



**The Conference Program for ISCM II & EPMESC XII, 29 November – 3 December 2009**

<b>Date</b>	<b>29 November 2009</b>
14:00 – 17:30	<b>Registration, Venue: Holiday Inn Gold Mile Hotel</b>
18:00 – 21:00	<p align="center"><b>Venue: Hung Tao Restraunt, Tsim Sha Tsui East, Kowloon</b></p> <p align="center"><b>Opening Speech: AYT Leung, VP Iu, MY Yuan, Arantes e Oliveira, etc.</b></p> <p align="center"><b>Plenary Session I</b></p> <p align="center"><b>Keynote Speech 1: 2.5D Finite/infinite element approach for simulating train-induced ground vibrations</b>  <b>Y.B. Yang, Nat. Taiwan University &amp; YunTech University</b></p> <p align="center"><b>Chair: A.Y.T. Leung</b></p> <p align="center"><b>Keynote Speech 2: Multiscale Analysis and Nutrient Transport in Carbon Nanotube Reinforced Nanofiber Bioreactor</b>  <b>J.N. Reddy, Texas A&amp;M University</b></p> <p align="center"><b>Chair: V. P. Iu</b></p> <p align="center"><b>Welcome dinner</b></p>

<b>Time</b>	<b>30 Nov. (Monday) Holiday Inn Hotel, HK Venue: Crystal Room 3, LB3</b>	<b>30 Nov. (Monday) Holiday Inn Hotel, HK Venue: Jade Room, LB1</b>	<b>30 Nov. (Monday) Holiday Inn Hotel, HK Venue: Crystal Room 2, LB3</b>	<b>30 Nov. (Monday) Holiday Inn Hotel, HK Venue: Crystal Room 1, LB3</b>	<b>30 Nov. (Monday) Holiday Inn Hotel, HK Venue: Grand Ballroom, LB3</b>
8:30 – 9:50	<b>Plenary Session II, Venue: Grand Ballroom, Holiday Inn Gold Mile Hotel</b> <b>Keynote Speech 3: Kinetic Studies of Gas Flows</b> <b>Jing Fan, IMECH, Chinese Academy of Sciences</b> <b>Chair: J.N. Reddy</b> <b>Keynote Speech 4: Size-dependent probabilistic damage micromechanics for particle-reinforced metal matrix composites</b> <b>Woody JW Ju, UCLA</b> <b>Chair: W.K. Liu</b>				
9:50- 10:20	<b>Coffee</b>				
10:20 - 12:30	<b>MS-1:</b> Fractal FEM, Bridge Dynamics Session Chairs: AYT Leung, Shuhui Chen Session Keynote: <b>Yushu Chen</b> 6 papers	<b>MS-2:</b> Nonlinear dynamics, damage Mechanics Session Chairs: Vai Pan Iu, Peter Rosko Session keynote: <b>Junzhi Cui</b> 6 papers	<b>MS-3-1:</b> Model-based simulation with applications to nano and bio systems Session Chairs: Hongwu Zhang, Zhen Chen Session Keynote: <b>Zhen Chen</b> 6 papers	<b>MS-8-1:</b> 3rd International workshop on non-equilibrium flows Session Chairs: Jing Fan, Kun Xu Session Keynote: <b>Jiang Zonglin</b> 6 papers	<b>MS-16-1:</b> Meshfree and innovative numerical methods Session Chairs: Yuantong Gu, S. Rajendran Session Keynote: <b>J.S. Chen</b> 6 papers
12:30- 14:00	<b>Lunch</b>				
14:00 - 15:40	<b>MS-4:</b> Bridge aerodynamics Session Chairs: Gao Liu, Moshe Eisenberger 5 papers	<b>MS-5:</b> Computational fracture mechanics for quasi-brittle materials Session Chairs: Chengxiang Yu, Zhengjun Yang 5 papers	<b>MS-3-2:</b> Model-based simulation with applications to nano and bio systems Session Chairs: Zhen Chen, Zhuo Zhuang 5 papers	<b>MS-8-2:</b> 3rd International workshop on non-equilibrium flows Session Chairs: Kun Xu, Wenjing Ye 5 papers	<b>MS-7-1:</b> Advances in multiscale methods and applications of nano- and bio-mechanics Session Chairs: Dong Qian, Moon Kim 5 papers
15:40- 15:55	<b>Coffee</b>				
15:55 - 17:05	<b>SS-2:</b> Computational infection risk assessments in building environments Session Chairs: Jianlei Niu, Man Pun Wan 4 papers	<b>MS-7-2:</b> Advances in multiscale methods and applications of nano- and bio-mechanics Session Chairs: Shaoqiang Tang, Dong Qian 4 papers	<b>PS-1-1:</b> Artificial intelligence, expert systems & applications; CAD, CAM and CAE Session Chairs: I-Tung Yang, Ivan Jordanov 4 papers	<b>MS-18-1:</b> Recent advances in BEM and other related meshless methods Session Chairs: Ch.Z. Zhang, Jan Sludak 4 papers	<b>MS-12:</b> Random vibration and control of nonlinear structural systems Session Chairs: Cho Wing To, X. Sheldon Wang 4 papers
	<b>End of Day 1</b>				

Time	1 Dec. (Tuesday) Holiday Inn Hotel, HK Venue: Crystal Room 3, LB3	1 Dec. (Tuesday) Holiday Inn Hotel, HK Venue: Jade Room, LB1	1 Dec. (Tuesday) Holiday Inn Hotel, HK Venue: Crystal Room 2, LB3	1 Dec. (Tuesday) Holiday Inn Hotel, HK Venue: Crystal Room 1, LB3	1 Dec. (Tuesday) Holiday Inn Hotel, HK Venue: Grand Ballroom, LB3
8:30 – 9:50	<b>Plenary Session II, Venue: Grand Ball Room, Holiday Inn Gold Mile Hotel</b> <b>Keynote Speech 5: Adaptive FEM for Crack Propagation</b> <b>G. Yagawa, Toyo University</b> <b>Chair: J.S. Chen</b>  <b>Keynote Speech 6: Cyber-enabled predictive science-based continuum mechanics for multiscale fracture process discovery</b> <b>W.K. Liu, Sungkyunkwan University (SKKU), Korea; Northwestern Univ.</b> <b>Chair: S. Valliappan</b>				
9:50- 10:20	<b>Coffee</b>				
10:20 - 12:30	<b>MS-23-1: Nonlinear dynamics</b> Session Chairs: YX Hao, RYY Lee Session Keynote: <b>Albert KH Kwan</b> 6 papers	<b>SS-1: Mathematical models and numerical methods for complex fluid flows</b> Session Chairs: Keh-Ming Shyue, Yang-Yao Niu Session Keynote: <b>Yih-Chin Tai</b> 6 papers	<b>PS-6-1: Fluid Mechanics and Heat Transfer</b> Session Chairs: Zhigang Li, Leonardo Traversoni 6 papers	<b>MS-16-2: Meshfree and innovative numerical methods</b> Session Chairs: J.S. Chen, Yuantong Gu Session Keynote: <b>D.D. Wang</b> 6 papers	<b>MS-8-3: 3rd International workshop on non-equilibrium flows</b> Session Chairs: Quanhua Sun, Chih-Jen Sung Session Keynote: <b>Yiguang Ju</b> 6 papers
12:30- 14:00	<b>Lunch</b>				
14:00 - 15:40	<b>MS-23-2: Nonlinear dynamics</b> Session Chairs: Wei Zhang, Jorge Ambrosio 5 papers	<b>PS-6-2: Fluid Mechanics and Heat Transfer</b> Session Chairs: R.K.K. Yuen, Carolin Birk 5 papers	<b>PS-11-1: Solid and Structural Mechanics</b> Session Chairs: Jian Lü, Yang Xiang 5 papers	<b>PS-5-1: Environmental Science and Engineering</b> Session Chairs: John C.C. Lu, Dong-Sheng Jeng 5 papers	<b>MS-24: Recent developments in anisotropic continuum analysis, including composites and biomechanics</b> Session Chairs: David C. Kellermann, Miroslav Petryl 5 papers
15:40- 15:55	<b>Coffee Break</b>				
15:55 - 17:15	<b>PS-2: NDE and Wave Propagation, Polymers and Polymer Composites</b> Session Chairs: B. Tie, Jiayong Tian 4 papers	<b>PS-6-3: Fluid Mechanics and Heat Transfer</b> Session Chairs: Jintu Fan, Decheng Wan 4 papers	<b>PS-8-1: Geomechanics, Geographic Information Systems</b> Session Chairs: X.K. Li, Thirapong Pipatpongsa 4 papers	<b>PS-7: Polymers and Polymer Composites, Computer Simulation of Processes and Manufacturing</b> Session Chair: Petr Procházka, Klemens G. Schulmeister 4 papers	<b>MS-20-1: Micro- and nano-mechanics</b> Session Chairs: David CS Chen, J.S. Chen 4 papers
18:00 - 19:30	<b>Take Ferry to Macau</b> <b>(Ticket purchase at reception counter with PC Tours &amp; Travel)</b>				

