PROGRAM OF THE EIGHTH INTERNATIONAL CONFERENCE ON BEHAVIOUR OF STEEL STRUCTURES IN SEISMIC AREAS, SHANGHAI, CHINA

Stessa 2015

Conference Organizers

Tongji University, Shanghai, China

University of Naples “FEDERICO II”, Naples, Italy

With supports by

- State Key Laboratory of Disaster Reduction in Civil Engineering, Tongji University, Shanghai, China;
- China Steel Construction Society;
- China Construction Metal Structure Association, Steel Construction Sub-association;
- Shanghai Metal Construction Society

Content

Organization

HONORARY CHAIRMAN

Zu-Yan Shen,Tongji University, Shanghai, China

CHAIRMAN

Federico M. Mazzolani, University of Naples "FEDERICO II", Naples, Italy

CO- CHAIRMAN

Guo-Qiang Li, Tongji University, Shanghai, China

INTERNATIONAL SCIENTIFIC COMMITTEE

Carlos Aguirre, *Universidad Tecnica Federico Santa Maria, Valparaiso, Chile*
Jean Marie Aribert, *INSA Rennes, France*
Gustavo Ayala, *Universidad Nacional Autonoma de Mexico, Mexico City, Mexico*
Michel Bruneau, *University of New York, Buffalo, USA*
Luis Calado, *Instituto Superior Tecnico of Lisbon, Portugal*
Su-Wen Chen, *Tongji University, Shanghai, China*
Gaetano Della Corte, *University of Naples "Federico II" Napoli, Italy*
Jie-Min Ding, *the Architectural Design and Research Institute of Tongji University, Shanghai, China*
Dan Dubina, *Politechnic University of Timisoara, Romania*
Gianfranco De Matteis, *University of Chieti-Pescara, Italy*
Amr Elnashai, *University of Illinois, Urbana-Champaign, USA*
Beatrice Faggiano, *University of Naples "Federico II" Napoli, Italy*
Larry Fahnestock, *University of Illinois, Urbana-Champaign, USA*
Maria Garlock, *Princeton University, New Jersey, USA*
Ricardo Herrera, *University of Chile, Santiago de Chile, Chile*
Mamoru Iwata, *Kanagawa University, Yokohama, Japan*
Raffaele Landolfo, *University of Naples "Federico II", Italy*
Stephen Mahin, *University of California, Berkeley, USA*
Gregory McRae, *University of Canterbury, New Zealand*
Masayoshi Nakashima, *University of Kyoto, Japan*

Vincenzo Piluso, *University of Salerno, Italy*
Andre Plumier, *University of Liege, Belgium*
James Ricles, *Lehigh University, Pennsylvania, USA*
Charles Roeder, *University of Washington, Seattle, USA*
Pedro Rojas, *ESPOL—Catholic University, Guayaquil, Ecuador*
Mauricio Sarrazin, *University of Chile, Santiago de Chile, Chile*
Bozidar Stojadinovic, *ETH, Swiss Federal Institute of Technology, Zurich, Switzerland*
Robert Tremblay, *Ecole Polytechnique of Montreal, Canada*
Ioannis Vayas, *National Technique University of Athens, Greece*
Carlos E. Ventura, *University of British Columbia, Canada*
Akira Wada, *Tokyo Institute of Technology, Japan*
In total 31 members from 15 countries: Belgium, Canada, Chile, China, Ecuador, France, Greece, Italy, Japan, Mexico, New Zealand, Portugal, Romania, Switzerland and USA.

INTERNATIONAL ADVISORY COMMITTEE

Christoph Adam, University of Innsbruck, Austria
Hiroshi Akiyama, University of Tokyo, Japan
Enrique Alarcon, *Universidad Politecnica de Madrid, Spain*
Gulay Askar, *Bogazici University, Instanbul, Turkey*
Abolhassam Astaneh-asl, *University of California, Berkeley, USA*
Yi-Yi Chen, *Tongji University, Shanghai, China*
Dimitri E. Beskos, *University of Patras, Greece*
Constantin Christopoulos, *University of Toronto, Canada*
Charles Clifton, *University of Auckland, New Zealand*
Luis Da Silva, *University of Coimbra, Coimbra, Portugal*
Attilio De Martino, *University of Naples "Federico II", Italy*
Ahmed Elghazouli, *Imperial College, London, UK*
Michael D. Engelhardt, *University of Texas, Austin, USA*
Mario Fontana, *ETH, Swiss Federal Institute of Technology, Zurich, Switzerland*
Jerome Hajjar, *Northeastern University, Massachusetts, USA*
Mohammed Hjiaj, *INSA Rennes, France*
Kazuhiko Kasai, *Tokyo Institute of Technology, Japan*
Akihiko Kawano, *Kyusyu University, Fukuoka, Japan*
Roberto Leon, *Georgia Institute of Technology, Atlanta, USA*
Alberto Mandara, *The Second University of Naples, Italy*
Gian A. Rassati, *University of Cincinnati, USA*
Rodolfo Sarragoni, *University of Chile, Santiago de Chile, Chile*
Richard Sause, *Lehigh University, USA*
Motohide Tada, *Osaka University, Japan*
Lucia Tirca, *Concordia University, Montreal, Canada*
Keh-Chyuan Tsai, *National Taiwan University, Taiwan, China*
Gabriel Valencia, *Universidad Nacional de Colombia, Colombia*
Da-Sui Wang, *East China Architectural Design & Research Institute, China*
Satoshi Yamada, *Tokyo Institute of Technology, Japan*

Myung-ho Yoon, *Kongju National University, Korea*

In total 30 members from 18 countries: Austria, Canada, Chile, China, Colombia, France, Greece, Italy, Japan, Korea, Mexico, Portugal, Romania, Spain, Switzerland, Turkey, United Kingdom and USA.

ORGANIZING COMMITTEE

Chiar： Guo-Qiang Li, *Tongji University*

Tongji University:

Su-Wen Chen

Yuan-Qi Li

Yu-Shu Liu

Xu-Hong Qiang

Fei-Fei Sun

Wei Wang

Qiang Xie

Xian-Zhong Zhao

Feng Zhou

East China Architectural Design and Research Institute:

Lian-Jin Bao,

Cheng-Ming Li

Jian Zhou

Tongji Architectural Design (Group) Co., Ltd:

Zhi-Jun He

Xin Zhao

CONFERENCE SECRETARIAT (*Tongji University*)

Xing Chen

Ya-Mei He

SCIENTIFIC SECRETARIAT *(University of Naples "Federico II")*

Beatrice Faggiano,

Antonio Formisano

Mario D'Aniello,

Conference Information

Background and Objective

STESSA is the international specialty conference focused on the seismic design of steel structures. The STESSA Conference aims to enable researchers and engineers to present and assess the results from recent research on minimization of the earthquake damage, on seismic retrofit, and on the collapse behavior of steel structures. In addition, numerous research projects on steel structures using recently-commissioned large-scale earthquake simulation facilities are disseminated in the conference. STESSA is held every three years. The previous conferences were held in Timisoara (Romania 1994), Kyoto (Japan 1997), Montreal (Canada 2000), Naples (Italy 2003), Yokohama (Japan 2006), Philadelphia (United States 2009), and Santiago (Chile 2012). The main mission of STESSA conferences is to provide an opportunity for researchers and engineers to share their research, technology and expertise with their peers at an international forum.

Following the great success of previous conferences, Tongji University was selected to host the 8th International Conference on Behavior of Steel Structures in Seismic Areas (STESSA15) in Shanghai on July 1-4, 2015.

Conference Themes

The results of recent research from all over the world in the field of steel structures in seismic areas will be represented in STESSA15 by experts from 25 countries. The papers are subdivided into the following working sessions of the STESSA15 Conference.

- Performance-Based Design of Structures;
- Resilience Enhancement Technology;
- Member Behaviour;
- Connection Behaviour;
- Global Behaviour;
- Analytical and Experimental Methods;
- Mixed and Composite Structures;
- Passive, Semi-active and Active Control;
- Codification, Design, and Practice;
- Earthquake, Wind and Exceptional Loads.

Conference Venue and Transportation

The Conference will be held at the Tongji Architectural Design (TJAD) (Group) Co., Ltd.
Address: No. 1230 Siping Road, Shanghai, 200092, China
Website: www.tjadri.com

There are two airports in Shanghai: Pudong International Airport (**PVG**) and Hongqiao International Airport (**SHA**). Taking a taxi will cost you around RMB 200/100 from PVG/SHA to the conference venue. You may also take the Metro Line 10 and get off at the stop of **Tongji University**. The conference venue is within walking distance from the Metro stop.

On-site Registration

Onsite Registration Hours:

Kingswell Hotel Tongji	Tuesday, June 30	14:00 – 21:00
Conference Venue (TJAD)	Wednesday, July 1	7:30 – 17:30
	Thursday, July 2	8:00 – 17:30
	Friday, July 3	8:00 – 15:30

Onsite Registration fees:

Delegate	USD 700
Student	USD 450
Accompanying person	USD 200

Note: Payment by cash or card.

