

12th Asia-Oceania Symposium on Fire Science and Technology

7th – 9th December 2021

(post-conference workshops 10th December 2021)



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Conference Program

Organised by:



UQ Fire



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Program at a Glance

(reference time-zones)

AEST – Australian Eastern Standard Time

<https://time.is/AEST>

CET – Central European Time

<https://time.is/CET>

EST – Eastern Standard Time

<https://time.is/EST>



Tuesday 7th December 2021

AEST	15:00	-	15:30	Opening Ceremony	
CET	06:00	-	06:30		
EST	00:00	-	00:30		
				Track A	Track B
AEST	15:45	-	17:25	Material fire behaviour or fire chemistry (I)	Evacuation and human behaviour (I)
CET	06:45	-	08:25		
EST	00:45	-	02:25		
AEST	18:25	-	20:05	Fire dynamics (I)	Applications in fire safety engineering practice (I)
CET	09:25	-	11:05		
EST	03:25	-	05:05		
AEST	20:20	-	22:00	Structures in fire (I)	Fire detection or suppression
CET	11:20	-	13:00		
EST	05:20	-	07:00		
AEST	22:15	-	23:55	Wildland and Wildland-Urban-Interface fires (I)	Tunnel fires (I)
CET	13:15	-	14:55		
EST	07:15	-	08:55		

Wednesday 8th December 2021

				Track A	Track B
AEST	15:45	-	17:25	Structures in fire (II)	Fire risk assessment and probabilistic analysis (I)
CET	06:45	-	08:25		
EST	00:45	-	02:25		
AEST	18:25	-	20:05	Fire dynamics (II)	Material fire behaviour or fire chemistry (II)
CET	09:25	-	11:05		
EST	03:25	-	05:05		
AEST	20:20	-	22:00	Structures in fire (III)	Evacuation and human behaviour (II)
CET	11:20	-	13:00		
EST	05:20	-	07:00		
AEST	22:15	-	23:55	Fire dynamics (III)	Applications in fire safety engineering practice (II)
CET	13:15	-	14:55		
EST	07:15	-	08:55		

Thursday 9th December 2021

				Track A	Track B
AEST	15:45	-	17:25	Fire dynamics (IV)	Material fire behaviour or fire chemistry (III)
CET	06:45	-	08:25		
EST	00:45	-	02:25		
AEST	18:25	-	20:05	Structures in fire (IV)	Wildland and Wildland-Urban-Interface fires (II)
CET	09:25	-	11:05		
EST	03:25	-	05:05		
AEST	20:20	-	22:00	Fire dynamics (V)	Fire risk assessment and probabilistic analysis (II)
CET	11:20	-	13:00		
EST	05:20	-	07:00		
AEST	22:15	-	23:55	Structures in fire (V)	Applications in fire safety engineering practice (III)
CET	13:15	-	14:55		
EST	07:15	-	08:55		
AEST	00:10	-	00:40	Awards and Closing Ceremony	
CET	15:10	-	15:40		
EST	09:10	-	09:40		