<b>Time</b>	<b>2 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Grand Ball Room 1</b>	<b>2 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Grand Ball Room 2</b>	<b>2 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Grand Ball Room 3</b>	<b>2 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Salon I</b>	<b>2 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Salon II</b>
8:30 - 9:50	<b>Plenary Session III, Venue: Grand Ball Room, MGM Grand Hotel</b> <b>Keynote Speech 7: Coupled Flow Deformation Analysis Using Meshfree Method</b> <b>S. Valliappan, University of New South Wales</b> <b>Chair: Arantes e Oliveira</b>  <b>Keynote Speech 8: RESAMPLING STATISTICAL METHODS IN ECONOMICS AND MANAGEMENT</b> <b>José AF Machado, Lisbon MBA</b> <b>Chair: Kun Xu</b>				
9:50 - 10:20	<b>Coffee</b>				
10:20 - 12:40	<b>MS-16-3:</b> Meshfree and innovative numerical methods Session Chairs: Yuantong Gu, D.D. Wang Session Keynote: <b>S. Rajendran</b> 6 papers	<b>PS-6-4:</b> Fluid Mechanics and Heat Transfer Session Chairs: Liang Cheng, Y.H. Yau 6 papers	<b>MS-22-1:</b> Structural damage detection utilizing measured dynamic response Session Chairs: Paul Lam, Ryan W M Yan 6 papers	<b>MS-23-3:</b> Nonlinear dynamics Session Chairs: Qi-chang Zhang, Xuegang Yuan 6 papers	<b>PS-11-2:</b> Solid and Structural Mechanics Session Chairs: J.L. Yu, Masanori Kikuchi 6 papers
12:40 - 14:00	<b>Lunch</b>				
14:00 - 15:40	<b>PS-12-1:</b> Solid Mechanics Session Chairs: K. Y. Sze, Liqun Tang 5 papers	<b>PS-3:</b> Damage Mechanics, Nonlinear Dynamics Session Chairs: José MA César de Sá , Narayan Chandak 5 papers	<b>MS-8-4:</b> 3rd International workshop on non-equilibrium flows Session Chairs: Chunpei Cai, Zonglin Jiang 5 papers	<b>PS-5-2:</b> Environmental Science and Engineering Session Chairs: K.V. Yuen, Zhu Tingyu 5 papers	<b>MS-20-2:</b> Micro- and nano-mechanics Session Chairs: David CS Chen, Yunche Wang 5 papers
15:40 - 16:00	<b>Coffee</b>				
16:00 - 17:40	<b>PS-1-2:</b> Artificial intelligence, expert systems & applications; CAD, CAM and CAE Session Chairs: Steve Rowlinson, Cheng-Hung Huang 6 papers	<b>PS-4:</b> Biomechanics, Electromagnetism, MEMS and Bio-MEMS, Microtribology and Micromechanics Session Chairs: Chui-Jie Wu, Moon-Chul Yoon 6 papers	<b>PS-6-5:</b> Fluid Mechanics and Heat Transfer Session Chairs: Patrick Vasseur, Kazuya Nojima 6 papers	<b>PS-14-1:</b> Materials Science, Infrastructures and Aging Structures Session Chairs: Y.C. Lin, Zhan-Qi Guo 6 papers	<b>PS-11-3:</b> Solid and Structural Mechanics Session Chairs: Danh Tran, Guo-Kang Er 6 papers
19:30 - 22:00	<b>Conference Banquet (Shuttle Bus Transfer at Foyer)</b> <b>Venue: Macau Tower</b>				

<b>Time</b>	<b>3 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Grand Ball Room 1</b>	<b>3 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Grand Ball Room 2</b>	<b>3 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Grand Ball Room 3</b>	<b>3 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Salon I</b>	<b>3 Dec. (Wednesday) MGM Grand Hotel, Macau Venue: Salon II</b>
8:30 - 9:50	<b>Plenary Session IV, Venue: Grand Ball Room, MGM Grand Hotel</b> <b>Keynote Speech 9: Fracture Analysis of Functionally Graded Materials</b> <b>Ch.Z. Zhang, University of Seigen</b> <b>Chair: K.M. Mok</b>  <b>Keynote Speech 10: A weakened weak (w2) formulation of numerical methods for solid mechanics problems</b> <b>G.R. Liu, National University of Singapore</b> <b>Chair: C.M. Mota Soares</b>				
9:50 - 10:20	<b>Coffee</b>				
10:20 - 12:30	<b>PS-12-2: Solid Mechanics</b> Session Chairs: P. Schiavone, H.B. Chen 6 papers	<b>PS-1-3: Artificial intelligence, expert systems &amp; applications; CAD, CAM and CAE</b> Session Chairs: Mingwu Yuan, Shuxiang Xu 6 papers	<b>MS-22-2: Structural damage detection utilizing measured dynamic response</b> Session Chairs: Chern-Hwa Chen, C.M. Mota Soares 6 papers	<b>PS-14-2: Materials Science, Infrastructures and Aging Structures</b> Session Chairs: Han Dajian, Michael A.B. Promentilla 6 papers	<b>PS-9: Engineering Sciences and Physics</b> Session Chairs: Sun, Limin, Zheng Xiaojing 6 papers
12:30 - 14:00	<b>Lunch</b>				
14:00 - 15:40	<b>PS-1-4: Artificial intelligence, expert systems &amp; applications; CAD, CAM and CAE</b> Session Chairs: Zuomin Dong, Zhixin Yang 5 papers	<b>PS-8-2: Geomechanics, Geographic Information Systems; Solid and Structural Mechanics</b> Session Chairs: S.C. Wong, Stanislav Potapenko 5 papers	<b>PS-15: Uncertainty and Stochastic Analysis</b> Session Chairs: Gang Li, G.K. Er 5 papers	<b>PS-10: Parallel Computing, Problem Solving Environment, Robust Engineering Systems</b> Session Chairs: Zheng Yao, Ka-Veng Yuen 5 papers	<b>PS-13-1: Inverse Problems and Optimization</b> Session Chairs: D. Kashyap, Ke-min Zhou 5 papers
15:40 - 16:00	<b>Coffee</b>				
16:00 - 17:00	<b>PS-13-2: Inverse Problems and Optimization</b> Session Chairs: Ryan WM Yan, Xu Han 3 papers	<b>PS-11-4: Methods in Life Sciences; Solid and Structural Mechanics</b> Session Chairs: Wei Sun, Z.W. Guan 3 papers	<b>MS-18-2: Recent Advances in BEM and other related meshless methods</b> Session Chairs: Ch.Z. Zhang, Zhenhan Yao 3 papers	<b>PS-16: Dynamic failure and solid mechanics</b> Session Chairs: R.C. Barros, S.C. Wong 3 papers	<b>MS-17: Dynamic failure and solid mechanics</b> Session Chairs: Paul Lam, Dexun Fu 3 papers
18:00 - 20:00	<b>Farewell Dinner (Award presentations)</b> <b>Venue: MGM Grand Hotel</b>				
	<b>Closing</b>				

## PARALLEL SESSIONS

### 30 November:

Title Time 30 Nov.	<b><u>MS-1: Fractal finite element method</u></b> <b>Chairs: Andrew YT Leung, Shuhui Chen</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-547] The method for solving homoclinic/hereoclinic orbits- The undetermined coefficient method and its applications for a new chaotic system Yushu Chen*, Liangqiang Zhou, Fangqi Chen	Crystal Room 3, LB3
10:50 –11:10	[ISCM2-48] Wave scattering by many small particles and creating materials with a desired refraction coefficient A.G. Ramm, Andrew YT Leung*	
11:10 –11:30	[ISCM2-368] Analysis of mode III elastodynamic cracked plane using the fractal two-level finite element method J. Fan*, R.Y.Y Lee, A.Y.T. Leung	
11:30 –11:50	[ISCM2-569] Finite element vibration analysis of rectangular membrane S. H. Chen*, W. J. Lin, A.Y.T. Leung	
11:50 –12:10	[ISCM2-291] Free vibration characteristics of hybrid SPR beams Xiacong He*, Biao Dong, Xunzhi Zhu	
12:10–12:30	[ISCM2-367] Nonlinear analysis of forced responses of an axially moving beam by incremental Harmonic balance method J.L. Huang, S.H. Chen, R.K.L. Su, R.Y.Y. Lee	

Title Time 30 Nov.	<b><u>MS-2: NONLINEAR DYNAMICS, DAMAGE MECHANICS, DYNAMIC FAILURE AND FRACTURE</u></b> <b>Chairs: Vai Pan Iu, Peter Rosko</b>	Venue
10:20–10:50	<b>Session Keynote:</b> [ISCM2-419] Second-order two-scale method for bending behaviors of composite plate with 3-d periodic configuration Guoqing Zhu and Junzhi Cui*	Jade Room, LB1
10:50–11:10	[ISCM2-23] Numerical modelling of fibre metal laminates subjected to blast loading Z.W. Guan*, W. J. Cantwell	
11:10–11:30	[ISCM2-59] Periodicity and stability of tethered satellite systems - part i: circular orbit case F. B. Gao*, W. Zhang, and M.H. Yao	
11:30–11:50	[ISCM2-237] Effects of a device on mitigation of rain/wind-induced vibration Jihong Bi*, Yuanbiao Yin, and Jizhong Li	
11:50–12:10	[ISCM2-421] Setting up an arc code to predict cracking deficit with enthalpy method in upwind scheme Je-Ee.Ho*	
12:10–12:30	[ISCM2-560] Seismic response analysis and design of structure with base isolation Peter Rosko*	

Title Time 30 Nov.	<b><u>MS-3-1: Model-based simulation with applications to nano and bio systems</u></b> <b>Chairs: Zhuo Zhuang, Zhen Chen</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-22] Recent advances in modeling and simulation of the nano-structural responses to extreme loading conditions Zhen Chen*	Crystal Room 2, LB3
10:50 –11:10	[ISCM2-16] Structural transformation of clay minerals by a new molecular dynamics simulation method Jianfeng Wang*, Marte Gutierrez	
11:10 –11:30	[ISCM2-318] Gas separation by kinked single-walled carbon nanotubes Z. Q. Zhang, Hongwu Zhang*	
11:30 –11:50	[ISCM2-321] Mechanics and geometry for carbon nanotube networks and biomembrane nanotube networks YaJun YIN*	
11:50 –12:10	[ISCM2-336] Role of crystalline defects in the deformation of bi-crystal grain boundary interfaces at nano-scale L. Wang*, Hongwu Zhang, X. M. Deng	
12:10 –12:30	[ISCM2-424] Competitive mechanisms between cell-cell and cell-matrix adhesions: monte carlo simulation Guang-Kui Xu, Xi-Qiao Feng, Yue Li*	

Title Time 30 Nov.	<b><u>MS-8-1: 3<sup>RD</sup> INTERNATIONAL WORKSHOP ON NON-EQUILIBRIUM FLOWS</u></b> <b>Chairs: Jing Fan, Kun Xu</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-384] Heat transfer problems induced by multi-shocks interaction Zonglin Jiang*, Jingping Li	Crystal Room 1, LB3
10:50 –11:10	[ISCM2-64] Numerical modeling of heat transfer and flow in low power arcjet thruster Hai-Xing Wang*, Shao-Xia Jia, Xi Chen, Wenxia Pan	
11:10 –11:30	[ISCM2-68] A macro model of squeeze-film air damping in the free-molecule regime Gang Hong, Wenjing Ye*	
11:30 –11:50	[ISCM2-72] Experimental and theoretical studies on pyrolysis of aviation kerosene alternative fuel Jing Wang*, Xuejun Fan, Fengquan Zhong, Jiuzhong Yang, Lidong Zhang, Qi Fei	
11:50 –12:10	[ISCM2-64] Numerical modeling of heat transfer and flow in low power arcjet thruster Hai-Xing Wang*, Shao-Xia Jia, Xi Chen, Wenxia Pan	
12:10 –12:30	[ISCM2-391] A gas-kinetic scheme for generalized fluid dynamic equations Xiaomei Yu, Kun Xu*	

