

ICNM-V Schedule

Sunday June 10		
08:00 – 23:00	Registration	Lansheng Hotel
19:30 – 20:30	Meeting of Steering Committee	
Monday June 11		
06:00 –	Breakfast	Lansheng Hotel
07:40	Bus to Shanghai Univ.	Gate of Lansheng Hotel
09:00 – 09:30	Opening Ceremony	Lecture Hall, Library, Shanghai University
09:30 – 12:00	Plenary Lectures	
12:00	Taking a photograph	Front of SHU Library
12:10 – 13:30	Lunch	Shanghai Univ.
13:30 – 16:50	Parallel Keynote Lectures	Building J, Shanghai Univ.
17:00	Bus to Lansheng Hotel	Building J, Shanghai Univ.
19:00 – 20:30	Banquet	Lansheng Hotel
Tuesday June 12		
06:00 –	Breakfast	Conference Center, Lansheng Hotel
08:00 – 09:30	Parallel Keynote Lectures	
10:00 – 12:00	Parallel Sessions	
12:00 – 13:30	Buffet Lunch	
13:30 – 17:35	Parallel Sessions and Mini-symposium	
18:00 –	Buffet Dinner	
Wednesday June 13		
06:00 –	Breakfast	Conference Center, Lansheng Hotel
08:00 – 12:05	Parallel Sessions and Mini-symposium	
12:00 – 13:30	Buffet Lunch	
13:30 – 17:35	Parallel Sessions and Mini-symposium	
18:00 –	Buffet Dinner	
19:20	Leave for Evening Sightseeing with a Pujiang River Cruise	
Thursday June 14		
06:00 –	Breakfast	Conference Center, Lansheng Hotel
08:00 – 12:00	Plenary Lectures	
12:00 – 12:30	Closing Ceremony	
12:30 – 13:30	Buffet Lunch	

Plenary Lectures, Parallel Keynote Lectures

June 11, 09:00 – 09:30	Opening Ceremony: Chaired by <i>Zhe-Wei Zhou</i>	
June 11, 09:45 – 12:00	Plenary Lectures: Chaired by <i>S. S. Antman, Wan-Xie Zhong</i>	
	A	B
June 11, 13:30 – 15:30	Solid Mech. Chaired by <i>K. P. Chong, Wei Yang</i>	Fluid Mech. Chaired by <i>F. Hussain, Zhe-Wei Zhou</i>
June 11, 15:50 – 16:50	Solid Mech. Chaired by <i>R. Kienzler</i>	Dynamics Chaired by <i>Giuseppe Rega</i>
June 12, 08:00 – 09:30	Solid Mech. Chaired by <i>Tian-Jian Lu</i>	Fluid Mech. & Appl. Math. Chaired by <i>Shi-Yi Chen</i>
June 14, 08:00 – 10:15	Plenary Lectures Chaired by <i>R. Grimshaw, Gao-Lian Liu</i>	
June 14, 10:30 – 12:00	Plenary Lectures Chaired by <i>A. Jeffrey</i>	
June 14, 12:00 – 12:30	Closing Ceremony Chaired by <i>Shi-Qiang Dai</i>	

Parallel Sessions and Mini-symposiums [Chairmen]

		Room A	Room B	Room C	Room D	Room E	Room F	Room G
June 12 10:00 – 12:00	1	Solid Mech. (1) [<i>E. C. Aifantis</i>] [<i>S. C. Song</i>]	Solid Mech. (2) [<i>Y. Qiao</i>] [<i>J. Q. Zhang</i>]	Fluid Mech. [<i>J. W. M. Bush</i>] [<i>C. O. Ng</i>]	Solid Mech. (3) [<i>H. W. Ma</i>] [<i>Z. M. Ye</i>]	Solid Mech. (4) [<i>L. M. Shen</i>] [<i>Y. Shindo</i>]	Dynamics [<i>M. Renardy</i>]	Workshop on Prof. W.Z. Chien
June 12 13:30 – 15:30	2	Solid Mech. (1) [<i>X. M. Guo</i>] [<i>C. S. Man</i>]	Solid Mech. (2) [<i>Y. T. Hu</i>] [<i>Q. Wang</i>]	Fluid Mech. [<i>D. Z. Wang</i>] [<i>H. T. Xu</i>]	Mini-symposium (Phase transitions) [<i>H. H. Dai</i>] [<i>Y. Z. Huo</i>]	Solid Mech. (4) [<i>J. G. Ning</i>] [<i>Y. Q. Song</i>]	Dynamics [<i>T. Kapitaniak</i>]	Appl. Math. [<i>X. C. Fu</i>] [<i>S. X. Huang</i>]
June 12 15:50 – 17:35	3	Solid Mech. (1) [<i>J. N. Reddy</i>] [<i>X. Yang</i>]	Solid Mech. (2) [<i>X. Huang</i>] [<i>B. H. Sun</i>]	Fluid Mech. [<i>S. Kida</i>] [<i>D. C. Wan</i>]	Mini-symposium (Phase transitions) [<i>H. H. Dai</i>] [<i>Y. Z. Huo</i>]	Solid Mech. (4) [<i>D. N. Fang</i>] [<i>M. J. Huang</i>]	Dynamics [<i>L. Q. Chen</i>] [<i>W. Zhang</i>]	Appl. Math.. [<i>L. N. Chen</i>]

Solid Mech. (1) The theory of finite deformation, constitutive models; the theory of elasticity and plasticity. (2) The nonlinear theory of plates and shells.
 (3) The nonlinear theory of plates and shells. (4) Experimental Solid Mechanics.

