FINAL PROGRAMME

Sixth International Conference on Advances in Steel Structures 2009

ICASS '09 / IJSSD / IStructE Asia-Pacific Forum

16-18 December 2009
Hong Kong, China
IMPORTANT NOTES

Instructions to speakers

Official language is English. For keynote lectures, the presentation duration is 30 minutes and, for lectures in parallel sessions, the duration is 15 minutes. Discussion will be at the end of each session if time is left for the respective session.

Please check your presentation number on page 5 to 18 according to its topic and then locate the room, time and date on page 3 to 4 for your presentation. Please email ceslchan@polyu.edu.hk for any query.

Speakers are invited to pass the biography and power-point file to the organiser at the Conference organising counter outside the lecture rooms at least one hour before the lecturing session. For early morning presentations, speakers are invited to pass the powerpoint file to the organiser one day before their presentations. Your powerpoint file should be compatible with Microsoft PowerPoint 2007 or earlier versions and please advise the organiser if you have any movie inside your file.

Instructions to session chairmen

Please arrive at the lecture rooms 10 minutes before the lecture starts

Introduce the speaker while he is preparing the setting up of his presentation.

Please control the time for presentation by ringing bell for the speaker 3 minutes before the session ends.

Please ask for help by the session helper in setting up of presentation powerpoint etc. Each session will have one stand-by session helper.

Activate discussion if time is left for each session, otherwise invite the audiences to discuss with the speakers after lectures in the tea breaks etc.

Note to all

All speakers and chairmen are invited for the conference banquet at 6:30pm for 7:00pm to 9:00 pm on 17th December 2009 in the same venue as lunch of this Conference.

For all participants, please telephone Sam at 9206 5565 or Prof. SL Chan at 9025 6814 in case of assistance required.
<table>
<thead>
<tr>
<th>Time</th>
<th>Salon A</th>
<th>Salon B</th>
<th>Salon C</th>
<th>Salon D</th>
</tr>
</thead>
<tbody>
<tr>
<td>0830-0900</td>
<td></td>
<td></td>
<td></td>
<td>Registration</td>
</tr>
<tr>
<td>0900-0930</td>
<td></td>
<td></td>
<td></td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td>0930-1100</td>
<td></td>
<td></td>
<td></td>
<td>Keynote 1 (K1 – K3)</td>
</tr>
<tr>
<td>1100-1130</td>
<td></td>
<td></td>
<td></td>
<td>Tea Break</td>
</tr>
<tr>
<td>1130-1300</td>
<td>A1</td>
<td>B1</td>
<td>C1</td>
<td>D1</td>
</tr>
<tr>
<td></td>
<td>BC-A</td>
<td>F1</td>
<td>CF-A</td>
<td>IJSSD Session 1</td>
</tr>
<tr>
<td>1300-1400</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1400-1500</td>
<td>A2</td>
<td>B2</td>
<td>C2</td>
<td>D2</td>
</tr>
<tr>
<td></td>
<td>FM</td>
<td>FR-A</td>
<td>RE</td>
<td>FR-C</td>
</tr>
<tr>
<td>1500-1530</td>
<td>Tea Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1530-1700</td>
<td>Keynote 2 (K4 – K6)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Salon A</th>
<th>Salon B</th>
<th>Salon C</th>
<th>Salon D</th>
</tr>
</thead>
<tbody>
<tr>
<td>0830-0900</td>
<td></td>
<td></td>
<td></td>
<td>Registration</td>
</tr>
<tr>
<td>0900-1000</td>
<td></td>
<td></td>
<td></td>
<td>Keynote 3 (K7 – K8)</td>
</tr>
<tr>
<td>1000-1030</td>
<td></td>
<td></td>
<td></td>
<td>Tea Break</td>
</tr>
<tr>
<td>1030-1300</td>
<td>A3</td>
<td>B3</td>
<td>C3</td>
<td>D3</td>
</tr>
<tr>
<td></td>
<td>BC-B,DY</td>
<td>BR</td>
<td>CF-B,CO-A</td>
<td>IJSSD Session 2,4</td>
</tr>
<tr>
<td>1300-1400</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1400-1530</td>
<td>A4</td>
<td>B4</td>
<td>C4</td>
<td>D4</td>
</tr>
<tr>
<td></td>
<td>PL</td>
<td>FE</td>
<td>CO-B</td>
<td>Reserved for IJSSD internal meeting</td>
</tr>
<tr>
<td>1530-1600</td>
<td>Tea Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1600-1800</td>
<td>Keynote 4 (K9 – K12)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Salon A</th>
<th>Salon B</th>
<th>Salon C</th>
<th>Salon D</th>
</tr>
</thead>
<tbody>
<tr>
<td>0830-0900</td>
<td></td>
<td></td>
<td></td>
<td>Registration</td>
</tr>
<tr>
<td>0900-1000</td>
<td></td>
<td></td>
<td></td>
<td>Keynote 5 (K13 –K14)</td>
</tr>
<tr>
<td>1000-1030</td>
<td></td>
<td></td>
<td></td>
<td>Tea Break</td>
</tr>
<tr>
<td>1030-1300</td>
<td>A5</td>
<td>B5</td>
<td>C5</td>
<td>D5</td>
</tr>
<tr>
<td></td>
<td>CC-A,BC-C</td>
<td>NA+SE</td>
<td>PR+SC</td>
<td>IJSSD Session 3</td>
</tr>
<tr>
<td>1300-1400</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1400-1530</td>
<td>A6</td>
<td>B6</td>
<td>C6</td>
<td>D6</td>
</tr>
<tr>
<td></td>
<td>CC-B</td>
<td>FR-B</td>
<td>CO-C</td>
<td>IJSSD Session 5</td>
</tr>
<tr>
<td>1530-1600</td>
<td>Tea Break</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1600-1700</td>
<td>Keynote 6 (K15 – K16)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### ICASS’09

