



Sixth International Conference on Structures in Fire (SiF 10)

Kellogg Hotel & Conference Center
Michigan State University
East Lansing, MI, USA
2-4 June, 2010



PROGRAM

Latest updates at
<http://www.egr.msu.edu/sif10/>

Tuesday, June 1, 2010

18:00 – 19:00	Registration (Lincoln Room)
---------------	-----------------------------

Wednesday, June 2, 2010

07:00 – 08:00	Registration (Lobby front of Auditorium)
---------------	--

07:15 – 08:00	Continental Breakfast (Lincoln Room)
----------------------	---

08:15 – 08:45	Workshop Opening (Auditorium) Moderator: Ronald Harichandran
----------------------	---

08:15 – 08:20	Welcome Remarks: <i>Venkatesh Kodur, Professor, Michigan State University</i>
08:20 – 08:25	MSU's Role in International Research and Education: <i>Kim Wilcox, Provost, Michigan State University</i>
08:25 – 08:30	Fire Problem in USA: <i>Ronald Farr, State Fire Marshal, Michigan</i>
08:30 – 08:35	Structural Fire Safety: Importance and Research Needs: <i>Stephen Cauffman, Deputy Chief, BFRL, National Institute of Standards and Technology</i>
08:35 – 08:40	Significance of Fire Research Program for the College: <i>Satish Udpa, Dean, College of Engineering, Michigan State University</i>
08:40 – 08:45	Announcements

08:50 – 10:30	Session 1: Composite Structures-1 (Auditorium) Co-moderators: Paulo Real and Bin Zhao
----------------------	--

08:50 – 09:10	Composite Columns made of Partially Encased Steel Sections Subjected to Fire: <i>Manfred Korzen, João Paulo Rodrigues, António Correia</i>
09:10 – 09:30	Parametrical Study on the Behaviour of Steel and Composite Cellular Beams under Fire Conditions: <i>Olivier Vassart, Colin Bailey, G Bihina, M Hawes, Ali Nadjai, Christophe Peigneux, W Simms, Jean-Marc Franssen</i>
09:30 – 09:50	Performance of RC Beam to Concrete-Filled Steel Tubular Column Frames Subjected to Fire: <i>Lin-Hai Han, Wei-Hua Wang, Hong-Xia Yu</i>
09:50 – 10:10	Experimental and Analytical Investigations of the Behaviour of Protected Composite Floor Beams with Web Openings in Fire: <i>Bernice Wong, Ian Burgess, Roger Plank</i>
10:10 – 10:30	Influence of Reinforcement Properties on the Failure of Composite Slabs in Fire: <i>Katherine Cashell, Ahmed Elghazouli, Bassam Izzuddin</i>

10:30 – 10:50	Coffee Break (Lincoln Room)
---------------	-----------------------------

10:50 – 12:50	Session 2: Concrete Structures-1 (Auditorium) Co-moderators: Mario Fontana and Bo Wu
----------------------	---

10:50 – 11:10	New Regulations for Hollow Core Slabs after Premature Partial Collapse: <i>Ton van Overbeek, Arnoud Breunese, Jan Gijsbers, Kees Both, Johan Maljaars, Leander Noordijk</i>
11:10 – 11:30	Modeling the Fire Response of Reinforced Concrete Columns under Biaxial Bending: <i>Nikhil Raut, Venkatesh Kodur</i>
11:30 – 11:50	Fire Performance of Precast Prestressed Concrete Beam with Openings: <i>Shigeaki baba, Shintaro Michikoshi, Shigehiro sakamoto, Takeo hirashima</i>
11:50 – 12:10	Explosive Spalling of Concrete Columns with Steel and Polypropylene Fibers Subjected to Severe Fire: <i>Paul Doherty, Faris Ali, Ali Nadjai</i>
12:10 – 12:30	Fire Resistance of a Concrete Box Beam Prestressed by External Tendons: <i>Sergio Tattoni, Antonello Gasperi</i>
12:30 – 12:50	Behavior of Concrete Columns Subjected to Fire: <i>Alberto Martins, João Paulo Rodrigues</i>

12:50 – 14:00	Lunch (Big Ten Room B) – Cosponsored by American Institute of Steel Construction
---------------	--

14:00 – 15:20	Session 3: Material Behavior-1 (Auditorium) Co-moderators: Peter Schaumann and Roberto Felicetti
----------------------	---