Title Time 30 Nov.	<b><u>MS-16-1: MESHFREE AND INNOVATIVE NUMERICAL METHODS</u></b> <b>Chairs: Yuantong Gu, S. Rajendran</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-239] Adaptively coupled fem-rkpm approach for fragment-impact modeling: consistency and stability J. S. Chen*	Grand Ballroom
10:50 –11:10	[ISCM2-114] A mixed FE-meshfree method for gradient plasticity continuum with linear complementary model Junbo Zhang*, Xikui Li	
11:10 –11:30	[ISCM2-127] An enriched radial point interpolation method for the analysis of crack tip Qiang Fu*, Yuantong Gu	
11:30 –11:50	[ISCM2-128] A coupled meshless technique/molecular dynamics approach for deformation characterization of mono-crystalline metal Yuantong Gu*, Prasad K.D.V. Yarlagadda	
11:50 –12:10	[ISCM2-352] A meshfree cell-based smoothed point interpolation method for solid mechanics problems Guiyong Zhang*, Gui-Rong Liu	
12:10 –12:30	[ISCM2-377] Adaptive moving least square approximation and its application Zhan Bin Yuan*, Nie Yufeng, Ouyang Jie	

Title Time 30 Nov.	<b><u>MS-4: BRIDGE AERODYNAMICS</u></b> <b>Chairs: Gao LIU, Moshe Eisenberger</b>	Venue
14:00 –14:20	[ISCM2-30] Study on structural internal force response of xihoumen bridge pylon under wind loads Gao Liu*, Liu Tian-cheng, Feng Qing-hai, Cheng Shang-you, Li Yi	Crystal Room 3, LB3
14:20 –14:40	[ISCM2-84] Mechanism and damage modes of collision between over-high trucks and bridge superstructures Yan-sheng Zhang*, Xin-zheng Lu, Shui-tao He, and Xiao Lu	
14:40 –15:00	[ISCM2-103] Dynamic stiffness analysis of axially loaded Timoshenko beam with cracks Moshe Eisenberger*	
15:00 –15:20	[ISCM2-422] Extended lattice Boltzmann method with application to predict aerodynamic loads of long span bridge Tiancheng Liu*	
15:20 –15:40	[ISCM2-431] A new method for modeling spatial prestressing bars Yi Li*	



Title Time 30 Nov.	<b><u>MS-5: COMPUTATIONAL FRACTURE MECHANICS FOR QUASI-BRITTLE MATERIALS</u></b> <b>Chairs: Rena C. Yu, Zhenjun Yang</b>	Venue
14:00 –14:20	[ISCM2-35] Numerical study of mixed-mode fracture in reinforced concrete Rena C. Yu*, Luis Saucedo, Gonzalo Ruiz	Jade Room, LB1
14:20 –14:40	[ISCM2-270] Progress in complex 2d and 3d cohesive fracture modelling considering random heterogeneity Zhenjun Yang*, Xiangting Su, Jianfei Chen, Guohua Liu	
14:40 –15:00	[ISCM2-310] Evaluation of an updated continuum damage model in ductile to brittle transition region Zhao-Xi WANG*, Fei XUE, Hui-Ji SHI, Guo-Gang SHU, Jian LU	
15:00 –15:20	[ISCM2-314] Combined finite- and boundary-element analysis of SCC crack growth Gennadiy Nikishkov*	
15:20 –15:40	[ISCM2-118] A computational study of plastic deformation in aisi 304 induced by surface mechanical attrition treatment Xiaochun Zhang*, Jian Lü and SQ Shi	

Title Time 30 Nov.	<b><u>MS-3-2: Model-based simulation with applications to nano and bio systems</u></b> <b>Chairs: Zhen Chen, Hongwu Zhang</b>	Venue
14:00 –14:20	[ISCM2-161] The investigation of size effect for dislocation starvation mechanism under cu single-crystal micro-pillar compression Y. Gao, Z.L. Liu and Zhuo Zhuang*	Crystal Room 2, LB3
14:20 –14:40	[ISCM2-344] A numerical investigation of cfrp-steel interfacial failure with material point method Luming Shen*, Haydar Faleh, Riadh Al-Mahaidi	
14:40 –15:00	[ISCM2-358] Mechanical properties of monolayer graphene under tensile and compressive loading Yuanwen Gao, Peng Hao*	
15:00 –15:20	[ISCM2-369] Simulation of an asymmetrical nano ring by mapping of the realistic electronic confinement potential L. M. Thu, O. Voskoboynikov*	
15:20 –15:40	[ISCM2-423] Monte carlo form-finding method for tensegrity structures Yue Li*, Xi-Qiao Feng and Yan-Ping Cao	

Title Time 30 Nov.	<b><u>MS-8-2: 3<sup>RD</sup> INTERNATIONAL WORKSHOP ON NON-EQUILIBRIUM FLOWS</u></b> <b>Chairs: Kun Xu, Wenjing Ye</b>	Venue
14:00 –14:20	[ISCM2-102] Recent progress in the information preservation method Quanhua Sun <sup>*</sup> , Jing Fan, Chunpei Cai	Crystal Room 1, LB3
14:20 –14:40	[ISCM2-116] Direct numerical simulations of compressible homogeneous turbulence Li-Shi Luo <sup>*</sup> , Wei Liao, Yan Peng	
14:40 –15:00	[ISCM2-125] Plume parameters and thruster properties of a low power arcjet W X Pan <sup>*</sup> , X Meng, H J Huang, C K Wu	
15:00 –15:20	[ISCM2-135] On the internal energy relaxation model for nonequilibrium flow Qibing Li <sup>*</sup> , Song Fu	
15:20 –15:40	[ISCM2-169] Direct numerical simulation of turbulent thermal and flow field with multi-hole cooling Fengquan Zhong <sup>*</sup> , Xuejun Fan, Jing Wang, Yun Huang, Gong Yu	

Title Time 30 Nov.	<b><u>MS-7-1: ADVANCES IN MULTISCALE METHODS AND APPLICATIONS OF NANO- AND BIO-MECHANICS</u></b> <b>Chairs: Dong Qian, Moon K. Kim</b>	Venue
14:00 –14:20	[ISCM2-92] Concurrent quantum-mechanical coupling in low-dimensional carbon nanostructures Dong Qian <sup>*</sup>	Grand Ballroom, LB3
14:20 –14:40	[ISCM2-303] Unstable surface modes in finite chain computations: deficiency of reflection coefficient approach Shaoqiang Tang <sup>*</sup>	
14:40 –15:00	[ISCM2-324] Elastic network model of a nuclear transport complex Patrick Ryan, W. K. Liu, Dockjin Lee, Sangjae Seo, Young-Jin Kim, Moon K. Kim <sup>*</sup>	
15:00 –15:20	[ISCM2-328] Stochastic framework for an advanced material design based on multiresolution continuum theory W.K. Liu, Rong Tian, Sanghoon Lee, Yoon-Suk Chang, Moon-ki Kim, Jae-Boong Choi, Larbi Siad, Dockjin Lee <sup>*</sup> , Young-Jin Kim, Lars-Erik Lindgen	
15:20 –15:40	[ISCM2-330] Nanostructure effects on thermal conductivity in sige nanowires Xueming Yang, Albert C. To <sup>*</sup>	

Title Time 1 Dec.	<b><u>SS-2: COMPUTATIONAL INFECTION RISK ASSESSMENTS IN BUILDING ENVIRONMENT</u></b> <b>Chairs: Jianlei Niu, Man Pun Wan</b>	Venue
15:55 –16:15	[ISCM2-50] CFD Simulation of spread risks of infectious disease due to interactive wind and ventilation airflows via window openings in high-rise buildings Jianlei Niu*, N.P. Gao	Crystal Room 3, LB3
16:15 –16:35	[ISCM2-93] A semi-empirical box approach for modeling the particulate matter concentration at an urban traffic intersection He, Hong-di*, Jane Wei-Zhen Lu	
16:35 –16:55	[ISCM2-355] Experimental investigation on effect of smoke management system in a high-large atrium B. Chen, S.X. Lu, C.H. Li, Y. Huang*, J. Hu, Y.Q. Zheng, S. Chen	
16:55 –17:15	[ISCM2-561] Modeling the pathogen exposure and infection risk associated with fomite transmission in an aircraft cabin mock-up Man Pun Wan*	

Title Time 30 Nov.	<b><u>MS-7-2: ADVANCES IN MULTISCALE METHODS AND APPLICATIONS OF NANO- AND BIO-MECHANICS</u></b> <b>Chairs: Shaoqiang Tang, Dong Qian</b>	Venue
15:55 –16:15	[ISCM2-18] An hierarchical coarse grain modeling of hemoglobin Tao Wu, Ye Yang, X. Sheldon Wang*, Barry Cohen, Hongya Ge	Jade Room, LB1
16:15 –16:35	[ISCM2-161] The investigation of size effect for dislocation starvation mechanism under Cu single-crystal micro-pillar compression Y. Gao, Z.L. Liu, Z. Zhuang*	
16:35 –16:55	[ISCM2-362] Splitting the fast and slow motions in molecular dynamics simulations based on the change of cold potential well bottom Zhijun Zheng*, Yilong Bai	
16:55 –17:15	[ISCM2-481] Atomistic simulations on polycrystalline cu nanowires under tension, bending and torsion loadings X. Tian*, J.Z. Cui, M.Z. Xiang	

Title Time 30 Nov.	<b><u>PS-1-1: Artificial intelligence, expert systems &amp; applications, CAD, CAM and CAE</u></b> <b>Chairs: I-Tung Yang, Ivan Jordanov</b>	Venue
15:55 –16:15	[ISCM2-113] Plastic limit load analysis of tee joint containing corner cracks Lijie Chen <sup>*</sup> , Yinghua Liu, Tieqiang Gang	Crystal Room 2, LB3
16:15 –16:35	[ISCM2-176] Risk-based multiobjective optimization model for bridge maintenance planning I-Tung Yang <sup>*</sup> and Yen-Shun Hsu	
16:35 –16:55	[ISCM2-498] Decision support system for concrete bridge maintenance Maria Rashidi <sup>*</sup> , Brett Lemass, Peter Gibson	
16:55 –17:15	[ISCM2-564] Prediction of scour below flip bucket using soft computing techniques H. M. Azamathulla <sup>*</sup> , Aminuddin A Ghani, Nor Azazi Zakaria	

