

# 12<sup>th</sup> Asia-Oceania Symposium on Fire Science and Technology

7th – 9th December 2021

(post-conference workshops 10<sup>th</sup> December 2021)



[aosfst2021.com](http://aosfst2021.com)

## *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 7<sup>th</sup> December 2021

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

## Wednesday 8<sup>th</sup> December 2021

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

## Thursday 9<sup>th</sup> December 2021

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



## Friday 10<sup>th</sup> 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

	<b>Material fire behaviour or fire chemistry (I)</b> <b><i>Chair: Dr Kate Nguyen</i></b>	<b>Evacuation and human behaviour (I)</b> <b><i>Chair: Dr Erica Kuligowski</i></b>
<b>15:45 - 16:05</b>	Influencing factors in small-scale testing of aluminium composite panels <b>*Md Delwar Hossain, Swapan Saha, Md. Kamrul Hassan, Anthony Chun Yin Yuen, Cheng Wang and Waseem Hittini</b>	Importance of escape route design based on luminance distribution of evacuee's visual field <b>Yuki Akizuki, Masashi Niwa, Yuji Hori and Hideki Yamaguchi</b>
<b>16:05 - 16:25</b>	Assessing simplified method to analyze the thermal insulation through constructive systems <b>David Lázaro, Pedro Gervasio Lázaro, Mariano Lázaro and Daniel Alvear</b>	Walking Speed while texting and viewing on smartphone as a potential device for evacuation guidance in a large-scale facility <b>Koji Kagiya, Kuniharu Kawai and Wataru Takahashi</b>
<b>16:25 - 16:45</b>	Comparison of flame spread measurement using Cone Calorimeter and LIFT apparatus <b>Masato Komiya, Kazunori Harada, Daisaku Nii, Ken Matsuyama and Koji Kagiya</b>	Merging behavior and its effects on evacuation time during a total evacuation in a staircase <b>*Shinji Ootsuka, Manabu Tange, Yoshikazu Minegishi, Yoshifumi Ohmiya, Tomonori Sano, Yuka Ikehata and Junichi Yamaguchi</b>
<b>16:45 - 17:05</b>	Experimental study on upward flame spread characteristics over discrete fuels separated by two different configurations: vertical gap and horizontal projection <b>*Mi Li, Yu Wang, Fu-Hai Gou, Man-Man Zhang and Jin-Hua Sun</b>	Study on exit choice using VR simulator of underground mall fire <b>*Toshinari Tanaka and Masayuki Mizuno</b>
<b>17:05 - 17:25</b>	Quantification of the Thermal Environment Surrounding Radiant Panel Arrays Used in Fire Experiments <b>*Hussein Mohammed, David Morrisset, Angus Law and Luke Bisby</b>	Experimental study on relationship between behavioral incapacitation time of mice and concentration of gases generated during toxicity test <b>*Xuansu Zhao and Hideki Yoshioka</b>

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



## Track A

## Track B

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

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## Track A

## Track B

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

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





## Track A

## Track B

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

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

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

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## Track A

## Track B

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

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## Track A

## Track B

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

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

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

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## Track A

## Track B

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

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## Track A

## Track B

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

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## Track A

## Track B

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

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



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

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

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



## 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