14:00 – 14:20	Constitutive Equations of Structural Steel S460 under High Temperature: <i>Regine Schneider, Jörg Lange</i>
14:20 – 14:40	Experimental Study of the Mechanical Properties of Prestressed Steel Wire at Elevated Temperatures: <i>Yehua Wang, Zuyan shen, Yuanqi Li</i>
14:40 – 15:00	Influence of Polypropylene Fibres on the Thermal Strain of High Strength Concrete at High Temperatures: <i>Sven Huismann, Frank Weise, Birgit Meng, Ulrich Schneider</i>
15:00 – 15:20	Fire Induced Transient Creep Causing Stress Relaxation and Tendon Rupture in Unbonded Post-Tensioned Structures: Experiments and Modeling: <i>John Gales, Luke Bisby, Colin MacDougall</i>

15:20 – 15:40	Coffee Break (Lincoln Room)
---------------	-----------------------------

15:40 – 17:00	Session 4: Fire Engineering and Practice-1 (Auditorium) Co-moderators: Andrew Buchanan and František Wald
----------------------	--

15:40 – 16:00	Using OpenSees for Structures in Fire: <i>Asif Usmani, Jian Zhang, Jian Jiang, Yaqiang Jiang, Panagiotis Kotsovinos, Johnson Zhang, Ian May</i>
16:00 – 16:20	Performance-Based Structural Fire Design - Case Study: <i>Darlene Rini, Susan Lamont, Ibrahim Almufti</i>
16:20 – 16:40	Significance of Common U.S. Construction Details on Fire Resilience of Structural Steel Floor Systems: <i>Najib Abboud, C Beyler, P McArthur, T Fay, Nestor Iwankiw</i>
16:40 – 17:00	Structural Response of Unprotected Floor Assemblies in Realistic Residential Fire Scenarios: <i>Noureddine Bénichou, Joseph Su, Alex Bwalya, Gary Lougheed, Bruce Taber, Patrice Leroux</i>

18:00 – 19:00	Cash Bar (Big Ten Room C)
---------------	---------------------------

19:00 – 19:15	Group Photo (East Patio)
---------------	--------------------------

19:15 – 21:30	Dinner (East Patio/Big Ten Room C)
---------------	------------------------------------



Thursday, June 3, 2010

07:15 – 07:50	Continental Breakfast (Lincoln Room)
---------------	--------------------------------------

Session 5: Connections (Auditorium)	
Co-moderators: Guo Qiang Li and Michael Englehardt	
08:00 – 08:20	Improved Details for Fire-Induced Steel Single Plate Shear Connections: <i>Serdar Selamet, Maria Garlock</i>
08:20 – 08:40	Fire Performance of External Semi-Rigid Composite Joints: <i>Peter Schaumann, Bin Zhao, Oliver Bahr, Christophe Renaud</i>
08:40 – 09:00	Experimental Investigations and Analytical Model for the Behaviour of Grade 8.8 Bolts and Welds Heating and Subsequent Cooling: <i>François Hanus, Giuliana Zilli, Jean-Marc Franssen</i>
09:00 – 09:20	Investigations on the Behavior of Steel Single Plate Beam End Framing Connections in Fire: <i>Guanyu Hu, Eric Schell, Michael Engelhardt</i>
09:20 – 09:40	A Simplified Model for Modelling End-Plate Connections in Fire: <i>Zhaohui Huang</i>
09:40 – 10:00	Testing of Composite Top-and-Seat-and-Web Angle Joints at Ambient and Elevated Temperature: <i>Yuan Zhen, Tan Kang Hai, Ting Seng Kiong</i>

10:00 – 10:20	Coffee Break (Lincoln Room)
---------------	-----------------------------