Friday 10th December 2021

Workshop A

Façade fire regulations
and test methods

AEST	16:00	-	19:00
CET	07:00	-	10:00
EST	01:00	-	04:00

Workshop B

Fire safety for informal
settlements in Asia

AEST	16:00	-	17:35
CET	07:00	-	08:35
EST	01:00	-	02:35

Workshop C

Machine learning for real-
time forecasting in
building fires

AEST	20:00	-	22:50
CET	11:00	-	13:50
EST	05:00	-	07:50



Detailed Conference Program



15:00 - 15:30

Opening Ceremony

Track A**Track B**

15:45 - 16:05

16:05 - 16:25

16:25 - 16:45

16:45 - 17:05

17:05 - 17:25

Material fire behaviour or fire chemistry (I) <i>Chair: Dr Kate Nguyen</i>	Evacuation and human behaviour (I) <i>Chair: Dr Erica Kuligowski</i>
Influencing factors in small-scale testing of aluminium composite panels <i>*Md Delwar Hossain, Swapan Saha, Md. Kamrul Hassan, Anthony Chun Yin Yuen, Cheng Wang and Waseem Hittini</i>	Importance of escape route design based on luminance distribution of evacuee's visual field <i>Yuki Akizuki, Masashi Niwa, Yuji Hori and Hideki Yamaguchi</i>
Assessing simplified method to analyze the thermal insulation through constructive systems <i>David Lázaró, Pedro Gervasio Lázaró, Mariano Lázaró and Daniel Alvear</i>	Walking Speed while texting and viewing on smartphone as a potential device for evacuation guidance in a large-scale facility <i>Koji Kagiya, Kuniharu Kawai and Wataru Takahashi</i>
Comparison of flame spread measurement using Cone Calorimeter and LIFT apparatus <i>Masato Komiya, Kazunori Harada, Daisaku Nii, Ken Matsuyama and Koji Kagiya</i>	Merging behavior and its effects on evacuation time during a total evacuation in a staircase <i>*Shinji Ootsuka, Manabu Tange, Yoshikazu Minegishi, Yoshifumi Ohmiya, Tomonori Sano, Yuka Ikehata and Junichi Yamaguchi</i>
Experimental study on upward flame spread characteristics over discrete fuels separated by two different configurations: vertical gap and horizontal projection <i>*Mi Li, Yu Wang, Fu-Hai Gou, Man-Man Zhang and Jin-Hua Sun</i>	Study on exit choice using VR simulator of underground mall fire <i>*Toshinari Tanaka and Masayuki Mizuno</i>
Quantification of the Thermal Environment Surrounding Radiant Panel Arrays Used in Fire Experiments <i>*Hussein Mohammed, David Morrisset, Angus Law and Luke Bisby</i>	

* Eligible for the **Best Student Presentation** award.All times shown in AEST, please refer to "Program at a Glance" for session times in other time zones – <https://time.is/AEST>.

**Track A****Track B**

	Fire dynamics (I) <i>Chair: Prof Yulianto S. Nugroho</i>	Applications in fire safety engineering practice (I) <i>Chair: TBC</i>
18:25 - 18:45	Generation of carbon monoxide in fires partially suppressed through water mist application <i>*Haydn Lewis and Nils Johansson</i>	Prediction model for tunnel fire development and spread <i>*Xiaoning Zhang, Xiqiang Wu and Xinyan Huang</i>
18:45 - 19:05	Quenching distance of flowing premixed propane/air mixture with comparatively low-velocity <i>Tomohiko Imamura, Jun-Ichi Suematsu, Hiroya Yanagi, Teppei Kawai and Soushi Shimada</i>	Numerical prediction of CO and its impact on practical application <i>Edmund Ang and Jonathan Barnett</i>
19:05 - 19:25	Ignition by continual polyethylene drips and the soaking processes <i>*Peiyi Sun, Yifan Jia, Xiaoning Zhang and Xinyan Huang</i>	Real-time flashover prediction in compartment fire via computer vision and AI <i>*Tianhang Zhang, Zilong Wang, Xinyan Huang and Fu Xiao</i>
19:25 - 19:45	LiOH doped Cu-based catalyst for CO oxidation in the presence of SO ₂ and NO ₂ from fire smoke <i>Jin Lin, Qian Li and Shouxiang Lu</i>	Modelling the influence of wind on fire spread within informal settlements <i>David Rush, Gu Luoyi, Alannah Trimble, Mohamed Mohyeldin Beshir and Lesley Gibson</i>
19:45 - 20:05	An experimental investigation of stagnation-point stretched flames of thermally-thin fuel at normoxia and low oxygen concentration <i>*Shangqing Tao, Jun Fang, Hassan Raza Shah and Lizhong Yang</i>	Large-scale informal settlement experiment considering fire spread under opposed wind flow conditions <i>Richard Walls, Charles Kahanji, Natalia Flores Quiroz, Antonio Cicione, Lesley Gibson, Mohamed Beshir, Yu Wang and David Rush</i>

* Eligible for the **Best Student Presentation** award.



