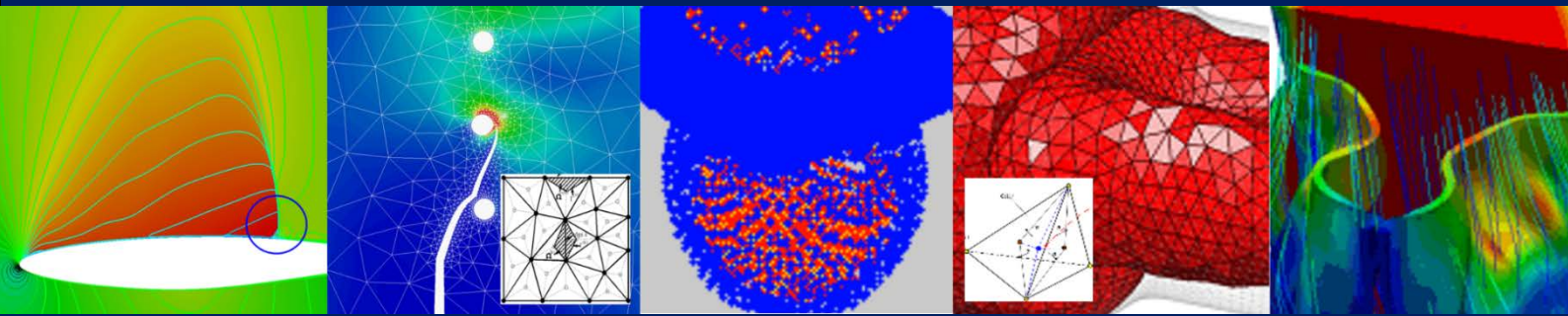


ICCM2017

Conference Program



The 8th International Conference on Computational Methods

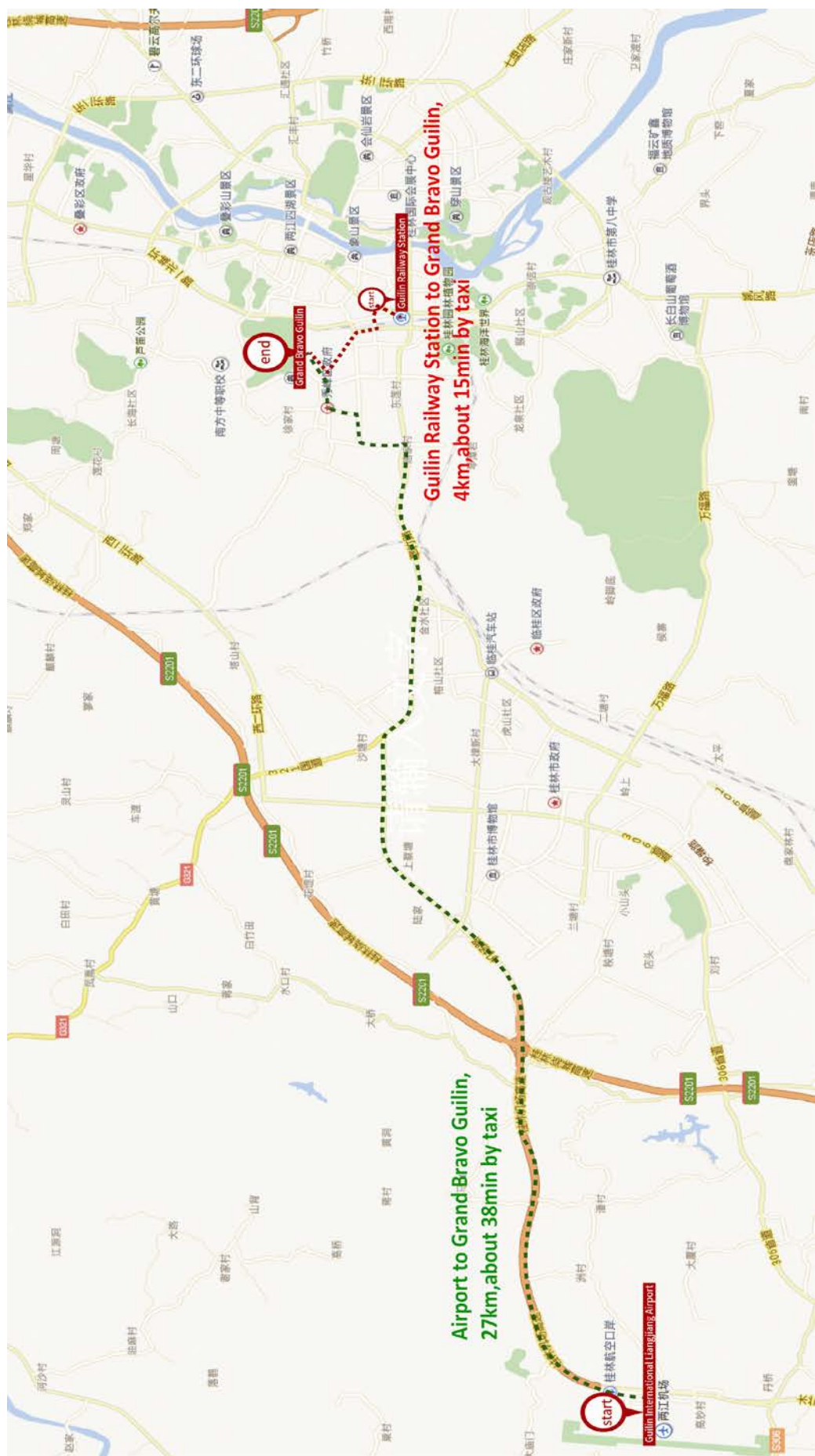
25th-29th July 2017
Guilin City, Guangxi Province, China

Chairman: Professor Xu Han
Co-Chairman: Professor Daoguo Yang



25-29 July 2017, Cuilin, China

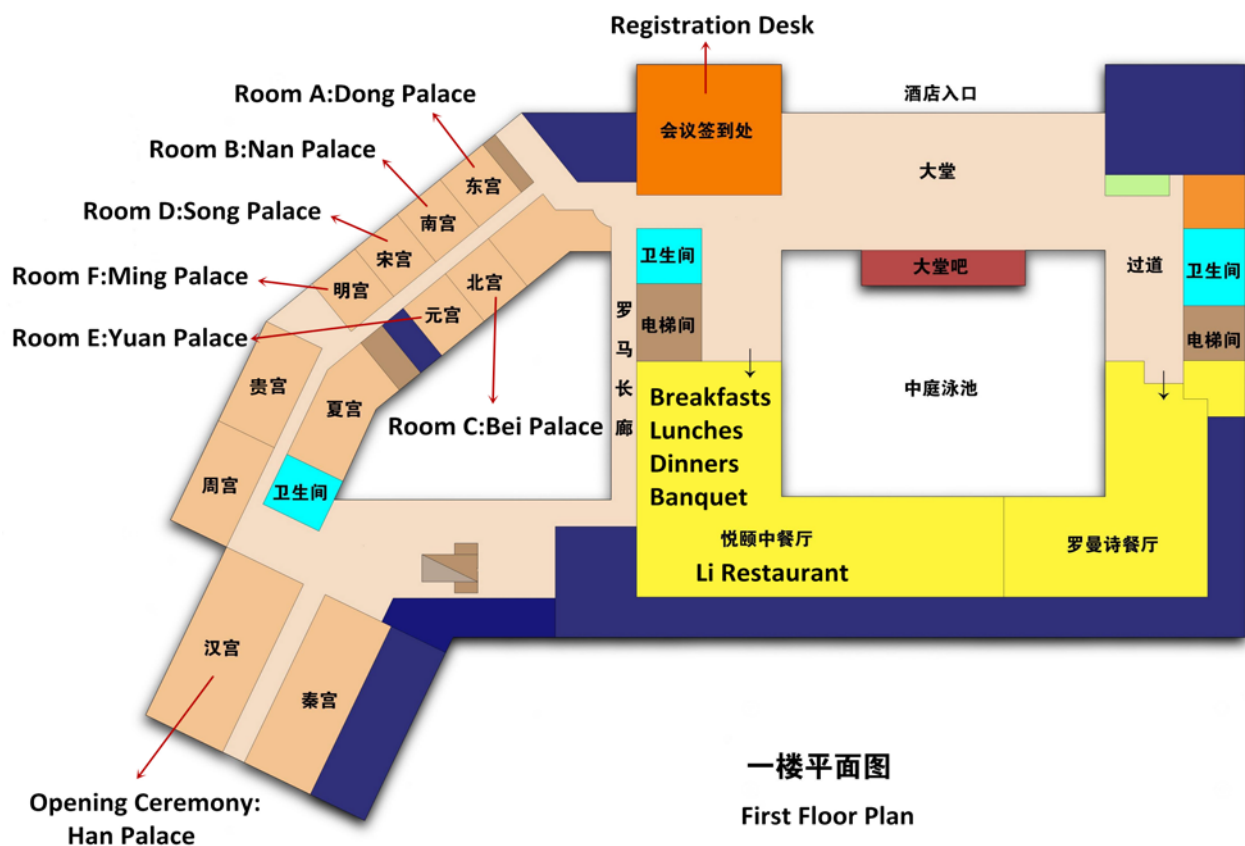




CONFERENCE VENUE

The ICCM2017 conference venue is at the Hotel Grand Bravo Guilin, Guilin City, Guangxi Province, China.

- Plenary Lectures on Day 1 will be held at Han Palace.
- All other sessions will be in at Dong Palace, Nan Palace, Bei Palace, Song Palace, Yuan Palace, and Ming Palace.
- Breakfasts, lunches, dinners, and the conference banquet will be at the Li Restaurant (悦颐中餐厅).



SUPPORTED BY



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Guilin Amity Meeting & Exhibition Co., Ltd

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1. WELCOME MESSAGE

Dear Friends and Colleagues,

On behalf of the organising committee and the co-chairs, we would like to welcome you to the 8th International Conference on Computational Methods (ICCM2016) at Guilin, China, from July 25th to 29th, 2017. The conference aims at to provide an international forum for scholars, researchers, industry practitioners, engineers, and graduate and undergraduate students to promote exchange and disseminate recent findings on both contemporary and traditional subjects in computational methods, numerical modeling and simulation, and their applications in science and engineering. It accommodates presentations on a wide range of topics to facilitate inter-disciplinary exchanges of ideas in science, engineering and allied disciplines, and helps to foster collaborations.

Computational Modelling and Simulation are fundamental subjects in engineering and sciences. They can be applied to many of the primary engineering disciplines, including Aerospace, Bio-medical, Civil, Chemical, Mechanical, and Materials Engineering among others. Computational Modelling and Simulation cover a broad range of research areas, from conventional structural and mechanical designs, failure analysis, dynamic and vibration analysis, and fluid mechanics to cutting-edge computational mechanics, nano-micro mechanics, multiscale mechanics, coupled multi-physics problems and novel materials. This is reflected in the variety of fields featured in the conference topics.

The genesis of the ICCM series dates back to 2004, when the first ICCM2004 conference was held in Singapore founded and chaired by Professor Gui-Rong Liu, followed by ICCM2007 in Hiroshima, Japan, ICCM2010 in Zhangjiajie, China, ICCM2012 in Gold Coast, Australia, ICCM2014 in Cambridge, UK, ICCM2015, in Auckland, New Zealand, and ICCM2016 at Berkeley, US.

The present ICCM conference in Guilin, China encompasses over 450 oral presentations in 63 technical sessions, including 4 Plenary Talks, 12 Thematic Plenary Talks, and a number of Keynotes.

The ICCM conference is unique in the sense that it showcases the current developments and trends in the general topic of Computational Methods and their relationship to global priorities in science and engineering. The papers scheduled for presentation at ICCM address many urgent and grand challenges in modern engineering and sciences. All ICCM abstracts and full papers were peer-reviewed by independent reviewers. Full-papers will be published in on online eProceedings. Selected abstracts/papers may be invited to be developed into a full journal paper for publication in special issues of some international journals. These papers encompass a broad range of topics related to computational mechanics, including applied mechanics theory and formulation, computational methods and techniques, modelling techniques and procedures, nano and macro-mechanics of materials, dynamics, manufacturing, biomechanics, processing of advanced materials, welding and joining, surface engineering and other related processes.

We would like to express my gratitude for the contributions of all ICCM2017 participants and presenters at this international event. We gratefully acknowledge the contributions from the International Scientific Committee, Mini-Symposium Organisers, and the expert reviewers and volunteers for their efforts and assistance in the organisation. Special thanks go to organizing committee, especially supporting staffs from Guilin University of Electronic Technology, Guilin Amity Meeting & Exhibition, and ScienTech Services for their excellent technical support, and patient services and daily communication to all the participants, authors and reviewers.

Finally, we would like to thank you for your valuable contributions to the ICCM2017 conference. We are looking forward to your participation and continued engagement for the future ICCM conferences.

Professor Xu Han
Conference Chairman
ICCM2017, Guilin China

Professor GR Liu
Conference Honorary Chairman
ICCM2017, Guilin China

2. CONFERENCE DETAILS

Conference Venue

The ICCM2017 location is at Hotel Grand Bravo Guilin, Guilin City, Guangxi Province, China.

Address: 2 Zhong Yin Road, Guilin 541001, Guangxi, P.R. China.

Tel : +86 0773 238 8888

Fax: +86 0773 225 8888

Website: <http://www.grandbravo.com/default.aspx?lang=en>

Instructions for chairs and presenters

Presentation Time: Plenary Lecture 45 minutes; Thematic Plenary Lecture 30 minutes; All other presentations: 15 minutes. The presentation time includes presentation and Q&A. It is advisable to give 5 minutes for Q&A. The conference program is fully packed. Please stick to the program to facilitate movement between the sessions.

Instructions for oral presenters

A data projector and a computer are provided in each room. Please bring your file on a USB stick to the room of your presentation during the break before your session, or 20 minutes before the start of the day's presentations. You may also use your own laptop. A volunteer in the room will help you to load your presentation file.

Name tags: Name tags are required for entry to all conference events. Please wear them at all times.

Free wifi connection: “ Grand Bravo ” (No password required).

Registration/Information desk

The registration desk at the Hotel Grand Bravo Guilin, will be open from 13:00 - 18:00 on Tuesday 25th July, and 8:30 - 17:00 on 26th - 28th July 2017.

Catering

Coffee breaks for all mornings and afternoons, lunches and dinners for all the presentation days 26th - 28th July 2017.

Welcome Reception

All participants are cordially invited to the Welcome Reception hosted by the conference Chairmen. It will be held at the Li Restaurant with buffet dinner from 18:00 to 20:00 on 25th July 2017. The reception will provide a unique networking opportunity for the participants, and will enable all to become acquainted with colleagues and invited speakers from all around the world.

Conference Banquet

The banquet dinner will be held between 18:30 – 21:00 on 27th July 2017 at the Li Restaurant.