Session 6: Steel Structures (Auditorium)	
Co-moderators: Jean-Marc Franssen and Olivier Vassart	
10:20 – 10:40	Numerical Analysis of the Cross-Sectional Capacity of Structural Steel Members in Fire: <i>Markus Knobloch, Diego Somaini, Jacqueline Pauli, Mario Fontana</i>
10:40 – 11:00	Stability Check of Steel Frames Exposed to Fire: <i>Paulo Real, C Couto, Nuno Lopes, João Paulo Rodrigues</i>
11:00 – 11:20	A 3D Numerical Analysis of a Typical Steel Highway Overpass Bridge under a Hydrocarbon Fire: <i>Ignacio Payá-Zaforteza, Maria Garlock</i>
11:20 – 11:40	Thermal Response of Steel Columns Exposed to Localized Fires – Numerical Simulation and Comparison with Experimental Results: <i>Chao Zhang, Guo-Qiang Li</i>
11:40 – 12:00	Experimental Investigation of Fundamental Behavior of Steel Members under Fire Loading: <i>Lisa Choe, Amit Varma</i>
12:00 – 12:20	Structural and Fire Behaviour of a New Light Gauge Steel Wall System: <i>Shanmuganathan Gunalan, Mahen Mahendran</i>

12:20 – 13:30	Lunch (Big Ten Room C) – Sponsored by Underwriters Laboratories
---------------	---

Session 7: Timber Structures (Auditorium)	
Co-moderators: Chris Hasbrook and Marc Janssens	
13:30 – 13:50	Design Method for the Separating Function of Timber Structures: <i>Andrea Frangi, Vanessa Schleifer, Mario Fontana, Erich Hugi</i>
13:50 – 14:10	Design Model for Fire Exposed Cross-Laminated Timber: <i>Joachim Schmid, Juergen König, Jochen Köhler</i>
14:10 – 14:30	Fire Resistance of Connections in Timber Structures: <i>Peter Moss, Trygve Nilsen, Massimo Fragiaco, Andrew Buchanan</i>
14:30 – 14:50	Design of Timber-Concrete Composite Floors for Fire Resistance: <i>James O'Neill, David Carradine, Peter Moss, Massimo Fragiaco, Andrew Buchanan</i>
14:50 – 15:10	Fire Performance of Epoxied Connections in Heavy Timber Structures: <i>Robert Gerard, David Carradine, Peter Moss, Andrew Buchanan</i>

15:10 – 15:25	Coffee Break (Lincoln Room)
---------------	-----------------------------

15:25 – 16:55	Session 8: Posters - See page 3 for list of posters (Lincoln Room)
---------------	--

Civil Infrastructure Laboratory tour (Optional) and Dinner Cruise [Dress – Casual]			
17:00	1 st and 2 nd buses depart to Civil Infrastructure Laboratory	17:30	3 rd bus departs to cruise
17:20 – 18:00	Civil Infrastructure Laboratory tour		
18:00	1 st and 2 nd buses depart to cruise		

Dinner Cruise	
19:00 – 22:00	Boat (Dinner) cruise - Princess Laura/Michigan Princess
22:00	Buses depart to Kellogg center

Friday, June 4, 2010

07:30 – 08:20	Continental Breakfast (Lincoln Room)
---------------	--------------------------------------

Session 9: Composite Structures-2 (Auditorium)	
Co-moderators: Ian Burgess and Maria Garlock	
08:30 – 08:50	Collapse Mechanisms of Composite Slab Panels in Fire: <i>Anthony Abu, Verotiana Ramanitarivo, Ian Burgess</i>
08:50 – 09:10	Planning for a Large-Scale Fire Test on a Composite Steel-Frame Floor System: <i>David Proe, Ian Thomas</i>
09:10 – 09:30	Large-Scale Fire Test of Unprotected Cellular Beam Acting in Membrane Action: <i>Olivier Vassart, Collin Bailey, M Hawes, Ali Nadjai, W Simms, Bin Zhao, Thomas Gernay, Jean-Marc Franssen</i>
09:30 – 09:50	Experimental and Numerical Investigations of Steel and Concrete Composite Floors Subjected to ISO Fire Condition: <i>Bin Zhao, Mohsen Roosefid</i>
09:50 – 10:10	Experimental Evaluation of Composite Floor Assemblies under Fire Loading: <i>Emily Wellman, Amit Varma, Rustin Fike, Purushotham Pakala, Venkatesh Kodur</i>

10:10 – 10:30	Coffee Break (Lincoln Room)
---------------	-----------------------------

