fire Safety System Design – Economy, Sustainability and Aesthetics**	**Education**
		Kirkwood Village - Room KE05	*Kirkwood Village - Room KE06*	*Kirkwood Village - Room KE07*
	10:00 - 12:00	*Workshop Panelists* : Naian Liu (University of Science and Technology of China, China), Mark A. Finney (USDA Forest Service, USA), Samuel L. Manzello (National Institute of Standards and Technology, USA), Hiroshi Hayasaka (Hokkaido University, Japan), Dominique Morvan (Aix-Marseille University, France) and Albert Simeoni (University of Edinburgh, UK)	*Workshop Panelists* : David Barber (Arup, Australia), Margaret Simonson MacNamee (SP Technical Research Institute of Sweden, Sweden) and Brian Meacham (Worcester Polytechnic Institute, USA)	*Workshop Panelists* : Patrick van Hees (Lund University, Sweden), Jose Torero (University of Queensland, Australia) and Kathy Notarianni (Worcester Polytechnic Institute, USA)
	12:00 - 13:00	**Lunch - Kirkwood KE04**		
Workshop Session 2 13:00 - 15:00		**Benchmarking/Data Sharing**	**Evacuation Modeling – Issues and Challenges**	
		Kirkwood Village - Room KE05	*Kirkwood Village - Room KE06*	
	13:00 - 15:00	*Workshop Panelists* : Michael Spearpoint (University of Canterbury, New Zealand), Assaad Masri (University of Sydney, Australia), Anthony Hamins (National Institute of Standards and Technology, USA), Sergey Dorofeev (FM Global, USA), Kevin McGrattan (National Institute of Standards and Technology, USA), Ed Galea (University of Greenwich, UK)	*Workshop Panelists* : Arturo Cuesta (University of Cantabria, Spain), Rita Fahy (National Fire Protection Association, USA), Ed Galea (University of Greenwich, UK), Enrico Ronchi (Lund University, Sweden), Weiguo Song (University of Science and Technology of China, China).	
	15:30-21:00	**IAFSS Executive Committee Meeting (Meeting Room University Undercroft)**		
Evening Events	17:30 - 19:30	Registration Desk Open at the Undercroft		
	18:00 - 21:00	Welcome Reception at the Undercroft (food service 18:00 to 20:00) (Bar closes at 20:30) (See bus schedule for departure times)		

Monday, 10 February 2014

	7:30	**Registration Open (Central Lecture Theatres)**		
	8:30 - 9:00	**Opening Ceremony (Central Lecture Theatre - *Room C1)*** Session Chair: Charley Fleischmann		
	9:05 - 9:55	**Howard W. Emmons Invited Plenary Lecture: *Enclosure and Facade Fires: Physics and Applications*** **Michael Delichatsios,** University of Ulster, United Kingdom Session Chair: W-K Chow		
	10:00 - 10:40	**Invited Lecture # 1: *Revisiting the Compartment Fire*** **Jose L. Torero**, University of Queensland, Australia Session Chair: W.-K. Chow		
	10:40 - 11:10	IAFSS Executive Committee Meeting		
Morning Session 1 11:10 - 12:25		**IGNITION AND FLAME SPREAD - *Room C1***	**STRUCTURAL FIRE PERFORMANCE - *Room C2***	**EVACUATION AND HUMAN BEHAVIOUR - *Room C3***
		Session Chairs: Guillermo Rein, Elizabeth Weckman	Session Chairs: Luke Bisby, Andrew Buchanan	Session Chairs: Ed Galea, Weiguo Song
	11:10-11:35	***Radiation Characteristics of Corrugated Cardboard Flames*** , D Zeng, M Chaos, M Khan and S Dorofeev FM Global, USA	***Effective Stress Method to be Used in Beam Finite Elements to Take Local Instabilities into Account,*** J-M Franssen, B Cowez and T Gernay, University of Liège, Belgium	***Utilization of the Haddon Matrix to Organize Factors of Survived Accidental Residential Fires: Frequencies for Human, Agent, and Environment-related Variables*** **,** L Xiong, M Ball and D Bruck, Victoria University, Australia