Breaks / Lunches

Break stations to provide tea and coffee are located close to the session rooms. Lunches are provided on July 1 (Wednesday), July 2 (Thursday) and July 3 (Friday) at the Conference Venue. Lunch vouchers can be found in your registration package.

Reception Party and Conference Banquet

Reception Party	Kingswell Hotel Tongji	July 1 18:30 – 20:30	No.50 Zhangwu Road (near conference venue)
Conference Banquet	Shanghai International Conference Center	July 2 19:15-21:30	No. 2727 Binjiang Road

Presentation of Papers

Oral presentation:

English should be used for presentations and discussions. Each keynote speaker is allowed 25 minutes for presentation and 5 minutes for discussion. All the other speakers are allowed 12 minutes for presentation and 3 minutes for discussion.

Poster Presentation:

The posters will be on exhibition in Exhibition Hall throughout the conference. Poster presenters are requested to mount their posters on the provided boards in the right zone (classification of sessions see Page 11). Eight poster sessions are planned combined with Coffee breaks. Authors of the posters are encouraged to be at their posters during the breaks for Q&A discussion, where the authors of Poster Sessions 1-3 are arranged on the first day of the Conference , Poster Sessions 4-6 on the second day and Poster Sessions 7-8 on the third day.

Accommodation

Hotels nearby the conference venue are mentioned on the conference website where reservation forms are provided. Please get reservations by yourself.

Internet

There are computers for use at the secretariat of the conference.

Currency

The current exchange rate is US$1 = RMB$6.2 approximately. Most foreign currencies can be freely exchanged at banks and hotels.

Electricity

The voltage and frequency used in Shanghai are 220 volts and 50 Hz, respectively.

Weather

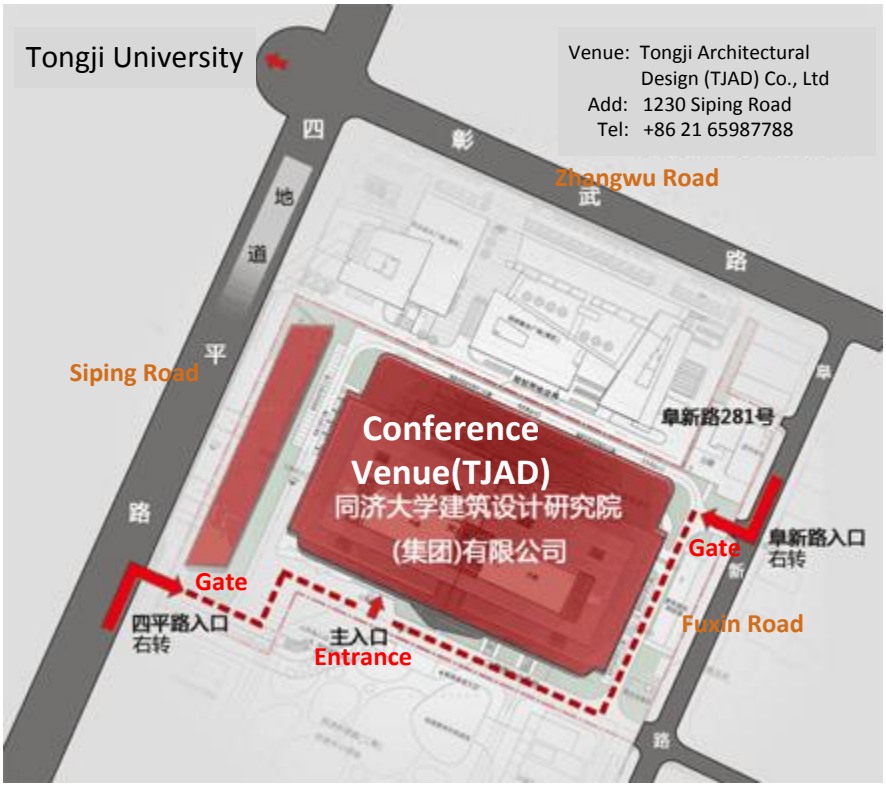
It is hot and wet, really sweltering in July. The average temperature of Shanghai at the beginning of July is shown as follows:

Average High Temperature: 28°C； Average Low Temperature: 22°C

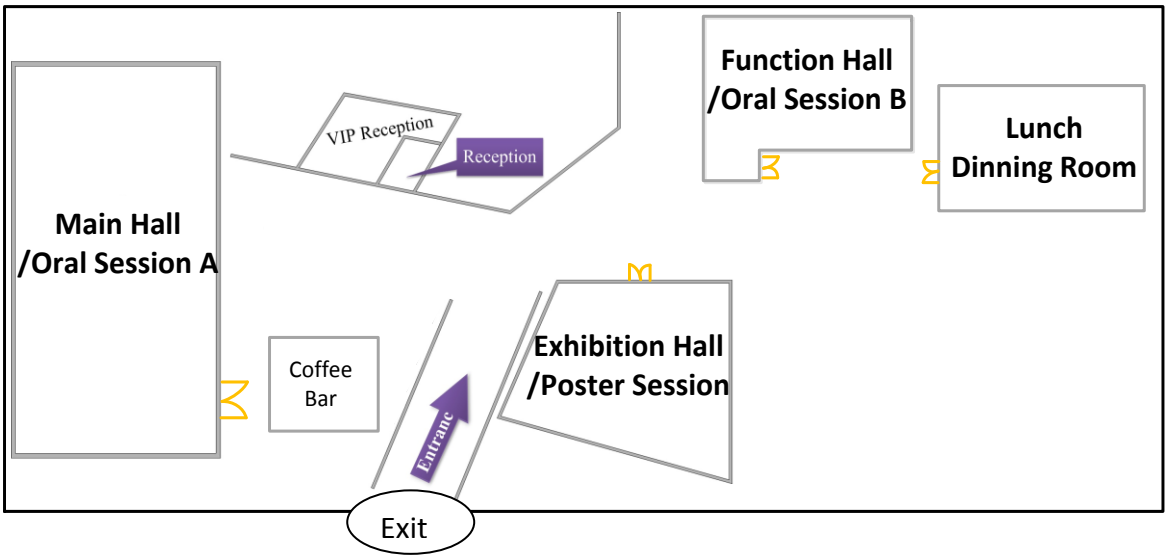
Plan of Sites

Note: Four hotels are recommended on the conference website of which three are shown in this map. The Crowne Plaza Fudan hotel (5-star) not showed in this map will take 25-35 mins by walk and 10 mins by taxi to the conference venue.

Conference Venue (TJAD) and Nearby Hotels



The conference venue



Arrangement of presentation halls (on the ground floor)

Program Overview

Part 1: Oral Sessions

July 1, 2015			
8:30-8:50	**Opening Ceremony (Main Hall)**		
8:50-9:50	**Plenary Session 1: Keynote Lectures (Main Hall)**		
9:50-10:10	**Coffee Break**		
10:10-12:40	**Oral Session A1: Resilience Enhancement Technology (Main Hall)**	**Session B1: Member Behaviour 1 (Function Hall)**	
12:40-13:30	**Lunch:** Dining Hall, Office Building(1F), TJAD		
13:30-15:30	**Session A2: Global Behaviour 1 (Main Hall)**	**Session B2: Member Behaviour 2 (Function Hall)**	
15:30-15:50	**Coffee Break**		
15:50-18:05	**Session A3: Global Behaviour 2 (Main Hall)**	**Session B3: Member Behaviour 3 (Function Hall)**	
18:30-20:00	**Reception:** Kingswell Hotel Tongji		
July 2, 2015			
8:30-9:30	**Plenary Session 2: Keynote Lectures (Main Hall)**		
9:30-9:50	**Coffee Break**		
9:50-12:35	**Session A4: Performance-Based Design of Structures / Composite Structures (Main Hall)**	**Session B4: Passive, Semi-active and Active Control (Function Hall)**	**Session C1: Chinese Symposium (Civil Engineering Building)**
12:35-13:30	**Lunch:** Dining Hall, Office Building(1F), TJAD		
13:30-15:30	**Session A5: Member Behaviour 4 (Main Hall)**	**Session B5: Global Behaviour 3 (Function Hall)**	**Session C2: Chinese Symposium (Civil Engineering Building)**
15:30-15:50	**Coffee Break**		
15:50-18:05	**Session A6: Codification, Design, and Practice 1 (Main Hall)**	**Session B6: Analytical and Experimental Methods 1 (Function Hall)**	**Session C3: Chinese Symposium (Civil Engineering Building)**