10:30 – 12:30		Session 10: Concrete Structures-2 (Auditorium) Co-moderators: Ali Nadjai and Tan Kang Hai
10:30 – 10:50	The Influence of Travelling Fires on the Response of a Concrete Frame: <i>Angus Law, Martin Gillie, Jamie Stern-Gottfried, Guillermo Rein</i>	
10:50 – 11:10	Simplified Procedure for Shear Failure Assessment of RC Framed Structures Exposed to Fire: <i>Rui Faria, Hélder Xavier, Paulo Real</i>	
11:10 – 11:30	Performance in Fire of Fibre Reinforced Polymer Strengthened Concrete Beams Including Embedded Fibre Optic Sensors: <i>Mark Green, Masoud Adelzadeh, Tarek Khalifa, Rob Eedson, Luke Bisby, Noureddine Bénichou, Xiaoyi Bao, Wenhai Li</i>	
11:30 – 11:50	Modelling the Fire Resistance of Prestressed Concrete Floors Using “Multi-Spring” Connection Elements: <i>Jeong Ki Min, Peter Moss, Rajesh Dhakal, Andrew Buchanan</i>	
11:50 – 12:10	Behaviour of Earthquake Damaged Reinforced Concrete Structures in Fire: <i>Adam Ervine, Martin Gillie, Pankaj</i>	
12:10 – 12:30	Fire Testing of an Earthquake Damaged RC Frame: <i>Pradeep Bhargava, Umesh Sharma, Yogendra Singh, Bhupinder Singh, Asif Usmani, Jose Torero, Martin Gillie, Pankaj, Ian May, C Manohar</i>	

12:30 – 13:40	Lunch (Big Ten Room C) – Sponsored by Michigan State University
----------------------	--

13:40 – 15:00		Session 11: Material Behavior-2 (Auditorium) Co-moderators: Andrea Frangi and Albert Noumowe
13:40 – 14:00	Experimental Study of Aging Effects on Insulative Properties of Intumescent Coating for Steel Elements: <i>Lingling Wang, Young Wang, Guo Qiang Li</i>	
14:00 – 14:20	Bond Strength Degradation for Prestressed Steel and Carbon FRP Bars in High-Performance Self-Consolidating Concrete at Elevated Temperatures and in Fire: <i>Cristián Maluk, Luke Bisby, Giovanni Terrasi, Erich Hugi</i>	
14:20 – 14:40	Strain Development of Traditional and Self-compacting Concrete during Fire: <i>Emmanuel Annerel, Luc Taerwe</i>	
14:40 – 15:00	Failure Mechanisms of Structural Insulated Panel Systems under Natural Fire Conditions: <i>Danny Hopkin, Tom Lennon, Jamal El-Rimawi, Vadim Silberschmidt</i>	

15:00 – 15:20	Coffee Break (Lincoln Room)
----------------------	------------------------------------

15:20 – 16:20		Session 12: Fire Safety Engineering and Practice-2 (Auditorium) Co-moderators: Asif Usmani and Farid Alfawakhiri
15:20 – 15:40	Mitigation of Post-earthquake Fire Risk to Building Structures: <i>Mahmmad H. Yassin, Ashutosh Bagchi, Venkatesh Kodur</i>	
15:40 – 16:00	The Use of Adiabatic Surface Temperature to Design Structures for Fire Exposure: <i>Ulf Wickström, Amanda Robbins, Greg Baker</i>	
16:00 – 16:20	Variability of Fire and Concrete Temperatures and the Associated Uncertainty in Structural Behavior: <i>Elin Jensen, Jacob Van Horn, Christopher Eamon</i>	

16:20 – 16:40	SIF Discussion (Auditorium) - Jean-Marc Franssen
----------------------	---

16:40 – 16:50	Closure - Venkatesh Kodur
----------------------	----------------------------------

15:25 – 16:45	Thursday, June 3, 2010	Session 8: Posters (Lincoln Room)
----------------------	-------------------------------	--

Track 1 - Concrete Structures & Material Behavior* Judges: João Paulo Rodrigues, Mark Green, Elin Jensen, and Nestor Iwankiw	
---	--