	11:35 - 12:00	***A Model for Oxidative Pyrolysis of Corrugated Cardboard*** **,** M Semmes, X Liu, M McKinnon, S Stoliarov and A Witkowski, University of Maryland, USA	***Real Fire Test on Concrete Columns and Post-tensioned Slabs*** , I Bennetts and W South, Swinburne University of Technology, Australia	***Real-Time Stochastic Evacuation Models for Decision Support in Actual Emergencies,*** A Cuesta, D Alvear, O Abreu and D Silió, University of Cantabria, Spain
	12:00 - 12:25	***Pyrolysis and Oxidation of Cardboard,*** G Agarwal, G Liu and B Lattimer Virginia Polytechnic Institute, USA	***A Comparison of an Explicit and an Implicit Transient Strain Formulation for Concrete in Fire,*** D Lange and R Jansson, SP Technical Research Institute of Sweden, Sweden	***An Arbitrary Polynomial Chaos-Based Approach to Analyzing the Impacts of Design Parameters on Evacuation Time under Uncertainty,*** Q Xie, S Lu, D Cóstola and J Hensen, University of Science and Technology of China, China
	12:25 – 14:00	Lunch - Foyer		
Afternoon Session 1 14:00 - 15:15		**IGNITION AND FLAME SPREAD - *Room C1***	**STRUCTURAL FIRE PERFORMANCE - *Room C2***	**EVACUATION AND HUMAN BEHAVIOUR - *Room C3***
		Session Chairs: Michael Gollner, Kevin McGrattan	Session Chairs: David Lange, Brian Lattimer	Session Chairs: Arturo Cuesta, Ed Galea
	14:00 - 14:25	***Effects of Controlled Ventilation Conditions during the Combustibility Assessment of Materials from a Controlled Atmosphere Cone Calorimeter,*** D Marquis, E Guillaume and A Camillo, Laboratoire National de Métrologie et d'Essais, France	***Predictions of Transport Accident Fires Using Coupled Structural Dynamics and Computational Fluid Dynamics,*** A Brown, K Metzinger and G Wagner, Sandia National Laboratories, USA	***The Effect of Raised Walkway Design on Evacuation Behaviour in Rail Tunnels,*** F V Lundstrom, J Ahlfont and D Nilsson, Danish Institute of Fire and Security Technology, Denmark
	14:25 - 14:50	***Feasibility of Particle Imaging Velocimetry in Cone Calorimeter Experiments,*** S Delcour, F-X Ouf, D Hébert, A Coppalle, N Azema, L Ferry, J-M Lopez-Cuesta, F Salm, M Talbaut and J Yon	***Parametric Analysis of Heat Transfer in Gypsum Wallboard Partitions,*** M Bruns and K Prasad, National Institute of Standards and Technology, USA	***Microscopic Character and Movement Consistency of Pedestrian Group: an Experimental Study in Campus,*** X Wei, X Mai, W Lv, W Song and Y Zhang University of Science and Technology of China, China
	14:50 - 15:15	***Spectral Aspects of Bench-Scale Flammability Testing: Application to Hardwood Pyrolysis,*** M Chaos, FM Global, USA	***Residual Constitutive Behavior of Aluminum Alloys after Fire Exposure,*** P Summers, B Lattimer, S Case S, Virginia Polytechnic Institute, USA	***A Validation Data-Set and Suggested Validation Protocol for Ship Evacuation Models,*** E Galea, S Deere, R Brown and L Filippidis, University of Greenwich, UK
	15:15 - 15:45	Coffee Break - Foyer		
Afternoon Session 2 15:45 - 17:00		**IGNITION AND FLAME SPREAD - *Room C1***	**STRUCTURAL FIRE PERFORMANCE - *Room C2***	**EVACUATION AND HUMAN BEHAVIOUR - *Room C3***
		Session Chairs: Michael Gollner, Kevin McGrattan	Session Chairs: David Lange, Brian Lattimer	Session Chairs: Arturo Cuesta, Ed Galea
	15:45 – 16:10	***Sensitivity of Heat of Reaction for Polyurethane Foams,*** D Pau, C Fleischmann, M Spearpoint and K-Y Li University of Canterbury, New Zealand	***Fire Tests on Loaded Cross-laminated Timber Wall and Floor Elements,*** M Klippel, C Leyder, A Frangi, M Fontana, F Lam and A Ceccotti ETH Zurich, Switzerland	***Experimental and Survey Studies on the Effectiveness of Dynamic Signage Systems,*** E Galea, H Xie and P Lawrence, University of Greenwich, UK