Track A

Track B

	Structures in fire (I) <i>Chair: A/Prof Anthony Abu</i>	Fire detection or suppression <i>Chair: Dr Xinyan Huang</i>
20:20 - 20:40	Post-fire mechanical properties and buckling strength of cold-formed steel square hollow section columns <i>*Kai Ye and Fuminobu Ozaki</i>	A generic flashover prediction model for residential building structures using graph neural networks <i>Wai Cheong Tam, Eugene Yujun Fu, Paul Reneke, Richard Peacock and Thomas Cleary</i>
20:40 - 21:00	Finite element analysis of the lateral capacity of cold-formed steel shear walls after fire exposure <i>Shuna Ni, Xia Yan, Matthew Hoehler and Thomas Gernay</i>	Hdf-RTFD:Heterogeneous-data-fusion based real time fire detection system in AIoT environments <i>Yen-Chiu Chen, Kun-Ming Yu, Huan-Po Hsu, You-Xiang Xu, Shang-Wei Tong, Wen Ouyang, Ming-Yuan Lei and Nancy Tsai</i>
21:00 - 21:20	Modeling of creep behavior of high-performance steel H-SA700 columns at elevated temperature <i>*Quoc Tuan Phan, Mamoru Kohno, Yukio Murakami and Hoang Long Nguyen</i>	Intelligent detection and prediction of indoor fires based on Gamma distribution models for long-term care facilities <i>Wen Ouyang, Chung-Hsing Liu, Kun-Ming Yu, Yen-Chiu Chen, Ming-Yuan Lei and Nancy Tsai</i>
21:20 - 21:40	Thermal response of steel beam subjected to idealised travelling fires <i>*Zhuojun Nan, Aatif Ali Khan, Liming Jiang, Suwen Chen and Asif Usmani</i>	A novel tank fire suppression system: Combination of foam and perlites <i>Tzu-Yan Tseng and Kuang-Chung Tsai</i>
21:40 - 22:00	Pumice and expanded glass lightweight masonry blocks for bushfire resistance <i>*Indunil Erandi Ariyaratne, Anthony Deloge Ariyanayagam and Mahen Mahendran</i>	Experiment study of the dynamics and cooling effectiveness of single droplet impacting on a heated solid surface <i>*Mingjun Xu and Yu Wang</i>

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Track A

Track B

	Wildland and Wildland-Urban-Interface fires (I) <i>Chair: Dr Alexander Filkov</i>	Tunnel fires <i>Chair: TBC</i>
22:15 - 22:35	The Flames Catalogue: an engineering tool for the establishment of safety distances in WUI environments *Juan Antonio Muñoz Navarro, Miguel Cruz, Eulàlia Planas and Elsa Pastor	The characteristics of smoke layer and fire toxicity of tunnel fires with the effect of lateral smoke extraction *Yuantao Zhu, Fei Tang, Yuhang Chen and Tong Xu
22:35 - 22:55	Experimental and computational study of glowing ignition of wood Jiuling Yang, Anthony Hamins, Laura Dubrulle and Mauro Zammarano	Understanding and modelling the fire throttling effect in longitudinally ventilated tunnels Edmund Ang, Ingo Riess, Joaquim Peiro and Guillermo Rein
22:55 - 23:15	Thermal characterization and ignition study of Western Red Cedar exposed to firebrand attack *Jacques De Beer, Joseph Alascio, Stanislav Stoliarov and Michael Gollner	Effects of blockage-induced wake on the maximum ceiling gas temperature in a ventilated tunnel *Wei Cong, Hui Yang, Song Lu, Heping Zhang, Long Shi and Xudong Cheng
23:15 - 23:35	Experimental analysis of glazing breakage at the wildland urban interface microscale Frederic Heymes, Elizabeth Ismael, Pascale Vacca, Clement Chanut, Eulalia Planas and Elsa Pastor	Numerical study on the characteristic length scale of fire-induced ceiling flow in rectangular cross-sectional tunnels Arata Kimura, Ryunosuke Suga, Hideyuki Oka and Yasushi Oka
23:35 - 23:55		A new model to predict density jump position of ceiling-jets in tunnel fires *Chisaki Iwamoto, Hideyuki Oka, Kyoko Kamiya, Ken Matsuyama and Yasushi Oka

* Eligible for the **Best Student Presentation** award.