C27	Moment Curvature Relationships for Fire Damaged RC Sections: <i>Phani Prasad, Virendra Kumar, Umesh Kumar Sharma, Pradeep Bhargava</i>
C29	Experimental Examination of Residual Load Bearing Capacity of RC Beams Heated up to High Temperature: <i>Robert Kowalski, Pawel Krol</i>
C37	Influence of Thermal Elongation of Beams on the Fire Resistance of RC Frames: <i>Hélder Xavier, Rui Faria, Paulo Vila Real</i>
C43	Stability of RC Structure under Non-Uniform Thermal Exposure: <i>Susan Deeny, Tim Stratford</i>
C46	Strength and Out-of-Plane Stability of Reinforced Concrete Bearing Walls under Elevated Temperatures: <i>Kevin Mueller</i>
C54	The Fire Performance of Polymer Fibre Reinforced Composite Concrete Slabs: <i>David Fox, Tim Stratford</i>
C59	Estimating the Response of Flat Plate Concrete Slab Systems to Fire Exposure: <i>Mehrafarid Ghoreishi, Ashutosh Bagchi, Mohamed Sultan</i>
C63	Structural Behavior of Reinforced Pre-Compressed Concrete Structures in Fire: Paradigms and Lessons from Experience: <i>Sergio Tattoni</i>
C78	Spalling of Normal Strength Concrete Walls in Fire: <i>Maurice Guerrieri, Sam Fragomeni</i>
Num16	A Material Model for the Numerical Simulation of High Strength Concrete Columns Subjected to Fire Loading: <i>Sven Huisman, Manfred Korzen, Ulrich Schneider</i>
Num39	Modeling R/C Columns in Fire according to Different Constitutive Models for Heated Concrete: <i>Patric Bamonte, Francesco Lo Monte</i>
S49	Performance of FRP-Strengthened Reinforced Concrete Beams under Design Fire Exposure: <i>Aqeel Ahmed, Venkatesh Kodur</i>

C11	Behaviour at High Temperature of Concretes Prepared with Flint, Quartzite or Limestone Aggregates: <i>Zhi Xing, Anne-lise Beaucour, Ronan Hebert, Albert Noumowe, Béatrice Ledesert</i>
C12	How the Steel Fibres Improve the Residual Properties of Concrete Subjected to High Temperature: <i>Prosper Pliya, Anne-Lise Beaucour, Albert Noumowé</i>
C15	Experimental Study on Fire Performance and Protection of Building Seismic Rubber Bearings: <i>Bo Wu, Liwei Han, Fulin Zhou, Chaoyong Shen</i>
C17	Consideration of Transient Creep in the Eurocode Constitutive Model for Concrete in the Fire Situation: <i>Thomas Gernay, Jean-Marc Franssen</i>
C18	Deformation of Concrete Due to Mechanical and Fire Loads: <i>Elin Jensen, Jacob Van Horn, Meenakshi Joshi</i>
C23	Physical Properties and Behavior of High-Performance Concrete at High Temperature: <i>Ulrich Schneider, M Alonso, Pierre Pimienta, Robert Jansson</i>
C24	Permeability of High Performance Concrete at Elevated Temperatures: <i>Ulrich Schneider</i>
C28	Uni-Axial Behavior of Confined Fiber Reinforced High Strength Concrete Exposed to Elevated Temperatures: <i>Kaleem Zaidi, Umesh Sharma, Pardeep Bhargava, Navratan Bhandari</i>
C33	Effect of Heating Method on the Physical Properties of Hybrid Fibre Reinforced High Strength Concrete at High Temperature: <i>Kazuo Watanabe, Takashi Horiguchi</i>
C34	Pore Pressure Measurement Inside Hybrid Fibre-Reinforced High Strength Concrete under High Temperature Condition: <i>Mugume Rodgers Bangi, Takashi Horiguchi</i>
C35	The Application of RGB Histogram Analysis of Colour Images as a Method of Assessing the Condition of Concrete in Structures After Fire: <i>Izabela Hager</i>
C47	On High-Temperature Properties of Structural Shotcrete Containing Different Accelerating Agents: <i>Patrick Bamonte, Pietro Gambarova, Alireza Nafarieh</i>
C70	Proposal for the Model and the Mechanical Properties at High Temperature for High Strength Concrete Mixed with Fiber Cocktail: <i>Kyung-Hoon Park, Heung-Youl Kim, Hyung-Jun Kim, Hyun Kyu Jeon, Kwang Soo Youm</i>
C74	High-Strength Concrete Reinforced Jute Fiber and Water-Soluble PVA Fiber under High Temperature: <i>Mitsuo Ozawa, Hiroaki Morimoto</i>