19:15-21:30	**Banquet:** Shanghai International Conference Center		
July 3, 2015			
8:30-9:30	**Plenary Session 3: Keynote Lectures (Main Hall)**		
9:30-9:50	**Coffee Break**		
9:50-12:20	**Session A7: Connection Behaviour 1 (Main Hall)**	**Session B7: Connection Behaviour 2 (Function Hall)**	**Session C4 : Chinese Symposium (Civil Engineering Building)**
12:20-13:30	**Lunch:** Dining Hall, Office Building(1F), TJAD		
13:30-15:30	**Session A8: Connection Behaviour 3 (Main Hall)**	**Session B8: Analytical and Experimental Methods 2 (Function Hall)**	**Session C5: Chinese Symposium (Civil Engineering Building)**
15:30-15:50	**Coffee Break**		
15:50-17:50	**Session A9: Codification, Design, and Practice 2/ Seismic, Wind and Exceptional Loads (Main Hall)**	**Session B9: Analytical and Experimental Methods 3 (Function Hall)**	**Session C6: Chinese Symposium (Civil Engineering Building)**
July 4, 2015			
9:00-17:00	**Technical Visits**		
Morning	**TV1：The Multi-functional Shaking Tables Lab of Tongji University**		
Afternoon	**TV2：The New World Exposition Museum, Shanghai**		

Part 2: Poster Sessions

Location: Exhibition Hall

July 1, 2015	**9:50-10:10; 15:30-15:50**	**Session 1: Performance-Based Design of Structures**
July 1, 2015	**9:50-10:10; 15:30-15:50**	**Session 2: Member Behaviour**
July 1, 2015	**9:50-10:10; 15:30-15:50**	**Session 3: Connection Behaviour**
July 2, 2015	**9:30-9:50; 15:30-15:50**	**Session 4: Global Behaviour**
July 2, 2015	**9:30-9:50; 15:30-15:50**	**Session 5: Analytical and Experimental Methods**
July 2, 2015	**9:30-9:50; 15:30-15:50**	**Session 6: Passive, Semi-active and Active Control**
July 3, 2015	**9:30-9:50; 15:30-15:50**	**Session 7: Codification, Design, and Practice**
July 3, 2015	**9:30-9:50; 15:30-15:50**	**Session 8: Seismic, Wind and Exceptional Loads**

Oral Sessions of STESSA'15

July 1, 2015				
Opening Ceremony (Main Hall)				**8:30-8:50**
Plenary Session 1: Keynote Lectures (Main Hall)				**8:50-9:50**
	Paper No.	**Title of Paper**	**Author (Presenter*)**	**Time**
Keynote Lectures	**1**	Major Development of Research and Practices on Seismic Design of Steel Building Structures in China	Zu-Yan Shen	8:50-9:20
	2	Hybrid Analytical-Experimental Simulation and Applications to Steel Frames with Semi-Rigid Connections	Amr S. Elnashai, Hussam N. Mahmoud	9:20-9:50
Coffee Break				**9:50-10:10**
Session A1: Resilience Enhancement Technology (Main Hall, Chairman:)				**10:10-12:25**
Session A1	**56**	Self-Centering Steel Plate Shear Walls for Improving Seismic Resilience	Patricia M. Clayton, Daniel M. Dowden, Chao-Hsien Li, Jeffrey W. Berman, Michel Bruneau, Laura N. Lowes, Keh-Chyuan Tsai	10:10-10:25
	80	Influence of Member Inelasticity on the Performance of Controlled Rocking Steel Braced Frames	Taylor C. Steele, Lydell D. A. Wiebe	10:25-10:40
	107	Experimental Study of Restoring Force Mechanism in Self-Centering Beam (SCB)	Abhilasha Maurya, Matthew R. Eatherton	10:40-10:55
	111	Large-Scale Tests on a Re-Centring Dual Eccentrically Braced Frame	Aurel Stratan, Adriana Ioan, Dan Dubina, Martin Poljanšek, Javier	10:55-11:10

			Molina, Pierre Pegon, Fabio Taucer, Gabriel Sabău	
	148	Seismic Design of Novel Steel Resilient Structures	T. Y. Yang, D. P. Tung, Yuanjie Li	11:10-11:25
	172	Development and Validation of a Steel Dual-Core Self-Centering Brace for Seismic Resistance: From Brace Member to One-Story One-Bay Braced Frame Tests	Chung-Che Chou, Ping-Ting Chung, Tsung-Han Wu, Alexis Rafael Ovalle Beato	11:25-11:40
	74	Full-Scale Cyclic Testing of a Low-Ductility Concentrically-Braced Frame	Joshua G. Sizemore, Larry A. Fahnestock, Eric M. Hines, Cameron R. Bradley	11:40-11:55
	272	Experimental Investigation of Seismic Behavior of Steel Building Structure with Nonlinear Viscous Dampers Using Real-Time Hybrid Earthquake Simulation	Baiping Dong, Richard Sause, James M. Ricles	11:55-12:10
	138	Braced Frame Using Asymmetrical Friction Connections (AFC)	J. Chanchi Golondrino, R. Xie, G. A. MacRae, G. Chase, G. Rodgers, C. Clifton	12:10-12:25
Session B1: Member Behaviour 1 (Function Hall, Chairman:)				**10:10-12:40**
	9	Out-of-Plane Stability Assessment of Buckling-Restrained Braces with Chevron Configurations	Toru Takeuchi, Ryota Matsui, Saki Mihara	10:10-10:25
	15	Application and Modification of Shibata–Wakabayashi Model to Simulation of Buckling Hysteresis Loop of Steel Braces	Ryota Matsui, Toru Takeuchi	10:25-10:40
	141	Subassemblage Testing of All-Steel Web-Restrained Braces	Johnn Judd, Adam Phillips, Matthew Eatherton, Finley Charney, Igor Marinovic, Clifton Hyder	10:40-10:55
	143	Effectiveness of Buckling Restrained Braces on an Industrial Structure	Ricardo A. Herrera, Karina Santelices	10:55-11:10

Session B1	**179**	The Buckling-Restrained Brace with High Fatigue Performance	Kazuhisa Koyano, Shuichi Koide, Kazuaki Miyagawa, Mamoru Iwata	11:10-11:25
	269	Seismic Behavior of Short-Core Buckling Restrained Braces	Nader Hoveidae, Behzad Rafezy	11:25-11:40
	304	A Cloud Service for Automated Design of Seismic Buckling-Restrained Braces and Connections	Ming-Chieh Chuang, Keh-Chyuan Tsai, Pao-Chun Lin, An-Chien Wu	11:40-11:55
	43	Lateral-Torsional Buckling Capacity of Tapered-Flange Moment Frame Shapes	Leah S. O'Neill, Trevor A. Jones, Paul W.Richards	11:55-12:10
	160	Analysis on Secondary Stresses on Main Material of Narrow Base Tubular Transmission Tower	Bin Huang, Hong-Zhou Deng, Yun Wu, Tian-You Li	12:10-12:25
	257	Experimental Assessment of the Behavior of Rubberized Concrete Filled Steel Tube Members	Y. Jiang, A. Silva, J. M. Castro, R. Monteiro	12:25-12:40
	Lunch			**12:30-13:30**
	Session A2: Global Behaviour 1 (Main Hall, Chairman:)			**13:30-15:30**
	12	Collapse Assessment of a 4-Story Buckling Restrained Knee Braced Truss Moment Frame System	T. Y. Yang, Yuanjie Li	13:30-13:45
	33	Effect of Column Splice Location on Seismic Demands in Steel Moment Frames Considering Splice Flexibility	Fahimeh Tork Ladani, Gregory MacRae, J. Geoffery Chase	13:45-14:00
Session A2	**40**	Composite Slab Effects on Beam-Column Subassembly Seismic Performance	Tushar D. Chaudhari, Gregory A. MacRae, Desmond Bull, Geoffrey Chase, Stephen Hicks, George C. Clifton, Michael Hobbs	14:00-14:15
	58	Structural Behavior of Steel Frame with Low Joint Efficiency of Beam Web	Norihito Miki, Masahiro Nohsho, Satoshi Yamada, Shoichi Kishiki, Takashi Hasegawa	14:15-14:30
	89	Analytical Study Comparing the Seismic Behavior of Partially Restrained Steel Moment Frames to Fully Restrained Steel Moment	Derek A. Marucci, James A. Swanson, Gian A. Rassati	14:30-14:45