**Track A****Track B**

	Structures in fire (II) Chair: Prof Asif Usmani	Fire risk assessment and probabilistic analysis (I) Chair: Prof Kazunori Harada
15:45 - 16:05	Simplified material models for post-fire seismic performance of RC columns: Does the confinement model matter? Ioanna Ioannou, David Rush and Tiziana Rossetto	Dynamic hazard analysis of BLEVE fireball occurring in an inhabited area *Jiyun Wang, Ruowen Zong and Shouxiang Lu
16:05 - 16:25	Multi-hazard non-linear analysis of RC structures under earthquake and fire in its current state *Akshay Baheti, David Lange and Vasant Matsagar	Influence of relative humidity on corrosion reliability of Sn-3.0Ag solder under polyvinyl chloride fire smoke atmosphere Qian Li, Jin Lin, Mengke Zhao and Shouxiang Lu
16:25 - 16:45	Comparing simple analytical fire design methods for circular concrete-filled dual-tube columns *Aline Lopes Camargo, João Paulo Correia Rodrigues and Ricardo Hallal Fakury	Numerical study of enclosure heat and gas species migration from cladding fires incorporating artificial neural network *Timothy Bo Yuan Chen, Anthony Chun Yin Yuen, Luzhe Liu and Guan Heng Yeoh
16:45 - 17:05	Evaluation of physical and mechanical properties of concrete produced with super absorbent polymer exposed to high temperature *Md. Jaber Hossain, Hm Iqbal Mahmud, Md. Moznu Sk, Shahriar Hossain Chowdhury and Ahsan Habib	Fire hazard assessment of commonly used polymers using TGA and CC-FTIR experimentation *Preeti Moni Doley, Anthony Chun Yin Yuen and Guan Heng Yeoh
17:05 - 17:25	Re-thinking how to study fire-induced concrete spalling Cristian Maluk, Alistair Gayler, Ho Yin Lam, Kai Teng Eunice Lim, Michael Gunn, Thanh Nhat Hoang, Ho Sum Andre Wu, Sung Won Park and Shane Walker	Sequential analysis for quantifying statistical uncertainty in fire testing *David Morrisset, Glen Thorncroft, Rory Hadden, Angus Law and Richard Emberley

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Track A

Track B

	Fire dynamics (II) <u>Chair:</u> Dr Greg Baker	Material fire behaviour or fire chemistry (II) <u>Chair:</u> Dr Anthony Yuen
18:25 - 18:45	Fire dynamics in under-ventilated mass timber room compartments *Ian Pope, Hangyu Xu, Vinny Gupta, Jeronimo Carrascal, David Lange, Martyn McLaggan, Julian Mendez, Angela Solarte, Diana Soriquer, Jose Torero, Felix Wiesner and Juan Hidalgo	Pressure effect on thermal runaway propagation over the Lithium-ion battery module in parallel connection *Yanhui Liu, Huichang Niu and Xinyan Huang
18:45 - 19:05	Experimental study on temperature distribution of hot current in a slope connected to a fire room *Hyun-woo Park, Yoshifumi Ohmiya, Hideki Ozumi, Jun-Ichi Yamaguchi and Masashi Kishiue	Influence of red phosphorous based flame retardant on the fire resistance of a C-PEKK laminate subjected to a kerozene flame Alexis Coppalle, Schuhler Eliot, Avinash Chaudary, Benoit Vieille, Loic Le Phuart, Adem Alia and Nicolas Delpoupe
19:05 - 19:25	Minimum ignition energy and quenching distance of aluminum dust clouds Meet Parikh, Ririn Saeki, *Rajib Mondal, Kwangseok Choi and Wookyung Kim	A study on the ratios of CO/CO ₂ by polymers combustion with water supplying in bench-scale tests *Nicharee Thinnakornsutibutr and Masayuki Mizuno
19:25 - 19:45	Numerical simulations of flame acceleration and deflagration-to-detonation transition in hydrogen-air mixture through an array of cylinder obstacles in a channel Min Li, Dandan Liu and Huahua Xiao	Heat transfer of jet fire during thermal runaway and propagation of large-format LiNi _{0.8} Co _{0.1} Mn _{0.1} O ₂ pouch power battery *Kaiyu Zou, Zehua Yang, Mengke Zhao, Qian Li and Shouxiang Lu
19:45 - 20:05	Critical condition of ignition for a stagnation flow of premixed propane/air mixture impinging to a heated surface Tomohiko Imamura, Sensho Oh, Yasuyuki Maejima, Yudai Suzuki, Norikazu Takeda, Masato Nakazawa and Kazunori Kuwana	Creating a systematic experimental/numerical integrated framework for building polymers flammability and toxicity analysis Anthony Chun Yin Yuen, Timothy Bo Yuan Chen and Guan Heng Yeoh