3. ORGANIZATION COMMITTEE

Conference Chairman

Xu Han (Hunan University / Hebei University of Technology, China)
Daoguo Yang (Guilin University of Electronic Technology, China)

Honorary Chairman

Guirong Liu (University of Cincinnati, USA)
Daining Fang (Peking University, China)

International Co-Chairs

Patrizia Trovalusci (Sapienza Universita Di Roma, Italy, Europe)
Boo Cheong Khoo (National University of Singapore, Singapore, Southeast Asia)
Chongmin Song (University of New South Wales, Australia)
Paulo Pimenta (Universidade de Sao Paulo, Brazil, South America)
Dia Zeidan (German Jordanian University, Jordan, Middle East)
Jagdish Prakash (University of Botswana, Botswana, Africa)

Local Co-Chairmen

M.B. Liu (Peking University)
Chao Jiang (Hunan University)
Xiaowei Gao (Dalian University of Technology)
Tony Sheu (National Taiwan University)
Jiawei Xiang (Wenzhou University)
Dean Hu (Hunan University)
Hongfu Qiang (Rocket Force University of Engineering)

Secretary Generals

Zirui Li (Wenzhou University)
Guiyong Zhang (Dalian University of Technology)

Treasurer

Gang Yang (Hunan University)

Secretaries

Yaoyao Mo (Guilin University of Electronic Technology)
Ying Liu (Hunan University)
An Guo (Hunan University)

International Scientific Advisory Committee

Remi Abgrall (Switzerland)

Takayuki Aoki (Japan)

Fumihiko Ashida (Japan)

Santiago Badia (Spain)

Jorge Belinha (Portugal)

Peter Betsch (Germany)

Philipp Birken (Sweden)

Jan Blachut (UK)

Tinh Quoc Bui (Japan)

Zbigniew Buliński (Poland)

Song Cen (China)

Bin Chen (China)

Chuin-Shan David Chen (Taiwan)

Haibo Chen (China)

Jeng-Tzong Chen (Taiwan)

Jianbing Chen (China)

Lei Chen (USA)

Shaohua Chen (China)

Songying Chen (China)

Gengdong Cheng (China)

Yuan Cheng (Singapore)

Yumin Cheng (China)

Francisco Chinesta (France)

Maenghyo Cho (South Korea)

Fangsen Cui (Singapore)

Haitao Cui (China)

Raj Das (New Zealand)

Linhong Deng (China)

Xiaoping Du (USA)

George Dulikravich (USA)

Chia-Ming Fan (Taiwan)

Zhuojia Fu (China)

Xiao-Wei Gao (China)

M.G.D. Geers (Netherlands)

Yuantong Gu (Australia)

Zhongwei Guan (UK)

Wanlin Guo (China)

Mohamed Hamdaoui (France)

Zhicheng He (China)

Shujuan Hou (China)

Yu Huang (China)

Dariusz Jacek Jakóbczak (Poland)

Chao Jiang (China)

Hiroshi Kanayama (Japan)

Guozheng Kang (China)

Yuki Onishi (Japan)

Marc Oudjene (France)

Pawel Packo (Poland)

Qing Peng (USA)

Umberto Perego (Italy)

Paulo M. Pimenta (Brazil)

Leong Hien Poh (Singapore)

Alexander Popp (Germany)

Qinghua Qin (Australia)

Sinsin Jerry Quek (Singapore)

Roham Rafiee (Iran)

Alessandro Reali (Italy)

Janusz Rębielak (Poland)

Daya Reddy (South Africa)

Xiaodan Ren (China)

Erick I. Saavedra Flores (Chile)

Takahiro Saitoh (Japan)

Mikio Sakai (Japan)

Božidar Šarler (Slovenia)

Chang Shu (Singapore)

Piotr Sielicki (Poland)

Aram Soroushian (Iran)

George Stefanou (Greece)

Yu Su (China)

Yuichi Tadano (Japan)

B.C. Vincent Tan (Singapore)

Yuanqiang Tan (China)

Rong Tian (China)

Zhaofeng Tian (Australia)

Liyong Tong (Australia)

Nguyen-Thoi Trung (Vietnam)

Chia Cheng Tsai (Taiwan)

Ken-ichi Tsubota (Japan)

Yuri Vassilevski (Russia)

Decheng Wan (China)

Cheng Wang (China)

Dongdong Wang (China)

Hu Wang (China)

Jie Wang (China)

Jizeng Wang (China)

Lifeng Wang (China)

Wenquan Wang (China)

Xianqiao Wang (USA)

Yanfei Wang (China)

Yue-Sheng Wang (China)

Yoon Young Kim (South Korea)
 Ioannis Kougioumtzoglou (USA)
 Canh Van Le (Vietnam)
 Chin-Long Lee (New Zealand)
 Ikjin Lee (South Korea)
 Tae Hee Lee (South Korea)
 Vitor Leitao (Portugal)
 Hwa Liang Leo (Singapore)
 Yee Tak Andrew Leung (Hong Kong)
 Faxin Li (China)
 Hua Li (Singapore)
 Qing Li (Australia)
 Quanbing Eric Li (Hong Kong)
 Wei Li (China)
 Weiguo Li (China)
 Xikui Li (China)
 Yan Li (USA)
 CW Lim (Hong Kong)
 Kian Meng Lim (Singapore)
 San-Yih Lin (Taiwan)
 Jijun Liu (China)
 Moubin Liu (China)
 Yan Liu (China)
 Yijun Liu (USA)
 Yinghua Liu (China)
 Zishun Liu (China)
 Ping Lu (USA)
 Weizhen Jane Lu (Hong Kong)
 Zhen Luo (Australia)
 Jabareen Mahmood (Israel)
 Francesco Mammoliti (Italy)
 Karol Miller (Australia)
 Rafael Montenegro Armas (Spain)
 Sundararajan Natarajan (India)
 Fermín Navarrina (Spain)
 Perumal Nithiarasu (UK)
 Xiaodong Niu (China)
 Xesús Nogueira (Spain)
 Francesco Noto (Italy)
 Masao Ogino (Japan)
 Kenji Oguni (Japan)

Peijun Wei (China)
 Hengan Wu (China)
 Yang Xiang (Australia)
 Zhihai Xiang (China)
 Feng Xiao (Japan)
 Xu Xu (China)
 Takayuki Yamada (Japan)
 Fu-Ling Yang (Taiwan)
 Judy Yang (Taiwan)
 Qingsheng Yang (China)
 Richard Chunhui Yang (Australia)
 Z. Yang (China)
 Jianyao Yao (China)
 Zhenhan Yao (China)
 Hongling Ye (China)
 Jingjie Yeo (Singapore)
 Shinobu Yoshimura (Japan)
 Zohar Yosibash (Israel)
 Byeng Dong Youn (South Korea)
 Chengxiang Rena Yu (Spain)
 Mengyan Zang (China)
 Sergey Zelepugin (Russia)
 Kaiyang Zeng (Singapore)
 Haifei Zhan (Australia)
 Aman Zhang (China)
 Chuanzeng Zhang (Germany)
 Guiyong Zhang (China)
 Jian Zhang (China)
 Jianming Zhang (China)
 Liangchi Zhang (Australia)
 Lihai Zhang (Australia)
 Nianmei Zhang (China)
 Xiong Zhang (China)
 Zhao Zhang (China)
 Zhennan Zhang (China)
 Zhiqian Zhang (Singapore)
 Kejie Zhao (USA)
 Ligu Zhao (UK)
 Hong Zheng (China)
 Yao Zheng (China)
 Zhuo Zhuang (China)

4. PROGRAM OVERVIEW

Overall Conference Program

ICCM2017, 25th-29th July 2017

Date	Time	Conference Program
Day 0 July 25th (Tuesday)	13:00-18:00	Onsite Registration
	18:00-20:00	Welcome reception
July 26th-28th	8:30-17:00	Onsite Registration
Day 1 July 26th (Wednesday)	8:00-8:10	Opening Ceremony
	8:10-8:55	Plenary Lecture I
	8:55-9:40	Plenary Lecture II
	9:40-10:00	Morning Coffee/Tea
	10:00-10:45	Plenary Lecture III
	10:45-11:30	Plenary Lecture IV
	11:30-1:00	Lunch
	13:00-15:00	Parallel Sessions
	15:00-15:20	Afternoon Coffee/Tea
	15:20-17:50	Parallel Sessions
Day 2 July 27th (Thursday) & Day 3 July 28th (Friday)	8:00-9:00	Thematic Plenary Lectures
	9:00-10:00	Parallel Sessions
	10:00-10:15	Morning Coffee/Tea
	10:15-12:00	Parallel Sessions
	12:00-13:00	Lunch
	13:00-15:00	Parallel Sessions
	15:00-15:20	Afternoon Coffee/Tea
	15:20-17:50	Parallel Sessions
July 29th (Saturday)	8:00-12:00	Free discussions & meetings

Conference Banquet: 18:30 – 21:00 on Thursday, 27 July, 2017

5. DETAILED PROGRAM - PLENARY AND PARALLEL SESSIONS

Plenary Lectures (PL)

Structural Optimization, the past, present and future

Gengdong Cheng (Dalian University of Technology, China)

MATES: Multi-Agents based Traffic and Environment Simulator : Core Technologies and Practical Applications

Shinobu Yoshimura (The University of Tokyo, Japan)

The Hydrodynamics of the WIG (Wing-In-Ground) Effect Craft

Boo Cheong Khoo (National University of Singapore, Singapore)

Computational mechanics as a power tool for exploration of deformation mechanism of nanomaterials and mechanobiology

Yuantong Gu (Queensland University of Technology, Australia)

Thematic Plenary Lectures (TPL)

Computational Optimization for Biomechanics and Biomedical Engineering

Qing Li (The University of Sydney, Australia)

Non-classical Continuum Modeling of Materials with Microstructure: A Multiscale/Multifield Approach

Patrizia Trovalusci (Sapienza University of Rome, Italy)

Study Interactions Between Inhaled Nanoparticles and Pulmonary Surfactant Using Molecular Dynamics Simulations

Guoqing Hu (Chinese Academy of Sciences, China)

The Effect of Residual Stress on Stress-Modulated Growth in an Artery

Lucy Zhang (Rensselaer Polytechnic Institute, USA)

A Complex Variable Interpolating Meshless Method for Two-dimensional Transient Heat Conduction Problem

Xiaoqiao He (City University of Hong Kong, Hong Kong)

Naoe-FOAM-SJTU Solver with Efficient Overset Techniques for Ship Flows and Ocean Engineering Flows

Decheng Wan (Shanghai Jiao Tong University, China)

A Two-Phase Flow Model for Aerogel in a Non-Equilibrium Process

Dia Zeidan (German Jordanian University, Jordan)

Progress in Multiscale Multimodel Simulation of Fluid-Structure Interaction in Marine Engineering

Qingwei Ma (University of London, UK)

A Frictional Contact Algorithm for Implicit Material Point Method

Xiong Zhang (Tsinghua University, China)

In Vivo Magnetic Resonance Image-Based 3D Computational Models to Quantify Right Ventricle Morphological and Mechanical Characteristics for Healthy and Patients with Tetralogy of Fallot

Dalin Tang (Southeast University, China)

Simulating Dynamic Disaster Evolution of Soil Flowslide Triggered by Earthquakes

Yu Huang (Tongji University, China)

Towards Virtual Testing of Flapping Flight

Yao Zheng (Zhejiang University, China)

Proposed and Approved Mini-Symposium (MS) Proposed- Titles and Organizers

MS	Mini-symposium (MS) Title	Organizers
MS-000	General Papers	Xu Han (Hunan University / Hebei University of Technology) Dean Hu (Hunan University) Zirui Li (Wenzhou University) Gui-Rong Liu (University of Cincinnati)
MS-001	Theory and Formulation for Novel Computational Methods	Gui-Rong Liu (University of Cincinnati) Zhaocheng Xuan (Tianjin University of Technology and Education)
MS-003	Adaptive numerical methods	Nguyen-Xuan Hung (HUTECH University)
MS-004	Smoothed Finite Element Methods and Related Techniques	Yuki Onishi (Tokyo Institute of Technology)
MS-006	Modelling and Characterisation of Mechanical Behaviour of Advanced Materials	Liguo Zhao (Loughborough University)
MS-007	Numerical modelling of nonlinear transient phenomena	Pawel Packo (AGH - University of Science and Technology)
MS-008	Algorithms, Software and Applications of Large-Scale Computation	Jianjun Chen (Zhejiang University) Rong Tian (Institute of Computing Technology, Chinese Academy of Science) Yao Zheng (Zhejiang University)
MS-009	Particle Based Methods	Zhen Chen (Dalian University of Technology / University of Missouri) Yan Liu (Tsinghua University) Xiong Zhang (Tsinghua University)
MS-011	Advanced Computational Methods in Underwater Acoustics	Wei Li (Huazhong University of Science and Technology)
MS-012	Computational Modeling for Cardiovascular Disease and Biological Applications	Tang Dalin (Southeast University / Worcester Polytechnic Institute) Zhiyong Li (Southeast University) Gui-Rong Liu (University of Cincinnati)
MS-013	Advances in BEM and Other Mesh-Reduction Methods	Xiao-Wei Gao (Dalian University of Technology) Yijun Liu (University of Cincinnati / Northwestern Polytechnical University) Zhenhan Yao (Tsinghua University) Jianming Zhang (Hunan University) Huanlin Zhou (Hefei University of Technology)
MS-014	Modelling and Simulation of Complex Systems	Jihong Pang (Wenzhou University)
MS-015	Fluid-Structure Interaction and Multiphysics Problems in Aerospace Engineering	Jian Yao (Chongqing University)
MS-016	Multiscale modelling of damage and fracture in quasi-brittle materials	Jianying Wu (South China University of Technology) Zhenjun Yang (Zhejiang University) Rena C. Yu (University of Castilla-La Mancha)
MS-017	Computational errors and their evaluation	Aram Soroushian (International Institute of Earthquake Engineering and Seismology)
MS-018	Computational modeling and experimental characterization of soft	Jabareen Mahmood (Technion Israel Institute of Technology)
MS-019	Large Scale Coupled Problems and Related Topics	Hiroshi Kanayama (Japan Women's University) Masao Ogino (Nagoya University) Ryuji Shioya (Toyo University)

MS-022	Advanced modeling techniques and applications for polymer based additive manufacturing	Jun Liu (Institute of High Performance Computing, A*STAR)
MS-023	Numerical modelling of fibre reinforced composites under impact and blast	Zhongwei Guan (University of Liverpool)
MS-024	Advanced Computational Methods for Soft Matters	Hua Li (Nanyang Technological University)
MS-025	Modelling and Simulation on Nanomechanics	Hengan Wu (University of Science and Technology of China)
MS-027	Multiscale and Multiphysics Modelling for Complex Materials	Trovalusci a_Patrizia (Sapienza Università Di Roma) Schrefler b_Bernhard (University of Padua) De Bellis c_Maria Laura (Universita Del Salento)
MS-028	Advanced Computational Methods for The Mechanical Modeling of Materials and Structures	Trovalusci a_Patrizia (Sapienza Università Di Roma) Tornabene b_Francesco (Universita Di Bologna) Nicholas Fantuzzi (Universita di Bologna)
MS-029	Computational Methods in Engineering	Songying Chen (Shandong University)
MS-030	Phase-field Method: Theory, Algorithm and Application	Hao Chen (Tsinghua University) Lei Chen (Mississippi State University) Wenbo Liu (Xi'an Jiaotong University) Yanli Lu (Northwestern Polytechnical University) Pengcheng Song (Nuclear Power Institute of China)
MS-032	Recent Advances in Meshfree and Particle Methods	Bin Chen (Xi'an Jiaotong University) Seiichi Koshizuka, University of Tokyo) Moubin Liu (Peking University)
MS-033	Modelling and Simulation of Multifunctional Composite Materials	Zhicheng He (Hunan University) Quan Bing Eric Li (Chinese University of Hong Kong)
MS-035	Computational ship mechanics: theory, numerical methods and engineering applications	Jianhu Liu (China Ship Scientific Research Center) Decheng Wan (Shanghai Jiao Tong University) Aman Zhang (Harbin Engineering University) Guiyong Zhang (Dalian University of Technology)
MS-036	Immersed boundary method for fluid structure interaction	Wenquan Wang (Kunming University of Science and Technology)
MS-037	Nanoscale thermal transport and nanomechanics	Yuantong Gu (Queensland University of Technology) Haifei Zhan, (Western Sydney University) Gang Zhang (Institute of High Performance Computing, A*STAR)
MS-038	Computational and experimental methods on additive manufacturing and related welding technologies	Zhao Zhang (Dalian University of Technology)
MS-041	Computational Methods in Acoustics and Elastodynamics	Wei Qiu Chen (Zhejiang University) Yue-Sheng Wang (Beijing Jiaotong University) Chuanzeng Zhang (Universitat Siegen)
MS-042	Numerical modelling methods and applications in renewable energy flows	Zhao Tian (University of Adelaide)
MS-044	Structural optimization method and application	Hongling Ye (Beijing University of Technology)
MS-045	Computational Biomechanics	Xi-Qiao Feng (Tsinghua University) Yuantong Gu (Queensland University of Technology) Qing Li (The University of Sydney)
MS-048	Numerical Analysis in Earthquake Engineering Geology	Yu Huang (Tongji University)
MS-051	Structural uncertainty analysis	Chao Jiang (Hunan University) Zhan Kang (Dalian University of Technology) Xiaojun Wang (Beihang University)
MS-054	Coupled thermal-mechanical computation for high-temperature materials	Weiguo Li (Chongqing University)