	16:10 - 16:35	***Gpyro3D: A Three Dimensional Generalized Pyrolysis Model,*** C Lautenberger, Reax Engineering Inc., USA	***Simplified Calculation for Fire Performance of Post-Tensioned Timber Box Beams,*** R Costello, A Abu, P Moss and A Buchanan, University of Canterbury, New Zealand	***An Investigation into the Circumstances Surrounding Elderly Dwelling Fire Fatalities and the Barriers to Implementing Fire Safety Strategies among this Group,*** A Harpur, K Boyce and N McConnell, University of Ulster, UK
	16:35 - 17:00	***Modeling of the Pyrolysis of Plywood Exposed to Heat Fluxes under Cone Calorimeter,*** T Fateh, F Richard and T Rogaume, Institut PPRIME, France	***Novel Testing to Study the Performance of Intumescent Coatings under Non-Standard Heating Regimes,*** A Elliott, A Temple, C Maluk and L Bisby, University of Edinburgh, UK	***The Characteristics of Blind and Visually Impaired People Evacuation in Case of Fire,*** D Samoshin and R Istratov, Academy of State Fire Service of Russia
Evening Events	17:15	**Optional evening - Wine tasting at Staff Club (Ticket required)** **(Walk to Staff Club)**		
	17:15	**Buses to hotels for those not attending wine tasting**		
	20:30	**Buses depart Staff Club for hotels**		

Tuesday, 11 February 2014

	8:30	**Registration Open (Central Lecture Theatres)**		
Morning Session 1 9:00 - 10:35	9:00 - 9:40	**Invited Lecture # 2 -** ***Computer Modeling for Fire and Smoke Dynamics: a Help or a Burden?*** **Bart Merci**, Ghent University, Belgium Session Chair: Arnaud Trouve		
		IGNITION AND FLAME SPREAD - ***Room C1*** Session Chairs: Marcos Chaos, Eric Guillaume	**STRUCTURAL FIRE PERFORMANCE -** ***Room C2*** Session Chairs: Morgan Bruns, Mario Fontana	**FIRE SUPPRESSION -** ***Room C3*** Session Chairs: Haukur Ingason, Andre Marshall
	9:45 - 10:10	***Correlations for Evaluation of Flame Spread over an Inclined Fuel Surface,*** X Huang and M Gollner, Imperial College London, UK	***Experimental Study on Thermal Breakage of Four-Point Fixed Glass Façade,*** Y Wang, Q Wang, G Shao, H Chen, Y Su, J Sun, L He, J X Wen, R Zong and K M Liew, University of Science and Technology of China, China	***Numerical Simulation of Sprinkler Suppression of Rack Storage Fires,*** Y Wang, K Meredith, X Zhou, P Chatterjee, Y Xin, M Chaos, N Ren and S Dorofeev, FM Global, USA
	10:10 - 10:35	***Effects of Sample Width and Sidewalls on Downward Flame Spread over XPS Slabs,*** W An, H Xiao, J Sun, K.M. Liew, W Yan, Y Zhou, L Jiang and X Huang, University of Science and Technology of China, China	***An Experimental Investigation of Structural Fire Behaviour of a Rigid Steel Frame,*** T Hirashima, K Okuwaki, X Zhao, Y Sagami and K Toyoda, Chiba University, and General Building Research Corporation, Japan	
	10:35-11:00	Coffee Break - Foyer		
Morning Session 2 11:00 - 12:15		**IGNITION AND FLAME SPREAD -** ***Room C1*** Session Chairs: Marcos Chaos, Eric Guillaume	**POST-EARTHQUAKE FIRES -** ***Room C2*** Session Chairs: Rita Fahy, Brian Meacham	**FIRE SUPPRESSION -** ***Room C3*** Session Chairs: Haukur Ingason, Andre Marshall
	11:00 - 11:25	***Effects of Thickness and Ignition Location on Flame Spread Rates in Furniture Calorimeter Tests of Polyurethane Foam,*** L Robson, D Torvi, M Obach and E Weckman, University of Saskatchewan, Canada	***Study on Fires Following the 2011 Great East-Japan Earthquake based on the Questionnaire Survey to Fire Departments in Affected Areas,*** A Sekizawa and K Sasaki, Tokyo University of Science, Japan	***A Free Surface Model of a Jet Impinging On a Sprinkler Head,*** T Myers, A Marshall and H Baum, University of Maryland, USA