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Track A

Track B

	Structures in fire (III) <i>Chair: Dr Maurice Guerrieri</i>	Evacuation and human behaviour (II) <i>Chair: Dr Ruggiero Lovreglio</i>
20:20 - 20:40	Delamination and char fall-off in fire exposed cross-laminated timber loaded in shear *Antonela Colic, Felix Wiesner, Luke Bisby and Juan P. Hidalgo	Decision-making on total evacuation in office buildings due to actual incidents Mineko Imanishi
20:40 - 21:00	Modelling the fire performance of steel beam to CLT connections for hybrid construction David Barber, Audrey Roy-Poirior and Lauren Wingo	Tendency of career firefighters' fatalities while on dispatch fire duty in Japan compared to the U.S. Nobuhito Ohtsu, Cristian Maluk, Kiminori Araiba, Akihiko Hokugo and Yu Kikuchi
21:00 - 21:20	Glass fibre to enhance the fire performance of engineered timber structures *Laura Schmidt, Rory Hadden, José L. Torero and Dilum Fernando	Evaluation method of firefighters' cardiopulmonary load by heart rate variability analysis Yushi Ito, Yasushi Oka and Yukihisa Kuriyama
21:20 - 21:40	The composite action of cross-laminated timber rib panels at elevated temperatures *Miriam Kleinhenz, Magdalena Sterley, Alar Just and Andrea Frangi	Analysis of staircase evacuation flow rate focusing on the stretching behaviour of the crowds Yoshikazu Minegishi, Yoshifumi Ohmiya, Tomonori Sano, Manabu Tange, Yuka Ikehata and Yamaguchi Junichi
21:40 - 22:00	Influence of adhesive on decay phase temperature profiles in CLT in fire Felix Wiesner, Rory Hadden and Luke Bisby	

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Track A

Track B

Fire dynamics (III) <i>Chair:</i> Dr Andres Osorio		Applications in fire safety engineering practice (II) <i>Chair:</i> Dr James O'Neill	
22:15 - 22:35	Lip height effects on pool fires: An experimental study *Lei Huang, Naian Liu, Linhe Zhang, Wei Gao and Xiaodong Xie		Scrutinising the design verification method for fire spread via external walls in the Australian National Construction Code Michael Beecroft and Cristian Maluk
22:35 - 22:55	Measurement of smoke entrainment rate by a downward plume Haruki Ichikawa, Hiroyuki Tsuji, Kazunori Harada and Daisaku Nii		Role of the fire service in the building approval process Nages Karuppiah, David Lange, Juan Hidalgo and Michael Conway
22:55 - 23:15	Experimental investigation of soot turbulent transport mechanism in vertical wall fires Andres Valencia, Martine Talbaut, Bertrand Lecordier and Alexis Coppalle		Rheological properties of concentrates and solutions of high-viscosity firefighting foams David Meyer, Bogdan Dlugogorski and Luis Herrera Diaz
23:15 - 23:35	Experimental study on spread of ceiling jet flow affected by air-conditioner flow in early stage of fire Daisaku Nii, Kousuke Fujimoto, Kazunori Harada, Koji Kagiya and Yoshikazu Deguchi		Fire safety engineering design – The case for holistic solutions David Lange, Peter Johnson, Jose L. Torero, Nate Lobel, Sarnia Rusbridge, Payam Rahnamayiezekavat, Ed Ang, and Xijuan Liu
23:35 - 23:55	Evolution and characterization of backdraft hazard in a 2/5 scale compartment Thomas Cleary, Ryan Falkenstein-Smith and Christopher Brown		Assuming command: Towards user-centred design for fireground incident commanders in the context of pre-incident planning Katelynn Kapalo, Kevin Pfeil, Joseph Bonnell and Joseph LaViola