Title Time 30 Nov.	<b><u>MS-18-1: RECENT ADVANCES IN BEM AND OTHER RELATED MESHLESS METHODS</u></b> <b>Chairs: Ch.Z Zhang, Jan Sladek</b>	Venue
15:55 –16:15	[ISCM2-261] A chain approach of be row-subdomains for simulating the failure processes in heterogeneous brittle materials Zhenhan Yao <sup>*</sup> , Lingfei Gao	Crystal Room 1, LB3
16:15 –16:35	[ISCM2-366] Thermomechanical analysis of functionally graded materials Ch.Z Zhang <sup>*</sup> , A. Ekhlakov, O. Khay, X.W. Gao, J. Sladek and V. Sladek	
16:35 –16:55	[ISCM2-448] Large-scale multiple scattering analysis using fast multipole BEM in time-domain Takahiro Saitoh <sup>*</sup> , Ch. Zhang and S. Hirose	
16:55 –17:15	[ISCM2-403] BEM simulation for steady-state temperature distributions of particulate composites with imperfect interfaces Mei Zhang <sup>*</sup> , Jiangtao Zhang and Pengcheng Zhai	

Title Time 30 Nov.	<b><u>MS-12: RANDOM VIBRATION AND CONTROL OF NONLINEAR STRUCTURAL SYSTEMS</u></b> <b>Chairs: Cho Wing To, X. Sheldon Wang</b>	Venue
15:55–16:15	[ISCM2-120] Symplectic algorithms in computational stochastic nonlinear structural dynamics Cho Wing To*	Grand Ballroom, LB3
16:15–16:35	[ISCM2-83] Non-zero mean PDF solution of nonlinear oscillators due to Poisson white noise G.K. Er*, V. P. Iu, H. T. Zhu and K. P. Kou,	
16:35–16:55	[ISCM2-478] Reduced Order Models for Acoustoelastic Fluid-Structure Interaction Systems Ye Yang, Tao Wu and X. Sheldon Wang*	
16:55–17:15	[ISCM2-11] Damage Analysis of Tensile Deformation of Co-rolled SMATed 304SS X. Guo, A.Y.T. Leung*, A. Chen, H. Ruan and J. Lu	

**1 December:**

Title Time 1 Dec.	<b><u>MS-23-1: NONLINEAR DYNAMICS</u></b> <b>Chairs: YX Hao, RYY Lee</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-297] Modelling dowel action of discrete reinforcing bars in cracked concrete structures A.K.H. Kwan*, P.L. Ng, and J.Y.K. Lam	Crystal Room 3, LB3
10:50 –11:10	[ISCM2-28] Theoretical and Experimental Investigations of Nonlinear Vibrations for a Cantilever Beam Dongxing Cao*, Wei Zhang and Minghui Yao	
11:10 –11:30	[ISCM2-66] Dynamics of the high-speed train pantograph-catenary interaction by using co-simulation of finite element and multibody codes Jorge Ambrosio*, Frederico Rauter, João Pombo and Manuel Pereira	
11:30 –11:50	[ISCM2-153] Analysis and research on elasto-plastic response spectra Jianguo Ding and Wei Chen*	
11:50 –12:10	[ISCM2-198] Nonlinear characteristics of coupling faults rotor-bearing system with slowly varying mass Yuegang Luo*, Songhe Zhang and Bangchun Wen	
12:10 –12:30	[ISCM2-240] A numerical investigation into equilibria of axially moving beams Hu Ding*, Li-Qun Chen	

Title Time 1 Dec.	<b><u>SS-1: MATHEMATICAL MODELS AND NUMERICAL METHODS FOR COMPLEX FLUID FLOWS</u></b> <b>Chairs: Keh-Ming Shyue, Yang-Yao Niu</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-342] Collapse of granular column with time varying topography Yih-Chin Tai*, Chih-Yu Kuo	Jade Room, LB1
10:50 –11:10	[ISCM2-256] Multi-scale finite element approach for Lagrangian hydrodynamics B. Nkonga, P.H. Maire, Keh-Ming Shyue*	
11:10 –11:30	[ISCM2-257] A positive well-balanced v-froee-ncv scheme for non-homogeneous shallow-water equations Christophe Berthon*, Fabien Marche	
11:30 –11:50	[ISCM2-266] A wave propagation method for compressible multiphase flow on logically rectangular quadrilateral and hexahedral grids Keh-Ming Shyue*	
11:50 –12:10	[ISCM2-274] Development of the patient-specific cardiovascular modeling system using immersed boundary technique Wee-Beng Tay, Liang-Yu Lin, Wen-Yih Tseng, Yu-heng Tseng*	
12:10 –12:30	[ISCM2-543] Calculations of two-phase interface capturing flow models based on artificial compressibility Yang-Yao Niu*	

Title Time 1 Dec.	<b><u>PS-6-1: FLUID MECHANICS AND HEAT TRANSFER</u></b> <b>Chairs: Zhigang Li, Leonardo Traversoni</b>	Venue
10:20 –10:50	[ISCM2-17] Numerical analysis of vortex-like structure induced mechanism in gaseous detonation phenomena C J Wang* and C M Guo	Crystal Room 2, LB3
10:50 –11:10	[ISCM2-38] Moving grids and ale-fem for incompressible viscous flows around fixed and moving cylinders Decheng Wan*	
11:10 –11:30	[ISCM2-51] Modelling cavitation using vorticity Leonardo Traversoni* and Yi Xu	
11:30 –11:50	[ISCM2-131] Nanoscale poiseuille flows of liquid argon Chong Liu* and Zhigang Li	
11:50 –12:10	[ISCM2-173] A numerical study of the vertical round jets in cross- flows Xiaoyuan Zhang* and Changcheng Li	
12:10 –12:30	[ISCM2-474] 3D Numerical simulation of flow structure in confluence river Yang Qing-yuan*, Sun Yi, Wang Xian-ye, Lu Wei-Zhen, Wang Xiekang	

Title Time 1 Dec.	<b><u>MS-16-2: MESHFREE AND INNOVATIVE NUMERICAL METHODS</u></b> <b>Chairs: J. S. Chen, Yuantong Gu</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-282] Efficient meshfree simulation of rainfall-induced soil slope failure D.D. Wang*, Ling Li	Crystal Room 1, LB3
10:50 –11:10	[ISCM2-415] A novel polygonal finite element method: virtual node method Tang Xuhai*, C. Zheng, J.H. Zhang	
11:10 –11:30	[ISCM2-441] Solving Reynolds equation in the head-disk interface of hard disk drives by using a meshless method Bao-Jun Shi*, Yang Ting-Yi, Zhang Jian, Du Yun-Dong	
11:30 –11:50	[ISCM2-479] The forming simulation by using the rigid-plastic hybrid pcm/fem Yong-Ming Guo*	
11:50 –12:10	[ISCM2-489] Introduction to the third form of the quadrilateral area coordinate method (QACM-III) Song Cen*, Zhi-Fei Long, Li Wang and Yu-Qiu Long	
12:10 –12:30	[ISCM2-260] Calculation of water entry problem for free-falling bodies using a developed Cartesian cut cell method Wang Wen Hua*, Wang Yanying	

Title Time 1 Dec.	<b><u>MS-8-3: 3<sup>RD</sup> INTERNATIONAL WORKSHOP ON NON-EQUILIBRIUM FLOWS</u></b> <b>Chairs: Quanhua Sun, Chih-Jen Sung</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-567] Kinetic Effects of Non-Equilibrium Plasma Assisted Combustion Timothy Ombrello, Sang Hee Won, and Yiguang Ju*	Grand Ballroom, LB3
10:50 –11:10	[ISCM2-170] Study on the mechanism of detonation to quasi- detonation transition Yun-Feng Liu*, Zong-Lin Jiang	
11:10 –11:30	[ISCM2-279] Catalytic cracking of aviation kerosene under supercritical conditions Xuejun Fan*, Fengquan Zhong, Gong Yu, Jianguo Li, Chih-Jen Sung	
11:30 –11:50	[ISCM2-405] Exact solutions to collisionless external gas flows Chunpei Cai*, Quanhua Sun	
11:50 –12:10	[ISCM2-574] Wall boundary condition for FDLBM direct aeroacoustic simulation S. F. Yu*, R. C. K. Leung	
12:10 –12:30	[ISCM2-497] Plasma and electrode emissions from a 1 kw hydrogen- nitrogen arcjet thruster Heji Huang*, Wenxia Pan, Xian Meng, Chengkang Wu	

Title Time 1 Dec.	<b><u>MS-23-2: NONLINEAR DYNAMICS</u></b> <b>Chairs: Wei Zhang, Jorge Ambrosio</b>	Venue
14:00 –14:20	[ISCM2-231] Nonlinear vibration of the cantilever fgm rectangular plate based on the first-order shear deformation plate theory YX Hao*, W. Zhang	Crystal Room 3, LB3
14:20 –14:40	[ISCM2-252] Seismic responses of shot span bridge under three different patterns of earthquake excitations Daochuan Zhou*, Chen GuoRong, Lu Yan	
14:40 –15:00	[ISCM2-296] Computation of normal forms of Bogdanov-Takens singularities for high dimensional non-linear systems Shu Ping Chen*, Wei Zhang, Youhua Qian	
15:00 –15:20	[ISCM2-307] Parameter estimation for phenomenological model of hysteresis using efficient genetic algorithm Xiaomin Xue*, Zhang Ling and Sun Qing	
15:20 –15:40	[ISCM2-340] Multi-pulse homoclinic orbits and chaotic dynamics of the cantilevered pipe conveying pulsating fluid Minghui Yao*, W. Zhang and D.X. Cao	



Title Time 1 Dec.	<b><u>PS-6-2: FLUID MECHANICS AND HEAT TRANSFER</u></b> <b>Chairs: R.K.K. Yuen, Carolin Birk</b>	Venue
14:00 –14:20	[ISCM2-70] An upwind nonlinear galerkin finite element method for the incompressible navier-stokes equations Juan Wen *	Jade Room, LB1
14:20 –14:40	[ISCM2-121] Experimental and numerical investigation of flow controls for closed-type cavity flow Zhang Qunfeng * and Li Jun	
14:40 –15:00	[ISCM2-132] Friction-induced fluid heating in nanoscale helium flows Zhigang Li*	
15:00 –15:20	[ISCM2-251] A temporally local absorbing boundary for diffusion in 3d unbounded medium Carolin Birk* and Chongmin Song	
15:20 –15:40	[ISCM2-316] The ghost cell method and its applications for inviscid compressible flow on adaptive tree cartesian grids Jianming Liu, Ning Zhao, and Ou Hu*	

Title Time 1 Dec.	<b><u>PS-11-1: SOLID AND STRUCTURAL MECHANICS</u></b> <b>Chairs: Jian Lü, Yang Xiang</b>	Venue
14:00 –14:20	[ISCM2-24] Parametric instability of functionally graded timoshenko beams with an open edge crack Jie Yang, Sritawat Kitipornchai, and Yang Xiang*	Crystal Room 2, LB3
14:20 –14:40	[ISCM2-45] A generalized component modal analysis for space mega frames of super tall buildings Yaoqing Gong*, Liping Liu	
14:40 –15:00	[ISCM2-69] Vibration analysis of plates by mls-element method L. Zhou* and Yang Xiang	
15:00 –15:20	[ISCM2-95] Parametric shape and topology optimization with radial basis functions and partition of unity method Hon Shan Ho*, Bonnie Lui, XH Xing, and Michael Yu Wang	
15:20 –15:40	[ISCM2-436] Scaling relationships in spherical indentation of metallic foams Wenyi Yan*	