		Frames		
	101	Seismic Performance of Controlled Spine Frame with Energy-Dissipating Members	Xingchen Chen, Toru Takeuchi, Ryota Matsui	14:45-15:00
	120	Influence of Detailing of Short Link on Seismic Response of Eccentrically Braced Frames	Adina Vataman, Daniel Grecea, Adrian Ciutina	15:00-15:15
	123	Dual Frames of High Strength Steel RHSCF Columns for Seismic Zones	Dan Dubina, Cristian Vulcu, Aurel Stratan, Adrian Ciutina	15:15-15:30
	Session B2: Member Behaviour 2 (Function Hall, Chairman:)			**13:30-15:30**
	11	Evaluation Method of Plastic Deformation Capacity of Steel Beam Governed by Ductile Fracture at the Toe of The Weld Access Hole	Satoshi Yamada, Yu Jiao, Shoichi Kishiki	13:30-13:45
	27	Loading Protocols for Evaluating the Seismic Behavior of Steel Beams in Weak-Beam Moment Frames	Yu Jiao, Shoichi Kishiki, Satoshi Yamada	13:45-14:00
	70	Cyclic Behavior of Replaceable Steel Coupling Beams	Xiaodong Ji, Yandong Wang, Qifeng Ma, Jiaru Qian	14:00-14:15
Session B2	**91**	Lateral Buckling Behavior of Wide-Flange Beams with Concrete Floor Slab Subjected to Cyclic Bending Moment: Part 1 Experiment	Yuji Koetaka, Haruna Iga, Jun Iyama, Takashi Hasegawa	14:15-14:30
	147	Lateral Buckling Behavior of Wide-Flange Beams with Concrete Floor Slab Subjected to Cyclic Bending Moment: Part 2 Finite Element Analysis	Jun Iyama, Yuji Koetaka, Takashi Hasegawa	14:30-14:45
	235	Behaviour of Steel I-Beams with Web Openings	Luis Calado	14:45-15:00
	318	Seismic Behavior of Concrete Filled Steel Tubes Subjected to Cyclic Torsion	Yu-Hang Wang, Jian-Guo Nie, Jian-Sheng Fan	15:00-15:15
	222	On the Use of Perforated Metal Shear Panels for Seismic-Resistant Applications	A. Formisano, L. Lombardi, F. M. Mazzolani	15:15-15:30
	Coffee Break			**15:30-15:50**

Session A3	**Session A3: Global Behaviour 2 (Main Hall, Chairman:)**			**15:50-18:05**
	129	Seismic Performance of Dual Frames with Steel Panels	Calin Neagu, Florea Dinu, Dan Dubina	15:50-16:05
	134	Influence Of Semi-Rigid Connections On the Seismic Behaviour of Braced Frames with Buckling Restrained Braces	Melina Bosco, Edoardo M. Marino, Pier Paolo Rossi, Paola R. Stramondo	16:05-16:20
	162	Seismic Performance Assessment of a Tall Building Having Pre-Northridge Moment-Resisting Connections	Jiun-Wei Lai, Matthew Schoettler, Shanshan Wang, Stephen A. Mahin	16:20-16:35
	180	Seismic Performance Evaluation of Existing High-Rise Steel Building Subjected to Long-Period Ground Motion and Assessment of Retrofit by Steel Dampers	D. Sato, T. Nagae, H. Kitamura, M. Nakagawa, K. Sukemura, K. Kajiwara	16:35-16:50
	181	The Optimization of Steel Braced Frame Structure Based on High Strength Steel	Guochang Li, Yuwei An, Zhijian Yang	16:50-17:05
	199	Cyclic Loading Test of Substructure Frame with New Column Support System for Steel Moment Resisting Structures to Perform Beam Yielding Mechanism	Sachi Furukawa, Yoshihiro Kimura, Katsunori Kaneda, Akira Wada	17:05-17:20
	204	Evaluation of Low- and Medium-Rise Buildings Enhanced Seismic Performance by High-Strength Steel and Hysteretic Dampers	Yasunari Watanabe, Toshiaki Sato, Haruyuki Kitamura, Kazuaki Miyagawa, Takuya Ueki	17:20-17:35
	215	Preliminary Analysis into the Seismic Behavior of High Strength Steel Frames	Fang-Xin Hu, Gang Shi, Yong-Jiu Shi	17:35-17:50
	285	On the Weak Storey Behaviour of Concentrically Braced Frames	Daniel B. Merczel, Jean-Marie Aribert, Hugues Somja, Mohammed Hjiaj, János Lógó	17:50-18:05
	Session B3: Member Behaviour 3 (Function Hall, Chairman:)			**15:50-18:05**
	50	Simulation of Hysteretic Behavior of RHS Columns under Bi-Directional Horizontal Forces and Constant Axial Force	Takanori Ishida, Yuko Shimada, Satoshi Yamada	15:50-16:05

Session B3	**159**	Retrofit Analysis and Design of Built-Up Steel Columns	Zhichao Lai, Amit H. Varma, Robert J. Connor	16:05-16:20
	178	Studies on Axially Compressed SRC Column Using Q460 High-Strength Steel	Su-Wen Chen, Pei Wu, Qing Liu, Zhao-Xin Hou, Lin-Bo Qiu	16:20-16:35
	187	Plastic Deformation Capacity of Rhs Column with Weld Defects	Masayuki Takakura, Tsuyoshi Tanaka, Hayato Asada, Ryo Ueta	16:35-16:50
	208	Seismic Behavior of Large-Section Rectangular CFT Columns with Distributive Beam and Inner Diaphragms	Yuanzhi Zhang, Jinhui Luo, Yuanqi Li, Zuyan Shen, Xueyi Fu	16:50-17:05
	296	Research on the Hysteretic Behaviors of Cold-Formed Thick-Walled Steel Columns under the Axial Cyclic Loading	Xiaochao Fu, Yuanqi Li	17:05-17:20
	156	Detection of Nonlinear Behavior in Exposed Column Bases Using the Second Time Derivative of Absolute Acceleration	Masaki Wakui, Jun Iyama, Tsuyoshi Koyama	17:20-17:35
	316	Experimental Investigation on Stability Behavior of Q420 High Strength Steel Y-Section Columns	Hong-Zhou Deng, Xiang-Lin Yu, Ming-Yu Wei	17:35-17:50
	247	Seismic Behaviour of X Bracings: Analysis of Models and Design Criteria	Antonio Formisano, Beatrice Faggiano, Giuseppe Marino, Federico M. Mazzolani	17:50-18:05
	Reception: Kingswell Hotel Tongji			18:30-20:00

July 2, 2015				
Preliminary Session 2: Keynote Lectures (Main Hall)				**8:30-9:30**
	Paper No.	**Title of Paper**	**Author**	**Time**
Keynote Lectures	**3**	Ten Years of E-Defense Activities — Collapse, Functionality, and Resilience	Masayoshi Nakashima, Taichiro Okazaki	8:30-9:00
	4	The Activities of the ECCS-TC13 Seismic Committee: Bridging the Gap Between Research and Standards	Raffaele Landolfo	9:00-9:30
Coffee Break				**9:30-9:50**
Session A4: Performance-Based Design of Structures / Composite Structures (Main Hall, Chairman:)				**9:50-12:35**
Session A4	**19**	Cyclic Loading Test on the Shearing Behavior of Welded Box Section Columns with Concrete Filled	Zhiqiang Li, Yiyi Chen, Wei Wang	9:50-10:05
	22	Diaphragm Behavior of Deconstructable Composite Floor Systems	Lizhong Wang , Mark D. Webster , Jerome F. Hajjar	10:05-10:20
	23	Hysteretic Behaviour of Concrete-Filled Double-Skin Stainless Steel Tube Beam-Columns	Ying-Fei Li, Feng Zhou	10:20-10:35
	37	Effects of Out of Plane Strength and Stiffness of Composite Floor Slabs on the Inelastic Response of Eccentrically Braced Frame Structures	Amin Momtahan, Charles Clifton	10:35-10:50
	202	Behavior of the Composite Steel-Timber Structure with Semi-Rigid Joint	Masanori Fujita, Tomomichi Hayashi, Yuki Okoshi, Mamoru Iwata	10:50-11:05
	309	Investigation on the Seismic Behavior of Concrete-Filled Steel Plate Composite Coupling Beams	Hong-Song Hu, Jian-Guo Nie	11:05-11:20
	13	An Energy-Based Nonlinear Static Procedure for Estimating the Seismic Response of Hybrid Steel Moment Resisting Frames	Ke Ke, Yi-Yi Chen, Guang-Hong Chuan	11:20-11:35

	155	Seismic Design of Multistory Tension-Only Concentrically Braced Beam-Through Frames Aimed at Uniform Inter-Story Drift	Chao Zou, Wei Wang, Yiyi Chen, Yunfeng Zhang	11:35-11:50
	210	Comparison Between Criteria for Selecting The Parameters of Hysteretic Energy Dissipators for Seismic Protection of Steel Building Structures	David Dom ínguez, Francisco L ópez-Almansa, Amadeo Benavent-Climent	11:50-12:05
	320	Direct Displacement Based Design: Application for Steel Moment Resisting Frames with CLT Infill Walls	Matiyas Ayalew Bezabeh, Solomon Tesfamariam, Siegfried F. Stiemer	12:05-12:20
	294	Fragility and Seismic Behaviour of Pre- and Post-Retrofit Concentrically Braced Frames	Lucia Tirca, Ovidiu Serban, Mingzheng Wang	12:20-12:35
Session B4: Passive, Semi-active and Active Control (Function Hall, Chairman:)				**9:50-12:20**
Session B4	**7**	Research on Additional Damping Effect of the Pendulum-Type Tuned Mass Damper	Zhong-Liang Deng, Zhong Fan, Xian-Ming Liu	9:50-10:05
	52	Damage Control of Composite Gymnasium Structures with Energy-Dissipation Roof Bearings	Yuki Terazawa, Toru Takeuchi, Kazuhiko Narita, Ryota Matsui, Kou Maehara	10:05-10:20
	63	Control of Structural Response with a New Semi-active Viscous Damping Device	N. Khanmohammadi Hazaveh, S. Pampanin, J. G. Chase, G. W. Rodgers	10:20-10:35
	136	Performance of Fixed-Parameter Control Algorithms on High-Rise Structures Equipped with Semi-Active Tuned Mass Dampers	Demetris Demetriou, Nikolaos Nikitas, Konstantinos Daniel Tsavdaridis	10:35-10:50
	158	Eddy Current Damping and Its Application on Seismic Responses of Steel Structures: Some New Advances	Zheng-Qing Chen, Zhi-Wen Huang, Xu-Gang Hua, Yong-Kui Wen	10:50-11:05
	163	Seismic Retrofit of a High-Rise Steel Moment Resisting Frame Using Fluid Viscous Dampers	Shanshan Wang, Jiun-Wei Lai, Matthew Schoettler, Stephen A. Mahin	11:05-11:20
	194	Performance Evaluation of Building Frames with Energy Dissipation Systems FUSEIS 1	Georgia Dougka, Danai Dimakogianni, Ioannis Vayas	11:20-11:35
	273	Equivalent Linearized Model of Damper Response for Seismic Design of Steel Structures with Nonliner Viscous Dampers	Baiping Dong, Richard Sause, James M. Ricles	11:35-11:50