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Track A

Track B

	Fire dynamics (IV) <i>Chair: Prof Charles Fleischmann</i>	Material fire behaviour or fire chemistry (III) <i>Chair: Prof Khalid Moinuddin</i>
15:45 - 16:05	Experimental study on the location of fire whirl appearance over L-shaped fire sources <i>Xiaoyu Ju, Kota Shiino, Tsuneyoshi Matsuoka, Takuya Yamazaki and Yuji Nakamura</i>	Fire behavior of fire-retardant-treated wooden facades: Comparison of deterioration caused by accelerated weathering and natural exposure in Japan <i>Hideki Yoshioka, Yuhei Nishio, Manabu Kanematsu, Takafumi Noguchi, Tetsuya Hayakawa and Xuansu Zhao</i>
16:05 - 16:25	Burner size effect on characteristics of lifted methane fire whirl <i>*Xuyang Miao, Jiao Lei, Naian Liu and Linhe Zhang</i>	Characterisation of the fire behaviour of CLT wall elements from different leading suppliers <i>Danny Hopkin, Carmen Gorska, Michael Spearpoint, Ian Fu, Harald Krenn, Tim Sleik and Gordian Stappf</i>
16:25 - 16:45	CFD as a tool for examining fire spread mechanisms in informal settlements: faster flashover and deflected flames <i>*Samuel Stevens, Mohamed Beshir and David Rush</i>	Experimental study on smouldering of CCA treated timber <i>*Wenxuan Wu, Juan Hidalgo, Jeffrey Morrell and Felix Wiesner</i>
16:45 - 17:05	The rectangular fire induced incident radiative heat flux on the ground with varying burner rim heights and aspect ratios <i>*Qing He, Mingyan Gu, Fei Tang and Jennifer Wen</i>	The phenomenon of extinction of timber – Experiments and theory <i>R. Varun Kumar, *Jaganathan V. M, Juan Cuevas, Cristian Maluk and Varunkumar S</i>
17:05 - 17:25	Buoyancy-driven calorimeter for post-flashover heat release rate measurements <i>Nathan White, Hangyu Xu, Joe Abraham, Jeronimo Carrascal, Juan Hidalgo, Vinny Gupta and Neythra Weerakkody</i>	Measurement of char oxidation rate of larch glue laminated timber <i>Yukiko Chatani and Kazunori Harada</i>

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Track A

Track B

	Structures in fire (IV) <i>Chair: Prof Mahen Mahendran</i>	Wildland and Wildland-Urban-Interface fires (II) <i>Chair: TBC</i>
18:25 - 18:45	Numerical analysis on the characterisation of the fire decay phase of post-flashover compartments <i>Andrea Lucherini, Balsa Jovanovic, Bart Merci and Ruben Van Coile</i>	Assessment of critical conditions for flame spread of live Eucalyptus Saligna leaves litter <i>*Mohamad Lutfi Ramadhan, Jeronimo Carrascal, Andres Osorio and Juan Hidalgo</i>
18:45 - 19:05	Numerical analysis of steel decking concrete slabs subjected to fire – Comparing the steady state and transient state temperature regimes <i>*Fabricio Bolina and João Paulo Correia Rodrigues</i>	Using neural networks to characterize firebrand generation under laboratory conditions <i>Denis Kasymov, Sergey Prohanov, Mikhail Agafontsev, Alexander Filkov, Vladimir Reyno and Konstantin Orlov</i>
19:05 - 19:25	The performance of timber-framed load-bearing Gypsum plasterboard walls subjected to two-sided fire exposure <i>*Hohyung Kang, Anthony Abu, Peter Moss, Hans Gerlich and Richard Hunt</i>	Investigation of wood ignition conditions as a result of exposure to an ensemble of firebrands <i>Oleg Matvienko, Denis Kasymov, Egor Loboda and Anastasiya Lutsenko</i>
19:25 - 19:45	Embedment strength and stiffness of structural glued laminated timbers at dowel-type connections below 200 °C <i>*Kikuchi Takayuki, Futa Kawarabayashi, Marina Totsuka and Takeo Hirashima</i>	
19:45 - 20:05	Characterisation of damage patterns of composite floor system subjected to realistic fire scenarios <i>*Jin Qiu, Liming Jiang, Mhd Anwar Orabi and Asif Usmani</i>	