MS-055	Numerical Methods Based Unstructured Meshes and Their Applications in Engineering	Xiangyang Cui (Hunan University)
MS-057	Analysis and Design Methods of Building Structures Located in Earthquake Areas	Janusz Rębielak (Cracow University of Technology)
MS-059	Advances in Semi-analytical numerical methods	Leiting Dong (Beihang University) Zhuojia Fu (Hohai university)
MS-060	Computational Mechanics of Functional Materials and Structures	Fumihiko Ashida (Shimane University) Cunfa Gao (Nanjing University of Aeronautics and Astronautics) Sei Ueda (Osaka Institute of Technology)
MS-061	Structural integrity and fracture mechanics	Yinghua Liu (Tsinghua University)
MS-062	Stochastic Modeling and Uncertainties in Computational Mechanics of Materials	Yan Li (California State University, Long Beach)
MS-063	Model and Simulation for Advanced Manufacturing	Yuanqiang Tan (Huaqiao University)
MS-065	Computational Marine Hydrodynamics	Decheng Wan (Shanghai Jiao Tong University)
MS-066	State-of-the-art modeling on discrete element simulation	Kun Luo (Zhejiang University) Mikio Sakai (The University of Tokyo) Zongyan Zhou (Monash University)
MS-073	Computational fatigue and fracture mechanics performance	ShengChuan Wu (Southwest Jiaotong University) Jian Zhang (Jiangsu University)
MS-074	Fast Computational Methods for Structural Optimization and Design	Zhengguang Li (Jilin University) Hu Wang (Hunan University) Baisheng Wu (Guangdong University of Technology) Wenjie Zuo (Jilin University)
MS-076	Advanced in numerical simulation based structural damage detection in Engineering	Jiawei Xiang (Wenzhou University) Zhibo Yang (Xi'an Jiaotong University) Yongteng Zhong (Wenzhou University)
MS-077	Engineering Inverse Problems: theory and numerical methods	Xu Han (Hunan University / Hebei University of Technology) Jie Liu (Hunan University)

6. CONFERENCE SESSIONS

Day 1: Wednesday, 26th July 2017

08:00-08:10 Opening Ceremony: Han Palace

Day 1 Plenary Lectures: Wednesday, 26th July 2017

Plenary Lectures (PL), Han palace, Chairs: *****

Time	ID	Presenter and Title
08:10-08:55	2988	Structural Optimization, the Past, Present and Future / Gengdong Cheng (Dalian University of Technology, China)
08:55-09:40	2985	MATES : Multi-Agents based Traffic and Environment Simulator: Core Technologies and Practical/ Shinobu Yoshimura (The University of Tokyo, Japan)
9:40-10:00		Morning Coffee/Tea
10:00-10:45	2248	The Hydrodynamics of the WIG (Wing-In-Ground) Effect Craft/ Boo Cheong Khoo (National University of Singapore, Singapore)
10:45-11:30	2995	Computational mechanics as a power tool for exploration of deformation mechanism of nanomaterials and mechanobiology/ Yuantong Gu (Queensland University of Technology, Australia)

Day 2 Thematic Plenary Lectures (TPL): Thursday, 27th July 2017

Time	ID	Presenter and Title
Room A (Dong Palace), Chair: *****		
08:00-08:30	2978	Computational Optimization for Biomechanics and Biomedical Engineering/ Qing Li (The University of Sydney, Australia)
08:30-09:00	2451	Non-classical continuum modeling of materials with microstructure: a multiscale/multifield approach/ Patrizia Trovalusci (Sapienza University of Rome, Italy)
Room B (Nan Palace), Chair: *****		
08:00-08:30	2129	In Vivo Magnetic Resonance Image-Based 3D Computational Models to Quantify Right Ventricle Morphological and Mechanical Characteristics for Healthy and Patients with Tetralogy of Fallot/ Dalin Tang (Southeast University, China)
08:30-09:00	3002	Towards Virtual Testing of Flapping Flight / Yao Zheng (Zhejiang University, China)
Room C (Bei Palace), Chair: *****		
08:00-08:30	2516	A Two-Phase Flow Model for Aerogel in a Non-Equilibrium Process/ Dia Zeidan (German Jordanian University, Jordan)
08:30-09:00	2707	Progress in Multiscale Multimodel Simulation of Fluid-Structure Interaction in Marine Engineering/ Qingwei Ma (University of London, UK)

Day 3 Thematic Plenary Lectures (TPL): Friday, 28th July 2017

Time	ID	Presenter and Title
Room A (Dong Palace), Chair: *****		
08:00-08:30	2987	A Complex Variable Interpolating Meshless Method for Two-dimensional Transient Heat Conduction Problem / Xiaoqiao He (City University of Hong Kong, Hong Kong)
08:30-09:00	2977	Naoe-FOAM-SJTU Solver with Efficient Overset Techniques for Ship Flows and Ocean Engineering Flows/ Decheng Wan (Shanghai Jiao Tong University, China)
Room B (Nan Palace), Chair: *****		
08:00-08:30	2178	A frictional contact algorithm for implicit material point method/Xiong Zhang (Tsinghua University, China)
08:30-09:00	2911	Study interactions between inhaled nanoparticles and pulmonary surfactant using molecular dynamics simulations/ Guoqing Hu (Chinese Academy of Sciences, China)
Room C (Bei Palace), Chair: *****		
08:00-08:30	3000	Simulating dynamic disaster evolution of soil flowslide triggered by Earthquakes /Yu Huang (Tongji University, China)
08:30-09:00	2650	The Effect of Residual Stress on Stress-Modulated Growth in an Artery/ Lucy Zhang (Tianjin University of Science & Technology, China)

Parallel Sessions

Day 1: Room A (Dong Palace) Parallel Sessions: Wednesday, 26 July 2017

Session 1A1- Chairs: Nicholas Fantuzzi, Xikui Li, Hu Ping

MS-027 Multiscale and Multiphysics Modelling for Complex Materials

MS-028 Advanced Computational Methods for The Mechanical Modeling of Materials and Structures

Time	ID	Title / Authors
13:00-13:15	2437	Keynote: Characterization of Damage-healing-plasticity-breakage in Multi-scale DEM-FEM Modeling of Granular Material / Xikui Li, Zenghui Wang, Qinglin Duan
13:15-13:30	2215	Keynote: On More Efficient and Flexible Peridynamics-based Computational Tools / Ugo Galvanetto, Mirco Zaccariotto
13:30-13:45	2146	Invited: Some Novel Numerical Applications of Cosserat Continua / Patrizia Trovalusci, Nicholas Fantuzzi, Lorenzo Leonetti, Francesco Tornabene
13:45-14:00	2835	A New Multiscale Computation Method for Geometrically Nonlinear Analysis of 3D Fluid Actuated Cellular Structures / Jun Lv, Liang Zhang, Hongwu Zhang
14:00-14:15	2964	Explicit Isogeometric Topology Optimization Using Moving Morphable Components (MMC) / Gai Yundong, Hou Wenbin, Zhu Xuefeng, Hu Ping, Wang Xuan
14:15-14:30	2996	The DisPalacement Response Study for Different Graded Parameter Functionally Graded Materials Based on Strip Element Method / Jianhui Tian, Lunlun Ma
14:30-14:45	2901	Stretching of Viscous Threads / Jonathan Wylie
14:45-15:00	2955	Failure Analysis of Laminated Tubes Under Tension-torsion Biaxial Loading / Jingmeng Weng
15:00-15:20	Afternoon Coffee/Tea	

Day 1: Room A (Dong Palace) Parallel Sessions: Wednesday, 26 July 2017

Session 1A2- Chairs: Zongyan Zhou, Mikio Sakai, Kun Luo

MS-066 State-of-the-art modeling on discrete element simulation

Time	ID	Title / Authors
15:20-15:35	2205	Keynote: Study on Discrete Element Simulations for the Industrial Applications / Mikio Sakai
15:35-15:50	2380	Keynote: CFD-DEM Study of the Effect of Cyclone Arrangements on the Gas-solid Flow Dynamics in the Full-loop Circulating Fluidized Bed / Shuai Wang, Kun Luo, Junjie Lin, Chenshu Hu, Jianren Fan
15:50-16:05	2227	Keynote: Particle Shape Effect on the Packing and Flow Behaviour of Granular Materials in Particulate Systems / Zongyan Zhou, Aibing Yu
16:05-16:20	2174	Invited: The Development of Advanced DEM-based Hybrid Models for Particulate Systems / Chuan-Yu Wu
16:20-16:35	2228	Numerical Simulation of Dynamic Particle Focusing for Multi-particle Suspensions / Hirotake Udono, Mikio Sakai
16:35-16:50	2241	Numerical Study on Die Filling Process by the DEM-CFD Method / Huaqin Yao, Mikio Sakai
16:50-17:05	2403	Numerical Study of Hydrodynamics and Heat Transfer in a Spouted Bed / Junjie Lin
17:05-17:20	2397	Evaluation of Contact Force Models for Ellipsoidal Particles / Kejun Dong, Kamyar Kildashti, Bijan Samali
17:20-17:35	2148	Discrete Simulation of Multi-phase Flow of MEMS-based Solid Propellant Microthruster / Wenjing Yang
17:35-17:50	2203	A Linkage Between Particle- and Cell-scale Drag Correlations for Packed Beds of Multi-sized Particles / Liangwan Rong, Kejun Dong, Aibing Yu
17:50-18:05	2984	Discrete Element Method Based on Dilated Polyhedral Elements for Ice Load on Offshore Structure / Shunying Ji, Lu Liu

Day 1: Room B (Nan Palace) Parallel Sessions: Wednesday, 26 July 2017**Session 1B1- Chairs:** Jianjun Chen, Xiangyang Gao

MS-008 Algorithms, Software and Applications of Large-Scale Computation

Time	ID	Title / Authors
13:00-13:15	2859	Keynote: Recent Advances in Automatic and Parallel Mesh Generation / Jianjun Chen
13:15-13:30	2677	Keynote: Establishing Structure-function Relationship for Molecular Sieving: Dissipative Particle Dynamics Simulations of DNA Polymer / Xiangyang Gao
13:30-13:45	2230	Invited: GPU-based Parallel Implementation of Explicit Meshfree Methods / Yong Cai
13:45-14:00	2746	Invited: Fourier Transform Analysis of Convergence Properties of MultiGrid V-cycle Algorithms / Yu Zhang, Ming Li, Guirong Liu
14:00-14:15	2343	Implementation of Global Switching Algorithm for Trajectory Surface Hopping Molecular Dynamics in Newton-X Package and Benchmark Performance on the Cis-trans Azobenzene Photoisomerization / Ling Yue
14:15-14:30	2567	Large CAD Assembly Design Analysis using Sefea (Strain-Enriched FEA) and MLS (Moving Least Squares) Formulation / Yu Hou
14:30-14:45	2800	Large Scale Traffic Evacuation Simulation Based on Multi-agent Modeling / Shuiping Yu, Shengcheng Yuan, Yi Liu, Jing Qian
14:45-15:00	2235	Building Language Models with Fuzzy Weights / Shie-Jue Lee, Tsan-Jung He, Chih-Hung Wu
15:00-15:20	Afternoon Coffee/Tea	

Day 1: Room B (Nan Palace) Parallel Sessions: Wednesday, 26 July 2017**Session 1B2- Chairs:** Zhen Chen, Xiong Zhang, Dongdong Wang

MS-009 Particle Based Methods

Time	ID	Title / Authors
15:20-15:35	2290	Keynote: Simulation of High-velocity Impact Process of 3D Woven Orthogonal Composite from Meso-scale Point-based Model / Yan Liu, Xuena Si, Xiong Zhang
15:35-15:50	2468	Keynote: Meshfree Methods and Isogeometric Analysis: Consistency Conditions, Reproducing Kernel Unification and Local Refinement / Dongdong Wang
15:50-16:05	2609	Invited: Time-discontinuous Material Point Method for Transient Problems Involving Discontinuities in Stress / Yonggang Zheng, Mengkai Lu, Jiayong Zhang, Hongwu Zhang, Zhen Chen
16:05-16:20	2143	Invited: Development of Generalized Interpolation Material Point Method for Fully-Coupled Thermo-mechanics with Applications to Model-Based Simulation of Failure Evolution / Jun Tao, Zhen Chen, Yonggang Zheng, Hongwu Zhang
16:20-16:35	2464	Invited: A Meshfree Method for Inverse Wave Propagation using Collocation and Radial Basis Functions / Lihua Wang
16:35-16:50	2404	Accelerating Peridynamics Program Using GPU with CUDA and OpenACC / J.X. Li, J.M. Zhao, F. Xu, Y.J. Liu
16:50-17:05	2258	Consistent Inlet and Outlet Conditions for ALE Particle Method / Fangyuan Hu
17:05-17:20	2509	A Smoothed MPM Algorithm for Elastodynamics / Lisha He, Zhen Chen, Yong Gan
17:20-17:35	2843	Simulation of Hydraulic Fracturing Process by using Peridynamics / Shuhui Li, Fan Wu
17:35-17:50	2829	Thermoelastic Analysis of FGM Beam using Meshless Weighted Least-square Method / Hongmei Zhou
17:50-18:05	2853	Numerical Investigation of Blast-induced Fractures using Smoothed Particle Hydrodynamics / Saba Gharehdash, Luming Shen, Yixiang Gan

Day 1: Room C (Bei Palace) Parallel Sessions: Wednesday, 26 July 2017

Session 1C1- Chairs: Hengan Wu, Yuan Cheng

MS-025 Modelling and Simulation on Nanomechanics

Time	ID	Title / Authors
13:00-13:15	2352	Keynote: Mechanical Behavior and Material Design of Graphene-based Nanocomposites / Hengan Wu
13:15-13:30	2537	Keynote: Mechanical Properties of Silk Fibroin and Silk-Graphene Interactions Based on Molecular Simulations / Yuan Cheng, Yong-Wei Zhang
13:30-13:45	2365	Invited: Phase Transition of Two-dimensional Water/ice in Graphene Nanocapillaries / YinBo Zhu
13:45-14:00	2366	Self-irradiation Cascade Simulations Near Helium Bubbles in Gallium-stabilized D-plutonium / FengChao Wu
14:00-14:15	2369	Mutual Transformations Between Divacancy Defects Induced by High-energy Pulses in Graphene / Jun Xia
14:15-14:30	2692	Finite Element Based Micromechanical Model for Elastic Materials Containing Nanoscale Inhomogeneities / Yasothorn Sapsathiarn, Salisa Chaisuwannakorn
14:30-14:45	2429	Strain Rate and Temperature Dependent Mechanical Properties in CNT-reinforced Magnesium Composites / Xia Zhou, Xiaoxia Liu, Mengqi Shen
14:45-15:00	2725	Plastic Deformation Mechanism in Gradient Nanoscale Grained Iron Via Atomistic Model Coupled with Crystal Plasticity Finite Element Simulations / Jia Li
15:00-15:20	Afternoon Coffee/Tea	