	277	Integrated Optimal Design for Belt Truss Using Viscous Dampers in Super Tall Buildings	Xin Zhao, Tao Shi	11:50-12:05
	279	Optimal Placement of Viscoelastic Coupling Dampers in Super Tall Buildings	Xin Zhao, Lang Qin	12:05-12:20
Lunch				**12:20-13:30**
Session A5: Member Behaviour 4 (Main Hall, Chairman:)				**13:30-15:30**
Session A5	**64**	Study on X-Shape Buckling Restrained Steel Plate Shear Wall with Two-Side Connections	Wen-Yang Liu, Guo-Qiang Li	13:30-13:45
	151	Application of Coupled Shear Walls with Buckling-Restrained Steel Plates in High-Rise Buildings	Guo-Qiang Li, Hai-Jiang Wang, Xiao-Kun Huang	13:45-14:00
	152	Numerical Investigation on the Effect of Axial Force to The Behaviour of Composite Steel Concrete Shear Walls	Daniel Dan, Alexandru Fabian, Valeriu Stoian	14:00-14:15
	201	Experimental Investigation on Seismic Behavior of Cold-Formed Steel Trussing Shear Walls With Steel Sheet Sheathing	Huiwen Tian, Yuanqi Li	14:15-14:30
	206	OpenSEES modeling of cold-formed steel framed gravity walls	G. Bian, D. A. Padilla-Llano, J. Leng, S. G. Buonopane, C. D. Moen, B. W. Schafer	14:30-14:45
	321	Research and Application of Steel Plate Composite Shear Walls	Zhong Fan, Jinjin Wang, Lili Zhang	14:45-15:00
	192	Dog-Bone Details in Seismic Resistant Steel Structures	Helmuth Köber, Bogdan Cătălin Ştefănescu	15:00-15:15
	96	Experimental Study on the Torsional Restrain Effect of the Concrete Slab to Improve Ductility of H-Shaped Steel Beams Subjected to Bending Moment	Tsuyoshi Koyama, Jun Iyama, Satoru Inamoto, Yuka Matsumoto, Tomoki Tamura	15:15-15:30
Session B5: Global Behaviour 3 (Function Hall, Chairman:)				**13:30-15:30**

Session B5	**241**	Progressive Collapse of Seismic Designed Steel Moment Frames: Nonlinear Static and Dynamic Analysis	Massimiliano Ferraioli, Alberto Mandara	13:30-13:45
	256	Influence of Seismic Detailing on the Progressive Collapse of Steel Moment Frames	David Cassiano, Mario D'Aniello, Carlos Rebelo, Raffaele Landolfo, Luís Simões da Silva	13:45-14:00
	263	Random Seismic Response Evaluation of Mid-Rise Buildings with Stiffness Irregularity Considering Soil-Structure Interaction Effects	H. Shakib, F. Homaei	14:00-14:15
	267	Seismic Response of Special Concentric Braced Frames with Staggered Arrangement of Braces	P.C Ashwin Kumar, Abhay Kumar, Dipti Ranjan Sahoo	14:15-14:30
	281	An Accurate Modeling Approach for Calculating the Vibration Characteristics of Steel Framed Structures with Semi-Rigid Connections	Halil F. Ozel, Afsin Saritas	14:30-14:45
	289	Influence of Residual Stresses on the Performance of Special Concentrically Braced Frames	Taylor C. Steele, Lydell D. A. Wiebe	14:45-15:00
	303	Seismic Performance of RC Structure Retrofitted with Steel Buckling-Restrained Braced Frame	An-Chien Wu, Kuan-Yu Pan, Keh-Chyuan Tsai, Chao-Hsien Li, Pao-Chun Lin, Kung-Juin Wang, Chi-Hsuan Yang	15:00-15:15
	65	Backward seismic analysis of steel tanks	Patricio A. Pineda, G. Rodolfo Saragoni	15:15-15:30
Coffee Break				**15:15-15:50**
Session A6: Codification, Design, and Practice 1 (Main Hall, Chairman:)				**15:50-17:50**
Session A6	**87**	Australian/New Zealand Standard for Composite Structures, AS/NZS 2327, Seismic Provisions Development	Kevin A. Cowie	15:50-16:05
	31	Design and Application of a Minimal-Disturbance Seismic Rehabilitation Technique Composed of Light-Weight Steel Elements	Lei Zhang, Masahiro Kurata, Miho Sato, Oren Lavan, Masayoshi Nakashima	16:05-16:20

	73	A Design Approach for Composite Framed Structures Using the Hybrid Force/Displacement (HFD) Design Method	Konstantinos A. Skalomenos, George D. Hatzigeorgiou, Dimitri E. Beskos	16:20-16:35
	102	Seismic Design Criteria for Steel Moment Resisting Frames for Collapse Risk Mitigation	Ahmed Elkady, Dimitrios G. Lignos	16:35-16:50
	115	Lessons From Steel Structures in Christchurch Earthquakes	Gregory MacRae, G. Charles Clifton, Michel Bruneau, Amit Kanvinde, Sean Gardiner	16:50-17:05
	117	Structural Design Aspects of Next Generation Steel Wind Energy Structures	Evangelos Efthymiou	17:05-17:20
	132	A New Strategy to Prevent Collapse of Columns in Buildings with Steel Chevron Braced Structure	Francesca Barbagallo, Melina Bosco, Edoardo M. Marino, Pier Paolo Rossi	17:20-17:35
	200	Optimization of Energy-Dissipation Devices Arrangement for Seismic Retrofit of Truss Tower Structures	Yusuke Kinouchi, Toru Takeuchi, Ryota Matsui, Toshiyuki Ogawa, Kazuhiro Fujishita	17:35-17:50
Session B6: Analytical and Experimental Methods 1 (Function Hall, Chairman:)				**15:50-18:05**
Session B6	**18**	Experimental Analysis of Dual-Steel Bolted T-Stubs under Monotonic and Cyclic Loading	Andreas Kleiner, Ulrike Kuhlmann	15:50-16:05
	29	Experimental Studies Of Eccentrically Braced Frame with Rotational Bolted Active Links	Hoi Kit Leung, G. Charles Clifton, Hsen Han Khoo, Gregory A. MacRae	16:05-16:20
	57	Large Scale Collapse Experiments of Wide Flange Steel Beam-Columns	Yusuke Suzuki, Dimitrios G. Lignos	16:20-16:35
	67	Experimental Determination of Base Shear from Full-Scale Shake Table Testing of Two Cold-Formed Steel Framed Buildings	Kara D. Peterman , Benjamin W. Schafer	16:35-16:50
	79	Substructure Online Hybrid Test on a Steel Frame Installed with Metallic Dampers	Tao Wang, Yufeng Du, Jinzhen Xie, Haoran Jiang	16:50-17:05
	298	Shaking Table Test on 1000kv UHV Transmission Tower-Wire Coupling System	Qiang Xie, Yun-Zhu Cai, Song-Tao Xue	17:05-17:20

	319	Seismic Performance of a New Type Fish-Bone BRB: an Experimental Study	Liang-Jiu Jia, Hanbin Ge, Rikuya Maruyama, Kazuki Shinohara	17:20-17:35
	49	Experimental Testing of a Double Acting Ring Spring System for Use in Rocking Steel Shear Walls	Gary S. Djojo, G. Charles Clifton, Richard S. Henry, Gregory A. MacRae	17:35-17:50
	238	A Refined Theoretical Model for Predicting the Ultimate Behaviour of Bolted T-Stubs	Antonella B. Francavilla, Massimo Latour, Vincenzo Piluso, Gianvittorio Rizzano	17:50-18:05
	Banquet: Shanghai International Conference Center			19:00-21:00