Title Time 1 Dec.	<b><u>PS-5-1: Environmental Science and Engineering</u></b> <b>Chairs: John C.C. Lu, Dong-Sheng Jeng</b>	Venue
14:00 –14:20	[ISCM2-141] Transient ground surface displacements of a poroelastic half space subjected to an impulsive point sink Feng-Tsai Lin and John C.C. Lu *	Crystal Room 3, LB3
14:20 –14:40	[ISCM2-315] On controllability of structures with closely spaced natural frequencies based on perturbation analysis Xie Faxiang * and Sun Limin	
14:40 –15:00	[ISCM2-443] The effects of wind turbulent on the structure of streamwise sand flux Hu Wenwen, Wang Ping *, Zheng Xiaojing	
15:00 –15:20	[ISCM2-356] Design of field experiments for adaptive sampling of the ocean with autonomous vehicles H Zheng, BH Ooi, W Cho, MH Dao, P Tkalich, and NM Patrikalakis *	
15:20 –15:40	[ISCM2-511] Effects of soil behavior on solute transport in groundwater Dong-Sheng Jeng *, Huijie Zhang	

Title Time 1 Dec.	<b><u>MS-24: RECENT DEVELOPMENTS IN ANISOTROPIC CONTINUUM ANALYSIS, INCLUDING COMPOSITES AND BIOMECHANICS</u></b> <b>Chairs: David C. Kellermann, Miroslav Petrtyl</b>	Venue
14:00 –14:20	[ISCM2-150] A continuum approach for neural network modelling of anisotropic materials Hou Man *, Tomonari Furukawa	Grand Ballroom, LB3
14:20 –14:40	[ISCM2-205] On inclusion-matrix interfacial stresses in composites containing phase-transforming phases Yunche Wang *, Chi-Ching Ko	
14:40 –15:00	[ISCM2-255] Intrinsic decomposition of the stretch tensor for fibrous media David C. Kellermann *	
15:00 –15:20	[ISCM2-420] Two-scale finite element computation for piezoelectric problem in periodic perforated domain Yongping Feng *, Yao Zhengan and Deng Mingxiang	
15:20 –15:40	[ISCM2-462] Biomechanical properties of peripheral layer in articular cartilage Miroslav Petrtyl *, J. Danesova, J. Lisal, J. Sejkotova	

Title Time 1 Dec.	<b><u>PS-2: NDE AND WAVE PROPAGATION</u></b> <b>Chairs: B. Tie, Jiayong Tian</b>	Venue
15:55 –16:15	[ISCM2-32] Finite element method for analysis of band structures of 2d phononic crystals with archimedean-like tilings Jianbao Li <sup>*</sup> , Yue-Sheng Wang, Chuanzeng Zhang	Crystal Room 3, LB3
16:15 –16:35	[ISCM2-61] A hybrid method for transient wave propagation in a multilayered solid Jiayong Tian <sup>*</sup> and Zhoumin Xie	
16:35 –16:55	[ISCM2-108] High frequency elastic wave propagation in media with a microstructure. B. Tie <sup>*</sup> , D. Aubry, A.S. Mouronval, D. Solas, J. Thébault, and B.Y. Tian	
16:55 –17:15	[ISCM2-408] Numerical simulations of one-dimensional microstructure dynamics M. Berezovski <sup>*</sup> , A. Berezovski, J. Engelbrecht	

Title Time 1 Dec.	<b><u>PS-6-3: FLUID MECHANICS AND HEAT TRANSFER</u></b> <b>Chairs: Jintu Fan, Decheng Wan</b>	Venue
15:55 –16:15	[ISCM2-34] Three-dimensional numerical simulation of turbulent flow in a rectangular u-bending pipe Xianye Wang <sup>*</sup> , Jane Wei-Zhen Lu and Sun Yi	Jade Room, LB1
16:15 –16:35	[ISCM2-134] Numerical simulation of particle flow for high velocity compaction based on discrete element method Wang Shuang <sup>*</sup> , Zheng Zhoushun, and Zheng Shan	
16:35 –16:55	[ISCM2-322] Assessment of human safety and thermal comfort in high-temperature environment: cfd and human thermoregulation model Han Xuefeng <sup>*</sup> , Weng Wenguo, and Shen Shifei	
16:55 –17:15	[ISCM2-454] Numerical study of waterjet guided laser drilling of silicon based on FVM Cai-Juan Zhan <sup>*</sup> , Chang-Feng Li, YuLi Wang, Tao Liu, Yong-Chen Pan	

Title Time 1 Dec.	<b><u>PS-8-1: GEOMECHANICS, GEOGRAPHIC INFORMATION SYSTEMS</u></b> <b>Chairs: X.K. Li, Thirapong Pipatpongsa</b>	Venue
15:55 –16:15	[ISCM2-101] An updated constitutive model of eps geofoam Chin J. Leo <sup>*</sup> , Henry K. Wong, and Samanthika Liyanapathirana	Crystal Room 2, LB3
16:15 –16:35	[ISCM2-142] Thermal consolidation of a poroelastic full space subjected to a decaying point heat source John C.-C. Lu <sup>*</sup> , Feng-Tsai Lin	
16:35 –16:55	[ISCM2-174] Particular stress distributions in granular wedges under coulomb friction inequality Thirapong Pipatpongsa <sup>*</sup>	
16:55 –17:15	[ISCM2-295] The numerical simulation of coupling behavior of soil with chemical pollutant effects Z.J. Liu <sup>*</sup> , X.K. Li, and L.Q. Tang	

Title Time 1 Dec.	<b><u>PS-7: POLYMERS AND POLYMER COMPOSITES, COMPUTER SIMULATION OF PROCESSES AND MANUFACTURING</u></b> <b>Chairs: Petr Procházka, Klemens G. Schulmeister</b>	Venue
15:55 –16:15	[ISCM2-243] Tools and equipments modeling for automobile interactive assembling operating simulation and process planning Dianliang Wu <sup>*</sup> and Hongmin Zhu	Crystal Room 1, LB3
16:15 –16:35	[ISCM2-402] Variational bounds for creeping composites Petr Procházka <sup>*</sup>	
16:35 –16:55	[ISCM2-404] Overall properties of debonding composites using BEM Petr Procházka <sup>*</sup> , Sarka Peskova, and Alexander Kravtsov	
16:55 –17:15	[ISCM2-553] Modeling of lateral dynamics for an endless steel belt Klemens G. Schulmeister <sup>*</sup>	

Title Time 1 Dec.	<b><u>MS-20-1: MICRO- AND NANO-MECHANICS</u></b> <b>Chairs: David CS Chen, J. S. Chen</b>	Venue
15:55 –16:15	[ISCM2-109] Nano-size effect of interface energy and its effect on interface fracture Li-Hong Liang <sup>*</sup> , X.M. You, H.S. Ma, Y.G. Wei	Grand Ballroom, LB3
16:15 –16:35	[ISCM2-148] Simulation of nanoscale phenomena using extended space/time finite element method and bridging scale boundary condition Dong Qian <sup>*</sup> , Shardoool Chirputkar	
16:35 –16:55	[ISCM2-196] The prediction and simulation for the mechanical properties of ceramic-based composites reinforced with nano-micro particles Dongmei Luo <sup>*</sup> , Yinglong Zhou, Jinshan Hu, Hong Yang	
16:55 –17:15	[ISCM2-380] Multiscale Method for Quantum Mechanics J. S. Chen <sup>*</sup> , W. Hu	

**2 December:**

Title Time 2 Dec.	<b><u>MS-16-3: MESHFREE AND INNOVATIVE NUMERICAL METHODS</u></b> <b>Chairs: Yuantong Gu, D.D. Wang</b>	Venue
10:20 –10:50	<b>Session Keynote:</b> [ISCM2-536] Sufficient conditions for mesh- distortion immune finite elements S. Rajendran *	Grand Ball Room 1, Foyer
10:50 –11:10	[ISCM2-509] An element nodal force-based large increment method for elastoplasticity Zaoyang Guo *, Danbin Long, Xila Liu, Stéphane Bordas and Leiming Zhang	
11:10 –11:30	[ISCM2-568] Point-wise integrated-rbf-based discretisation of differential equations Mai-Duy Nam *, Thanh Tran-Cong	
11:30 –11:50	[ISCM2-193] On the structure of a new superhard hexagonal carbon phase Bin Zhang *, Yongcheng Liang, Zaoyang Guo, and Stéphane Bordas	
11:50 –12:10	[ISCM2-202] Dynamic end-milling force filtering using wavelet filter bank Moon Chul Yoon *	
12:10 –12:30	[ISCM2-269] Multi-objective shape design of crane-hook taking account of practical requirement T. Muromaki *, K. Hanahara, T. Nishimura, Y. Tada, S. Kuroda, T. Fukui	

Title Time 2 Dec.	<b><u>PS-6-4: FLUID MECHANICS AND HEAT TRANSFER</u></b> <b>Chairs: Liang Cheng, Y.H. Yau</b>	Venue
10:20 –10:40	[ISCM2-264] Development of a unified flow regime map for a horizontal pipe with the support vector machines H. K. Tam *, L. M. Tam, A. J. Ghajar, and C. W. Cheong	Grand Ball Room 2, Foyer
10:40 –11:00	[ISCM2-265] Comparison of different correlating methods for the single-phase heat transfer data in laminar and turbulent flow regions H. K. Tam *, L. M. Tam, A. J. Ghajar and C. U. Lei	
11:00 –11:20	[ISCM2-331] Optimization on emergency longitudinal ventilation design Camby M.K. Se, R.K.K. Yuen *, Sherman C.P. Cheung, and Jiyuan Tu	
11:20 –11:40	[ISCM2-349] Numerical study on the turbulent flow structures of a buoyant pool fire Sherman C.P. Cheung *, Camby M.K. Se, G.H. Yeoh, and Jiyuan Tu	
11:40 –12:00	[ISCM2-389] A 2-d model to predict time development of scour below pipelines with spoiler M. S. Alam * and Liang Cheng	
12:00 –12:20	[ISCM2-444] Heat and mass transport through porous fibrous insulation: modelling and optimization Jintu Fan *, Ning Du, Huijun Wu, and Weiwei Sun	