Day 1: Room C (Bei Palace) Parallel Sessions: Wednesday, 26 July 2017

Session 1C2- Chairs: Zhicheng He, Eric Li, Xu Xu

MS-033 Modelling and Simulation of Multifunctional Composite Materials

Time	ID	Title / Authors
15:20-15:35	2788	Keynote: An Ultra-accurate Algorithm in the Design of Fluid/solid and Solid/fluid Phononics Crystals / Eric Li
15:35-15:50	2845	Keynote: Volumetric Locking Issue with Uncertainty in the Design of Locally Resonant Acoustic Metamaterials / Zhicheng He
15:50-16:05	2657	Keynote: A Finite Element Model of Crimped Fibril Reinforced Composite to Predict the Mechanical Response Subjected to Tensile Load / Dean Hu, Li Liu, Xu Han
16:05-16:20	2489	Invited: A Molecular Dynamic Study on Nonlinear Vibration Behaviors of Fe Nanowires / Xu Xu, Zhuoqun Zheng
16:20-16:35	2626	Static Analysis of Functionally Graded Graphene Nanocomposite Beams Under Thermo-electro-mechanical Loading / Jie Yang, Helong Wu, Sritawat Kitipornchai, Liao-Liang Ke
16:35-16:50	2784	Application of the Improved Equivalent Static Loads Optimization Theory on the Crash Condition of Vehicle Components / Z. C. He, Qq Li, Tao Tao Chen, A. G. Cheng
16:50-17:05	2285	Temperature Influences on the Performance of a Dielectric Elastomer Generator with Consideration of Dissipation Processes and Failures / Shoue Chen, Zhicheng He, Eric Li
17:05-17:20	2700	Finding the Periodic Solutions of Delayed Differential Equations Via Solving a Optimization Problem / Xu Xu, Xiaoyong Wang
17:20-17:35	2812	Topology Optimization of Laminated Composite Plates Considering Hybrid Uncertainty / Yi Wu
17:35-17:50	2773	An Acoustic Pressure-based Method for Load Identification in Coupled Structural-acoustic System with Non-probabilistic Uncertain Variables / Xinyou Lin
17:50-18:05	2772	Design for Structural Vibration Suppression in Laminate Acoustic Metamaterials / Xiao Xiao

Day 1: Room D (Dong Palace) Parallel Sessions: Wednesday, 26 July 2017**Session 1D3- Chairs:** Aman Zhang, Guiyong Zhang

MS-035 Computational ship mechanics: theory, numerical methods and engineering applications

Time	ID	Title / Authors
13:00-13:15	2943	Keynote: Smoothed Point Interpolation Method (S-PIM): A Brief History and Recent Developments / Guiyong Zhang, Da Hui, Shuangqiang Wang, Huan Lu, Gui-Rong Liu
13:15-13:30	2427	Keynote: Numerical Method for Underwater Explosion Loads and the Associated Structure Damage / Aman Zhang, Rui Han, Yunlong Liu
13:30-13:45	2573	Simulation and Experimental Validation of Hydraulic Collecting in Deep-ocean Mining / Guocheng Zhao, Longfei Xiao, Weijie Zhao, Yangrui Cheng
13:45-14:00	2851	Coupling Immersed Boundary-lattice Boltzmann Method with Smoothed Point Interpolation Method for Large-displacement Fluid-structure Interaction Problems / Guiyong Zhang, Shuangqiang Wang, Yunan Cai, Sheng Li, Jianhua Lu
14:00-14:15	2886	Numerical Simulation of Shipboard-iceberg Collision / Zhigang Huang, Guiyong Zhang
14:15-14:30	2895	Numerical Simulation of the Ice Resistance in Pack Ice Conditions / Biye Yang, Guiyong Zhang
14:30-14:45	2852	Comparison with Different Interface Capturing Schemes Based on Gradient Smoothing Method using Unstructured Meshes / Da Hui, Guiyong Zhang, Zhi Zong
14:45-15:00	2681	Numerical Predictions of Hydrodynamic Forces and Squat of Ships in Confined Waters / Lu Zou, Yi Liu, Zao-Jian Zou, Teng-Chao Lu
15:00-15:20	Afternoon Coffee/Tea	

Day 1: Room D (Dong Palace) Parallel Sessions: Wednesday, 26 July 2017**Session 1D4- Chairs:** Decheng Wan, Bo Zhou

MS-035 Computational ship mechanics: theory, numerical methods and engineering applications

Time	ID	Title / Authors
15:20-15:35	2900	Keynote: Study for the Force and Flow Around Multi-column Structure / Bo Zhou
15:35-15:50	2638	Invited: The Numerical Investigation on Hydrodynamic Performance of Twisted Rudder During Self-propulsion / Decheng Wan, Cong Liu
15:50-16:05	2680	Invited: Numerical Modeling of Bubbles Near Rigid Boundary using OpenFOAM / Shiping Wang, Tong Li, Aman Zhang
16:05-16:20	2389	Invited: A Dual Wavelet Shrinkage Procedure for Suppressing Numerical Oscillation for Nonlinear Hyperbolic Equations / Yong Zhao
16:20-16:35	2683	Invited: Numerical Simulation of the High-speed Water Entry of a Projectile with 3D SPH Method / Furen Ming
16:35-16:50	2263	Invited: A Computational Study of the Movement of an Object Driven by the Centrifugal Pump in the Pipeline Based on Overset Meshes / Jie Chen
16:50-17:05	2412	Invited: Ice Load Calculation of Vessel Sailing in Ice Flows by Using DEM Method / Chen Ge, Xu Ze
17:05-17:20	2645	Ship Optimization Design of the Resistance and Seakeeping Performance Based on CFD / Decheng Wan, Aiqin Miao
17:20-17:35	2644	CFD Simulation of Flow Around a Fixed Paired-Column Semi-Submersible / Decheng Wan
17:35-17:50	2522	Numerical Simulation of Internal Flow Field Characteristics for a Ducted Propeller / Chunyu Guo, Jie Gong, Tiecheng Wu, Kewei Song, Jianfeng Lin
17:50-18:05	2580	Experimental and Numerical Study on the Wake Field of a 76000 DWT Panamax Bulker / Chunyu Guo, Tiecheng Wu, Wanzhen Luo, Jie Gong, Yongze Xu, Wenxuan She

Day 1: Room E (Dong Palace) Parallel Sessions: Wednesday, 26 July 2017

Session 1E1- Chairs: Zhenggang Li, Hu Wang

MS-074 Fast Computational Methods for Structural Optimization and Design

Time	ID	Title / Authors
13:00-13:15	2156	Fast Analysis and Reanalysis for Structures with Nonlinear Supports / Guanxin Huang, Zhijun Yang, Xin Chen
13:15-13:30	2315	State of the Art-Reanalysis: Recent Development Review / Hu Wang
13:30-13:45	2732	GPU Parallel Computation of Topology Optimization Based on EFG Method / Gong Shuguang, Xie Guilan, Lu Haishan
13:45-14:00	2526	Linear Dynamic Reanalysis Using Frequency-Shift Combined Approximations / Guikai Guo, Fei Cheng
14:00-14:15	2482	Simplified and Fast Modeling of Automotive Body Frame / Wenjie Zuo, Chungyang Gui
14:15-14:30	2210	A Reanalysis Based Fast Analysis Method for Crack Propagation by using X-FEM / Zhenxing Cheng, Hu Wang
14:30-14:45	2335	Reanalysis Based Approximate Bayesian Computation for Inverse Heat Conduction Problem / Yang Zeng
14:45-15:00	2507	A New Method for the Computation of Eigensensitivity Analysis with Repeated Eigenvalues / Zhenggang Li, Wu Baisheng
15:00-15:20	Afternoon Coffee/Tea	

Day 1: Room E (Dong Palace) Parallel Sessions: Wednesday, 26 July 2017

Session 1E2- Chairs: Zhaocheng Xuan, Duan Qinglin

MS-001 Theory and Formulation for Novel Computational Methods

Time	ID	Title / Authors
15:20-15:35	2618	Keynote: A Research of Patient-specific Flow Boundary Condition in Noninvasive Coronary Fractional Flow Reserve / Qiao Aike, Yang Qingqing
15:35-15:50	2302	Numerical Methods for Structural Dynamic Responses Based on Radial Basis Functions Approximation / Yanting Li, Jiqing Xu, Xibin Xu
15:50-16:05	2401	A Novel Method to Improve the Multiple-scales Solution of the Forced Strongly Nonlinear Oscillators / Hai-En Du, Guo-Kang Er, Vai Pan Iu
16:05-16:20	2858	A Solid-shell Finite Element Formulation Based on the Cosserat Point Theory for Modeling Composite Structures / Jabareen Mahmood
16:20-16:35	2245	A Bounding Method for Contact Stress using Fractional Programming / Zhaocheng Xuan
16:35-16:50	2897	Nyström Extrapolation Algorithm for Solving Delay Volterra Integral Equations with Weakly Singular Kernel" / A Posterior Error Estimate Is Derived Li
16:50-17:05	2455	A Non-standard Finite-difference Scheme for a Burgers-Fisher Partial Differential Equation with Bounded Travelling-wave Solutions / G.F Sun, G.R Liu
17:05-17:20	2669	Consistent High Order Meshfree Galerkin Methods and Applications / Duan Qinglin
17:20-17:35	2398	Hybrid Approximation Spaces for Solving Compressible Navier-Stokes Equations with High Reynolds Number / Fan Zhang, Jian Cheng, Tiegang Liu
17:35-17:50	2698	Higher Order Extension of PDS-FEM and Simulating Brittle Cracks / Maddeggedara Wijerathne
17:50-18:05	2342	Pattern Matching for Industrial Object Recognition Using Geometry Based Vector Mapping Descriptor / Dongsung Pae

Day 1: Room F (Ming Palace) ACES Activities: Wednesday, 26 July 2017

Session 1F1- Chairs: ***

Time	ID	Title / Authors
13:00-13:30	3006	From Meshfree PIM to Smoothed PIM (S-PIM) and Smoothed FEM (S-FEM): an Overview on the Development of Meshfree Methods at ACES / Guiyong Zhang
13:30-14:00	3004	Particle Modeling at ACES in Two Decades / Moubin Liu
14:00-14:30	3008	ACES Endeavours in Modelling for Nanos, Bios, and Multidisciplinary Systems / Yuan Cheng
14:30-15:00	3009	Striving for ACES Solutions to Complex Systems: Fluid Dynamics, Fluid-structure Interactions, and Multiphysics Coupling / Zhi-Qian Zhang
15:00-15:30	3010	Optimization, Reliability Analysis and Inverse Methods from the Big Tree of ACES / Hu Wang
15:30-16:00	Free discussion	

Day 2: Room A (Dong Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2A1- Chairs:** Wenquan Wang, Heow Pueh Lee**MS-036** Immersed boundary method for fluid structure interaction

Time	ID	Title / Authors
09:00-09:15	2889	Keynote: Computational Fluid Dynamic (CFD) Method to Simulate Complex-structured Soft-body Locomotion using OpenFOAM / Heow Pueh Lee, Hui Feng, Peter Todd
09:15-09:30	2372	Keynote: An ALE Formulation of Immersed Boundary Methods for Simulating Fluid-structure Interaction Problems / Wenquan Wang
09:30-09:45	2527	Fluid-structure Interaction Simulation Via the Coupling of Finite Element and Lattice Boltzmann Methods / Fei Jiang, Xian Chen, Junji Ohgi
09:45-10:00	2416	An Immersed Boundary-lattice Boltzmann Method Based on Velocity Correction and Its Application / Li Weizhong
10:00-10:15	Morning Coffee/Tea	

Day 2: Room A (Dong Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2A2- Chairs:** Dalin Tang, Zhi-Yong Li**MS-012** Computational Modeling for Cardiovascular Disease and Biological Applications

Time	ID	Title / Authors
10:15-10:30	2333	Keynote: Carotid Atherosclerotic Plaque Vulnerability Assessment Using 3D Thin-Layer Model with In Vivo Patient-Specific Vessel Material Properties / Dalin Tang, Qingyu Wang, Gador Canton, Thomas Hatsukami, Kristen Billiar, Chun Yuan, Zheyang Wu
10:30-10:45	2303	Keynote: A Segmentation Method for Intracoronary Optical Coherence Tomography (OCT) Image Based on Least Squares Support Vector Machine: Vulnerable Coronary Plaque Cap Thickness Quantification / Xiaoya Guo, Dalin Tang, David Molony, Chun Yang, Habib Samady, Jie Zheng, Gary Mintz, Akiko Maehara, Liang Wang, Xuan Pei, Zhi-Yong Li, Genshan Ma, Don Giddens
10:45-11:00	2354	Invited: In Vivo Intravascular Ultrasound-Based 3D Thin-Walled Model for Human Coronary Plaque Progression Study: Transforming Research to Potential Commercialization / Jian Guo, Dalin Tang, Genshan Ma, Liang Wang, David Molony, Habib Samady, Jie Zheng, Xiaoya Guo, Akiko Maehara, Gary Mintz, Jian Zhu
11:00-11:15	2165	Numerical Simulation of Instantaneous Wave-Free Ratio of Stenosed Coronary Artery / Youjun Liu, Wenxin Wang, Boyan Mao, Bao Li
11:15-11:30	2188	Association of Simultaneously Measured Limbs Blood Pressure Differences with Ankle-brachial Index / Xiaorui Song
11:30-11:45	2189	Fatigue Life Prediction of Stents in a Realistic Coronary Stenosis Model / Xinyang Cui
11:45-12:00	2250	Study of Applied Tissue Power in Microwave Ablation / Qun Nan, Tong Dong, Zhen Tian, Xiaohui Nie, Yanyan Cheng

Day 2: Room A (Dong Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2A3- Chairs:** Aike Qiao, Feifei Xiao**MS-012 Computational Modeling for Cardiovascular Disease and Biological Applications**

Time	ID	Title / Authors
13:00-13:15	2166	Keynote: Pressure Variation After Stent Intervention for a Giant Aneurysm Complicated by a Stenosis / Wenyu Fu, Aike Qiao
13:15-13:30	2695	Invited: Efficient Epigenetic Effect Identification in EQTL Mapping with RNA-seq Data / Feifei Xiao
13:30-13:45	2383	Patient-Specific Echo-Based Left Ventricle Models for Active Contraction and Relaxation Using Different Zero-Load Diastole and Systole Geometries / Dalin Tang, Longling Fan, Jing Yao, Chun Yang, Di Xu
13:45-14:00	2523	Reproducibility of Optical Coherence Tomography Imaging Based Measurements of the Fibrous Cap Thickness in Lipid-enrich Atheroma / Chunliu He, Zhiyong Li, Jiaqiu Wang, Yuxiang Huang, Yuehong Miao, Tongjing Zhu
14:00-14:15	2512	Machine Learning Based Image Segmentation of Intravascular Optical Coherence Tomography Images / YuXiang Huang
14:15-14:30	2502	A Treatment Planning of Radiofrequency Ablation for Spinal Tumor / Tian Zhen
14:30-14:45	2363	Effect of Distal Stenosis on the Blood Flow in Right Coronary Arteries with Serial Stenoses / Biyue Liu, Dalin Tang
14:45-15:00	2553	An Investigation of Correlation Between Left Coronary Bifurcation Angle and Hemodynamic Changes in Coronary Stenosis by Coronary Computed Tomography Angiography-derived Computational Fluid Dynamics / Zhonghua Sun, Sultan Aldosari, Thanapong Chaichana
15:00-15:20	Afternoon Coffee/Tea	

Day 2: Room A (Dong Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2A4- Chairs:** Yujie Li, Idit Avrahami**MS-012 Computational Modeling for Cardiovascular Disease and Biological Applications**

Time	ID	Title / Authors
15:20-15:35	2496	Keynote: Modelling Flow-diverting Stent as Porous Medium with Different Permeabilities in the Treatment of Intracranial Aneurysms: a Comparison of a Successfully Treated Case and an Unsuccessful One / Yujie Li, Mingzi Zhang, David Verrelli, William Yang, Winston Chong, Makoto Ohta, Yi Qian
15:35-15:50	2286	Keynote: Combined Study for Estimation of Coronary Flow Based on Flow Distribution in the Coronary Tree / Idit Avrahami
15:50-16:05	2935	An FSI Modeling Approach to Combine IVUS and OCT for More Accurate Patient-specific Coronary Cap Thickness and Stress/strain Calculations / Xiaoya Guo, Don Giddens, David Molony, Chun Yang, Habib Samady, Jie Zheng, Gary Mintz, Akiko Maehara, Liang Wang, Xuan Pei, Zhi-Yong Li, Dalin Tang
16:05-16:20	2461	The Software Development of Personalized Lumped Parameter Model of Coronary Artery / Bao Li, Wenxin Wang, Xi Zhao, Boyan Mao, Youjun Liu, Zhou Zhao
16:20-16:35	2515	Effect of Stent Designs on the Paravalvular Regurgitation of Transcatheter Aortic Valve Implantation / Jin Chang
16:35-16:50	2930	Geometric Calibration Based on a Simple Phantom for Multi-lens Microscopic CT / Xu Haitao, Luo Shouhua, Zheng Liang, Zhang Xiaobing, Shen Tao
16:50-17:05	2351	Hemodynamic Effects of Lesion Length on Competitive Flow with Internal Mammary Artery Bypass / Boyan Mao, Huixia Zhang, Wenxin Wang, Bao Li, Youjun Liu
17:05-17:20	2672	Applying Virtual Stent Deployment to Study Flow-diversion Treatment for Intracranial Aneurysms: the Effect of Stent Compaction on Post-treatment Wire Configuration / Mingzi Zhang, Yujie Li, David Verrelli, Winston Chong, Makoto Ohta, Yi Qian
17:20-17:35	2980	Impact of Carotid Bifurcation Geometry on Atherosclerotic Formation: A Hemodynamic Study / Xin-Ke Yao, Yan Cai, Jie Gao, Ge-Lin Xu, Zhi-Yong Li
17:35-17:50	2582	Research on the Biomechanics of Lumbar Muscles Based on Musculoskeletal Model / Xiaotong Zhan, Zhiyong Li, Qiang Chen