July 3, 2015				
Preliminary Session 3: Keynote Lectures (Main Hall)				**8:30-9:30**
	Keynote Paper No.	**Title of Paper**	**Author**	**Time**
Keynote Lectures	**5**	Nz Research on Steel Structures in Seismic Areas	Gregory A. MacRae, G. Charles Clifton	8:30-9:00
	6	The Application and Design of Viscous Dampers in Super High-Rise Building	Da-Sui Wang	9:00-9:30
Coffee Break				**9:30-9:50**
Session A7: Connection Behaviour 1 (Main Hall, Chairman:)				**9:50-12:20**
Session A7	**20**	Finite Element Analysis of Column Base Weak Axis Aligned Asymmetric Friction (WAFC)	M. Hatami, J. Borzouie, G. A. MacRae, M. Yekrangnia, S. Abubakar	9:50-10:05

	21	Column Base Weak Axis Aligned Asymmetric Friction Connection Cyclic Performance	J. Borzouie, G. A. MacRae, J. G. Chase, G. W. Rodgers, G. C. Clifton	10:05-10:20
	36	Behavior of External Diaphragm Connections for Square CFST Columns under Bidirectional Loading	Helmy Tjahjanto, Gregory MacRae, Anthony Abu, Charles Clifton, Tessa Beetham, Nandor Mago	10:20-10:35
	41	A Finite Element Investigation of Skewed and Sloped Moment Connections in Steel Construction	Kevin E. Wilson, Gian A. Rassati, James A. Swanson	10:35-10:50
	44	Experimental Investigation on Behavior of Cast Steel Connectors for Beam-to-Column Connections under Cyclic Loading	Ying-Zhi Chen, Le-Wei Tong, Yi-Yi Chen	10:50-11:05
	47	Improving the Seismic Behaviour of the Sliding Hinge Joint Using Belleville Springs	Shahab Ramhormozian, G. Charles Clifton, Gregory A. MacRae, Hsen-Han Khoo	11:05-11:20
	48	The Optimum Use of Belleville Springs in the Asymmetric Friction Connection	Shahab Ramhormozian, G. Charles Clifton, Gregory A. MacRae, Hsen-Han Khoo	11:20-11:35
	94	Numerical Study on Mechanical Behavior of Shear Plate in Web-Clamped Type Beam-to-Column Connection	Keita Araki, Jun Iyama, Shiwan Piao	11:35-11:50
	110	Experimental Program and Numerical Simulations of Bolted Beam to Column Joints with Haunches	Cosmin Maris, Cristian Vulcu, Aurel Stratan, Dan Dubina	11:50-12:05
	118	Full Scale Testing of Extended Beam-to-Column and Beam-to-Girder Shear Tab Connections Subjected to Shear	Jacob Hertz, Dimitrios G. Lignos, Colin A. Rogers	12:05-12:20
Session B7: **Connection Behaviour 2 (Function Hall, Chairman:)**				**9:50-12:20**
Session B7	**122**	Assessment of RWS Beam-Column Connections Using Cellular Beams with Multiple Closely Spaced Web Openings	Konstantinos Daniel Tsavdaridis, Theodore Papadopoulos	9:50-10:05
	127	Subassemblage Tests of the In-Plane Structural Behavior of Buckling Restained Brace Welded End Connections	Junxian Zhao, Zhan Wang, Fuxiong Lin	10:05-10:20

	130	Axial Strength and Deformation Demands for T-Stub Connection Components at Catenary Stage in the Beams	Florea Dinu, Dan Dubina, Ioan Marginean, Calin Neagu, Ioan Petran	10:20-10:35
	145	A Step Forward in the Cyclic Assessment of the F-Δ Components Using Complete Finite Elements Models of Beam-to-Column Steel End Plate Bolted Joints	Hugo Augusto, José Miguel Castro, Carlos Rebelo, Luís Simões da Silva	10:35-10:50
	153	Deformation Limit for Ductile Fracture in Welded Tubular Joints	Xudong Qian, Aziz Ahmed	10:50-11:05
	165	Numerical Study on the Local Buckling Behavior of End-Plate Connection in Steel Gabled Frames	Yundong Shi, Yiyi Chen	11:05-11:20
	166	Seismic Behavior of Braced Frame Column Base Connections	Yao Cui, Shoichi Kishiki, Satoshi Yamada	11:20-11:35
	185	Ultra-Low Cycle Fatigue Demand on Coped Beam Connections under Vertical Excitations	Huajie Wen, Hussam Mahmoud	11:35-11:50
	188	Three-Dimensional Numerical Simulations of Steel Concrete Composite Beam-to-Column Welded and Bolted Joints	Claudio Amadio, Nader Akkad, Marco Fasan	11:50-12:05
	245	Cyclic Behavior of Exposed Column Base Joints: Experimental Analysis and Mechanical Modeling	M. Latour, G. Rizzano	12:05-12:20
Lunch				**12:20-13:30**
Session A8: Connection Behaviour 3 (Main Hall, Chairman:)				**13:30-15:30**
Session A8	**205**	Ultimate Strength Evaluation of Inclined Fillet Welds Based on Limit Analysis	Misaki Tanaka, Hayato Asada, Tsuyoshi Tanaka	13:30-13:45
	209	Experimental Research of Screw And Riveted Connections in the Steel Thin-Walled Structures under Static and Cyclic Loading	Eduard Ayrumyan, Ivan Katranov, Nikolay Kamenshchikov	13:45-14:00
	213	Behaviour of Joint Components of I Beam to Tubular Columns Connections with Welded Reverse Channel	Luís Magalhães, Carlos Rebelo, Sandra Jordão	14:00-14:15
	219	Investigation of Hollow Structural Section Based Collar	Dan Wei, Jason P. McCormick	14:15-14:30

		Connections under Seismic Loads		
	251	Numerical Investigation on the Seismic Response of Bolted Extended Stiffened End-Plate Joints	Roberto Tartaglia, Mariana Zimbru, Mario D'Aniello, Silvia Costanzo, Raffaele Landolfo, Attilio De Martino	14:30-14:45
	253	Seismic Performance of Multistorey Frames with Bolted Extended End-Plate Joints: the Influence of Joint Modelling Assumptions	Silvia Costanzo, Mariana Zimbru, Mario D'Aniello, Roberto Tartaglia, Raffaele Landolfo, Attilio De Martino	14:45-15:00
	260	Simplified Strut Modeling for Beam-to-Column Connection Retrofitted with Supplemental H-Section Haunches	Takuma Uehara, Hayato Asada, Tsuyoshi Tnaka	15:00-15:15
	300	An Experimental Study of High-Strength Bolted T-Stub Connections to SHS Columns under Cyclic Loading	Zhi-Yu Wang, Hui Xue, Xiao-Kai Liu, Bei-Lei Lv	15:15-15:30
Session B8: Analytical and Experimental Methods 2 (Function Hall, Chairman:)				**13:30-15:30**
Session B8	**51**	An Approach for Evaluating the Damage-Control Behavior of Steel Frames with Buckling Restrained Braces Based on Energy Balance Concept	Ke Ke, Xiu-Zhang He, Yi-Yi Chen	13:30-13:45
	55	Analysis of Hybrid Damping Device with Self-Centring	R. Kordani, G.W. Rodgers, J.G. Chase	13:45-14:00
	133	Influence of Damping on The Prediction of Dynamic Response of Moment Frames by Nonlinear Static Methods	Francesca Barbagallo, Melina Bosco, Aurelio Ghersi, Edoardo M. Marino	14:00-14:15
	66	Analytical Study on the Yield Strength of Roof Brace and the In-Plane Defromation of Steel-Gymnasium Roof	Yuka Matsumoto, Marie Suzuki	14:15-14:30
	146	Calibration of Strength and Stiffness Deterioration Hysteretic Models Using Optimization Algorithms	Miguel Ara ú jo, Lu ís Macedo, Jos é Miguel Castro	14:30-14:45
	150	Quasistatic Experimental Testing of Vulnerable Concentric Braced Frames	Barbara G. Simpson, Stephen A. Mahin	14:45-15:00
	167	A Method to Avoid Weak Storey Mechanisms in Concentrically Braced Frames	Daniel B. Merczel, Jean-Marie Aribert, Hugues Somja, Mohammed Hjiaj,	15:00-15:15