	11:10-11:35	***Ignition Temperature and Surface Emissivity of Heterogeneous Loosely Packed Materials from Pyrometric Measurements,*** B Dlugogorski, S Hirunpraditkoon and E Kennedy, The University of Newcastle, Australia	***Analysis of Ignitions Following 2011 Tohoku Earthquake Using Kawasumi Model,*** K Himoto, M Yamada and T Nishino, Kyoto University, Japan	***An Experimental Study on Attenuation of Radiant Heat Flux from Flame through Water Droplets,*** K Usui and K Matsuyama, Nohmi Bosai Ltd, Japan
	11:50 - 12:15		***Research Analysis of The Realistic Evacuation Behaviour from Tsunami and Fire in the Aftermath of The Great East Japan Earthquake 2011,*** Y Akizuki, A Hokugo and T Nishino, University of Toyama, Japan	***Characterization of Fire Suppression of an Idealized Commodity Using Uniform Water Fluxes,*** Y Xin and K Meredith, FM Global, USA
	12:15 – 13:45	Lunch - Foyer		
Afternoon Session 1 13:45 - 15:00		**IGNITION AND FLAME SPREAD -** ***Room C1*** Session Chairs: Brian Lattimer, Michael Spearpoint	**POST-EARTHQUAKE FIRES -** ***Room C2*** Session Chairs: Rita Fahy, Brian Meacham	**FIRE SUPPRESSION -** ***Room C3*** Session Chairs: Haukur Ingason, Andre Marshall
	13:45 - 14:10	***An Application Method of Free Burn HRR Data to Room Fire Scenarios,*** S Yusuke, N Tsutomu, D Yoshikazu and H Kazunori, Takenaka Corporation, Japan	***Fire Performance of Full-Scale Building Subjected to Earthquake Motions: Test Specimen, Seismic Motions and Performance of Fire Protection Systems,*** J K Kim, B Meacham, H Park, T Hutchinson and E Pantoli, Worcester Polytechnic Institute, USA	***Physical Scaling of Water Mist Suppression of Wood Crib Fires in Enclosures*** , H-Z Yu, FM Global, USA
	14:10 - 14:35	***Compartment Fire Temperature – a New Simple Calculation Method,*** U Wickström and A Byström, Luleå University of Technology, Sweden	***Fire Performance of Full-Scale Building Subjected to Earthquake Motions: Fire Test Program and Outcomes,*** H Park, B Meacham and J K Kim, Worcester Polytechnic Institute, USA	***Combining Bromofluoropropene with Water Mist for Suppressing Deep Seated Wood Crib Fires,*** X Ni, W Chow, S Zhang, M Zhao, Z Zheng and X Wang, University of Science and Technology of China, China
	14:35 - 15:00	***Fire Development in Different Scales of Train Carriages,*** Y Z Li, H Ingason and A Lönnermark, SP Technical Research Institute of Sweden, Sweden	***Basic Experiment on the Heat Release Property of a Tsunami Fire Fueled by Debris and Fuel Oil Spilled on the Sea Surface Following Tsunami,*** T Nishino, H Suzuki and T Tsuchihashi, Kobe University, Japan	***Experimental Study on Suppression of Methane Explosion Containing Obstacles with Ultra-Fine Water Mist,*** H Xu, Y Li, P Zhu, W Qin and X Wang, University of Science and Technology of China, China
	15:00 - 17:00	**Poster Session I (Mezzaine) and Coffee Break (Mezzaine)**		
Evening Events	15:15	**Bus departs for hotels**		
	16:00	**Bus departs for hotels**		
	17:15	**Last bus departs for hotels**		
		No evening events planned		

Wednesday, 12 February 2014

	8:30	**Registration Open (Central Lecture Theatres)**		
	9:00 - 9:40	**Invited Lecture # 3: Polymer/Layered Compound Nanocomposites: A Way to Improve Fire Safety of Polymeric Materials** **Yuan Hu,** University of Science and Technology of China, China Session Chair: Yaping He		