Day 2: Room B (Nan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2B1- Chairs:** Yuki Onishi, Ruiping Niu

MS-004 Smoothed Finite Element Methods and Related Techniques

Time	ID	Title / Authors
09:00-09:15	2718	Keynote: Accurate Viscoelastic Large Deformation Analysis using F-bar Aided Edge-based Smoothed Finite Element Method for 4-node Tetrahedral Meshes (F-barES-FEM-T4) / Yuki Onishi, Ryoya Iida, Kenji Amaya
09:15-09:30	2834	Invited: A Stabilization Method of F-barES-FEM-T4 for Dynamic Explicit Analysis of Nearly Incompressible Solids / Ryoya Iida, Yuki Onishi, Kenji Amaya
09:30-09:45	2697	A Parallel Preconditioned Gauss-Seidel Iterative Method Tailored for Smoothed Finite Element Method's Solving / Jianfeng Zhang
09:45-10:00	2533	Stability Analysis of Smoothed Finite Element Method with Explicit Method for Transient Heat Transfer / Xin Rong, Ming Li, Ruiping Niu
10:00-10:15	Morning Coffee/Tea	

Day 2: Room B (Nan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2B2- Chairs:** Chen Jiang, S.W Wu

MS-004 Smoothed Finite Element Methods and Related Techniques

Time	ID	Title / Authors
10:15-10:30	2670	Keynote: Study on the Effects of the Psoas Major Muscle and Facet Joint Orientation on the Intradiscal Stress of the Lumbar Spine / Chen Shuo
10:30-10:45	2295	Keynote: A Characteristic Based ES-FEM with Polynomial Pressure Projection for Incompressible Flows / Chen Jiang, Xu Han, G.R. Liu
10:45-11:00	2545	Invited: Solution Bound and Nearly Exact Solution to 3D Nonlinear Solid Mechanics Problems using S-FEM / S.W Wu
11:00-11:15	2543	A Novel Alpha Smoothed Finite Elements Method for Ultra-accurate Solution using Quadrilateral Elements / Yanhua Li
11:15-11:30	2546	The Design and Development of the Postprocessor for 2D S-FEM Analysis Software / Fei Zhang
11:30-11:45	2550	The Design and Development of the Preprocessor for 3D S-FEM Analysis Software / Chunqiao Wang
11:45-12:00		

Day 2: Room B (Nan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2B3- Chairs:** Chao Jiang, Yan Li

MS-051 Structural uncertainty analysis

MS-062 Stochastic Modeling and Uncertainties in Computational Mechanics of Materials

Time	ID	Title / Authors
13:00-13:15	2819	Keynote: Interval Field Model and Interval Finite Element Analysis / Chao Jiang, Bingyu Ni
13:15-13:30	2530	Keynote: Probabilistic Fracture Toughness Prediction of Composite Materials / Yan Li, Min Zhou
13:30-13:45	2820	Invited: Analytical Formulation of Dynamic Response Bounds in Non-random Vibration Analysis / Chao Jiang, Jinwu Li
13:45-14:00	2282	Fuzzy Static Analysis of Engineering Structures Involving Functionally Graded Materials / Di Wu, Airong Liu, Wei Gao
14:00-14:15	2807	Isogeometric Method of Stochastic Mechanical Analysis of Structures / Wenpei Wang
14:15-14:30	2810	Exact Solutions of Random Vibration Responses for Rectangular Thin Plate / Dixiong Yang
14:30-14:45	3001	Analysis of Hydraulic Massive Concrete Structures using Stochastic Finite Element Method / Jing Cheng, Peicong Li, Fanxuan Meng, Jinpeng Wei
14:45-15:00	2891	The Multi-objective Optimal Design of Semi-active Controllers for Vehicle Suspensions with Magnetorheological Damper / Guiping Liu
15:00-15:20	Afternoon Coffee/Tea	

Day 2: Room B (Nan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2B4- Chairs:** Liguoz Zhao, Antony Hurst

MS-006 Modelling and Characterisation of Mechanical Behaviour of Advanced Materials

Time	ID	Title / Authors
15:20-15:35	2175	Keynote: An Experimental and Computational Study of Plastic Deformation in Silicon Carbides / Liguoz Zhao, Dezhou Zhang, Anish Roy
15:35-15:50	2249	Keynote: AGR Gas Baffle Fragment and Fuelling Guide Tube Impact Analysis / Antony Hurst
17:05-17:20	2237	Invited: Shakedown Analysis of Structures with Temperature-dependent Properties / Shyue-yuh Leu
17:20-17:35	2206	Invited: The DCM Simulations of the Matrix Dislocation Gliding Through the Matrix Channel Under the Influence of the Interfacial Dislocation Network / Huang Song
15:50-16:05	2176	Mechanical Performance of Bioresorbable Polymeric Stents During Crimping and Expansion in Diseased Artery / Tianyang Qiu, Liguoz Zhao, Mo Song
16:05-16:20	2278	The Shear Mechanical Properties of Graphene/copper Nanolayered Composites / Jun Hua
16:20-16:35	2778	Tensile Mechanical Properties and Its Failure Modes of the Basalt Fiber/Epoxy Resin Composite Material / Junping Shi, Jingjing He, Xiaoshan Cao, Tielin Han
16:35-16:50	2219	Numerical Calculation of Material Configurational Force Based on ABAQUS Secondary Development and Its Applications / Yue Chen, Qun Li
16:50-17:05	2220	Crack Interacting with an Individual Hole by the Fracture Criterion of Configurational Force / Bin Gu, Yuli Guo, Qun Li
17:35-17:50	2221	Nanovoids Induced Homogeneous Superplastic in Metallic Metal / Bida Zhu

Day 2: Room C (Bei Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2C1- Chairs:** Mahmood Jabareen, Zishun Liu

MS-018 Computational modeling and experimental characterization of soft tissues

MS-024 Advanced Computational Methods for Soft Matters

Time	ID	Title / Authors
09:00-09:15	2636	Keynote: Buckling of Interfacial Layers in Periodic Cellular Composite Structures / Zishun Liu, YuHao He, Rong Huang
09:15-09:30	2568	Invited: Simulation of Biological Tissues using Numerical Hyperelasticity and Strain-Enriched Finite Element Analysis (Sefea) / H. Theodore Lin
09:30-09:45	2893	Calculation of Unloaded Configurations for Finite Element Simulations of Patient-specific Geometries with Application to Human Common Carotid Artery / Xuhui Li, Mikhail Itskov, Mahmood Jabareen
09:45-10:00	2631	Auxetic Metamaterials of Square Structure / Zishun Liu, Yu Zhou
10:00-10:15	Morning Coffee/Tea	

Day 2: Room C (Bei Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2C2- Chairs:** Weiguo Li, Ding Jun

MS-054 Coupled thermal-mechanical computation for high-temperature materials

Time	ID	Title / Authors
10:15-10:30	2344	Keynote: Theoretical Models on the Fracture Strengths of Ceramic Single Crystal Fibers at Different Temperatures and Test Rates / Weiguo Li, Jiaying Shao, Ruzhuan Wang, Yong Deng, Jianzuo Ma
10:30-10:45	2459	Keynote: The Theoretical Calculation and Numerical Simulation for Thermal Stress Generated in TGO Subjected to Cycled Thermal-Mechanical Loading / Ding Jun
10:45-11:00	2346	Theoretical Computation on the Critical Resolved Shear Stress of Metals at Different Temperatures in Pure Shear Mode / Weiguo Li, Jianzuo Ma, Peiji Geng, Xuyao Zhang, Ying Li, Yong Deng
11:00-11:15	2393	Modeling of Temperature-dependent Shear Modulus of Bulk Metallic Glasses / Weiguo Li, Xianhe Zhang, Peiji Geng, Ying Li
11:15-11:30	2347	Theoretical Prediction on Temperature-dependent Non-steady-state First Matrix Cracking Stress for Fiber Reinforced Ceramic Composites / Weiguo Li, Yong Deng, Xuyao Zhang
11:30-11:45	2198	Determining Fracture Strength and Critical Flaw of the ZrB ₂ -SiC Composites on High Temperature Oxidation using Theoretical Method / Ruzhuan Wang
11:45-12:00	2898	A Complex Variable Interpolating Meshless Method for Two-dimensional Transient Heat Conduction Problem / Ya Deng, Xiao He

Day 2: Room C (Bei Palace) Parallel Sessions: Thursday, 27 July 2017

Session 2C3- Chairs: Wei Li, Zhao Tian

MS-011 Advanced Computational Methods in Underwater Acoustics

MS-042 Numerical modelling methods and applications in renewable energy flows

Time	ID	Title / Authors
13:00-13:15	2854	Keynote: Effect of Turbulent Schmidt Number on the Scalar Field Simulation of a Fluidic Precessing Jet Flow / Zhao Tian, Xiao Chen
13:15-13:30	2836	Invited: An Edge-based Smoothed Finite Element Method (ES-FEM) for Acoustic Problems using Four-node Quadrilateral Elements / Yingbin Chai, Wei Li, Xiangyu You, Ming Lei
13:30-13:45	2560	Static, Free Vibration and Underwater Sound Radiation of Stiffened Plates by ES-FEM using Triangular Element / Qian Xiao
13:45-14:00	2511	A Smoothed Finite Element Method for Underwater Acoustic Scattering Problems in Two Dimensions / Chai Bin
14:00-14:15	2439	Calculation and Analysis on Axial Acoustic Radiation Force of a Bessel Beam on Sphere Particals / Mingsheng Wang
14:15-14:30	2431	3D Image Reconstruction for Underwater Objects Based on Ramp Response / Yu Weiping
14:30-14:45	2592	Solving Time-dependent Acoustic Problems with a Lagrangian Meshfree Finite Difference Particle Method / YongOu Zhang
14:45-15:00	2191	Wind Field Simulation Over Complex Terrain with Isogeometric Analysis / Rafael Montenegro, J.M. Escobar, J.I. Lopez, M. Brovka, A. Oliver, G. Montero, E. Rodriguez, G.V. Socorro-Marrero
15:00-15:20	Afternoon Coffee/Tea	

Day 2: Room C (Bei Palace) Parallel Sessions: Thursday, 27 July 2017

Session 2C4- Chairs: Xiaoliang Chen, Maciej Glowacki

MS-000 General Papers

Time	ID	Title / Authors
15:20-15:35	2847	Keynote: Computational Method for Geometric Properties of Arbitrary Plane Areas / Xiaoliang Chen
15:35-15:50	2824	Invited: On Improving Evolutionary Algorithms and Acceleration Techniques Based on Estimation of Convergence Point Population for Chosen Optimization Problems of Mechanics / Maciej Glowacki, Janusz Orkisz
15:50-16:05	2938	Invited: Random Walk of Brownian Particles on Non-uniform Grids / Zirui Li, Jianwen Zhang
16:05-16:20	2173	Computational Approach to Analyzing 3D Strain Distribution in Opaque Materials Via Micro Computer Tomography / Lingtao Mao, Haizhou Liu, Fu-pen Chiang
16:20-16:35	2217	Periodic DFT Study of Structural Transformations of Crystalline Dihydroxylammonium 5,5'-bistetrazole-1,1'-diolate Under High Pressures / Hairui Sun, Guozheng Zhao
16:35-16:50	2183	CFD Analysis of the Heat Transfer of Fire Doors Under the Standard Time-temperature Curve / Hou-Kuan Tam, Hau-Yin Leung, Lap-Mou Tam, Seng-Kin Lao
16:50-17:05	2481	3D Simulation of the Defect Generation by Hydrogen at Si-SiO_2 Interface / Zhaocan Ma, Jingjie Xu, Hongliang Li, Yu Song, Linbo Zhang, Benzhuo Lu
17:05-17:20	2226	Design Pattern Enabling the Flexible Integration of Effects Into a Basis Flow Model / Tatiana Reiche
17:20-17:35	2777	A Reduced-order Modeling Technique for Nonlinear Buckling Analysis / Ke Liang
17:35-17:50	2798	Conjugate Gradient Approach for Optimal Control Problem with Model-Reality Differences / Sie Long Kek, Wah June Leong, Sy Yi Sim, Siew Yee Chong
17:50-18:05	2134	Influence Factors of Teachers' Pro-industry Teaching Demand Adjust Industry 4.0 / Chun-Mei Chou

Day 2: Room D (Song Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2D1- Chairs:** Yinghua Liu, Pawel Packo

MS-007 Numerical modelling of nonlinear transient phenomena

MS-061 Structural integrity and fracture mechanics

Time	ID	Title / Authors
09:00-09:15	2603	Keynote: Numerical Investigations on the Effects of T-stress in Creep Crack / Yinghua Liu, Yanwei Dai
09:15-09:30	2822	A Parallel Between Numerical and Physical Worlds of Dynamic Systems: the True Spectral Properties - a Challenge in Current Modelling and Simulation Methods / Pawel Packo
09:30-09:45	2823	Investigation of Dispersion Effects in Plates from a Numerical Point of View / Piotr Kijanka, Pawel Packo, Rafal Radecki, Michael Leamy
09:45-10:00	2371	An Efficient Rotation-free Triangle and Its Application / Yexin Zhou
10:00-10:15	Morning Coffee/Tea	

Day 2: Room D (Song Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2D2- Chairs:** Jian-Ying Wu, Zhenjun Yang

MS-016 Multiscale modelling of damage and fracture in quasi-brittle materials

Time	ID	Title / Authors
10:15-10:30	2909	Keynote: 3D Meso-scale Fracture Modelling and Validation of Concrete Based on in Situ X-ray CT Images and Cohesive Crack Model / Wenyan Ren, Zhenjun Yang, Rajneesh Sharma, Sam McDonald, Paul Mummery
10:30-10:45	2917	Keynote: Phase-field/gradient-damage Modeling of Localized Failure in Quasi-brittle Solids / Jian-Ying Wu
10:45-11:00	2961	Invited: Micromechanical Studies of Strain Rate Dependent Compressive Strength in Brittle Polycrystalline Materials / Bo Li, Hao Jiang, Zongyue Fan
11:00-11:15	2125	Invited: A Discrete-continuum Coupled Finite Element Model to Simulate All Failure Modes in Fibre Reinforced Concrete / Hui Zhang, Yujie Huang, Zhenjun Yang, Shilang Xu
11:15-11:30	2685	Three-dimensional Meso-scale Cohesive Fracture Modeling of Concrete using a Python Script in ABAQUS / Yang Zhenjun, Yujie Huang, Liu Guahua
11:30-11:45	2976	A Model of Fracture Propagation Considering Fluid Pressure in Cracks Using SBFEM / Feng Yao, Zhenjun Yang
11:45-12:00	2378	Cracking Pattern of Shale Reservoirs by Water, CO ₂ and Nitrogen Fracturing / Jianguo Wang, Xiangxiang Zhang

Day 2: Room D (Song Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2D3- Chairs:** Chen Songying, Janusz Rebielak