			János Lógó	
	53	Modelling on Post-Local Buckling Degradation Behavior of Square Hollow Steel Section Beam-Columns	Yong-Tao Bai, Masahiro Kurata, Masayoshi Nakashima	15:15-15:30
Coffee Break				**15:30-15:50**
Session A9: Codification, Design, and Practice 2/ Seismic, Wind and Exceptional Loads (Main Hall, Chairman:)				**15:50-17:50**
Session A9	**207**	Development of Ry,Rt Factors and Probable Brace Resistance Axial Loads for the Seismic Design of Bracing Connections and Other Members	Steven Cerri, Harrison Moir, Dimitrios G. Lignos	15:50-16:05
	232	Seismic Loss Estimation for Efficient Decision Making to Design Moment Resisting Frames: Eurocode 8 versus TPMC	A. Longo, V. Piluso	16:05-16:20
	271	Seismic Design of CFT-MRF and BRBF Structural Systems for Steel Buildings in Ecuador	Pedro P. Rojas, Mario E. Aguaguiña, Ricardo A. Herrera	16:20-16:35
	97	Buckling Restrained Brace Retrofit Technique for Existing Electric Power Transmission Towers	Marco Trovato, Li Sun, Bozidar Stojadinovic	16:35-16:50
	38	Strength Amplification of Structural Steel under Dynamic Cyclic Loading Due to High Strain-Rate	Yuko Shimada, Yu Jiao, Satoshi Yamada	16:50-17:05
	171	Influence of Earthquake Damage on Passive Fire Protection and Structural Fire Behaviour	Markus Knobloch, Mario Fontana	17:05-17:20
	184	The Effect of Earthquake Characteristics on the Localized Behavior of Moment Connections under Fire	Hussam Mahmoud, Mehrdad Memari, Collin Turbert	17:20-17:35
	317	The Behavior of Spherical Domes under Wind and Earthquake Action	Shuai Xu, Zhihua Chen, Federico M. Mazzolani	17:35-17:50
Session B9: Analytical and Experimental Methods 3 (Function Hall, Chairman:)				**15:50-17:50**
Session B9	**25**	Effect of Strength and Stiffness of Single-Storey Steel Buildings on Content Sliding Response in Earthquakes	Trevor Z. Yeow, Gregory A. MacRae, Rajesh R. Dhakal	15:50-16:05

	39	Earthquake Sequence Effects on Steel Buildings	Ali A. Rad, Gregory A. MacRae, Trevor Z. Yeow, Desmond Bull	16:05-16:20
	131	Influence of Modelling of Steel Link Beams on the Seismic Response of Single-Storey EBFS	Melina Bosco, Aurelio Ghersi, Pier Paolo Rossi, Paola Stramondo	16:20-16:35
	144	Derivation of Ductility-Equivalent Viscous Damping Relationships for Steel Moment-Resisting Frames with Partial Strength Joints	Hugo Augusto, José Miguel Castro, Carlos Rebelo, Luís Simões da Silva	16:35-16:50
	190	Deformation and Strain Histories in Shell-to-Base Joints of Unanchored Steel Storage-Tanks During Seismic Loading	Clemens Tappauf, Andreas Tara	16:50-17:05
	234	Comparison of Modelling Strategies for Steel Structures under Cyclic Loads	Luís Macedo, Miguel Araújo, José Miguel Castro	17:05-17:20
	239	Seismic Response of EBFs: Split K-Scheme vs Inverted Y-Scheme	Rosario Montuori, Elide Nastri, Vincenzo Piluso	17:20-17:35
	308	Out-of-plane Seismic Design by Testing of Knauf Drywall Partitons	Luigi Fiorino, Dominik Herfurth, Hans U. Hummel, Ornella Iuorio, Raffaele Landolfo, Vincenzo Macillo, Tatiana Pali, Maria Teresa Terracciano	17:35-17:50

Poster Sessions of STESSA'15

Location: Exhibition Hall

Date	Time	Title of Paper	Author
Section 1: Performance-Based Design of Structures			
July 1, 2015	**9:50-10:10; 15:30-15:50**	Performance Based Design of MR-Frames by TPMC and Energy Approach	E. Nastri, V. Piluso
		Seismic Behavior of Concentric Braced Frames Designed Using Direct Displacement-Based Design Method	Dipti Ranjan Sahoo, Ankit Prakash
Section 2: Member Behaviour			
July 1, 2015	**9:50-10:10; 15:30-15:50**	Different Bracing Types in Seismic Resistant Structures	Marina Stoian, Helmuth Köber
		Steel Sliding-Controlled Coupled Beam Modules for Improving Seismic Resilience of Building Systems	Ying-Cheng Lin
		SHS Stub Columns under Cyclic Large Strain Loading: an Experimental and Numerical Study	Liang-Jiu Jia, Tsuyoshi Koyama, Hitoshi Kuwamura
Section 3: Connection Behaviour			
July 1, 2015		Lateral Stiffness and Strength of Steel Column-to-Footong Connections	Paul W. Richards, Nicholas Barnwell
		Numerical Simulation of Q690 Grade Steel Extended End Plate Connections	Feifei Sun, Mingming Ran, Mi Sun

	9:50-10:10; 15:30-15:50	Study on Performance of Flange Cover Plate in Web-Clamped Beam-to-Column Connection	Tong Su, Keita Araki, Jun Iyama
		Velocity Effects on The Behaviour of Asymmetrical Friction Connections (AFC)	Jose C. Chanchi Golondrino, Gregory A. MacRae, James G. Chase, Geoffrey W. Rodgers, George C. Clifton
		Finite Element Analysis of Steel Frame Beam-Column Joints Under Low-Cyclic Loading Based on OpenSEES	Weining Sui, Qingze Shi
		Seismic Behavior on Joint of PEC Columns-Steel Beam Connection with End-Plate	Gentian Zhao, Di Hao
		Experimental Tests of Compound Battened Column and Its Base-Plate Connection Subject to Axial and Horizontal Forces	Gaetano Della Corte, Raffaele Landolfo
Section 4: Global Behaviour			
July 2, 2015	**9:30-9:50; 15:30-15:50**	Modeling Aspects for Collapse Analysis of Steel Moment-Frame Buildings	Johnn Judd, Andrew B. Hardyniec, Finley Charney
		Numerical Simulation of Pallet Rack Systems Failure under Seismic Actions	Andrei Crisan, Dan Dubina, Ioan Marginean
		Seismic Performance and Re-Centring Capability of Dual Eccentrically Braced Frames with Replaceable Links	Adriana Ioan, Aurel Stratan, Dan Dubina, Mario D'Aniello, Raffaele Landolfo
		Effects of Slab-Beam Interaction on the Seismic Behaviour of Dual Eccentrically Braced Steel Frames	Horatiu-Alin Mociran, Stefan Marius Buru
		Preliminary Analysis and Design of an Experimental Facility for the Pseudodynamic Earthquake Test of a Real Scale Steel Moment Resisting Frame with Partial Strength Joint	Antonella B. Francavilla, Massimo Latour, Vincenzo Piluso, Gianvittorio Rizzano
		Assessment of Adaptive Pushover Procedures for Earthquake-Resistant Steel Moment Frames	M. Ferraioli, A. M. Avossa, A. Lavino, A. Mandara

Section 5: Analytical and Experimental Methods			
July 2, 2015	**9:30-9:50; 15:30-15:50**	An Advanced Hybrid Simulation Model Based on Phenomenological and Artificial Intelligence Approaches to Predict The Response of Structures under Seismic Loads	Syed Murtuza Abbas，Gian Andrea Rassati
		Evaluation of Two Scaling Methods in Association with a New and Practical Record Selection Procedure	Leila Haj Najafi, Mohsen Tehranizadeh
		Behaviour of Eccentrically Braced Structures with Vertical Truss Elements	Helmuth K öber
		Influence of Gravity Load Resisting System on the Application of Theory of Plastic Mechanism Control for Moment Resisting Frames	A. Longo, R. Montuori, V. Piluso
		Seismic Response Analysis under Traveling Wave Effect of an Arch Truss Across Abandoned Mine Pit	Jian Zhou, Dong-Ya An, Yao-Kang Zhang, Jia-Chun Cui
		The ELISSA Project: Planning of a Research on the Seismic Performance Evaluation of Cold-formed Steel Modular Systems	Luigi Fiorino, Ornella Iuorio, Vincenzo Macillo, Maria Teresa Terracciano, Tatiana Pali, Bianca Bucciero, Raffaele Landolfo
		Non-linear Seismic Analysis and Behaviour of CBF-V	Beatrice Faggiano, Antonio Formisano, Carmine Castaldo, Luigi Fiorino, Vincenzo Macillo, Federico M. Mazzolani
Section 6: Passive, Semi-active and Active Control			
July 2, 2015	**9:30-9:50; 15:30-15:50**	Evaluation of Dissipative Effectiveness of a Hybrid System Composed by a Buckling Restrained Brace with a Magneto Rheological Damper	Norin Fillip-Vacarescu, Aurel Stratan, Dan Dubina
		Energy Balance-Based Method for Response Control Structures with Hysteretic Dampers and Viscous Dampers	Toshiaki Sato, Haruyuki Kitamura, Daiki Sato, Daisuke Sato, Michio Yamaguchi, Naoya Wakita, Yuta Watanuki
		The Life Cycle Cost Assessment of Super Tall Buildings with Viscous	Xi Zhan, Xin Zhao, Yimin Zheng