<table>
<thead>
<tr>
<th>Topics</th>
<th>Sessions</th>
<th>Paper numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beams and Columns</td>
<td>BC-A</td>
<td>BC1,BC2,BC3,BC4,BC5,BC6</td>
</tr>
<tr>
<td></td>
<td>BC-B</td>
<td>BC7,BC8,BC9,BC10,BC11,BC12,BC13</td>
</tr>
<tr>
<td></td>
<td>BC-C</td>
<td>BC14,BC15,BC16,BC17,BC18</td>
</tr>
<tr>
<td>Bridges</td>
<td>BR</td>
<td>BR1,BR2,BR3,BR4,BR5,BR6,BR7,BR8,BR9</td>
</tr>
<tr>
<td>Cold-formed &amp; Light-gauge Structures</td>
<td>CF-A</td>
<td>CF1,CF2,CF3,CF4,CF5,CF6</td>
</tr>
<tr>
<td></td>
<td>CF-B</td>
<td>CF7,CF8,CF9,CF10,CF11,CF12</td>
</tr>
<tr>
<td>Composite Construction</td>
<td>CC-A</td>
<td>CC1,CC2,CC3,CC4,CC5</td>
</tr>
<tr>
<td></td>
<td>CC-B</td>
<td>CC6,CC7,CC8,CC9,CC10</td>
</tr>
<tr>
<td>Connections</td>
<td>CO-A</td>
<td>CO1,CO2,CO3,CO4</td>
</tr>
<tr>
<td></td>
<td>CO-B</td>
<td>CO5,CO6,CO7,CO8</td>
</tr>
<tr>
<td></td>
<td>CO-C</td>
<td>CO9,CO10,CO11,CO12,CO13</td>
</tr>
<tr>
<td>Dynamics and Damage Detection</td>
<td>DY</td>
<td>DY1,DY2,DY3</td>
</tr>
<tr>
<td>Fatigue &amp; Material</td>
<td>FM</td>
<td>FM1,FM2,FM3,FM4</td>
</tr>
<tr>
<td>Finite Element Method</td>
<td>FE</td>
<td>FE1,FE2,FE3,FE4</td>
</tr>
<tr>
<td>Fire Engineering</td>
<td>FI</td>
<td>FI1,FI2,FI3,FI4,FI5,FI6</td>
</tr>
<tr>
<td>Frames &amp; Trusses</td>
<td>FR-A</td>
<td>FR1,FR2,FR3,FR4</td>
</tr>
<tr>
<td></td>
<td>FR-B</td>
<td>FR5,FR6,FR7,FR8</td>
</tr>
<tr>
<td></td>
<td>FR-C</td>
<td>FR9,FR10,FR11</td>
</tr>
<tr>
<td>Nonlinear Analysis &amp; Progressive Collapse</td>
<td>NA</td>
<td>NA1,NA2,NA3</td>
</tr>
<tr>
<td>Plates &amp; Shells</td>
<td>PL</td>
<td>PL1,PL2,PL3,PL4,PL5</td>
</tr>
<tr>
<td>Projects, Space Structures &amp; Arches</td>
<td>PR</td>
<td>PR1,PR2,PR3,PR4,PR5</td>
</tr>
<tr>
<td>Retrofitting</td>
<td>RE</td>
<td>RE1,RE2,RE3,RE4</td>
</tr>
<tr>
<td>Scaffoldings</td>
<td>SC</td>
<td>SC1,SC2,SC3,SC4,SC5,SC6</td>
</tr>
<tr>
<td>Seismic Engineering</td>
<td>SE</td>
<td>SE1,SE2,SE3,SE4,SE5,SE6,SE7</td>
</tr>
</tbody>
</table>