MS-029 Computational Methods in Engineering

Time	ID	Title / Authors
13:00-13:15	2486	Keynote: Examples of Applications of Two-stage Method in Calculations of Statically Indeterminate Trusses / Janusz Rebielak
13:15-13:30	2379	Numerical Investigation on the Gasoline Mixture with Side Entering Mechanical Agitator / Chen Songying, Tang Xinxin, Qu Yanpeng, Pan Juyi, Wan Dongdong
13:30-13:45	2167	Study of RFD Model Spectrum and the Characteristic Conversion Methods / Hui Wang, J.Y. Li
13:45-14:00	2234	Numerical Investigations of Centrifugal Compressor with Corrosion Pit Defect Preset on the Disk and Blade / Songying Chen, Yanpeng Qu, Xinxin Tang, Dongdong Wan, Juyi Pan
14:00-14:15	2337	Numerical Simulation of Gasoline Blending Based on RJM System / Chen Songying, Pan Juyi, Qu Yanpeng, Wan Dongdong, Tang Xinxin
14:15-14:30	2338	Research on the Features of Gasoline Mixture Flow Field with Rotary Jet Mixing / Chen Songying, Wan Dongdong, Qu Yanpeng, Pan Juyi, Tang Xinxin
14:30-14:45	2633	Acoustic Characteristics of Three-dimensional Membrane-imbedded Acoustic Metamaterial / Xiaoming Wang, Yang Li, Yulin Mei
14:45-15:00	2600	Backlash Computation of Harmonic Drive Based on Parametric Solid Finite Element Model / Pengpeng Yang, Xiaoxia Chen, Jingzhong Xing, Yunpeng Yao
15:00-15:20	Afternoon Coffee/Tea	

Day 2: Room D (Song Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2D4- Chairs:** Chunhui Yang, W. Senadeera

MS-029 Computational Methods in Engineering

Time	ID	Title / Authors
15:20-15:35	3007	Keynote: Micromechanics-based Multiscale Analysis for Heterogeneous Materials / Chunhui Yang
15:35-15:50	2742	Keynote: A Multiscale Coarse Grained Model for Simulating Mechanical Responses of Plant Food Tissues / W. Senadeera, Wdccc Wijerathne, I.W. Turner, E. Sauret, H.C.P. Karunasena, Y.T. Gu
15:50-16:05	2469	A Symplectic Approach for Attitude Optimal Control of Spacecraft Solar Array Deployment / Zhiqin Cai, HongWei Zhong, Shaowei Yang
16:05-16:20	2160	Numerical Simulation of Mars Exploration Rover Heat Shield Separation / Guowu Xu
16:20-16:35	2763	Matrix Acidizing Analysis in Fractured Carbonate Formations by using UPNM / Yun Chen, Guo Ma, Tuo Li, Yang Wang, Feng Ren
16:35-16:50	2927	Temperature Variations and Cooling Efficiency of Forced Convective Heat Transfer of Nanofluids in Microchannel Laminar Flow / Vai Kuong Sin, Ka Kei Teng
16:50-17:05	2632	Investigation of Bridging Method to Predict Rarefied Aerodynamics of Lift Body / Xiao-wen Liu, Guo-hui Dou, An-long Gong
17:05-17:20	2904	Numerical Solution of a Bioheat Transfer Problem with Transient Blood Temperature / Kuo-Chi Liu, Fong-Jou Tu
17:20-17:35	2208	Quick and Highly Precision Modal Analysis Method for All Types of Structural Modifications / Jianjun He
17:35-17:50	2991	Numerical Manifold Method for Two-phase Flow in Fractured-porous Media with Non-matching Mesh / Lifeng Fan, Huidong Wang, Guowei Ma, Bin Wang
17:50-18:05	2993	Modeling Fluid Structure Interaction with Large Structural Displacement using NMM-ALE / Bin Wang, Qiusheng Wang, Guowei Ma, Huidong Wang

Day 2: Room E (Yuan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2E1- Chairs:** Xi-Qiao Feng, Qiang Chen

MS-045 Computational Biomechanics

Time	ID	Title / Authors
09:00-09:15	2653	Keynote: Influences of Exercise Durations on the Dynamic Bone-repair Process by Coupling Polymer Scaffold Degradation and Bone Formation / Qiang Chen
09:15-09:30	2619	Keynote: A Study on the Mechanical Property and Permeability of Porous Hierarchical Bone Scaffold / Ce Chen
09:30-09:45	2903	Effectsof Boundary on Biofilm Morphogenesis / Cheng Zhang, Bo Li, Jing-Ying Tang, Xi-Qiao Feng
09:45-10:00	2887	Numerical Simulation for Compression Failure of Bimaterial Interface by using Cohesive Zone Model / Liya Liu
10:00-10:15	Morning Coffee/Tea	

Day 2: Room E (Yuan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2E2- Chairs:** Haifei Zhan, Gang Zhang

MS-037 Nanoscale thermal transport and nanomechanics

Time	ID	Title / Authors
10:15-10:30	2586	Keynote: Deformation Mechanisms of Diamond Nanothread-based Nanofiber / Haifei Zhan
10:30-10:45	2513	Keynote: Thermal Transport in Graphene with Defect and Doping: Phonon Modes Analysis / Jie Chen, Shiqian Hu, Nuo Yang, Baowen Li
10:45-11:00	2850	Keynote: A Small Strain Constitutive Model for Shape Memory Polymers / Xiongqi Peng, Xiaobin Su
11:00-11:15	2548	Invited: Nanoscale Heat Energy Transport: A Computational Study / Gang Zhang
11:15-11:30	2744	Investigating the Effect of Rock Pore Size Distribution on Reservoir Production Performance / Sina Gomari
11:30-11:45	2884	Hexagonal Boron Nitride: A Promising Substrate for Graphene with High Heat Dissipation / Zhongwei Zhang

Day 2: Room E (Yuan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2E3- Chairs:** Janusz Rebielak, Min Xiong

MS-048 Numerical Analysis in Earthquake Engineering Geology

MS-057 Analysis and Design Methods of Building Structures Located in Earthquake Areas

Time	ID	Title / Authors
13:00-13:15	2495	Keynote: Static and Dynamic Reliability Analysis of Laterally Loaded Piles using Probability Density Evolution Approach / Min Xiong
13:15-13:30	2652	Invited: Viscous Modeling of Liquefaction-induced Settlement of Existing Structures using Dynamic Mesh / Wuwei Mao
13:30-13:45	2780	2-D Numerical Simulation of Grounded Electrical-source Airborne Transient Electromagnetic Exploration Based on Meshfree Method / Tingzhe Huang
13:45-14:00	2492	Stability Analysis of Landfills Based on SPH Simulation / Yangjuan Bao
14:00-14:15	2430	Seismic Responses of High-rise Intake Towers Considering Multiple-support Excitation Effects / Hanyun Zhang
14:15-14:30	2594	Seismic Design Loads of Truss Arch Frames Supported by RC Columns with Ceilings Subjected to Vertical and Horizontal Earthquake Motions / Koichiro Ishikawa
14:30-14:45	2488	Structural Concept of System of Combined Foundation Designed for Buildings Located in Earthquake Areas / Janusz Rebielak
15:00-15:20	Afternoon Coffee/Tea	

Day 2: Room E (Yuan Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2E4- Chairs:** Aram Soroushian, Jiaqi Chen

MS-000 General Papers

Time	ID	Title / Authors
15:20-15:35	2483	A Truss Section Size Optimization Design Method Based on Constraint Variation Principle / Yubin Liu, Xin Zheng, Shengjun Zhang, Feng Shen, Xiangrong Fu
15:35-15:50	2485	Flutter Frequency Based on Bending - Torsion Coupling Theory / Xin Zheng, Yu-Bin Liu, Pu Chen, Feng Shen, Sheng-Jun Zhang, Xiang-Rong Fu
15:50-16:05	2967	Static Mechanical Properties Test of 3 Dimensional and 4 Direction Braid Angle Composite Materials / Xu Yibing
16:05-16:20	2690	An Optimal Control Obtained by Finite Dimensional Approximation for a Flexible Robot Arm / Xuezhong Hou
16:20-16:35	2419	Crashworthiness of Different Composite and Aluminum Tubes with Foam Filling by Experiments and Simulations / Zheyi Zhang
16:35-16:50	2476	A Finite Element Contact Analysis Algorithm using Distance Functions / Xian Chen, Fei Jiang, Junji Ohgi
16:50-17:05	2722	Delamination and Matrix Cracking in L-shaped Cross-ply Composite Laminates Under Four-point Bending / Dongfeng Cao
17:05-17:20	2721	Pointwise Gauge Field and Relativistic Structure / Yi-Ping Wang
17:20-17:35	2735	Design of Pedestrian Friendly Vehicle Frontal Protection System using Computer Modelling and Simulation / Jiaqi Chen
17:35-17:50	2322	A Correspondence Between Errors and Pseudo-errors of Approximate Computations with Similar Rates of Convergence / Aram Soroushian
17:50-18:05	2574	Crack Propagation Mode and Stress Localization in Staggered Biomaterials / Yi Yan, Akihiro Nakatani

Day 2: Room F (Ming Palace) Parallel Sessions: Thursday, 27 July 2017

Session 2F1- Chairs: Yuanqiang Tan

MS-063 Model and Simulation for Advanced Manufacturing

Time	ID	Title / Authors
09:00-09:15	2578	Simulation of Ceramic Grinding Process Based on Discrete Element Method / Yuanqiang Tan
09:15-09:30	2581	Equivalent Thermal Conductivity of Metal Powder Beds in 3D Printing / Yuanqiang Tan, Yuntian Feng
09:30-09:45	2478	Optimizing the Geometric Parameters of Cutting Edge for Finishing Machining of 30Cr2Ni4MoV Alloy Steel / Feng Jiang, Bicheng Guo, Tongkai Liao, Fuzeng Wang, Lan Yan
09:45-10:00	2591	Simulation of Temperature Field in Brazing Diamond by Pulsed Laser Heating / Guoqin Huang, Yanfang Su, Yingda Wang
10:00-10:15	Morning Coffee/Tea	

Day 2: Room F (Ming Palace) Parallel Sessions: Thursday, 27 July 2017

Session 2F2- Chairs: Yi-Ping Wang, Tzon-Tzer Lu

MS-000 General Papers

Time	ID	Title / Authors
10:15-10:30	2608	Invited: Adomian Decomposition Method for First Order Partial Differential Equations / Tzon-Tzer Lu
10:30-10:45	2861	Riemann Function and Relativistic Structure / Yi-Ping Wang
10:45-11:00	2958	SIMULATION AND EXPERIMENTAL RESEARCH ON THE SLICING TEMPERATURE OF THE SAPPHIRE WITH DIAMOND WIRE / Xue Run Huang
11:00-11:15	2712	Robust Optimization Study of Wind Farm Layout by Monte Carlo Simulation Method / Longyan Wang
11:15-11:30	2936	Analytical and Experimental Investigation on Crack Generated in Diameter-enlargement Section / Xia Zhu, Nagatoshi Okabe, Keiji Ogi, Hiromichi Toyota
11:30-11:45	2470	SPECTRAL VOLUME GAS-KINETIC SCHEME FOR COMPRESSIBLE FLOW / Na Liu
11:45-12:00	2163	A New SPH Iterative Method for Solving Nonlinear Equations / Rahmatjan Imin

Day 2: Room F (Ming Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2F3- Chairs:** Decheng Wan, Jingxin Zhang

MS-065 Computational Marine Hydrodynamics

Time	ID	Title / Authors
13:00-13:15	2659	Invited: Numerical Simulation of Turbulent Flows in a Channel with a Series of Groynes by ZDES / Jingxin Zhang
13:15-13:30	2159	Numerical Prediction and Analysis of Motion Response of High Speed Planing Craft in Regular Waves / Hongjie Ling
13:30-13:45	2660	The Fully Coupled Effects of FPSO with Different Filling Ratio Tanks in CFD Method / Decheng Wan, Yuan Zhuang
13:45-14:00	2648	GPU Acceleration of MPS for Three-Dimensional Sloshing / Decheng Wan, Xiang Chen
14:00-14:15	2646	Numerical Investigation of Open Water Performance of Hybrid CRP Podded Propulsion System / Decheng Wan, Dongya He
14:15-14:30	2641	Effects of Wave Steepness on Wave Breaking Properties Over Submerged Reef / Decheng Wan, Ke Xia
14:30-14:45	2639	Numerical Study of Riser Vibration Due to Top-End Platform Motion / Decheng Wan, Bowen Fu
14:45-15:00	2610	Unsteady Aerodynamic Simulation of Offshore Wind Turbines with Wave-wind Interaction / Decheng Wan, Ping Cheng
15:00-15:20	Afternoon Coffee/Tea	

Day 2: Room F (Ming Palace) Parallel Sessions: Thursday, 27 July 2017**Session 2F4- Chairs:** Wang Song, Jianyao Yao

MS-065 Computational Marine Hydrodynamics

MS-015 Fluid-Structure Interaction and Multiphysics Problems in Aerospace Engineering

Time	ID	Title / Authors
15:20-15:35	2361	Keynote: Simulation of Vortex-Induced Vibration for a Long and Flexible Riser Using Discrete Vortex Method / Wang Song, Lin Ke
15:35-15:50	2713	Invited: Analysis of Modal Characteristics and Reconstructions of Rotating Flow Field Using POD Method / Jianyao Yao
15:50-16:05	2598	Breaking Wave Simulations of High-speed Surface Combatant using OpenFOAM / Decheng Wan
16:05-16:20	2590	Three-dimensional Simulation of Liquid Sloshing in an Elastic Tank / Decheng Wan, Youlin Zhang
16:20-16:35	2649	Numerical Simulation of Regular Waves Onto a Vertical Circular Cylinder / Decheng Wan, Zhenghao Liu
16:35-16:50	2465	An Adaptive Control Dynamic-grids Generation Method for Numerical Simulation of Moving and Deforming Boundary Flow Field / Zeyu Guo
16:50-17:05	2460	Transport and Deposition in the Terminal Bronchioles of Large Scale 17-Generation Model / Suvash Saha, Mohammad Islam, Emilie Sauret, Yuantong Gu
17:05-17:20	2313	Control of Energy Flow and Wave Propagation by Periodically Distributing Piezoelectric Materials with Identical Shunting Circuits / Yu Fan, Lin Li, Olivier Bareille, Mohamed Ichchou
17:20-17:35	2438	The Application of SPH-GPU to the Structure Taxing on the Water / Lu Wang
17:35-17:50	2647	Numerical Investigation of Martian Entry Vehicles Aerodynamics for Hypersonic Rarefied Conditions / Fei Huang, Xiao-wen Liu, Xu-hong Jin

Day 3: Room A (Dong Palace) Parallel Sessions: Friday, 28 July 2017

Session 3A1- Chairs: Zhenhan Yao, Andrey Trubitsyn

MS-013 Advances in BEM and Other Mesh-Reduction Methods

Time	ID	Title / Authors
09:00-09:15	2186	Keynote: A Group of Benchmark Problems for Local Stress Analysis of Real Cantilever Plate using High Accuracy and High Performance BEM / Zhenhan Yao
09:15-09:30	2168	Invited: Boundary and Current Elements for Simulation of Electromagnetic Fields of Complicated Spatial Configuration / Andrey Trubitsyn
09:30-09:45	2320	Fast Adaptive Binary-tree Mesh Generation / Jianming Zhang, Chuanming Ju
09:45-10:00	2179	Accelerating BEM in Macromolecular Electrostatics Computing / Benzhuo Lu
10:00-10:15	Morning Coffee/Tea	

Day 3: Room A (Dong Palace) Parallel Sessions: Friday, 28 July 2017

Session 3A2- Chairs: Jianming Zhang, Zai-you Yan

MS-013 Advances in BEM and Other Mesh-Reduction Methods

Time	ID	Title / Authors
10:15-10:30	2307	Keynote: On Implementation of the Boundary Integral Equation Method / Jianming Zhang
10:30-10:45	2377	Simulation of Sound Transmission Through Thin Elastic Shell by the Coupled FEM/BEM / Zai-you Yan
10:45-11:00	2293	Expanding Element Interpolation Method for 2D Crack Problems / Jianming Zhang, Yunqiao Dong
11:00-11:15	2314	A Double-layer Interpolation Boundary Face Method for Potential Problems in Two Dimensions / Jianming Zhang, Weicheng Lin
11:15-11:30	2319	Time-domain BEM Analysis for Elastodynamic Problems using Expanding Element Interpolation Method / Jianming Zhang, Yudong Zhong
11:30-11:45	2325	An Automatic Topology Recovery Method Based on T-Spline Surfaces Reconstruction in BFM / Jianming Zhang, Baotao Chi
11:45-12:00	2328	Solving the Pressure Jump in Conforming Contact Problems / Jianming Zhang, Xiaomin Shu