		Damping Walls	
Section 7: Codification, Design, and Practice			
July 3, 2015	**9:30-9:50; 15:30-15:50**	Some Thoughts for the Prediction of The Local Inelastic Capacity of MRF Subjected to Seismic Actions	Anthimos Anastasiadis, Marius Mosoarca, Cristian Petrus, Federico M. Mazzolani
		Design of Connections for Composite Special Moment Frames (C-SMF) with Concrete-Filled Steel Tube (CFT) Columns	Erica C. Fischer, Zhichao Lai, Amit H. Varma
		Cost Comparison of MRF, CBF And EBF Mid-Height Steel Buildings in Bogotá	Miguel Ángel Montaña, Francisco López-Almansa
		An Approach for Seismic Design of Buildings Structured with Eccentrically Braced Frames in Mexico	Alonso Gómez-Bernal, Antonio Gascón-Ramírez, Luis Aguilar-Ugarte, Hugón Juárez-García
		Seismic Behavior of Two Steel Solutions for Apartment Extensions in the Case of Large Prefabricated Reinforced Concrete Collective Dwellings	Miodrag Popov, Daniel Grecea, Adrian Dogariu, Viorel Ungureanu
		Performance Assessment of X-CBF Designed according to an Improved (EC8-based) Approach	Melina Bosco, Giuseppe Brandonisio, Edoardo M. Marino, Elena Mele
Section 8: Seismic, Wind and Exceptional Loads			
July 3, 2015	**9:30-9:50; 15:30-15:50**	Design Constraints for the Optimal Structural Design of Super Tall Buildings under Earthquake and Wind	Xin Zhao, Xiang Jiang, Yaomin Dong
		Combined Tuned Damper Based Wind and Earthquake Vibration Control for Super Tall Buildings	Lilin Wang, Yimin Zheng, Xin Zhao
		Experimental Study of High-Performance Structural Steel Q345GJ under Cyclic Loading	Gang Xiong, Bo Yang, Le Shen, Ying Hu, Shidong Nie, Guoxing Dai

Detailed Program of Chinese Symposium on Energy Dissipation of Structures

Thursday, July 2 Morning	
STESSA'15 Keynote Lectures Lecture Hall, Office Building(1F), Tongji Architectural Design (Group) Co., Ltd.(TJAD)	
8:30~9:00	Ten Years of E-Defense Activities — Collapse, Functionality, and Resilience Prof. Masayoshi Nakashima, *Disaster Prevention Research Institute, Kyoto University*
9:00~9:30	The Activities of the ECCS-TC13 Seismic Committee: Bridging the Gap Between Research and Standards Prof. Raffaele Landolfo, *University of Naples "Federico II"*
9:30~10:00	Coffee break
Chinese Symposium A101(1F), building of Department of Civil Engineering, Tongji University	
9:30~10:00	Coffee break
Session C1	
10:00~10:25	Research on New Technology in Seismic Control of High-Rise Buildings Prof. Xilin Lv, *Tongji University*
10:25~10:50	Study and Application of Seismic Control Technology Prof. Yun Zhou, *Guangzhou University*
10:50~11:15	The Application of Viscous Damping Technique in Super High-rise and High-rise Structures Jiemin Ding, Chief Engineer, *Architectural Design and Research Institute of Tongji University Co.Ltd*
11:15~11:40	A New Kind of Energy-Dissipation Structure - Energy Dissipation Coupled Shear Wall Structure, Prof. Guoqiang Li, *Tongji University*
11:40~12:05	Development of Steel Plate Composite Shear Wall Zhong Fan, Chief engineer, *China Architecture Design & Research Group*
12:05~12:30	The Study and Application of the Seismic Isolation Technology in Airport Terminal Weinong Shu, Chief engineer, *Beijing Institute of Architectural Design*

12:30~14:00	Lunch： Dining Hall, Office Building(1F), TJAD

July 2, 2015 (Thursday) Afternoon	
Chinese Symposium A101(1F), Building of Department of Civil Engineering, Tongji University	
Session C2	
14:00~14:20	Seismic Design of the Innovation Structural System in Super High-Rise Buildings Peng Liu, Co-lead Director, *Beijing branch, ARUP*
14:20~14:40	Study and Practice of Frame Structure with Dissipation Walls Fujun Liu, Associate Chief Engineer, *RBS Architectural Engineering Design Associates*
14:40~15:00	Introduction to the Technical Specification for BRBs in Anhui Province Wei Zeng, Chief Engineer, *Anhui Institute of Building Research & Design*
15:00~15:20	Discussion on the Production Pattern of the 3rd Generation BRB Hai Gong, General manager, *Shanghai LANKE Building Damping Technology Co., Ltd*
15:20~15:50	Discussions
15:50~16:10	Coffee break
Session C3	
16:10~16:30	Development of a New Type Metal Yielding Damper Prof. Peng Pan, *Tsinghua University*
16:30~16:50	Design of Complex Steel Structures (Nanjing Youth Olympic Conference Center, the 2nd Shenzhen Pavilion) Liangping Zhang, Chief Engineer, *Huasen Architectural& Engineering Designing Consultants Ltd*
16:50~17:10	Application of BRBs in Reinforced Concrete Structures Zhe Qu, Associate Researcher, *Institute of Engineering Mechanics, China Earthquake Administration*
17:10~17:30	Study on the Performance and Engineering Application of a New Type Rubber Seismic Isolation Support Hai Tian, Associate General manager, *Shanghai LEAD Structural & Technology Co.Ltd*
17:30~17:50	The Development, Detection and Application of High-Speed Heavy-Load

	Viscous Damper Bin Xu, Associate Director, *Shanghai Research Institute of Materials*
19:00~21:00	Banquet： Shanghai International Conference Center

July 3, 2015 (Friday) Morning	
STESSA'15 Keynote Lectures Lecture Hall, Office Building (1F), Tongji Architectural Design (Group) Co., Ltd.(TJAD)	
8:30~9:00	Nz Research on Steel Structures in Seismic Areas Dr. Gregory A. MacRae, *The University of Canterbury*
9:00~9:30	The Application and Design of Viscous Dampers in Super High-Rise Building Mr. Da-Sui Wang, *East China Architecture Design Institute*
9:30~10:00	Coffee break
Chinese Symposium A101(1F), Building of Department of Civil Engineering, Tongji University	
9:30~10:00	Coffee break
Session C4	
10:00~10:25	Comparison on Seismic Design Examples Between China and Japan Demin Feng, Researcher, *Japanese technology institute of fujita*
10:25~10:50	Analysis of Seismic Response of 3D Seismic Isolated Structures in Nuclear Power Station Prof. Wenguang Liu, *Shanghai University*
10:50~11:15	Seismic Design of Hangzhou Zhongxin Building Jian Zhou, Associate Chief Engineer, *East China Architectural Design & Research Institute*
11:15~11:40	Development of Self-Centering, Double Core Steel Seismic Brace - Experimental Study. Prof. Zhongzhe Zhou, *National Taiwan University*
11:40~12:05	Key Issues of Seismic Isolation Design in High-Rise Buildings Prof. Shuguang Wang, *Nanjing Tech University*
12:05~12:30	Seismic Design of Mega Steel Structure - Hubei Science and Technology Museum Ting Li, Chief Engineer Central, *South Architectural Design Institute Co.Ltd*

12:30~14:00	Lunch: Dining Hall, Office Building(1F), TJAD

July 3, 2015 (Friday) Afternoon	
Chinese Symposium A101(1F), building of Department of Civil Engineering, Tongji University	
Session C5	
14:00~14:20	The Application of Seismic Technology in the Reconstruction Projects after Earthquakes Yuan Feng, Chief Engineer, *China Southwest Architectural Design and Research Institute Co.Ltd*
14:20~14:40	The Seismic Design of the World EXPO Museum Lianjin Bao, Associate Chief Engineer, *East China Architectural Design & Research Institute*
14:40~15:00	Design Analysis of Super High-Rise Steel Structure in Kashi International Duty-Free Square Qiongxiang Liu, Dean, *Shenzhen General Institute of Architectural Design and Research Co.Ltd*
15:00~15:20	Discussion on design of isolated structures Lijun Wang, Chief Structural Engineer, Zhongye Jingcheng *Tech Co.Ltd*
15:20~15:50	Discussions
15:50~16:10	Coffee break
Session C6	
16:10~16:30	Seismic Design of the Connecting Bridge in Chongqing Raffles Square Ligang Zhu, Associate Chief Engineer, *Shanghai branch, ARUP*
16:30~16:50	An Example of the Application of Viscous Damping Wall in High-Rise Buildings Yu Wang, Associate General manager, *Wuxi Shengfeng Tech Co.Ltd*
16:50~17:10	Design and Construction of Central Library in Kaohsiung- a full suspension structure Yingzhi Zhang, President, *Dahe Advanced Consultant Co.Ltd*
17:10~17:30	Design of isolated structures in the shared basis of series of buildings Yantao Xue, Vice Director, *China Academy of Building Research*
17:30~17:50	Preliminary Discussion on the Seismic Design of 100m-tall Buildings Qingsong Guan, Chief Engineer, *Yunnan Quakesafe Seismic Isolation*

	Technologies Co.Ltd

ACKNOWLEDGEMENT

The conference organizers would like to thank the following sponsors for their much appreciated support to the Conference.

- State Key Laboratory of Disaster Reduction in Civil Engineering;
- Department of Building Engineering, Tongji University;
- Tongji Architectural Design (TJAD) (Group) Co., Ltd;
- China Steel Construction Society;
- China Construction Metal Structure Association, Steel Construction Sub-association