### IJSSD’09

<table>
<thead>
<tr>
<th>Topics</th>
<th>Sessions</th>
<th>Paper numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis of curved members and plates.</td>
<td>Session 1</td>
<td>IJSSD02, IJSSD19, IJSSD08, IJSSD01, IJSSD21, IJSSD22</td>
</tr>
<tr>
<td>Analysis of Bridges</td>
<td>Session 2</td>
<td>IJSSD09, IJSSD07, IJSSD26, IJSSD24, IJSSD30</td>
</tr>
<tr>
<td>Analysis of Shells and Nanotubes</td>
<td>Session 3</td>
<td>IJSSD25, IJSSD23, IJSSD04, IJSSD13, IJSSD29, IJSSD28</td>
</tr>
<tr>
<td>Analysis of Members</td>
<td>Session 4</td>
<td>IJSSD05, IJSSD16, IJSSD14, IJSSD03, IJSSD15</td>
</tr>
<tr>
<td>Analysis of Frames and Connections</td>
<td>Session 5</td>
<td>IJSSD18, IJSSD12, IJSSD11, IJSSD27, IJSSD17</td>
</tr>
<tr>
<td>Author(s) &amp; Affiliations</td>
<td>Speaker</td>
<td>Paper title</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>D.A. Nethercot, P. Stylianidis, B.A. Izzuddin and A.Y. Elghazouli</td>
<td>D.A. Nethercot</td>
<td>Enhancing the robustness of steel and composite buildings</td>
</tr>
<tr>
<td>Z. Y. Shen and F.F. Sun</td>
<td>Z.Y. Shen</td>
<td>Seismic design of high-rise steel buildings in Shanghai</td>
</tr>
<tr>
<td>R. Bjorhovde</td>
<td>R. Bjorhovde</td>
<td>Research and development towards sustainable steel construction in the United States</td>
</tr>
<tr>
<td>Y. B. Yang</td>
<td>Y.B. Yang</td>
<td>Rigid mechanics and applications to Nonlinear structural analysis</td>
</tr>
<tr>
<td>M.A. Bradford and A. Heidarpour</td>
<td>M.A. Bradford</td>
<td>Joints in steel frames subjected to a compartment fire: A T-Stub design model</td>
</tr>
<tr>
<td>M.H. Kolstein for F.S.K. Bijlaard</td>
<td>To be confirmed</td>
<td></td>
</tr>
<tr>
<td>C.M. Wang and T. Utsunomiya</td>
<td>C.M. Wang</td>
<td>Hydroelastic analysis of the large floating steel platform at Marina Bay in Singapore</td>
</tr>
<tr>
<td>G. W. Owens</td>
<td>Graham Owens</td>
<td>Implementation of the Eurocodes progress towards a valuable outcome</td>
</tr>
<tr>
<td>B.Uy</td>
<td>B. Uy</td>
<td>Behaviour and design of hollow and concrete filled steel columns subjected to impact loads</td>
</tr>
<tr>
<td>Roberto T. Leon</td>
<td>Prof. Roberto T. Leon</td>
<td>Advances in American steel design: The proposed AISC 2010 specifications</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>G. Q. Li and X. H. Li</td>
<td>G.Q. Li</td>
<td>Study on a Novel steel-concrete composite beam</td>
</tr>
<tr>
<td>D. Lam and X. Dai</td>
<td>D. Lam</td>
<td>Modelling the confinement effect of composite concrete-filled elliptical steel columns</td>
</tr>
<tr>
<td>Derrick C. Y. Yap and G. J. Hancock</td>
<td>G. J. Hancock</td>
<td>Interaction of local and distortional modes in thin-walled sections</td>
</tr>
<tr>
<td>P. B. Dinis, D. Camotim, E. M. Batista and E. Santos</td>
<td>D. Camotim</td>
<td>Local/Distortional/Global interaction in lipped channel columns: Behaviour and strength</td>
</tr>
<tr>
<td>N. Baldassino and R. Zandonini</td>
<td>R. Zandonini</td>
<td>Design by testing of industrial racks</td>
</tr>
</tbody>
</table>
Beams and Columns