Day 3: Room A (Dong Palace) Parallel Sessions: Friday, 28 July 2017**Session 3A3- Chairs:** Haibo Chen, Zhuojia Fu

MS-013 Advances in BEM and Other Mesh-Reduction Methods

Time	ID	Title / Authors
13:00-13:15	2473	Keynote: Improved Method of Fundamental Solutions in Conjunction with Kernel-independent Fast Multipole Method for Solving Potential Problems / Zhuojia Fu, Junpi Li, Wen Chen
13:15-13:30	2613	Invited: Shape Optimization of Acoustic Structure using an Isogeometric Fast Multipole Boundary Element Method / Haibo Chen, Cheng Liu, Wenchang Zhao
13:30-13:45	2421	High Frequency Acoustical Scattering Problems Analysis by Boundary Element Method / Xianhui Wang, Zhiyang Wang
13:45-14:00	2748	Time-domain Isogeometric Boundary Element Method Based on the Convolution Quadrature Method for Scalar Wave Propagation / Tsukasa Ito, Takahiro Saitoh, Tinh Bui, Sohichi Hirose
14:00-14:15	2627	In-plane Free Vibration of Circular and Annular FG Disks / Yang Yang, Kun Pang Kou, Chi Chiu Lam
14:15-14:30	2606	A FEM/BEM Based Topology Optimization of Submerged Bi-material Shell Structures Under Harmonic Excitations / Wenchang Zhao, Leilei Chen, Cheng Liu, Haibo Chen
14:30-14:45	2538	Fluid-structure Interaction Eigenvalue Analysis by using a Coupled FE-BE Solver / Changjun Zheng, Chuanxing Bi, Haibo Chen, Chuanzeng Zhang
14:45-15:00	2534	Numerical Simulation of Galvanic Corrosion by Boundary Node Method / Sanshan Tu, Hong Qi Yang, Liang Zhou, Yi Huang
15:00-15:20	Afternoon Coffee/Tea	

Day 3: Room A (Dong Palace) Parallel Sessions: Friday, 28 July 2017**Session 3A4- Chairs:** Xiao-Wei Gao, Farnaz Ostovari

MS-013 Advances in BEM and Other Mesh-Reduction Methods

MS-017 Computational errors and their evaluation

Time	ID	Title / Authors
15:20-15:35	2506	Keynote: A New Fast Direct Solver for the BEM / Yijun Liu, Shuo Huang
15:35-15:50	2375	Keynote: Cross-line Method (CLM) for Solving Partial Differential Equations / Xiao-Wei Gao
15:50-16:05	2674	An Application of Fast Multipole Method to Isogeometric Boundary Element Method in Two-dimensional Acoustic Problems / Jie Wang, Cheng Liu, Haibo Chen
16:05-16:20	2182	A New Implementation of Time Domain Boundary Element Method for 3D Transient Heat Conduction Problems / Zhou Fenglin
16:20-16:35	2232	Flows in Out-phase Slip-patterned Micro-channels using Boundary Element Methods / Chandra Nishad, Anirban Chandra, G.P. Raja Sekhar
16:35-16:50	2686	Band Structures of Phononic Crystals with Defects Based on the Boundary Element Method / Feng-lian Li
16:50-17:05	2435	Determination of Scattering Frequencies for 2D Acoustic Problems using Boundary Element Method / Haifeng Gao, Changjun Zheng
17:05-17:20	2242	An Optimisation Study of Radial Point Interpolation Meshfree Method for Various Applications / Farnaz Ostovari
17:20-17:35	2453	Extrapolation Methods for Computing Supersingular Integral on a Circle / Jin Li
17:35-17:50	2921	The Cardinal Spline Methods for the Numerical Solution of Nonlinear Integral Equations / Xiaoyan Liu, Jiahuan Huang

Day 3: Room B (Nan Palace) Parallel Sessions: Friday, 28 July 2017**Session 3B1- Chairs:** Moubin Liu, Genki Yagawa

MS-032 Recent Advances in Meshfree and Particle Methods

Time	ID	Title / Authors
09:00-09:15	2172	Keynote: A New Formula for Predicting the Crater Size of a Target Plate Produced by Hypervelocity Impact / Zhilang Zhang, Moubin Liu
09:15-09:30	2274	Invited: The Nonlinear Analysis by using the Sub-domain Meshless Method / Yong-Ming Guo, Tatuya Hamada, Genki Yagawa, Shunpei Kamitani
09:30-09:45	2202	Two-dimensional SPH Simulation of Liquid Sloshing in a Rotating Tank / Jiaru Shao, Moubin Liu
09:45-10:00	2410	Pressure Control in Dissipative Particle Dynamics and Its Application in Simulating Micro- and Nano-bubbles / Dingyi Pan, Yuqing Lin, Jiaming Li
10:00-10:15	Morning Coffee/Tea	

Day 3: Room B (Nan Palace) Parallel Sessions: Friday, 28 July 2017**Session 3B2- Chairs:** Min Luo, Lifeng Wang

MS-032 Recent Advances in Meshfree and Particle Methods

Time	ID	Title / Authors
10:15-10:30	2634	Keynote: Particle Method Simulation of Violent Sloshing Under Rotational Excitation / Min Luo, Chan Ghee Koh
10:30-10:45	2828	Keynote: A Meshfree Method for the Transverse Vibration of Strain Gradient Nanoplate with Elastic Boundary Condition / Lifeng Wang
10:45-11:00	2452	Generalized-strain - An Efficient Local Meshfree Method in Linear Elasticity / Tiago Oliveira, Wilber Velez, Artur Portela
11:00-11:15	2520	Behaviour Study of the Generalized-strain Mesh-free Method (GSMF) / Wilber Velez, Tiago Oliveira, Artur Portela
11:15-11:30	2667	The CCVMLS Approximation and the Envelop Method / D.M. Li
11:30-11:45	2753	A Novel Velocity Field Correction Method to Reproduce Wake Effects in Unresolved Modeling of Granular Flows / Zekun Wang, Khuram Walayat, Moubin Liu
11:45-12:00	2799	A Multigrid Finite Element Fictitious Boundary Method for Fluid-solid Two-phase Flows / Khuram Walayat, Zekun Wang, Kamran Usman, Moubin Liu

Day 3: Room C (Bei Palace) Parallel Sessions: Friday, 28 July 2017**Session 3C1- Chairs:** Zhongwei Guan

MS-023 Numerical modelling of fibre reinforced composites under impact and blast

Time	ID	Title / Authors
09:00-09:15	2329	Keynote: Modelling Dynamic Response of Concrete Filled Steel Tube Columns / Zhongwei Guan, A.S. Al-Husainy, S.W. Jones, C. Su
09:15-09:30	2569	Numerical Modeling of a Hybrid GFRP-concrete Beam Subjected to Low-velocity Impact Loading / Zongjun Li, Amar Khennane, Paul Hazell, Alex Remennikov
09:30-09:45	2654	Effect of Hole Dimension on the Impact Load Path Distribution of Composite Multi-bolt Joint / Chen Chao, Dean Hu
09:45-10:00	2298	Numerical Simulation of Effect Brought by Presence of Carbon Nanofiber in Carbon Fiber Reinforced Polymer / Hai Qing, PeiLiang Bian
10:00-10:15	Morning Coffee/Tea	

Day 3: Room C (Bei Palace) Parallel Sessions: Friday, 28 July 2017**Session 3C2- Chairs:** Pang Jihong, Ihor Lubashevsky

MS-014 Modelling and Simulation of Complex Systems

Time	ID	Title / Authors
10:15-10:30	2994	Keynote: Quality Simulation and Decision-making Method for Complex Product Integrated Manufacturing System / Pang Jihong
10:30-10:45	2281	Invited: Concept of Dynamical Traps in Modeling Human Behavior / Ihor Lubashevsky
10:45-11:00	2229	3D Nonlinear Dynamical Analysis of Cable-stayed Offshore Structures / Kun Wang, Guo-Kang Er, Vai Pan Iu
11:00-11:15	2321	Poisson-Nernst-Planck Simulations for Enzyme and Nanopore Systems / Jingjie Xu
11:15-11:30	2327	A Generalized Poisson-Nernst-Planck Equations with Inhomogeneous Dielectric Permittivity for Ion Selectivity in Ion Channels / Xuejiao Liu
11:30-11:45	2373	The Nonlinear Vibration of Curved Micro Beams Under Axial and Electrostatic Forces / Wenquan Wang, Yan Yan
11:45-12:00	2931	Simulation Driven Development of a CFRPT Gearbox Housing / Thomas Schneider, Monika Kreutzmann, Raik Rademacher, Christophe Domine, Herve Motte, Chye Hock Tok

Day 3: Room C (Bei Palace) Parallel Sessions: Friday, 28 July 2017**Session 3C3- Chairs:** Zhao Zhang, Jun Liu

MS-038 Computational and experimental methods on additive manufacturing and related welding technologies

MS-022 Advanced modeling techniques and applications for polymer based additive manufacturing

Time	ID	Title / Authors
13:00-13:15	2862	Keynote: Friction Stir Spot Welding Between Porous TC4 Titanium Alloy and Ultra High Molecular Weight Polyethylene / Ke Chen, Muyang Jiang
13:15-13:30	2910	Keynote: Edge Effect on Eddy Current Detection for Subsurface Defects in Titanium Alloys / Bi Zhang, YIbo Wang, Qian Bai, Wei Du
13:30-13:45	2266	Invited: Simulation Analysis of Electron Beam Melting using a Multi-scale Model / Pengwei Liu, Xiangyang Cui
13:45-14:00	2391	Numerical Methods for Predictions of Mechanical Properties and Microstructural Changes in Laser Additive Manufacturing / Zhao Zhang
14:00-14:15	2525	Finite Element Simulation of Friction Stir Additive Manufacturing / Zhao Zhang, Zhijun Tan, Peng Ge
14:15-14:30	2908	Numerical Methods of Microstructural Changes and Predictions of Mechanical Properties in Friction Stir Welding of AA6005-T6 / Zhao Zhang, Zhenyu Wan, Xia Zhou
14:30-14:45	2658	Meshfree Modeling of Heat Transfer in Selective Laser Melting Process / Songtao Chen
14:45-15:00	2336	Development of a Multi-phase Viscoelastic Solver for Polymer Based Additive Manufacturing Simulation / Jun Liu, Kelly Anderson, N. Sridhar
15:00-15:20	Afternoon Coffee/Tea	

Day 3: Room D (Song Palace) Parallel Sessions: Friday, 28 July 2017**Session 3D1- Chairs: Jie Liu**

MS-077 Engineering Inverse Problems: theory and numerical methods

Time	ID	Title / Authors
09:00-09:15	2947	Keynote: Parameter Identification for High-fidelity Simulation / Cao Lixiong, Jie Liu
09:15-09:30	2736	Keynote: Identification of Voids Using Topological Derivative and Level Set Method / Gang Yang, Xuan Zhang, Dean Hu
09:30-09:45	2950	An Integrated Framework for Uncertainty Propagation with Hybrid Uncertain Variables Based on Dimension-reduction Method / Yu Zhongbo
09:45-10:00	2949	The Identification of the Constitutive Model Parameters of White Matter of Brain Tissue / Qiming Liu, Xu Han
10:00-10:15	Morning Coffee/Tea	

Day 3: Room D (Song Palace) Parallel Sessions: Friday, 28 July 2017**Session 3D2- Chairs: Jiawei Xiang, Zhi-Bo Yang**

MS-076 Advanced in numerical simulation based structural damage detection in Engineering

Time	ID	Title / Authors
10:15-10:30	2743	Keynote: Sparse Representation for the Impact Force Acting on Composite Structures / Baijie Qiao
10:30-10:45	2937	Keynote: CFD Simulation for Water Pipe Penetration Through Walls in Case of Fire / George, Xiangguo Xu, Zhengwei Ge, s.c. Wu
10:45-11:00	2185	A Damage Localization Method Based on the Singular Value Decomposition (SVD) for Composite Plates: Numerical Studies / Zhi-Bo Yang
11:00-11:15	2723	A New Delamination Identification Method Based on Kullback-Leibler Divergence in Composites / Shaohua Tian
11:15-11:30	2731	Studying Mechanical Properties of Wing Blade with Hole Based on Reverse Engineering / Heng Cai, Chenchen Chu
11:30-11:45	2855	Fatigue Life Prediction in Plate Structure Based on Crack Propagation / Ahui Yuan, Jiawei Xiang
11:45-12:00	2691	Asymptotic and Numerical Investigations on Shallow Hydraulic Fractures / Zhiqiao Wang

Day 3: Room D (Song Palace) Parallel Sessions: Friday, 28 July 2017**Session 3D1- Chairs:** Weiqiu Chen, Fei Xu**MS-041 Computational Methods in Acoustics and Elastodynamics**

Time	ID	Title / Authors
13:00-13:15	2415	Keynote: A Meshfree Method for Dynamic Analysis of Rotating Thick Plates with Third-order Shear Deformation Theory / Chaofan Du, Dingguo Zhang, Guirong Liu
13:15-13:30	2345	Invited: Guided Waves in Piezoelectric Cylindrical Structures with Sector Cross-sections / Jiangong Yu, Bo Zhang, Xiaoming Zhang
13:30-13:45	2750	Transient Wave Propagation and Early Short Time Transient Response Analysis of Piezoelectric Shells / Yunying Zhou
13:45-14:00	2747	2-D Inverse Scattering Analysis for a Defect in Authentic Stainless Steels / Takahiro Saitoh, Yu Inagaki, Akira Furukawa, Sohichi Hirose
14:00-14:15	2524	Acoustical Properties of the Composite Structures Made of Micro-Perforated Plates and Honeycomb Core / Menglin Li, Fei Xu
14:15-14:30	2436	Wave Propagation in an Elastic Waveguide: Application of the Fourier Transform and Finite Element Methods / Evgenia Kirillova, Wolfgang Seemann, Maria Shevtsova
14:30-14:45	2719	Tunability of Soft Phononic Crystal with Lattice Structures Under Large Deformation / Ronghao Bao, Weiqiu Chen
14:45-15:00	2827	The Effectiveness of the Perfectly Matched Layer in Fluid-Structure Interaction Problems / Ni Zhen
15:00-15:20	Afternoon Coffee/Tea	

Day 3: Room D (Song Palace) Parallel Sessions: Friday, 28 July 2017**Session 3D2- Chairs:** Alexander Kerzhaev, Leiting Dong**MS-059 Advances in Semi-analytical numerical methods**

Time	ID	Title / Authors
15:20-15:35	2694	Keynote: Rectangle Clamped at One End: Exact Solution / Alexander Kerzhaev
15:35-15:50	2491	Keynote: Trefftz Method for Micromechanical Modeling of Nanocomposites Considering Interface Effects / Junbo Wang, Leiting Dong
15:50-16:05	2139	Improved Hybrid Displacement Function (IHDF) Element Method for Solving Edge Effect Problem of Plate/shell Structure / Yan Shang
16:05-16:20	2304	A Numerical Method for the Jerk of Structural Dynamic Response / Ji-qing Xu, Yanting Li
16:20-16:35	2236	About Control of Convection Intensity in Chemical Active Equilibrium Gas / Igor Palymskiy
16:35-16:50	2450	On Boundary-value Problems of Elasticity Theory with Mixed Boundary Conditions / Irina Menshova, Mikhail Kovalenko
16:50-17:05	2441	Simulation of Thermal Field in Concrete Hydrostructures with a Water Pipe Cooling System by the Singular Boundary Method / Hong Xing
17:05-17:20	2999	Micromechanical Modeling of Heterogeneous Materials by Computational Grains / Leiting Dong
17:20-17:35	2180	Development of a Three-dimensional Volume Integral Equation Method / Jungki Lee
17:35-17:50	2504	High Order Discontinuous Galerkin Method for the Euler Equations Using Curved Elements / Penghui Su, Liang Zhang