Title Time 2 Dec.	<b><u>MS-22-1: STRUCTURAL DAMAGE DETECTION UTILIZING MEASURED DYNAMIC RESPONSE</u></b> <b>Chairs: Paul Lam, Ryan W.M. Yan</b>	Venue
10:20 –10:40	[ISCM2-9] Detection of multiple cracks on a partially obstructed plate structure following the probabilistic approach. T. Yin, Paul H.F. LAM*, H.M. Chow	Grand Ball Room 3, Foyer
10:40 –11:00	[ISCM2-10] Enhancing the performance of structural health monitoring by optimal sensor placement and model class selection Paul H.F. LAM*, H.M. Chow and T. Yin	
11:00 –11:20	[ISCM2-25] An experimental study of dlw method in damage detection of frame structures Yen-Po Wang*, Yi-Hsuan Chen and Chien-Liang Lee	
11:20 –11:40	[ISCM2-233] Intelligent-based structural damage detection by measured vibration information Eric W.M. Lee*, Kin Fung Yu	
11:40 –12:00	[ISCM2-412] Experimental Study on a general data-based nonlinear identification approach for a frame model structure Bin Xu*, Jia He, Ren Zhou, Sami F. Masri	
12:00 –12:20	[ISCM2-430] Effect of $\beta$ on seismic vulnerability curve for rc bridge based on double damage criterion Feng Qing Hai*, Yuan Wan-cheng	

Title Time 2 Dec.	<b><u>MS-23-3: NONLINEAR DYNAMICS</u></b> <b>Chairs: Qi-chang Zhang, Xuegang Yuan</b>	Venue
10:20 –10:50	[ISCM2-346] Symplectic method based on dual variable principle Qiang Gao*, H.W. Zhang and W.X. Zhong	Salon I, Foyer
10:50 –11:10	[ISCM2-350] Nonlinear seismic analysis of girder bridge using POA Zhenxin Li*, Shizhong Qiang	
11:10 –11:30	[ISCM2-390] Nonlinear vibration of a rotor/stator system with axial contact/rubs Q Ding*, K. P. Zhang	
11:30 –11:50	[ISCM2-439] Dynamic bifurcation in composite incompressible hyperelastic cylindrical tubes Xuegang Yuan*, Hong-wu Zhang and Jiu-sheng Ren	
11:50 –12:10	[ISCM2-522] Numerical modeling for impact-resistant pipes buried at shallow depth Ching-Jong Wang*, Jung-Fu Hsu	
12:10 –12:30	[ISCM2-531] Silnikov sense chaos in a simple three dimensional system Qi-chang Zhang*, Wang Wei, Hao Shu-ying	

Title Time 2 Dec.	<b><u>PS-11-2: SOLID AND STRUCTURAL MECHANICS</u></b> <b>Chairs: J. L. Yu, Masanori Kikuchi</b>	Venue
10:20 –10:50	[ISCM2-86] Thermal analysis of thin plates using the finite element method G. K. Er*, V. P. Lu, and X. L. Liu	Salon II, Foyer
10:50 –11:10	[ISCM2-262] Bending response of sandwiched double tube structures with aluminum foam core L.W. Guo* and J.L. Yu	
11:10 –11:30	[ISCM2-275] Interaction effect analysis of two surface cracks using s-version fem Masanori Kikuchi*, Yoshitaka Wada, and Yulong Li	
11:30 –11:50	[ISCM2-285] Three-dimensional free vibration of functionally graded material plates on different boundary conditions Qian Li* and Vai Pan Lu	
11:50 –12:10	[ISCM2-286] Three-dimensional buckling analysis of rectangular plates with in-plane compressive loads Qian Li* and Vai Pan Lu	
12:10 –12:30	[ISCM2-359] Settlement analysis of pile groups in layered elastic half space Baiyong Fu*, Guoping Xu, and Heng Gao	

Title Time 2 Dec.	<b><u>PS-12-1: SOLID MECHANICS</u></b> <b>Chairs: K. Y. Sze, Liqun Tang</b>	Venue
14:00 –14:20	[ISCM2-111] A bridging scale method for multi-scale analysis of granular materials Xikui Li* and Ke Wan	Grand Ball Room 1, Foyer
14:20 –14:40	[ISCM2-137] Hybrid-trefftz finite elements for helmholtz problem K. Y. Sze* and G. H. Liu	
14:40 –15:00	[ISCM2-163] One-dimension consolidation analytical solution for exponential variation of soil properties with depth Pan Dan-guang*, Song Jun-lei, and Gao Yan-hua	
15:00 –15:20	[ISCM2-249] Constitutive relation of aluminium foam based on multiple statistical parameters Liqun Tang*	
15:20 –15:40	[ISCM2-311] Life prediction for low cycle fatigue in PWR primary pipe material Xue Fei, Yu Wei-wei*, Wang Zhao-xi, Ti Wen-xin, Lin Lei, and Men Xin-ming	



Title Time 2 Dec.	<b><u>PS-3: DAMAGE MECHANICS, NONLINEAR DYNAMICS</u></b> <b>Chairs: José M.A. César de Sá, Narayan Chandak</b>	Venue
14:00 –14:20	[ISCM2-427] Thermodynamical framework for ductile damage and plasticity José M.A. César de Sá*, Filipe X.C. Andrade, Francisco M. Andrade Pires	Grand Ball Room 2, Foyer
14:20 –14:40	[ISCM2-433] Evaluation of bogie frame safety of shanghai metro line 1 by 3d fem analysis XIE Xiongyao*, JIN Guolong, WANG Rulu	
14:40 –15:00	[ISCM2-538] Structural response of triangular tension leg platform using dynamic morison equation Narayan Chandak* and S. Chandrasekaran	
15:00 –15:20	[ISCM2-563] A dislocation migration approach to mode ii fracture initiation and propagation under cyclic loading A. Karami* and J. Szymanski	
15:20 –15:40	[ISCM2-576] Seismic assessment of buildings: proposal of a new modified uncoupled modal response history analysis Sandra Jerez* and Ahmed Mebarki	

Title Time 2 Dec.	<b><u>MS-8-4: 3<sup>RD</sup> INTERNATIONAL WORKSHOP ON NON-EQUILIBRIUM FLOWS</u></b> <b>Chairs: Chunpei Cai, Zonglin Jiang</b>	Venue
14:00 –14:20	[ISCM2-502] Diffusive transport in two-dimensional Rayleigh- Benard convection Jun Zhang*, Jing Fan	Grand Ball Room 3, Foyer
14:20 –14:40	[ISCM2-513] Skeletal mechanism generation of surrogate jet fuels for aer propulsion modeling Chih-Jen Sung*, Kyle E. Niemeyer	
14:40 –15:00	[ISCM2-556] Parallel fully-implicit computation of magneto- hydrodynamics acceleration experiments Tian Wan*, Graham Candler	
15:00 –15:20	[ISCM2-164] An efficient immersed boundary-lattice boltzmann method for simulation of three-dimensional flows Chang Shu*, J. Wu	
15:20 –15:40	[ISCM2-99] Fully kinetic simulations of ion beam neutralization Joseph Wang*	

Title Time 2 Dec.	<b><u>PS-5-2: ENVIRONMENTAL SCIENCE AND ENGINEERING</u></b> <b>Chairs: K.V. Yuen, Zhu Tingyu</b>	Venue
14:00 –14:20	[ISCM2-191] Particle trace in vortex merging process Huang Hai-ming and Xu Xiao-liang*	Salon I, Foyer
14:20 –14:40	[ISCM2-317] Is a complex neural network based air quality model better than a simple one? A bayesian point of view K.I. Hoi, K.V. Yuen, and K.M. Mok*	
14:40 –15:00	[ISCM2-438] Rainstorm simulation in Macao with WRF M. M. Lou*, K. M. Mok	
15:00 –15:20	[ISCM2-550] Computational fluid dynamics (CFD) simulation of drag reduction by riblets on automobile N.N.N. Ghazali*, Y. H. Yau, A. Badarudin, Y.C. Lim	
15:20 –15:40	[ISCM2-558] A novel sintering gas desulphurization technology applied in the sintering plants in china Jin Ting, Zhu Tingyu*, Jing Pengfei, Ye Meng	

Title Time 2 Dec.	<b><u>MS-20-2: MICRO- AND NANO-MECHANICS</u></b> <b>Chairs: David CS Chen, Yunche Wang</b>	Venue Macau
14:00 –14:20	[ISCM2-197] Multiscale analysis of adsorption-induced deformation of cantilever-based biosensor David Chuin-Shan Chen*, Chia-Ching Chou and Shu-Wei Chang	Salon II, Foyer
14:20 –14:40	[ISCM2-284] Molecular dynamics simulation of the tension properties on the single-crystalline nano-Cu films Shuang Xu*, Ya-Fang Guo	
14:40 –15:00	[ISCM2-323] Interactions between a buckled carbon nanotube and fullerene via molecular-dynamics simulations Yunche Wang*, Qu-Yuan Kuo and Chuan Chen	
15:00 –15:20	[ISCM2-493] Eshelby tensor for a penny-shaped inclusion with limited thickness in transversely isotropic elastic medium Zhu Fuwei*, Dui Guansuo	
15:20 –15:40	[ISCM2-294] Nanomechanics of Biomolecular Motor Proteins in Micromachined Structures Tzu-Chen Ma, C-H Lin, Chih-Ting Lin*, Chuin-Shan Chen	

Title Time 2 Dec.	<b><u>PS-1-2: ARTIFICIAL INTELLIGENCE, EXPERT SYSTEMS &amp; APPLICATIONS; CAD, CAM AND CAE</u></b> <b>Chairs: Steve Rowlinson, Cheng-Hung Huang</b>	Venue
16:00 –16:20	[ISCM2-55] Modelling and prediction of spark-ignition engine power performance using incremental least squares support vector machines Pak-kin Wong, Chi-man Vong, Hang-cheong Wong, Ke Li*	Grand Ball Room 1, Foyer
16:20 –16:40	[ISCM2-57] Case-based reasoning for automotive engine performance tune-up C.M. Vong, H. Huang*, and P.K. Wong	
16:40 –17:00	[ISCM2-162] Multi-level interval estimation for locating damage in structures by using artificial neural networks Pan Dan-guang*, Gao Yan-hua, and Song Jun-lei	
17:00 –17:20	[ISCM2-172] Case-based reasoning with clustering for automotive engine spark ignition system H. Huang*, C.M. Vong and P.K. Wong	
17:20 –17:40	[ISCM2-232] An inverse problem in estimating the volumetric heat generation for a three-dimensional encasulated chip Cheng-Hung Huang* and Wei-Lun Chang	
17:40 –18:00	[ISCM2-253] Implementation of building information modeling (BIM) in construction: a comparative case study Steve Rowlinson*, Ronan Collins, Martin M. Tuuli, and Yunyan Jia	