Morning Session 1 9:45 - 10:35		**COMPARTMENT FIRE DYNAMICS** - ***Room C1*** Session Chairs: Hugues Pretrel, Yi Wang	**FLAME RETARTANTS AND ADVANCED MATERIALS** - ***Room C2*** Session Chairs: Anna Stec, Stanislav Stoliariov	**FIRE SUPPRESSION** - ***Room C3*** Session Chairs: Karl Meredith, Vasily Novozhilov
	9:45 - 10:10	***Carbon Monoxide Production During Underventilated Fires in Long Corridors,*** S Ukleja, M Delichatsios, J Zhang and M Suzanne, University of Ulster, UK	***Fire Performance Evaluation of Different Resins for Potential Application in Fire Resistant Structural Marine Composites,*** B Kandola and L Krishnan, University of Bolton, UK	***Pre-Detection of Kitchen Fires due to Auto-Ignition of Cooking Oil and LPG Leakage in Indian Kitchens*** , A Jain, P Nyati, N Nuwal, A Ansari, C Ghoroi and P D Gandhi, Indian Institute of Technology Gandhinagar, India
	10:10 - 10:35	***Fuel Volatility Effects on Pool Fires in Compartments with Low Ventilation,*** G Andrews, H Phylaktou and O Aljumaiah, University of Leeds, UK	***Intumescent Silicone-Based Coatings for the Fire Protection of Carbon Fiber Reinforced Composites,*** S Bourbigot, B Gardelle and S Duquesne, University of Lille, France	***Experimental Evaluation on Performance of Open Kitchen Fire Suppression Systems,*** W K Chow and X Ni, The Hong Kong Polytechnic Unviersity, China
	10:35-11:00	Coffee Break - Foyer		
Morning Session 2 11:00 - 12:15		**COMPARTMENT FIRE DYNAMICS** - ***Room C1*** Session Chairs: Hugues Pretrel, Yi Wang	**FLAME RETARTANTS AND ADVANCED MATERIALS** - ***Room C2*** Session Chairs: Anna Stec, Stanislav Stoliariov	**FIRE SUPPRESSION** - ***Room C3*** Session Chairs: Karl Meredith, Vasily Novozhilov
	11:00 - 11:25	***Experimental Approach to Estimate Species Concentrations in a Compartment Fire,*** J Lassus, L Courty, E Studer, J-P G and P Aine, Institut PPRIME, France	***Fire Protective Performance of Intumescent Paint and Ablative Elastomer Used for High Pressure Hydrogen Composite Cylinder,*** D Q Dao, T Rogaume, J Luche, F Richard, L B Valencia and S Ruban, Institut PRIME, France	***Fire Testing a New Fluorine-Free AFFF Based on a Novel Class of Environmentally Sound High Performance Siloxane Surfactants,*** R Hetzer, F Kümmerlen, D Blunk and K Wirz, Bundeswehr Research Institute for Protective Technologies, Germany
	11:10-11:35	***Mathematical Modelling of Pool Fire Burning Rates in a Full-Scale Ventilated Tunnel,*** H Y Wang and H Sahraoui, Institut PPRIME, France	***Role of Montmorillonite for Enhancing Fire Retardancy of Intumescent PLA,*** G Fontaine, A Gallos and S Bourbigot, Ecole Nationale Supérieure de Chimie, France	***Water Spray Dynamics in Fire Flows,*** Vasily Novozhilov, University of Ulster, UK
	11:50 - 12:15	***Soot Deposition and Gravitational Settling Modeling and the Impact of Particle Size and Agglomeration,*** J Floyd, K Overholt and O Ezekoye, Hughes Associates, Inc., USA	***Flame Retardant Polyurethanes Based on Novel Phosphonamidate Additives,*** S Gaan, M Neisius, O Cuchere, S Liang and H Mispreuve, EMPA, and Foam Partner, Switzerland	
	12:15 – 13:45	Lunch - Foyer		
Afternoon Session 1 13:45 - 15:00		**COMPARTMENT FIRE DYNAMICS** - ***Room C1*** Session Chairs: Bogdan Dlugogorski, Bart Merci	**FLAME RETARTANTS AND ADVANCED MATERIALS** - ***Room C2*** Session Chairs: Serge Bourbigot, Baljinder Kandola	**WILDLAND FIRES** - ***Room C3*** Session Chairs: Naian Liu, Albert Simeoni