C75	A Theoretical Approach for Estimating Mechanical and Electric Properties of Polymers and Polymer-Concrete Mixtures at Elevated Temperatures: <i>Iosif Shkolnik, Huseyin Hiziroglu</i>
C76	Fire Behaviour of High Performance Concrete – An Experimental Investigation on Spalling Risk: <i>Pierre Pimienta, Dominique Pardon, Jean-Christophe Mindeguia</i>
S43	Stress-Strain Curves of Steel and Aluminium Exposed to Natural Fires: <i>Johan Maljaars</i>
S47	Tangent Modulus of ASTM A992 Steel at Elevated Temperatures: <i>Mohammed Morovat, Jinwoo Lee, Guanyu Hu, Michael Engelhardt</i>
S4	Behaviour of Galvanized High Strength Grade 10.9 Bolts under Fire Conditions: <i>Fernando González, Jörg Lange</i>

Track 2 - Steel Structures, Composite Structures⁺ & Connections⁺⁺
Judges: Luke Bisby, Faris Ali, Khalifa Al-Jabri and Charles Clifton

Num20	Development of a 3D Co-Rotational Beam-Column Element for Structural Analysis of Steel and Composite Frames Exposed to Fire: <i>Quang Trung Le, Bin Zhao, Mohammed Hjjaj</i>
S51	Fire-Induced Progressive Collapse of Steel Structures That Have Sustained Localized Damage: <i>Spencer Quiel, Shalva Marjanishvili</i>
C99	Lateral-Torsional Buckling of Carbon Steel and Stainless Steel Beams Subjected to Combined End Moments and Transverse Loads in Case of Fire: <i>Nuno Lopes, Paulo Vila Real, Luís Simões da Silva, Jean-Marc Franssen</i>
S12	Reliability-Based Capacity Reduction and Fire Load Factors for Design of Steel Members Exposed to Fire: <i>Shahid Iqbal, Ronald Harichandran</i>
S16	Temperature of External Column during the Fire Test: <i>Milan Pultar, Zdeněk Sokol, František Wald</i>
S17	Restrained Steel Beam Behaviour in Case of Fire, Depending on Load Ratio, Performed in Case Study of a Bus Station: <i>Jesús de la Quintana, Jon Aurtentxe, Fernando Morente Saioa Eguia</i>
S20	Experimental and Numerical Modelling of Cellular Beams with Elongations Openings at Elevated Temperature: <i>El-Hadi Naili, Ali Nadjai, H Song, Faris Ali, Sungmo Choi, Bernice Wong, Ian Burgess, Roger Plank</i>
S21	Performance Based Design Approach for Evaluating Fire Resistance of Restrained Steel Beams: <i>Mahmud Dwaikat, Venkatesh Kodur</i>
S39	Load Bearing Capacity of Steel Structures after Fire: <i>Johannes Falke, Hascha Mustafa</i>
S40	Stress-Based Equations for Predicting the Buckling Capacity of Steel Plates Exposed to Fire: <i>Spencer Quiel, Maria Garlock</i>
W2	A Study on Damage Mechanism of Thick Fireproof Coating for Steel Member Subjected to Monotonic Loading: <i>Suwen Chen, Jin Chu, Guo-qiang Li</i>

+

Num25	A Numerical Model for Unbraced Composite Frames in Fire: <i>Peter Schaumann, Oliver Bahr</i>
S57	Fire Resistance of Axially Loaded Slender Concrete Filled Steel Tubular Columns: <i>Geraldo Silveira Leite Junior, Kleber Aparecido Gomide, Armando Lopes Moreno Junior, Valdir Pignatta Silva</i>
S58	Performance Based Fire Resistance Design of CFT Columns in a Railway Station: <i>Chao Zhang, Shou-Chao Jiang, Guo-Qiang Li</i>
S59	Fire-Resistance Evaluation of Double CFT Columns under Central Axial Load: <i>Won, Yong An, Kim, Sun Hee, Jung, Sang Keun, Chung, Kyung Soo, Choi, Sung Mo</i>
S8	Fire Endurance Performance of Cellular GFRP Columns with Water-Cooling System: <i>Yu Bai, Erich Hugi, Carsten Ludwig, Thomas Keller</i>
Num30	Influence of Moisture Transport on Fire Resistance of Steel Concrete Composite Slab: <i>Tomaž Hožjan, Jerneja Kolšek, Miran Saje, Igor Planinc, Sebastjan Bratina, Stanislav Srpčić</i>
S1	Numerical Modeling of Membrane Action of Composite Slabs in Fire Situation: <i>Cristian Vulcu, Thomas Gernay, Raul Zaharia, Jean-Marc Franssen</i>
S15	Fire Test of Composite Floor with Castellated Beams: <i>Jan Bednář, František Wald, Magdaléna Štujberová</i>
S19	The Slab Panel Method: Design of Composite Floor Systems for Dependable Inelastic Response to Severe Fires: <i>Charles Clifton, Anthony Gillies, Nandor Mago</i>