Title Time 2 Dec.	<b><u>PS-4: BIOMECHANICS, ELECTROMAGNETISM, MEMS AND BIO-MEMS, MICROTRIBOLOGY AND MICROMECHANICS</u></b> <b>Chairs: Chui-Jie Wu, Moon-Chul Yoon</b>	Venue
16:00 –16:20	[ISCM2-43] Vortex dynamics principles of direction control, speed control and energy-saving mechanism of self-propelled swimming of fish school Chui-Jie Wu*	Grand Ball Room 2, Foyer
16:20 –16:40	[ISCM2-464] Fibre-matrix interaction in soft tissue Zaoyang Guo*	
16:40 –17:00	[ISCM2-347] Electromagnetic elasto-plastic dynamic response of conductive plate Yuanwen Gao*	
17:00 –17:20	[ISCM2-372] Characterization of elastic-plastic material properties for imc layer of enepig by using reverse algorithm Jong-Min Kim, Hyun-Boo Lee, Yoon-Suk Chang, Jae-Boong Choi*, Young-Jin Kim, and Kum-Young Ji	
17:20 –17:40	[ISCM2-204] Tilting compensation technique of micro machined surface Moon-Chul Yoon and Jae-Yong Yang*	
17:40 –18:00	[ISCM2-151] A prediction method of binding free energy of protein and ligand Kun Yang* and Xicheng Wang	

Title Time 2 Dec.	<b><u>PS-6-5: FLUID MECHANICS AND HEAT TRANSFER</u></b> <b>Chairs: Patrick Vasseur, Kazuya Nojima</b>	Venue
16:00 –16:20	[ISCM2-482] The critical heat transfer characteristics of an insulated sphere considering heat radiation King Leung Wong, and José Luis León Salazar *	Grand Ball Room 3, Foyer
16:20 –16:40	[ISCM2-528] Soret and thermosolutal effects on convection within a horizontal fluid layer Imene Alloui, Hocine Benmoussa, and Patrick Vasseur *	
16:40 –17:00	[ISCM2-530] Blockage ratio and mesh dependency study for lattice boltzmann flow around cylinder M. S. Alam, Liang Cheng *	
17:00 –17:20	[ISCM2-549] CFD Simulation on thermal comfort in a library building in the tropics Y.H. Yau *, N.N.N. Ghazali, A. Badarudin and F.C. Goh	
17:20 –17:40	[ISCM2-554] Three-dimensional shape identification of a BOD located in fluid flow Kazuya Nojima *, Mutsuto Kawahara	
17:40 –18:00	[ISCM2-572] A new mathematical methods for pressure transient analysis of naturally-fractured VUGGY reservoirs Lijun Zhang *, Shiqing Cheng, Junling Wang	

Title Time 2 Dec.	<b><u>PS-14-1: MATERIALS SCIENCE, INFRASTRUCTURES AND AGING STRUCTURES</u></b> <b>Chairs: Y.C. Lin, Zhan-Qi Guo</b>	Venue
16:00 –16:20	[ISCM2-13] Simulation of the optical parameters and study of the physical properties of the ito films prepared by ion beam assisted deposition technique Lijian Meng *	Salon I, Foyer
16:20 –16:40	[ISCM2-85] Mechanical behavior of nanometer ni by md simulation Qiheng Tang * and Nan Ding	
16:40 –17:00	[ISCM2-106] First principle study on novel gas sensor based on al-doped grapheme Mei Chi * and Ya-Pu Zhao	
17:00 –17:20	[ISCM2-156] Discrete element method simulating workability of fresh concrete Zhan-Qi Guo *, Quan Yuan, P. Stroeven, and A.L.A. Fraaij	
17:20 –17:40	[ISCM2-206] Mathematical models for predicting the flow stress of typical alloy steel at elevated high temperatures Y.C. Lin * and Ge Liu	
17:40 –18:00	[ISCM2-338] Analysis of interface properties of hybrid pre-stressed strengthening rc beams with crack Xie Zhihong *, Huang Peiyan, Guo Yongchang, Deng Jun, and Zhong Genquan	

Title Time 2 Dec.	<b><u>PS-11-3: SOLID AND STRUCTURAL MECHANICS</u></b> <b>Chairs: Danh Tran, Guo-Kang Er</b>	Venue
16:00 –16:20	[ISCM2-365] The failure analysis of the axis of planet gearbox Gwo-Chung Tsai*, B.-S. Leu	Salon II, Foyer
16:20 –16:40	[ISCM2-398] Theoretical study on the geometric and dynamic performance of ring spinning triangle with finite element method Sheng Yan Li, Bin Gang Xu*, and Xiao Ming Tao	
16:40 –17:00	[ISCM2-406] New formulation of the governing equations for analyzing outrigger structures Guo-Kang Er*	
17:00 –17:20	[ISCM2-451] Analysis of factors affecting stress solution at concrete gravity dam heel Vu Hoang Hung*, Trinh Quoc Cong, Li Tongchun	
17:20 –17:40	[ISCM2-470] Generating frequency response functions of a structure from time domain response signals Danh Tran*, Mohammad Saraireh	
17:40 –18:00	[ISCM2-491] Control of prestressing force in rod for reducing bending in beams M B Wong*	

**3 December:**

Title Time 3 Dec.	<b><u>PS-12-2: SOLID MECHANICS</u></b> <b>Chairs: P. Schiavone, H.B. Chen</b>	Venue
10:20 –10:50	[ISCM2-378] Study on thermal fatigue life of glidcop Al-15 J.F. Jin, W.L. Xiao, H.B. Chen*	Grand Ball Room 1, Foyer
10:50 –11:10	[ISCM2-432] An assumed stress field method with orthogonal basic deformation modes for zero-energy mode free hybrid element construction Canhui Zhang*, Dongdong Wang	
11:10 –11:30	[ISCM2-509] An element nodal force-based large increment method for elastoplasticity Zaoyang Guo, Danbin Long*, Xila Liu, Stéphane Bordas and Leiming Zhang	
11:30 –11:50	[ISCM2-520] Surface effects on an elastic solid with mode-III crack C.I. Kim, P. Schiavone*, C-Q Ru	
11:50 –12:10	[ISCM2-524] Boundary element method for analysis of transverse wave resonances in phononic crystals Feng-Lian Li* and Yue-Sheng Wang	
12:10 –12:30	[ISCM2-548] Calculation of two-dimensional phononic energy bands by using FDTD and high-resolution spectral estimation Xiao-Xing Su* and Yue-Sheng Wang	

Title Time 3 Dec.	<b><u>PS-1-3: ARTIFICIAL INTELLIGENCE, EXPERT SYSTEMS &amp; APPLICATIONS; CAD, CAM AND CAE</u></b> <b>Chairs: Mingwu Yuan, Shuxiang Xu</b>	Venue
10:20 –10:50	[ISCM2-407] An efficient implementation scheme for the moving grid method based on delaunay graph mapping Shuli Sun, Bin Chen, Jianfei Liu and Mingwu Yuan*	Grand Ball Room 2, Foyer
10:50 –11:10	[ISCM2-449] An experimental comparison of similarity assessment measures for 3d models on constrained surface deformation Lulin Quan*, Zhixin Yang	
11:10 –11:30	[ISCM2-467] Numerical ergonomics analysis in operation environment of CNC machine S. F. Wong*, Z. X. Yang	
11:30 –11:50	[ISCM2-521] Intelligent computer vision system for automated classification Ivan Jordanov*, Antoniya Georgieva	
11:50 –12:10	[ISCM2-544] A novel higher order artificial neural networks Shuxiang Xu*	
12:10 –12:30	[ISCM2-546] Development on a new plate element of vector form intrinsic finite element HsienHua Lee*	

Title Time 3 Dec.	<b><u>MS-22-2: STRUCTURAL DAMAGE DETECTION, INVERSE PROBLEMS AND OPTIMIZATION</u></b> <b>Chairs: Chern-Hwa Chen, C.M. Mota Soares</b>	Venue
10:20 –10:50	[ISCM2-459] Structural monitoring and field test for kao ping hsi cable-stayed bridge in taiwan Chern-Hwa Chen *	Grand Ball Room 3, Foyer
10:50 –11:10	[ISCM2-578] Detection of ballast damage by in-situ vibration measurement of sleepers Paul H. F. LAM*, M. T. Wong, R. M. Keefe	
11:10 –11:30	[ISCM2-396] Parameter estimation in hybrid active-passive laminated sandwich composite structures A.L. Araújo, C.M. Mota Soares*, C.A. Mota Soares, and J. Herskovits	
11:30 –11:50	[ISCM2-463] A nested genetic algorithm for the numerical solution of non-linear coupled equations in water quality modeling Hermes A. García, Francisco J. Guerrero-Bolaño, Nelson Obregón-Neira*	
11:50 –12:10	[ISCM2-473] Development and validation of inverse model to detect fire source and intensity Shaodong Guo*, Rui Yang and Hui Zhang	
12:10 –12:30	[ISCM2-537] Ann-assisted planning of conjunctive use of canal and ground water in canal commands Deepak Kashyap*, Susmita Ghosh	

Title Time 3 Dec.	<b><u>PS-14-2: MATERIALS SCIENCE, INFRASTRUCTURES AND AGING STRUCTURES</u></b> <b>Chairs: Han Dajian, Michael A. B. Promentilla</b>	Venue
10:20 –10:50	[ISCM2-364] The influence of hollow imperfections of epoxy resin on performances of interface of strengthened rc beams with HFRP Guo Yongchang, Li Lijuan, Deng Jun and Zhong Genquan*	Salon I, Foyer
10:50 –11:10	[ISCM2-410] Prediction of service lives of bridge expansion joints Ying-Hua Huang* and Jing-Jhan Lin	
11:10 –11:30	[ISCM2-445] Optimization of ferroelectric ceramics by design at the microstructure level K. P. Jayachandran*, J. M. Guedes and H. C. Rodrigues	
11:30 –11:50	[ISCM2-458] A study on assessment method of traffic load effect of bridge in service Pan Ling, Han Dajian*	
11:50 –12:10	[ISCM2-487] Airfield rigid pavement structural design - a review of main aspects and methods of analysis Pereira, Tiago Bonucci*	
12:10 –12:30	[ISCM2-499] Computation of crack tortuosity from microtomographic images of cement-based materials Michael Angelo B. Promentilla*, Takafumi Sugiyama	