	13:45 - 14:10	***The Correlation between Carbon Monoxide and Hydrogen Cyanide in Fire Effluents of Flame Retarded Polymers,*** S Molyneux, A Stec and T R Hull, University of Central Lancashire, UK	***Experimental and Numerical Study of Thermal Stability and Fire Performance of Brominated and Halogen-Free Flame Retardants in Glass-Fibre Reinforced Poly(butylene terephthalate),*** M Suzanne, A Ramani, S Ukleja, M McKee, J Zhang, M Delichatsios and D Bakirtzis, University of Ulster, UK	***Convection Ignition of Live Forest Fuels,*** S Mcallister and M Finney, USDA Forest Service, USA
	14:10 - 14:35	***Fire Toxicity Assessment: Comparison of Asphyxiant Yields from Laboratory and Large Scale Flaming Fires,*** A Stec, T R Hull, D Purser and J Purser, University of Central Lancashire, UK	***Fundamental Flame Spread and Toxicity Evaluation of Fire Retarded Polymers,*** M Suzanne, S Ukleja, M Delichatsios, J Zhang and B Karlsson, University of Ulster, UK	***Impact of Solid Fuel Particles Size upon the Propagation of a Surface Fire through a Homogeneous Vegetation Layer,*** D Morvan and A Lamorlette, Aix-Marseille University, France
	14:35 - 15:00	***Experimental Study on the Characteristics of Temperature Field of Fire Room under Stack Effect in a Scaled High-rise Building Model,*** W Shi, J Ji, J Sun, S Lo, L Li and X Yuan, University of Science and Technology of China, China	***Influence of Hydroxyl Iron Phosphate Particles on the Thermal Stability and Combustible Properties of Poly(methyl methacrylate),*** L Wang, C Bao, W Yang, Y Hu, L Song, R K K Yuen and Z Gui, University of Science and Technology of China, China	***Exposing Decking Assemblies to Continuous Wind-Driven Firebrand Showers,*** S Manzello and S Suzuki, National Institute of Standards and Technology, USA
	15:00 - 15:30	Coffee Break - Foyer		
Afternoon Session 2 15:30 - 16:20		**COMPARTMENT FIRE DYNAMICS** - ***Room C1*** Session Chairs: Bogdan Dlugogorski, Bart Merci	**FLAME RETARTANTS AND ADVANCED MATERIALS** - ***Room C2*** Session Chairs: Serge Bourbigot, Baljinder Kandola	**WILDLAND FIRES** - ***Room C3*** Session Chairs: Naian Liu, Albert Simeoni
	15:30 – 15:55	***A Simplified Relation Between Hot Layer Height and Opening Mass Flow,*** N Johansson and P van Hees, Lund University, Sweden	***Effect of Nickel-Containing Ligand on Thermal Stability and Combustible Property of Poly(lactic acid),*** X Shan, S Lo, Q Tai, Z Gui, Y Hu and S Jiang, University of Science and Technology of China, China	***A Model for Combustion of Firebrands of Various Shapes,*** H Baum and A Atreya, University of Maryland, USA
	15:55 - 16:20	***A Probabilistic Model for the Fallout Area of Single Glazing under Radiant Heat Exposure,*** D Wong, K Li and M Spearpoint, Olsson Fire & Risk, Australia	***Thermal Degradation and Flame-Retardant Properties of Epoxy Acrylate Resins Modified with a Novel Flame Retardant Containing Phosphorous and Nitrogen,*** X Qian, Q Tai, L Song, Y Hu and R K K Yuen, University of Science and Technology of China	***Flaming Ignition Behavior of Hot Steel and Aluminum Spheres Landing in Cellulose Fuel Beds,*** C Zak, J Urban and C Fernandez-Pello, University of California Berkeley, USA
	Evening			
Evening Events	16:30	**Buses depart for hotels**		
	17:30	**Optional evening - Visit Antarctic Centre (Ticket required)** **(Buses depart from hotel see bus schedule)**		

Thursday, 13 February 2014

	8:30	**Registration Open (Central Lecture Theatres)**		
	9:00 - 9:40	**Invited Lecture # 4: Enabling the Investigation of Structure Vulnerabilities to Wind-Driven Firebrand Showers in Wildland-Urban Interface (WUI) Fires** **Samuel L Manzello,** National Institute of Standards and Technology, USA Session Chair: Patrick van Hees		