Evaluation of structural behavior of steel member affected by the presence of gusset-plate
S. Kishiki and A. Wada

Global and local elastic buckling of thin-walled beams with open elliptic cross sections
E. Magnucka-Blandzi and K. Magnucki

Lateral bracing force of ipe-240 beams at ultimate load

Finite element investigation of perforated steel beams with different web opening configurations
K. D. Tsavdaridis and C. D’Mello

Buckling strength of thin walled members with profiled sections
K. Hoshide, M. Ohga, T. Hara and T. Shigematsu

Buckling analysis of thin-walled shell member with various stiffeners
S. Tanaka, K. Hoshide, T. Hara and M. Ohga and T. Shigematsu

Experiments on the local buckling of 420MPA steel equal angle columns under axial compression
G. Shi, Z. Liu, H.Y Ban, Y. Zhang, Y.J Shi and Y.Q Wang

Application of the general method for the evaluation of the stability resistance of non-uniform members
L. Simões da Silva, C. Rebelo and L. Marques

Structural behaviour of elliptical hollow sections under combined actions
T.M. Chan and L. Gardner

Strain hardening in indeterminate steel structures
L. Gardner and F. Wang

Design of aluminum alloy tubular sections subjected to web crippling
B. Young and F. Zhou

An numerical investigation into the effect of construction methods to the structural behaviour of simply supported composite beams
K.F. Chung, C.K. Chan and R.M. Lawson

Debonding behavior of CFRP strengthened steel beams under static and cyclic loads
S.P. Chiew and Y. Yu
Unified slenderness limits for circular hollow sections
K.H. Law and L. Gardner

Experimental study on behavior of shuttle-shaped lattice tubular columns
L.W. Tong, E. Xie, X.Y. Wang, L.J. Jia, and Y.Y. Chen

Flexural moment capacity design rules for built-up litesteel beams
S. Jeyaragan and M. Mahendran

Post-buckling strength of litesteel beams in shear
P. Keerthan and M. Mahendran

Further development of statistical moment-based damage detection method
J. Zhang, Y.L. Xu, Y. Xia and J. Li

**Bridges**

Safety and Reliability on Steel-Concrete Joint Part of Hybrid Cable-Stayed Bridge
J. He, Y.Q. Liu, A.R. Chen, B.Z. Pei and T. Yoda

Mechanical experiment on joint of steel-concrete hybrid girder in cable-stayed bridge
R. Liu, Y.Q. Liu, D.J. Wu and M.Y. Hu

Bearing capacity analysis of a curvilinear box girder landscape bridge
Y.Q. Wang, N. Yao, T.S. Zhang and Y.J. Shi

Stability analysis of the steel structure of Tianjin Bengbu Bridge
H.T. Chen, Y.Q. Wang and Y.J. Shi

On dynamic stress amplification caused by sudden failure of tension member in steel truss bridges
Y. Goto, N. Kawanishi and I. Honda

Numerical analysis of sea-salt particulate matter adhesion on bridge surfaces
M. Obata, T. Hasegawa, K. Nagata and Y. Goto

SHM-Based fatigue reliability evaluation of steel bridges: methodology, experiment, and application
X.W. Ye, Y.Q. Ni and J.M. Ko

Numerical study on the local buckling of 420MPA steel equal angle columns under axial compression
G. Shi, Z. Liu and K.F. Chung

Fatigue classification of welded joints in orthotropic steel bridge decks
M.H. Kolstein
Cold-formed & Light-gauge Structures

Experimental investigations of cold-formed thin walled c-beams with drop flange  
P. Paczos and K. Magnucki  

Deformation and Strength of Light Gauge Steel Connection  
T. Hara, T. Hashimoto, M. Yosihara and H. Hiramatsu  

Light Weight Tension Strip Structures  
Y. Li, J.Y.R. Liew and K.K. Vu  

Shear buckling of thin-walled channel sections with intermediate web stiffener  
C.H. Pham and G.J. Hancock  