Title Time 3 Dec.	<b><u>PS-9: ENGINEERING SCIENCES AND PHYSICS</u></b> <b>Chairs: Sun, Limin, Zheng, Xiaojing</b>	Venue
10:20 –10:50	[ISCM2-58] An occupant behavior model for building energy efficiency and safety L.L. Pan*, T. Chen, Q.S. Jia, R.X. Yuan, H.T. Wang, and R. Ding	Salon II, Foyer
10:50 –11:10	[ISCM2-129] Judging criterion of structures with closely spaced natural frequencies and its effect on control results Xie Faxiang* and Sun Limin	
11:10 –11:30	[ISCM2-455] The research on the shedding vortex of barchan dune by LES Ma Gaosheng*, Zheng Xiaojing	
11:30 –11:50	[ISCM2-466] Non-isothermal stagnation-point flow with convective boundary condition Vai Kuong Sin, Man Cheng Chen*	
11:50 –12:10	[ISCM2-484] Average temperature model of double-row-pipe frozen soil wall by equivalent trapezoid method Xiang-dong Hu*	
12:10 –12:30	[ISCM2-577] Prediction of noise propagation in city street canyons using computational environmental acoustics method E.X.J. Li, K.H. Seid, and R.C.K. Leung*	

Title Time 3 Dec.	<b><u>PS-1-4: ARTIFICIAL INTELLIGENCE, EXPERT SYSTEMS &amp; APPLICATIONS; CAD, CAM AND CAE</u></b> <b>Chairs: Zuomin Dong, Zhixin Yang</b>	Venue
14:00 –14:20	[ISCM2-472] Development of web-based virtual training environment for machining Zhixin Yang* and S. F. Wong	Grand Ball Room 1, Foyer
14:20 –14:40	[ISCM2-566] Global optimization using mixed surrogate models for computation intensive designs Adel Younis, Zuomin Dong*	
14:40 –15:00	[ISCM2-575] The determination of formation number for starting buoyant jets Ruo-qian Wang, Adrian Wing-Keung Law*, E.E. Adams, and O.B. Fringer	
15:00 –15:20	[ISCM2-516] A decagonal quasicrystalline half-space weakened by a crack Les Sudak*	
15:20 –15:40	[ISCM2-259] Finite element analysis on application of dynamic vibration absorbers on floating raft system Kun Zhang*, Haibo Chen and Xinglong Gong	



Title Time 3 Dec.	<b><u>PS-8-2: GEOMECHANICS, GEOGRAPHIC INFORMATION SYSTEMS; SOLID AND STRUCTURAL MECHANICS</u></b> <b>Chairs: S. C. Wong, Stanislav Potapenko</b>	Venue
14:00 –14:20	[ISCM2-518] Numerical simulation of earth pressure on head chamber of shield machine with FEM Shouju Li*, Chengang Kang, Wei Sun, Zichang Shangguan	Grand Ball Room 2, Foyer
14:20 –14:40	[ISCM2-542] Axially loaded behavior of driven pc piles Shih-Tsung Hsu*	
14:40 –15:00	[ISCM2-565] Development of neutral plane on a pile in a consolidating ground Sun, Tek Kei, W. M. Yan*	
15:00 –15:20	[ISCM2-519] Weak solutions of the problem of torsion of micropolar elastic beams Stanislav Potapenko*, Elena Shmoylova	
15:20 –15:40	[ISCM2-533] Numerical simulation on dynamic indentation behavior of sandwich plates with aluminum foam cores H. Zhang*, X. Q. Huang, L. Q. Tang	

Title Time 3 Dec.	<b><u>PS-15: UNCERTAINTY AND STOCHASTIC ANALYSIS</u></b> <b>Chairs: Gang Li, G. K. Er</b>	Venue
14:00 –14:20	[ISCM2-81] Analysis of stochastic space frames with elementary stiffness matrix decomposition method G. K. Er, S. W. Lan*, and V. P. Iu	Grand Ball Room 3, Foyer
14:20 –14:40	[ISCM2-210] Stochastic seismic response of an algiers site with random depth to bedrock M. Badaoui, M.K. Berrah, and A. Mébarki*	
14:40 –15:00	[ISCM2-313] An accurate and stable FFT-based method for pricing options under exp-lévy processes Deng Ding and Sio Chong U*	
15:00 –15:20	[ISCM2-325] An efficient and fast algorithm for simulations of mean-reverting square-root diffusions Deng Ding and Chon Ip Chao*	
15:20 –15:40	[ISCM2-353] Surrogate-based reliability analysis using support vector machine Gang Li* and Zhiqiang Liu	

Title Time 3 Dec.	<b><u>PS-10: PARALLEL COMPUTING, PROBLEM SOLVING ENVIRONMENT, ROBUST ENGINEERING SYSTEMS</u></b> <b>Chairs: Yao Zheng, Ka-Veng Yuen</b>	Venue
14:00 –14:20	[ISCM2-140] A parallel implementation of a smoothed particle hydrodynamics method on graphics hardware using the compute unified device architecture Un-Hong Wong, Hon-Cheng Wong*, and Zesheng Tang	Salon I, Foyer
14:20 –14:40	[ISCM2-268] Bayesian analysis of peak ground acceleration attenuation relationship He-Qing Mu* and Ka-Veng Yuen	
14:40 –15:00	[ISCM2-517] Computer simulation of chemical processes and fluid flows in chemical reactors I.G. Chernykh*, T.I. Mischenko, V.N. Snytnikov, V.I.N. Snytnikov	
15:00 –15:20	[ISCM2-557] Aerospace numerical simulation and digital prototyping technologies Yao Zheng*, Lijun Xie, Jianfeng Zou, Jianjun Chen, Jifa Zhang	
15:20 –15:40	[ISCM2-337] A new approach for numerical evaluation of high order singular boundary integrals Xiao-Wei Gao*	

Title Time 3 Dec.	<b><u>PS-13-1: INVERSE PROBLEMS AND OPTIMIZATION</u></b> <b>Chairs: Deepak Kashyap, Ke-min Zhou</b>	Venue
14:00 –14:20	[ISCM2-71] Topological optimization of grillages by finite element method Ke-min Zhou* and Xia Li	Salon II, Foyer
14:20 –14:40	[ISCM2-304] Research on topology optimization of truss structure based on the improved group search optimizer Xie Haobin*, Liu Feng, Li Lijuan, and Wang Chun	
14:40 –15:00	[ISCM2-309] A quick group search optimizer and its application to the double layer spherical shell's optimal design Qin Guang*, Liu Feng, and Li Lijuan	
15:00 –15:20	[ISCM2-345] Use of algorithm of change for optimal design of heat exchanger S. C. Tam*, H. K. Tam, C. H. Chio, and L. M. Tam	
15:20 –15:40	[ISCM2-375] Topological optimization of beam cross section by employing extrusion constraint Rehan H. Zuberi*, Zuo Zhengxing, and Long Kai	

Title Time 3 Dec.	<b><u>PS-13-2: INVERSE PROBLEMS AND OPTIMIZATION, DYNAMIC FAILURE AND FRACTURE</u></b> <b>Chairs: Ryan WM Yan, Xu Han</b>	Venue
16:00 –16:20	[ISCM2-376] An extended nonlinear-based method for optimum cutting pattern generation of membrane structures W. Punurai*, W.Tongpool, and W. Saardwong	Grand Ball Room 1, Foyer
16:20 –16:40	[ISCM2-503] Shape functions method for dynamic force reconstruction in the time domain J. Liu, Xu Han*	
16:40 –17:00	[ISCM2-504] Optimization under interval uncertainty with local-densifying approximation technique Ziheng Zhao*, Xu Han, Chao Jiang	

Title Time 3 Dec.	<b><u>PS-11-4: METHODS IN LIFE SCIENCES, SOLID AND STRUCTURAL MECHANICS</u></b> <b>Chairs: Wei Sun, Z.W. Guan</b>	Venue
16:00 –16:20	[ISCM2-241] An evolution-based genetic algorithm for computer-aided molecular docking Kang Ling, Zhao Xiaoyu, Chen Xi, and Wang Xicheng*	Grand Ball Room 2, Foyer
16:20 –16:40	[ISCM2-319] Computer-aided tissue engineering Wei Sun*	
16:40 –17:00	[ISCM2-280] Numerical modelling of glass fibre reinforced laminates subjected to a low velocity impact J Y Fan*, Z.W. Guan, and W. J. Cantwell	

Title Time 3 Dec.	<b><u>MS-18-2: RECENT ADVANCES IN BEM AND OTHER RELATED MESHLESS METHODS</u></b> <b>Chairs: Ch.Z Zhang, Zhenhan Yao</b>	Venue
16:00 –16:20	[ISCM2-437] Fast BEM analysis of porous solids Zai You Yan*, Jun Zhang, Wenjing Ye and T.X. Yu	Grand Ball Room 3, Foyer
16:20 –16:40	[ISCM2-468] Inverse crack problems in piezoelectric solids Jan Sladek*, Vladimir Sladek and Chuanzeng Zhang	
16:40 –17:00	[ISCM2-507] CPIM-Improved meshless method for engineering application Min-Chou Tsai*, Lee, H.H. and Chang, P.-Y.	

Title Time 3 Dec.	<b><u>PS-16: DYNAMIC FAILURE AND SLOID MECHANICS</u></b> <b>Chairs: R.C. Barros, S.C. Wong</b>	Venue
16:00 –16:20	[ISCM2-178] FE Eigenanalysis of singular states in metallic-piezoelectric materials Chen Mengcheng*	Salon I, Foyer
16:20 –16:40	[ISCM2-570] A parametric study on a rc frame based on pushover analysis V.G. Pereira, R.C. Barros*, M.B. Cesar	
16:40 –17:00	[ISCM2-571] On the use of tmds for regular buildings and bridges under dynamic actions Miguel Moura Paredes*, Rui Carneiro de Barros	

Title Time 3 Dec.	<b><u>MS-17: DYNAMIC FAILURE AND SOLID MECHANICS</u></b> <b>Chairs: Paul Lam, Dexun Fu</b>	Venue
16:00 –16:20	[ISCM2-272] The crack tip field of mode i interface crack of film-substrate system in the nuclear equipments Zhiwei Liu*, Liqiang Tang, Yong Zhang, XiHhua Li	Salon II, Foyer
16:20 –16:40	[ISCM2-495] A new high order accurate shock capture method with wave booster Yanwen Ma*, Dexun Fu and Xinliang Li	
16:40 –17:00	[ISCM2-414] Simulation of cable-stayed bridge pretension forces by complete function collocation method with cell partition W. S. Shum and Z. Lin*	

Dr. Jane WZ Lu, Prof. K.M. Mok

Secretary General

On and behalf of ISCM II – EPMESC XII Organizing Committee

2 November 2009