Morning Session 1 9:45 - 10:35		**COMPARTMENT FIRE DYNAMICS** - ***Room C1*** Session Chairs: Alexis Coppalle, Jason Floyd	**FLAME RETARTANTS AND ADVANCED MATERIALS** - ***Room C2*** Session Chairs: Yuan Hu, Franck Richard	**WILDLAND FIRES** - ***Room C3*** Session Chairs: Dominique Morvan, Sayaka Suzuki
	9:45 - 10:10	***Numerical Simulations of Strong-Plume Driven Ceiling Flows,*** P Chatterjee, K Meredith, B Ditch, H-Z Yu, Y Wang and F Tamanini, FM Global, USA	***Covalent Functionalization of Graphene Oxide with Flame Retardant and its Effect on Thermal Stability and Flame Retardancy of Epoxy Composites,*** Hu, L Song, J Wang, Y Hu and P Zhang, University of Science and Technology of China, China	***From Bushfire to All-Hazards Research: A Journey in Two Parts,*** R Thornton, Bushfire and Natural Hazards CRC, Australia
	10:10 - 10:35	***Experimental Study on Temperature Property along a Tunnel Axis with Flat Ceiling in Natural Ventilation,*** Y Oka, H Oka and O Imazeki, Yokohama National University, Japan	***Fire Testing of External Combustible Ship Surfaces,*** F Evegren, M Rahm, M Arvidson and T Hertzberg, SP Technical Research Institute of Sweden, Sweden	***Use of the Extreme Value Analysis in Determining Annual Probability of Exceedance for Bushfire Protection Design,*** G Douglas, Y He, X Yang and E C Morris, University of Western Sydney, Australia
		Coffee Break - Foyer		
Morning Session 2 11:00 - 12:15	**10:40 - 11:10**	**COMPARTMENT FIRE DYNAMICS** - ***Room C1*** Session Chairs: Alexis Coppalle, Jason Floyd	**FIRE RISK ANALYSIS AND STATISTICS** - ***Room C2*** Session Chairs: Takeyoshi Tanaka, Partick van Hees	**WILDLAND FIRES** - ***Room C3*** Session Chairs: Dominique Morvan, Sayaka Suzuki
	11:00 - 11:25	***Smoke Induced Flow in Two Rooms Mechanically Ventilated and Linked with a Horizontal Vent Type Opening,*** H Pretrel, K V, L Audouin and O Vauquelin, Institut de Radioprotection et de Sûreté Nucléaire, France	***Required Travel Distance and Exit Width for Rooms Determined by Risk-based Evacuation Safety Design Method,*** Y Ikehata, J Yamaguchi, D Nii and T Tanaka, Taisei Corporation, Japan	***Effect of Particle Size on Pyrolysis Kinetics of Forest Fuels in Nitrogen,*** H Niu and N Liu, University of Science and Technology of China, China
	11:10-11:35	***Numerical Simulations of a Mechanically-Ventilated Multi-Compartment Fire,*** T Beji, F Bonte and B Merci, Ghent University, and Bel V, Belgium	***Comparative Evaluation Method for Fire Safety Design of Large Storage Spaces,*** Z Wu, H Li, Y He, D Zhou and J Wang, University of Science and Technology of China, China	***An Experimental Study Evaluating the Burning Dynamics of Pitch Pine Needle Beds Using the FPA,*** J Thomas, A Simeoni, M Gallagher and N Skowronski, Worcester Polytechnic Institute, USA
	11:50 - 12:15	***Experimental Study on Jet-A Pool Fire at High Altitude,*** Z Zhou, Y Wei, H Li, C-H Lin, J Yin, T Wu, O C Meier and J Wang, University of Technology and Science of China, China	***Development of Fire Scenarios for Car Parking Buildings using Risk Analysis,*** M Z M Tohir and M Spearpoint, University of Canterbury, New Zealand	***Fire Whirl due to Interaction between Line Fire and Cross Wind,*** K Zhou, N Liu, P Yin, X Yuan and J Jiang, University of Science and Technology of China, China
	12:15 – 13:45	Lunch - Foyer		
	13:45 - 15:00	IAFSS Membership Business Meeting (Room C1)		
	15:00 - 16:30	**Poster Session II (Mezzanine) and Coffee Break (Mezzanine)** IAFSS Committee Meeting (Undercroft Meeting Room 101) Committee members only		
	15:00-16:40	**IAFSS Executive Committee Meeting (Undercroft Meeting Room 101)**		
Evening Events	13:45	**Buses depart for hotels**		