Impact tests and parametric studies on drive-in steel storage racks  
B.P. Gilbert and K.J.R. Rasmussen  

Determination of accidental forklift truck impact forces on drive-in steel rack structures  
B.P. Gilbert and K.J.R. Rasmussen  

An investigation of the compressive strength of cold-formed steel built-up I sections  
H.H. Lau and T.C.H. Ting  

Experimental study on post-buckling and post-failur behavior of cold-formed sigma continuous steel beams at internal supports  
Q. Liu, J. Yang and L.Y. Li  

Ultimate strength and design of lipped channel columns experiencing local-distortional mode interaction-Part I: Experimental investigation  
B. Young, D. Camotim and N. Silvestre  

Ultimate strength and design of lipped channel columns experiencing local/distortional mode interaction- Part II: DSM design approach  
N. Silvestre, D. Camotim and B. Young  

The ultimate strength and stiffness of modern roof systems with hat-shaped purlins  
M. Wrzesien, J.B.P. Lim and R.M. Lawson  

Some experiences on numerical modelling of cold-formed steel lapped Z-sections  
H.C. Ho and K.F. Chung  

Composite Construction

Bending-shear behavior of deep concrete filled double steel tubular beam  
K. Uenaka and H. Kitoh  

Early-age shrinkage and slab casting sequences in a long steel-concrete composite viaduct  
F. Gara, G. Leoni, and L. Dezi
A simple model used in optimum design of concrete-filled twin steel tubular column  
*W.F. Yuan, K.H. Tan and Y.F. Zhang*  

Axial compression tests on FRP-Jacketed circular concrete-filled thin steel tubes  
*Y.M. Hu, T. Yu and J.G. Teng*  

Experimental and analytical investigations of trusses composed of bare and composite RHS  
*M. Fong and S.L. Chan*  

Influence of long-term loading on the performance of concrete-filled double skin steel tubular columns: Experiments  
*L.H. Han, Y.J. Li, F.Y. Liao and Z. Tao*  

Experimental behaviour of slender circular concrete-filled stainless steel tubular columns under axial compression  
*Z. Tao, B. Uy and L.H. Han*  

Closed form solutions for the long-term analysis of composite steel-concrete members subjected to non-uniform shrinkage distributions  
*G. Ranzi and Z. Vrcelj*  

Stress Analysis of Steel Fiber Reinforced Concrete Encased Tubular Steel Penstocks under Internal Water Pressure  
*J.G. Dai and H.N. He*  

Dynamic performance of beam of gangue concrete-filled circular steel tube  
*G.C. Li, Q.S. Ren and Y. Nie*  

**Connections**  

Ultimate moment of shear connections  
*Y.L. Gong*  

An experimental study of strengthening of deep concrete coupling beams with bolted steel plate  
*B. Cheng and R.K.L. Su*  

Bearing failure of bolted connections in stainless steel  
*E.L. Salih, L. Gardner and D.A. Nethercot*  

Fatigue study of partially overlapped circular hollow section k-joints  
*S.P. Chiew, C.K. Lee, S.T. Lie and T.B.N. Nguyen*  

Experiment and analytical study on connections between steel plate shear wall and CFTs  
*J.S. Fan, X. Nie, C.Y. Tian and W. Zhou*  

Fatigue design of square hollow section tubular T-joints with concrete-filled chords under in-plane bending  
*F.R. Mashiri, X.L. Zhao and L.H. Han*
Influence of local defects on buckling behaviors of pressure steel pipe  
Z.O. Lin, A. Kasai, K. Senda and M. Miwa

Design of eccentrically connected cleat plates in compression  
F.S Albermani, X. Khoo and M. Perera

Reinforcement of box-section beam-to-column connection in steel bridge pier  
E. Yamaguchi, N. Oshima and Y. Fujiwara

Bolt prying in hollow section base plate connections  
T. Wilkinson, G. Ranzi, P. Williams and M. Edwards

Capacity of screwed connections between fabricated fittings and cold-formed hollow sections  
T. Wilkinson, X. Ning, A. Yang and B. Yang

Experimental research on the behavior of spatial intersecting connections of A diagrid structure subjected to axial loading  
C. Huang, X.L. Han, J. Ji and J.M. Tang

Influence of bolt preloading and flexural effects on the ultimate behaviour of bolted T-stubs  
V. Piluso, G. Rizzano and R. Sabatino