++

Num2	Numerical Modeling of HSS Endplate Connections at Elevated Temperatures: <i>Xuhong Qiang, Frans Bijlaard, Henk Kolstein, Leen Twilt</i>
S26	Experimental Study of Mechanical Properties of High-Strength Bolts after Fire: <i>Lou Guo-Biao, Yu Shan, Wang Rui</i>
S30	Finite Element Analyses of Flexible End-Plate Connections between Steel Beams and Columns at Elevated Temperatures: <i>Khalifa Al-Jabri, Farooq Al-Jahwari</i>
S50	How Connections Affect Global Response: <i>Kate Anderson, Martin Gillie</i>
Num1	A Simplified Sectional Analysis Approach for RC Elements during Fire Events: <i>Salah El-Fitany, Maged Youssef</i>

Track 3 - Timber Structures & Fire Safety Engineering and Practice[@]
Judges: Martin Gillie, Darlene Rini, Eric Hugi, and Didier Talamona

W10	Fire Resistance of Wood-Steel-Wood Bolted Timber Connections: <i>Lei Peng, George Hadjisophocleous, Jim Mehaffey, Mohammad Mohammad</i>
W12	Fire Performance of Engineered versus Traditional Lumber: <i>Robert Backstrom, Mahmood Tabaddor, Pravinray Gandhi</i>
W15	Fire Resistance of Traditional Timber Post and Beam Construction – An Experimental and Modeling Study: <i>Ayano Nakajima, Yuji Hasemi, Noboru Yasui, Asami Suzuki, Daisuke Hirakuri, Yoshinao Sawano, Keita Watanabe, Hiroyuki Hirai, Atsushi Ogawa, Mariko Shimizu Seki, Mikio Koshihara, Masahide Murakami, Tadanori Kimura, Yoshihide Ta</i>
W16	Timber Bolted Joints Subjected to High Temperatures: <i>Nadia Correia, João Paulo Rodrigues, Poliana Moraes</i>
W19	Post Protection Behaviour of Wooden Wall and Floor Structures Completely Filled with Glass Wool: <i>Alar Just</i>
W20	Failure Times of Gypsum Boards: <i>Alar Just, Joachim Schmid, Jürgen König</i>
W4	Using Artificial Neural Networks for Predicting Temperatures in Timber: <i>Paulo Cachim</i>
W7	A Laboratory Study into the Fire Resistance Performance of Structural Insulated Panels: <i>Tom Lennon, Danny Hopkin, Jamal El-Rimawi, Vadim Silberschmidt</i>

@

C56	Feedback and Knowledge Gaps from a Variety of Structural Fire Engineering Projects: <i>Florian Block, Neal Butterworth, Mick Green</i>
Num32	Prediction and Calibration of Fire Resistance of Standard Units: <i>Tom Molkens, Lincy Pyl</i>
Num38	A Simplified Approach for Evaluating Equivalent Fire Resistance under Design Fire Exposures: <i>Purushotham Pakala, Venkatesh Kodur</i>
S3	An Assessment of the Use of Structural Deformation as a Method of Determining Area of Fire Origin: <i>Andrew Tinsley, David Icove</i>
S32	Structures Fire Safety: the Brazilian Research Project: <i>Carlito Calil Jr, Valdir Pignatta e Silva, Armando Lopes Moreno Jr, Jorge Munaiar Neto</i>
S5	Overview of the AISC Specifications Appendix 4 - Structural Design for Fire Conditions: <i>Nestor Iwankiw Bruce Ellingwood</i>
Num26	Determining the Moment-Curvature Diagram of Aluminium Cross-Sections in Fire: A Numerical Code and Practical Examples: <i>Ronald van der Meulen, Johan Maljaars, F Soetens, L Twilt</i>