Day 3: Room E (Yuan Palace) Parallel Sessions: Friday, 28 July 2017**Session 3E1- Chairs:** Liang Xia, Yutaka Arimitsu

MS-044 Structural optimization method and application

Time	ID	Title / Authors
09:00-09:15	2126	Keynote: Towards Optimal Design of Multiscale Nonlinear Structures and Reduced Order Modeling Approaches / Liang Xia
09:15-09:30	2558	Invited: Optimum Structure of Micropolar Solids Under Momentum Load Conditions / Yutaka Arimitsu
09:30-09:45	2137	Design of Lightest Pyramidal Lattice Hollow Truss Structures with Maximum Sound Insulation Performance Under Random and Interval Uncertainties / Jie Liu
09:45-10:00	2177	Topology Optimization Method Based on Isoparametric Element / Hongxin Wang
10:00-10:15	Morning Coffee/Tea	

Day 3: Room E (Yuan Palace) Parallel Sessions: Friday, 28 July 2017**Session 3E2- Chairs:** Hongling Ye, Yingchun Bai

MS-044 Structural optimization method and application

Time	ID	Title / Authors
10:15-10:30	2413	Keynote: A Metamodel Updating Strategy for Multi-objective Optimization with Expensive Simulation Models / Yingchun Bai, Fengling Gao, Cheng Lin
10:30-10:45	2711	Keynote: Plate/Shell Topology Optimization with Buckling and Frequency Constraints Based on Independent Continuous Mapping Method / Hongling Ye, Weiwei Wang, Yunkang Sui
10:45-11:00	2577	Shape Optimum Design of Shear Panel Damper Made of Low Yield Steel / Yang Liu
11:00-11:15	2442	Stability Optimization of A Two-leg Shield Hydraulic Support Based on Its Force Equilibrium Zone / Lichuang Liang, Hui Zheng
11:15-11:30	2806	Golf Clubhead Optimization Based on Contribution of Eigenmodes / Zhiqiang Wu, Yuji Sogabe, Yutaka Arimitsu
11:30-11:45	2817	Topological Optimization of Anisotropic Thermal Structure Based on Meshless Method and RAMP Model / Jianping Zhang, Shusen Wang, Shuguang Gong, Guilan Xie, Guoqiang Zhou
11:45-12:00	2971	Optimum Design of Slender and Tall Wind Turbine Tower for Residual Vibration Reduction / Yinan Lu, Gengdong Cheng

Day 3: Room E (Yuan Palace) Parallel Sessions: Friday, 28 July 2017**Session 3E3- Chairs:** Fumihiro Ashida, Shuting Li

MS-060 Computational Mechanics of Functional Materials and Structures

Time	ID	Title / Authors
13:00-13:15	2353	Keynote: Modeling Microstructure of Solid Foam using Random Kelvin Open-cells - Influence of Boundary Parameters and Cell Strut Cross-section / Guangfa Gao, Pei Li, Yangbo Guo, Victor P.W. Shim
13:15-13:30	2199	Invited: A Finite Element Method Used for Contact Analysis of Rolling Bearings / Shuting Li
13:30-13:45	2276	Transient Thermal Response of a Functionally Graded Piezoelectric Laminate with a Crack Normal to the Bimaterial Interface / Yoshihisa Nakaue, Sei Ueda
13:45-14:00	2124	First-Principles Study on Adhesive Strength Between Metal Layer and Silane Coupling Agents / Masahiro Minamiyama, Yasutomo Uetsuji
14:00-14:15	2334	Contact-induced Folding of Inhomogeneous Arches / Takuya Morimoto, Kai Tanaka, Fumihiro Ashida
14:15-14:30	2816	Characteristics of the Guided Evanescent Waves in Functionally Graded Cylindrical Curved Plates / Xiaoming Zhang, Anru Gao, Jiangong Yu
14:30-14:45	2602	Analysis of an Interface Crack in Two-dimensional Piezoelectric Materials Under Impact Loading / Ruifeng Zhang, Chuanbing Yu, Cunfa Gao
14:45-15:00	2589	Analysis of the Stress Field and Effective Shear Modulus of Porous Structures Containing Periodic Holes with Surface Effects in Anti-plane Shear / Haibing Yang, Shuang Wang, Cunfa Gao
15:00-15:20	Afternoon Coffee/Tea	

Day 3: Room E (Yuan Palace) Parallel Sessions: Friday, 28 July 2017**Session 3E4- Chairs:** Cunfa Gao, Fumio Narita

MS-060 Computational Mechanics of Functional Materials and Structures

Time	ID	Title / Authors
15:20-15:35	2480	Keynote: Phase Field Simulation of Temperature Dependent Dielectric and Piezoelectric Properties in BaTiO ₃ Polycrystalline Ceramics: Potentials of Temperature Energy Harvesting / Fumio Narita
15:35-15:50	2583	Invited: Effect of Different Electric Inclusions on Large Electrocaloric Effect in Ferroelectric Nanoparticle / Cheng Huang, Yu-Hao Li, Cun-Fa Gao
15:50-16:05	2579	Elliptic Inhomogeneity Problem in Thermoelectric Medium / Haopeng Song
16:05-16:20	2472	Origami Assembly of Three Dimensional Metallic Structures and Their Applications / Yan Shi, Luqiao Qi, Cunfa Gao
16:20-16:35	2462	Automatic Voxel-based Generation of 2D Microstructural FE Models and Its Application to Microstructural Analysis of Composites / Hai Qing
16:35-16:50	2433	Numerical Simulation of Stress Oscillation in a Functionally Graded Piezoelectric Thin Plate / Fumihiro Ashida, Takuya Morimoto
16:50-17:05	2752	Analytical Solution for Sandwiches Cantilever Beam / Zhen Wang, Yuejin Niu
17:05-17:20	2463	Elastic-Plastic Interaction of a Griffith Crack with a Circular Inclusion and Nearby Edge Dislocation / Mu Fan, C. F. Gao
17:20-17:35	2571	On the Receding Contact Between a Homogeneous Elastic Layer and a Half-plane Substrate Coated with Functionally Graded Materials / Changwen Mi
17:35-17:50	2832	Numerical Study on Growth of Strata Disturbance Abscission Layer / Guangming Yu

Day 3: Room F (Ming Palace) Parallel Sessions: Friday, 28 July 2017**Session 3F1- Chairs:** Lei Chen, Yulong Shao

MS-030 Phase-field Method: Theory, Algorithm and Application

Time	ID	Title / Authors
09:00-09:15	2920	Keynote: Multi-scale Phase-field Modeling of Microstructure Evolution During Additive Manufacturing of Ti-6Al-4V Alloys / Lei Chen, Zhuo Wang
09:15-09:30	2656	Invited: Consistent Meshfree Method for Phase-field Model of Brittle Fracture / Yulong Shao
09:30-09:45	2922	A Coupled Phase-field and Finite Element Method to Simulate the Elastoplastic Deformation Induced Cementite Dissolution in Pearlitic Rail Steels / Hu Chen, Chi Zhang, Lei Chen
09:45-10:00	2376	Phase Field Model for Stress Evolution in an Arbitrarily Shaped Elastoplastic Electrode During Two-phase Lithiation / Yuyang Lu
10:00-10:15	2332	Phase Field Modeling of Ferroelectric Material with Isogeometric Analysis / Chang Liu
10:15-10:30	Morning Coffee/Tea	

Day 3: Room F (Ming Palace) Parallel Sessions: Friday, 28 July 2017**Session 3F2- Chairs:** Li Chao, Feng Shizhe

MS-055 Numerical Methods Based Unstructured Meshes and Their Applications in Engineering

Time	ID	Title / Authors
10:15-10:30	2273	Keynote: An Edge-based Smoothed Finite Element Method (ES-FEM) for Electromagnetic Field Computations / Shaw Li
10:30-10:45	2440	Invited: Band Structure Simulation of Elastic Waves in Phononic Crystals by a Stable Node-based Smoothed Finite Element Method / Gang Wang
10:45-11:00	2396	Invited: Extended Finite Element Method with Gradient Weighted Technique for Fracture Analysis / Shizhe Feng
11:00-11:15	2406	Analysis of Complex Structural-acoustic Systems using a Coupled Smoothed Finite Element Formulation / Xin Hu
11:15-11:30	2637	Gradient Weighted Finite Element Method for High Computational Accuracy of Thermal Mechanical Problems / Li Chao
11:30-11:45	2311	A Four-noded Triangular (Tr4) Element for Solid Mechanics Problems with Curved Boundaries / Ming Li, Junhong Yue, G.R. Liu, R.P. Niu

Day 3: Room F (Ming Palace) Parallel Sessions: Friday, 28 July 2017**Session 3F3- Chairs:** Hiroshi Kanayama, Masao Ogino

MS-019 Large Scale Coupled Problems and Related Topics

Time	ID	Title / Authors
13:00-13:15	2446	Keynote: Development of a Partitioned Coupling Analysis System for Fluid-structure Interactions using an ISPH Code and the ADVENTURE System / Masao Ogino, Takuya Iwama, Mitsuteru Asai
13:15-13:30	2170	Keynote: A Coarse Matrix Incomplete Iterative Approach for Magnetostatic Domain Decomposition Analysis / Hiroshi Kanayama, Masao Ogino, Shin-ichiro Sugimoto
13:30-13:45	2673	Performance Evaluation of Large-scale High-frequency Electromagnetic Field Simulations using Iterative Substructuring Methods / Lijun Liu, Masao Ogino
13:45-14:00	2261	Numerical Simulation of the Airflow in a Small Computing Center with Air Conditioning System by Domain Decomposition Method / Hang Bai, Qinghe Yao
14:00-14:15	2457	Force Analysis of Coastal Buildings Damaged by Tsunami Wave Impact Load using Fluid-Structure Coupling Method / Hongjie Zheng, Ryuji Shioya, Naoto Mitsume
14:15-14:30	2367	Parameters Optimization of Hydraulic Fracturing for Improving Fracture Complexity in Shale Reservoirs / Chuang Liu
14:30-14:45	2661	A Quadric Stabilization Approach on Partitioned Fluid-Structure Interaction Algorithm / Ming-Jian Li
14:45-15:20	Afternoon Coffee/Tea	

Day 3: Room F (Ming Palace) Parallel Sessions: Friday, 28 July 2017**Session 3F4- Chairs:** S.C. Wu, Jian Zhang

MS-073 Computational fatigue and fracture mechanics performance

Time	ID	Title / Authors
15:20-15:35	2535	Keynote: On the Foreign Object Damage Based Fatigue Mechanism of High-speed Railway Axles / Y Luo, S.C. Wu, Z.W. Xu, Z.X. Zhang, Z.W. Li
15:35-15:50	2604	Keynote: A Novel Methodology of Calculating General SCF for Fatigue Analysis of Overlapped Leg Joints in Offshore Structures / Jian Zhang
15:50-16:05	2542	Residual Life Assessment of Incomplete Fusion Defects in Welded Bogie Frame Based on Fracture Mechanics / Hao Duan, Sc Wu
16:05-16:20	2551	Synchrotron X-ray Tomography Based Defect Tolerance of Additively Manufactured Ti-6Al-4V / Zhe Song, S.C. Wu, J Zhang
16:20-16:35	2555	About the Damage Tolerance of Railway Axles Under Compressive Residual Stress / Zhong Wei Xu, S.C. Wu
16:35-16:50	2566	On the Defect Tolerance Based Fatigue Crack Growth Life Prediction of Railway Axles / Yuxuan Liu, S.C. Wu
16:50-17:05	2696	On the Low Cycle Fatigue Performance of 7050-T7451 Aluminum Alloy Hybrid Laser Welded Joints / Ya'nan Hu
17:05-17:20	2755	The Virtual Node Polygonal Element Method for Fatigue Crack Growth Simulation / Zihao Teng
17:20-17:35	2564	Fatigue Life Prediction Based on AMPS Stress-Life Approach Fatigue FEA / Yu Hou
17:35-17:50	2448	A Novel Singular Element for Analysis of Stress-dimensional Singular Stress Fields at Circular Crack Fronts / Xuecheng Ping, Chunguang Wang, Lipeng Cheng
17:50-18:05	2825	Numerical Simulation of Dynamic Brittle Crack Propagation using the Singular Edge-based Smoothed Finite Element Method / Haodong Chen

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ICCM2016 Young Researcher Best Paper Award Winners

Conference Chair: Professor Shaofan Li (University of California – Berkeley, United States)

Selection-Panel Chair: Professor Raj Das (University of Auckland, New Zealand)

Conference Venue: Berkeley, California, United States

Conference Date: 1st - 4th August 2016

ID	Name	Title	Affiliation	Country
1858	Weizhe Feng	A new BEM for solving multi-medium transient heat conduction	Dalian University	China
1496	Mohammed Siddeq	3D Cloud Data and Triangle Faces Compressed by Novel Geometry Minimization Algorithm and Compared with other 3D formats	Sheffield Hallam University	United Kingdom
1727	Yang-Fan Li	Design of porous phononic crystals with combined band gaps	RMIT University	Australia
1851	Xiao Liang	Stability Investigation of Direct Integration Algorithms Using Lyapunov-Based Approaches	University of California, Berkeley	USA
1617	Narith Prok	Seismic Response of Structure under Soil-Structure Interaction Effect	Kochi University of Technology	Japan
1713	Nathaniel J. Burdery	Dislocation Dynamics in polycrystals with atomistic-informed mechanisms of dislocation-grain boundary interactions	The University of Auckland	New Zealand

Note: ICCM2017 Young Researcher Best Paper Award Winners will be announced and awarded at ICCM2018.

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- 燃烧模拟—火灾仿真数值模拟
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内存	借助高达2TB RECC DDR4内存，高效提升计算平台的运算速率
硬盘	可根据客户需求选择<100TB内置存储或>100TB的外置存储
GPU	支持Nvidia Q系列或AMD FirePro系列显卡以及Nvidia T系列或G系列GPU计算卡

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1. 并行环境的搭建及培训使用，节约时间和成本，解决更大规模的问题，迅捷便利，高效经济；
2. 根据客户的应用领域和具体研究方向，为客户提供相适应的软件，并且分析软件可行性和并行效果；
3. 根据客户的研究方向和规模，通过数据分析和理论指导，择优选取，增添部件，优化配置；
4. 提供计算资源租赁，无需硬件采购，无需自主搭建计算平台，可直接使用良泰已搭建好的计算平台和软件，节约科研时间；针对客户时间，对客户进行简单操作培训，可快速上手进行操作，轻松完成科研计算。

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China

Guilin

Guilin is China's most picturesque region and has long been one of the world's most famous travel destinations. Its breathtaking scenery has attracted many famous poets and artists for thousands of years. Artists are able to find inspiration from the Karst mountains and the unsurpassed beauty of the Li River.

Today Yangshuo's nightlife has sprung up to keep pace with contemporary China. You can still catch a glimpse of Guilin's yesteryears in the countryside where it has been and continues to be home to many ethnic minority groups. Every corner you look is picture postcard perfect! It is truly impossible to take a bad photo. Go ahead, immerse yourself...There is an ancient saying here - "**East or west, Guilin scenery is the best**".



Li River

The 83-kilometer-long waterway from Guilin City to Yangshuo County is like an artist's masterpiece. The landscape is decorated with startling hills, steep cliffs, fantastic caves and farming villages, and is lined with bamboo. In a Chinese poem it is written: "The river is a green silk ribbon, and the hills are jade hairpins". It boasts the largest and most beautiful scenic area in China and attracts thousands of visitors each year.

Cruising on the Li River from Guilin city to Yangshuo county is enjoyable no matter what the weather is like. During sunny days, tourists can see the inverted reflection of the hills on both sides clearly in the water. During cloudy days, the hills are surrounded by mist and tourists may feel they are cruising in a mystical paradise. And when the rain comes, drizzle is like a veil, which covers the hills and river, and tourists may feel the poetic connotations of this too.