**Dynamics and Damage Detection**

A testing model study on dynamic process of truss structure introduced by local member failure  
L. Wang, Y.Y. Chen, L. Li and X.Z. Zhao

Integrated optimal placement of displacement transducers and strain gauges  
X.H. Zhang, S. Zhu, Y.L. Xu and X.J. Hong

Structural health monitoring system for steel antenna mast of Guangzhou Television and Sightseeing Tower  

**Fatigue & Material**

Critical distance method to predict the fatigue strength for welded steel structures  
Z. Jiang, D.Q. Guan and L.C. Shi

Failure criteria for composite slabs subject to extreme loading conditions  
K.A. Cashell, A.Y. Elghazouli and B.A. Izzuddin

Experimental Tests on structural members fabricated from High Strength Steel materials  
L.R.B. Tang and T.H.T. Chan

Experiments on the residual stress of 420MPA steel equal angles  
H.Y. Ban, G. Shi, Y.J. Shi and Y.Q. Wang
Finite Element Method

Finite element studies on horizontally curved composite plate girders
*M.A. Basher, N.E. Shanmugam and A.R. Khalim*

Finite element analysis of the substructure in a slim floor frame subjected to accidental load
*J.M. Zeng and P. Mäkeläinen*

Analysis of the shear-lag effect in steel-concrete cable stayed bridges by means of deck finite elements
*F. Gara, G. Ranzi and G. Leoni*

A contribution to non-linear analysis of steel frame with flexible and eccentric connections
*G. Castellazzi and E. Viola*

Fire Engineering

Fire Resistance Design of Large Space Grid Structures by Performance-based Approach —
A Case Study of the Fire Resistance Design of the Roof Structure of Kunming International Airport
*C. Zhang, G.Q. Li, Y.Z. Yin and M.C. Luo*

Geopolymer concrete filled steel tubes at elevated temperatures
*S. O'Keeffe, X.L. Zhao, J.G. Sanjayan and H. Lu*

Behaviour of concrete-filled double skin steel tubular beam-columns after exposure to fire
*X. Yu, Z. Tao, L.H. Han and B. Uy*

Tests on fibre reinforced scc filled double skin tubular stub columns exposed to standard fire
*H. Lu, X. L. Zhao and L.H. Han*

Numerical investigation of cold-formed steel sheeting in fire
*W. Lu, P. Mäkeläinen and J. Outinen*

Effect of rotational stiffness at column base of portal frame at elevated temperature
*M. Rahman, J.B.P. Lim, R. Hamilton, T. Comlekci, D. Pritchard and Y.X. Xu*

Frames & Trusses

Parameter study on infilled steel frames with discretely connected precast concrete panels
*P.A. Teeuwen, C.S. Kleinman, H.H. Snijder and H. Hofmeyer*

Contribution to Sustainability in Steel Structures
*J. Falke and H.N. Mustafa*

Application of temperature crack with single column in multi-span and single-storey steel frames
*D. Yong and Z. Bo*
Behavior of steel frame with various types of diagonal bracing under lateral loading
S. Jozaki, T. Hara, T. Hashimoto, M. Yoshihara and H. Hiramatsu

Applications of built-up sections in lightweight steel trusses
C.C. Mei, A.L.Y. Ng, H.H. Lau and S.L. Toh

Failure mode control of dissipative truss moment frames
A. Longo, R. Montuori and V. Piluso

Second-order analysis and design of transmission tower without effective length
M. Fong, S. H. Cho, Y.P. Liu, S.L. Chan and J. Selvanathan

Structural performance of steel buildings with semi-rigid connections
L. Di Sarno, J.W. Barry and A.S. Elnashai

Buckling behaviour of locally and globally braced thin-walled steel frames
C. Basaglia, D. Camotim and N. Silvestre

Plastic design of MRF-CBF systems
M.T. Giugliano, A. Longo, L. Mastrandrea, R. Montuori and V. Piluso

Recent development of non-linear computational design by software “NIDA”
S.W. Liu, Y.P. Liu, B. Li, H.J. Mo, M. Fong and S.L. Chan

**Nonlinear Analysis & Progressive Collapse**

Simulation of the impact effect in progressive collapse of multi-storey structures
W.F. Yuan and K.H. Tan

Iterative method for estimating collapse loads of steel cable-stayed bridges
D.H. Choi, H.S. Na and H. Yoo

Assessment of Progressive Collapse in Multi-Storey Buildings – Influence of Material Rate Sensitivity
M. Pereira and B.A. Izzuddin