	15:15	**Buses depart for hotels**		
	16:00	**Buses depart for hotels**		
	16:40	**Buses depart for hotels**		
	18:00-22:00	**Symposium Banquet (See bus schedule)**		

Friday, 14 February 2014

	8:30	**Registration Open (Central Lecture Theatres)**		
	9:00 - 9:40	**Invited Lecture # 5 - A Spire Falls - The Story of the Engineering Behind the ChristChurch Cathedral Rescue** **John Hare, Director,** Holmes Consulting Group Session Chair: Piotr Tofilo		
Morning Session 1 9:45 - 10:35		**FIRE INVESTIGATION** - ***Room C1*** Session Chairs: W.K. Chow, Margaret Simonson McNamee	**FIRE RISK ANALYSIS AND STATISTICS** - ***Room C2*** Session Chairs: Ricky Carvel, George Hadjisophocleous	**WILDLAND FIRES** - ***Room C3*** Session Chairs: Samuel Manzello, Sara McAllister
	9:45 - 10:10	***Carbon Monoxide Production During Underventilated Fires in Long Corridors,*** S Ukleja, M Delichatsios, J Zhang and M Suzanne, University of Ulster, UK	***Fire Performance Evaluation of Different Resins for Potential Application in Fire Resistant Structural Marine Composites,*** B Kandola and L Krishnan, University of Bolton, UK	***Pre-Detection of Kitchen Fires due to Auto-Ignition of Cooking Oil and LPG Leakage in Indian Kitchens*** , A Jain, P Nyati, N Nuwal, A Ansari, C Ghoroi and P D Gandhi, Indian Institute of Technology Gandhinagar, India
	10:10 - 10:35	***Technical Measures to Prevent and Mitigate the Consequences of Arson in School Buildings,*** N Johansson, P van Hees, M Simonson McNamee, P Andersson, R Jansson and M Strömgren, Lund Univeristy, Sweden	***Finding the Probability of Doors Being Open Using a Continuous Position Logger,*** K Frank, M Spearpoint and S Weddell, University of Canterbury, New Zealand	***Towards Predictive Simulation of Wildfire Spread at Regional Scale Using Ensemble-Based Data Assimilation to Correct the Fire Front Position,*** M C Rochoux, C Emery, S Ricci, B Cuenot and A Trouvé, CERFACS, France
		Coffee Break - Foyer		
Morning Session 2 11:00 - 12:15	10:40 - 11:10	**FIRE HAZARDS IN ELECTRICAL EQUIPMENT** Session Chairs: W.K. Chow, Christopher Wieczorek	**FIRE RISK ANALYSIS AND STATISTICS** - ***Room C2*** Session Chairs: Ricky Carvel, George Hadjisophocleous	**LARGE-SCALE FIRE HAZARDS** - ***Room C3*** Session Chairs: Grunde Jomaas, Vasily Novozhilov
	11:00 - 11:25	***Electrical Receptacles - Overheating, Arcing, and Melting,*** M Benfer and D Gottuk, Hughes Associates Inc., USA	***Overview of Problems and Solutions in Fire Protection Engineering of Wind Turbines,*** S Uadiale, E Urban, R Carvel, D Lange and G Rein, The University of Edinburgh, UK	***Prediction of Toxic Emissions from Chemical Fire and Explosion,*** N A Moussa and V Devarakonda, BlazeTech Corp., USA
	11:10-11:35	***Estimating the Time-of-Involvement of Bulk Packed Lithium-Ion Batteries in a Warehouse Storage Fire,*** B Ditch, G Yee and M Chaos, FM Global, USA	***Assessing the Level of Safety for Performance Based and Prescriptive Structural Fire Design of Steel Structures,*** G De Sanctis, M H Faber and M Fontana, ETH Zurich, Switzerland	***Simulating Vented Maize Starch Explosions in a 236 m3 Silo,*** Trygve Skjold GexCon, and University of Bergen, Norway
	11:50 - 12:15	***Effects of Cable Fire Smoke on Electronic Boards,*** L Gay, R Gracia, S Mongruel and E Wizenne, Electricité de France, France		***A new Experimental Rig for Oil Burning on Water – Results for Crude and Pure Oils,*** N L Brogaard, M X Sørensen, J Fritt-Rasmussen, A S Rangwala and G Jomaas, Technical University of Denmark, Denmark
	12:15 – 13:15	Lunch - Foyer		
	13:15	**Buses depart for hotels**		