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Track A

Track B

	Fire dynamics (V) <i>Chair: Prof Ritsu Dobashi</i>	Fire risk assessment and probabilistic analysis (II) <i>Chair: Dr Colleen Wade</i>
20:20 - 20:40	Semi-empirical modeling of flame spread over solid combustibles in a corner configuration *Dushyant Chaudhari and Stanislav Stoliarov	What is the role played by fire statistics? Challenges and benefits in their application towards improved fire safety Martina Manes, Grunde Jomaas, David Rush and Birgitte Messerschmidt
20:40 - 21:00	A wind tunnel investigation on incident heat flux from adjacent fires to wall surface at different distance with crosswind *Yuhang Chen, Yanli Miao, Xiaolei Zhang and Longhua Hu	Application of a quantitative risk assessment to a deemed-to-satisfy design in assessment against NCC 2022 Part A8 Nate Lobel, David Lange, Sigurjon Ingolfsson, Juan Hidalgo Medina, Jean-Marie Chalumeau, Cristian Maluk and Felix Wiesner
21:00 - 21:20	A preliminary experimental quantification on effect of parallel airflow on flame projection distance and height of horizontal jet fire *Xin Li, Longhua Hu, Qiang Wang and Xiaolei Zhang	Low rise residential building fire risk and imperative issues in Taiwan – Formal and informal settlements *Chia Lung Wu, Hong Min Wan, Yi Chien Chen and Jyun Jia Wu
21:20 - 21:40	Numerical studies of pool fire dynamics due to in-depth radiation through the liquid phase *Bruno Éttori Bueno and Felipe Roman Centeno	Tsunami-triggered oil spill fire hazard assessment: Application to a hypothetical megathrust earthquake in the Nankai trough Tomoaki Nishino, Mizuki Nakano and Youhei Takagi
21:40 - 22:00	Effect of fire location on fallout of tempered glass in a compartment fire Yu Wang	

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**Track A****Track B**

	Structures in fire (V) <i>Chair:</i> <i>Dr Shanmuganathan Gunalan</i>	Applications in fire safety engineering practice (III) <i>Chair:</i> <i>Prof Bogdan Dlugogorski</i>
22:15 - 22:35	Heating impact of localised burning in large compartment fires *Aatif Ali Khan, Zhuojun Nan, Liming Jiang, Ming Zhang, Suwen Chen, Mustesin Ali Khan and Asif Usmani	The need for common terminology for fire safe design of timber structures <i>Joachim Schmid, David Barber, Daniel Brandon and Norman Werther</i>
22:35 - 22:55	A comparative analysis and experimental validation of modeling strategies for structures subject to localized fires *Xia Yan and Thomas Gernay	A simplified assessment of thermal feedback in CLT compartments after burnout *Satya Ranjan Sahoo, Carmen Gorska, Hangyu Xu and Juan P. Hidalgo
22:55 - 23:15	Development of an evaluation method for the fire resistance of tsunami vertical evacuation towers exposed to tsunami debris fires Yu-hsiang Wang, Jun-Ichi Suzuki, Tomoaki Nishino and Yoshifumi Ohmiya	Experimental study for mass loss rate in ventilation-controlled fire in a compartment with wooden lining by wood interior Tensei Mizukami and Takeyoshi Tanaka
23:15 - 23:35	Experimental study on ignition of cylindrical natural fuels by simulated lightning discharges *Hongming Zhang, Pengcheng Guo, Haixiang Chen, Naian Liu and Linhe Zhang	Fire safety design tools for laminated bamboo buildings *Angela Solarte, Mateo Gutierrez, Ian Pope, Juan P. Hidalgo, Cristian Maluk and Jose Torero
23:35 - 23:55		Fire Investigation of a severe Karaoke fire accident in Taiwan <i>Ming-Yuan Lei, Tzu-Yan Tseng and Kuang-Chung Tsai</i>
00:10 - 00:40	Awards and Closing Ceremony	

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Post-conference workshops

Detailed schedule for the workshops can be found here <https://aosfst2021.com/workshops>.

Workshop A

Façade fire regulations and test methods

AEST	16:00	-	19:00
CET	07:00	-	10:00
EST	01:00	-	04:00

Workshop B

Fire safety for informal settlements in Asia

AEST	16:00	-	17:35
CET	07:00	-	08:35
EST	01:00	-	02:35

Workshop C

Machine learning for real-time forecasting in building fires

AEST	20:00	-	22:50
CET	11:00	-	13:50
EST	05:00	-	07:50