**Plates and Shells**

Deflection Solutions of a Spherical Membrane Shell for Microbubbles under a Point Load
X. Wang and F. Wang

Buckling modes and optimal stiffener arrangement of rectangular stiffened plates under uniform lateral loads
A.K. Datta

Transverse shear strength of a Bi-directional corrugated-strip-core steel sandwich plate
M. Leekitwattana, R.A. Shenoi and S.W. Boyd
Experimental behaviour of plates with and without holes subjected to localised loads
E. Maiorana, C. Pellegrino and C. Modena

Theoretical Research of Elastic Thin Rectangular Plate Pinned at Four Corners
H.T. Hou, X.J. Hu, G.Q. Li and C.X. Qiu

Projects, Space Structures & Arches

The miracle of post-buckled behaviour in thin-walled steel construction and its partial "Erosion” due to repeated loading
M. Škaloud and M. Zörnerová

Structural analysis and design of the theme pavilion of world Expo.2010
J.M. Ding, H.L. Wu, Z.J. He and Y.O. Wan

Design and analysis of a foldable protective shelter
C.Y. Ma, K.K. Vu and J.Y.R. Liew

Effects of prebuckling linearization on buckling analysis of shallow arches
Y.L. Pi and M.A. Bradford

Construction Mechanics Analysis & Erection Monitoring Of the Roof Steel Girder for SZCEC
D.H. Pan and D.M. Wei

Retrofitting

System Reliability Evaluation of Steel Frames
Y.S. Liu and G.Q. Li

Research on damage of continuous steel girders identification by wavelet analysis of the curvature mode
L.C. Shi, D.Q. Guan and Z.K. Jiang

Damage identification research of plate-like structures by means of the wavelet analysis
D.Q. Guan and Z.Y. Chen

Research on Spatial Crack Identification of Steel Beam Using Wavelet Analysis
D.Q. Guan and W. Pan

Scaffoldings

System reliability of steel scaffold systems
H. Zhang, T. Chandrangsu and K.J.R. Rasmussen

Geometric imperfection measurements and joint stiffness of support scaffold systems
T. Chandrangsu and K.J.R. Rasmussen

Full-scale tests and advanced structural analysis of formwork subassemblies
T. Chandrangsu and K.J.R. Rasmussen
Wind loads on netted metal access scaffolds

H. Irtaza, R.G. Beale and M.H.R. Godley

Structural analysis and modeling of system scaffolds used in construction

J.L. Peng, T. Yen, C.C. Kuo and S.L. Chan

Stability design of mixed bamboo-steel scaffolding systems

F. So and S.L. Chan

**Seismic Engineering**

Seismic behavior of steel reinforced concrete column-steel truss beam composite joints

M.X. Tao, J.S. Fan and J.G. Nie

Effect of Bi-directional cyclic loading on seismic capacity and buckling behavior of thin-walled circular steel bridge piers

N.G. Kulkarni and A. Kasai

Use of crescent shaped braces for controlled seismic design of ductile structures

G. Gasparini, S. Silvestri, I. Ricci and T. Trombetti

Seismic response control of transmission tower-line system with friction dampers

J.P. Wang, B. Chen and S.M. Sun

Effects of horizontal restrainer on seismic performance of steel plate shear wall


The applications of performance based seismic design for structures in mainland China

G. Ho and M. Kwok

Theoretical and experimental analysis of dissipative T-stubs

M. Latour and G. Rizzano
IJSSD Symposium on Progress in Structural Stability and Dynamics

**Session 1: Analysis of curved members and plates**

A Cable Element for Nonlinear Analysis of Cable-Supported Structures.  
*Y. XIA, Q. X. WU and Y. L. XU*

Effects of pre-buckling linearization on buckling analysis of steel arches  
*Y. L. Pi and M.A. Bradford*

Free Vibration of Horizontally Curved Composite Plate Girders  
*M.Y. Wong, S.A. Osma and N.E. Shanmugam*

On the Use of GBT to Analyse the Local and Global Buckling Behaviour of Arches  
*J.P. Gomes, N. Silvestre and D. Camotim*

An investigation on post buckling behavior of functionally graded plate using a semi energy finite strip approach.  
*H.R. Ovesy, H. Assaee and M. Hajikazemi*

High Accuracy Postbuckling Analysis of Some Isotopic Plates using Two Different Versions of Finite Strip Method.  
*H.R. Ovesy, S.A.M. Ghanadpour and M. Nasirnia*

**Session 2: Analysis of Bridges**

Static and seismic analysis of new steel/concrete hybrid towers of multi-span cable-stayed bridges  
*S. Nakamura, Y. Okamoto and A. Manda*

Progressive Collapse Analysis of Truss Bridges  
*S. Nakamura, A. Manda and Y. Okamoto*

Random Vibration of Footbridge Induced By Crowd And Its Control  
*Q. Li, J. S. Fan, Y. Chen and J. G. Nie*

Large Deflection Distributed Plasticity Analysis of 3D Semi-Rigid Steel Frameworks  
*C.G. Chiorean and G.M. Barsan*

Effect of Loading on the Damage Assessment of Reinforced Concrete Beams  
*X. Q. Zhu, S. S. Law and H. Hao*

**Session 3: Analysis of Shells and Nanotubes**

On Stability of Hybrid Cylindrical Shells under External Pressure  
*H. Rasheed*
Dynamic Stability of Laminated Cylindrical Shells Based on a Higher-Order Shear Deformation Theory using FSM
*J. Fazilati and H. R. Ovesy*

Analysis on Stability Ultimate Bearing Capacity of Plate-Cone Reticulated Shell
*F. Wang, G.N. Chen and X. Wang*

Numerical Study of Dynamic Buckling of Axisymmetrical Cylindrical Shell Subjected to Axial Impact
*T. Zhao, W.Q. Shen and J. Yang*

Buckling of single-walled carbon nanotubes with two atom vacancies
*A Haoula, Y. Y. Zhang and Y. Xiang*

Examination of beam and cylindrical shell models for buckling analysis of carbon nanotubes
*Y.Y. Zhang, C.M. Wang, W.H. Duan and Y. Xiang*

**Session 4: Analysis of Members**

Second-Order Elastic Finite Element Analysis of Structures Using A Single Element Per Member
*C.K. Iu and M.A. Bradford*

Dynamic Analysis of Pile Foundations in Layered Soils
*F. Dezi, S. Carbonari and G. Leoni*

The behaviour of composite steel-concrete members accounting for partial interaction and geometric nonlinearities.
*G. Ranzi, A.Dall’ Asta, L. Ragni and A. Zona*

Study on Behaviors of High Strength Cold-Formed Steel Wall Studs with Wallboards on Both Sides under Axial Compression.
*Z.G. Huang, M.Z. Su and B.K. He*

On the Effect of Local/Distortional Mode Interaction on the Post-Buckling Behavior and Ultimate Strength of Fixed Ended Lipped Channel Columns
*P.B. Dinis, B. Young and D. Camotim*

**Session 5: Analysis of Frames and Connections.**

Numerical investigation on the cyclic behavior of exterior composite joints
*Z.Y. Wang, Q.Y. Wang, Y.Y. Chen and R.J. Jiang*

Extended Limit Analysis of Elastic Perfectly Plastic Structures Accounting for Geometric Nonlinearity
*F. Tin-Loi and S. Tangaramvong*
Elastoplastic Analysis of Frames Involving Physical and Geometric Instabilizing Effects
S. Tangaramvong and F. Tin-Loi

Dynamic Experiment and Numerical Simulation of a Full Scale Steel Frame with Viscous Dampers.
X. Chen

Hybrid probabilistic and interval analysis of engineering problems with a mixture of random and interval variables
W. Gao, C. Song and F. Tin-Loi
ACKNOWLEDGEMENTS

The Organizing Committee would like to express sincere thanks to the following sponsors for their generous support to the Conference.
(names in alphabetical order)

Diamond Sponsor:
China Resources Construction Company Limited
Dextra Pacific Ltd.
Genetron Engineering Co., Ltd.
Hacely Company Limited
K.Y.H. Steel Co., Ltd.
Wo Lee Steel Co. Ltd.

Platinum Sponsor:
AECOM
Fong On Construction & Engineering Co., Ltd
Gammon Construction Limited
Hong Yip Service Co Ltd
Meinhardt (C&S) Ltd
Oriental Sheet Piling (China) Co. Ltd.
Ove Arup & Partners Hong Kong Limited
Paul Y. Engineering Group Limited
Siu Yin Wai & Associates Ltd.
T.K. Tsui & Associates Limited
Tysan Foundation Limited
WLS Holdings Ltd.
Wong Pak Lam & Associates