Parallel Sessions and Mini-symposiums [Chairmen]

		Room A	Room B	Room C	Room D	Room E	Room F
June 13 08:00 – 10:00	4	Mini-symposium (Nanomech.) [<i>Q. C. He</i>] [<i>Q. S. Zheng</i>]	Solid Mech. (2) [<i>C. Q. Ru</i>] [<i>S. A. Zhou</i>]	Fluid Mech. [<i>C. B. Lee</i>] [<i>C. Y. Wang</i>]	Solid Mech. (3) [<i>X. H. Peng</i>] [<i>Y. H. Zhou</i>]	Mini-symposium (Electromagnetic Mech.) [<i>J. Wang</i>] [<i>J. S. Yang</i>]	Dynamics [<i>J. Xu</i>] [<i>L. Q. Chen</i>]
June 13 10:20 – 12:05	5	Solid Mech. (1) [<i>Y. Y. Jiang</i>] [<i>X. C. Shang</i>]	Solid Mech. (2) [<i>X. Z. Wang</i>] [<i>X. F. Shu</i>]	Fluid Mech. [<i>S. J. Liao</i>] [<i>C. J. Wu</i>]	Solid Mech. (3) [<i>Q. P. Sun</i>] [<i>J. K. Chen</i>]	Mini-symposium (Electromagnetic Mech.) [<i>J. Wang</i>] [<i>J. S. Yang</i>]	Dynamics [<i>S. Q. Gao</i>] [<i>Q. S. Lu</i>]
June 13 13:30 – 15:30	6	Solid Mech. (1) [<i>H. J. Qi</i>] [<i>S. Q. Tang</i>]	Solid Mech. (2) [<i>G. H. Nie</i>] [<i>Y. H. Zhou</i>]	Fluid Mech. [<i>S. Q. Dai</i>] [<i>W. R. Hu</i>]	Mini-symposium (Phase transitions) [<i>H. H. Dai</i>] [<i>Y. Z. Huo</i>]	Mini-symposium (Electromagnetic Mech.) [<i>J. Wang</i>] [<i>J. S. Yang</i>]	Mini-symposium (LBM) [<i>Y. H. Qian</i>]
June 13 15:50 – 17:35	7	Solid Mech. (1) & (4) [<i>X. L. Gao</i>] [<i>L. R. Xu</i>]	Solid Mech. (3) [<i>W. Q. Chen</i>] [<i>X. Q. Feng</i>]	Fluid Mech. [<i>J. Qian</i>] [<i>J. J. Zhou</i>]	Mini-symposium (Phase transitions) [<i>H. H. Dai</i>] [<i>Y. Z. Huo</i>]	Dynamics [<i>R. B. Wang</i>]	Mini-symposium (LBM) [<i>Y. H. Qian</i>]

Solid Mech. (1) The theory of finite deformation, constitutive models; the theory of elasticity and plasticity. (2) The nonlinear theory of plates and shells.
 (3) The nonlinear theory of plates and shells. (4) Experimental Solid Mechanics.

ICNM-V Program Details

Monday June 11

9:00--9:30 Opening Ceremony

Venue: Lecture Hall, Library, Shanghai University

Chairman: Zhe-Wei Zhou

09:30--12:00 Plenary Lectures

Venue: Lecture Hall, Library, Shanghai University

Chairmen: S. S. Antman, Wan-Xie Zhong

09:30--10:15 **F. Hussain**

Transient growth in a vortex column

10:15--10:30 Coffee Break

10:30--11:15 **Wei Yang**

Simulating nonlinear behavior of nanotubes

11:15--12:00 **Chiang C. Mei, Yile Li, Alam Mohammad-Reza**

Localization of solitons over a rough seabed

12:00 **Taking a photograph**

12:10--13:30 **Lunch**

13:30--16:50 **Parallel Keynote Lectures**

Venue: Building J, Shanghai University

17:00 **Bus to Lansheng Hotel**

19:00--20:30 **Banquet at Radisson SAS Lansheng Hotel**

June 11 Parallel Keynote Lectures (KA-1)

Venue: Room A, Building J, Shanghai University

Chairmen: K. P. Chong, Wei Yang

13:30--14:00 **Wan-Xie Zhong**

Analytical structural Mechanics and FEM

14:00--14:30 **E. C. Aifantis**

Deformation instabilities and pattern formation: From terrascales to nanoscales

14:30--15:00 **Tian-Jian Lu**

Biothermomechanics of skin tissue

15:00--15:30 **J. N. Reddy, R. A. Arciniega**

Nonlinear analysis of composite and FGM shells using tensor-based finite elements

June 11 Parallel Keynote Lectures (KB-1)

Venue: Room B, Building J, Shanghai University

Chairmen: F. Hussain, Zhe-Wei Zhou

13:30--14:00 **R. Grimshaw**

Solitary waves in variable medium

14:00--14:30 **Shi-Yi Chen**

Constrained variation in multiscale simulation and modeling

14:30--15:00 **Shigeo Kida**

Flows in precessing sphere

15:00--15:30 **Z. L. Wang, S. P. Lin**

Breakup of a radially expanding liquid sheet

15:30--15:50 Coffee Break

June 11 Parallel Keynote Lectures (KA-2)

Venue: Room A, Building J, Shanghai University

Chairman: R. Kienzler

15:50--16:20 **K. P. Chong**

Nano mechanics and multi-scale problems

16:20--16:50 **Jun-Qian Zhang, Fang Wang**

Modelling and simulation of nonlinear cyclic response and Fatigue failure of fiber reinforced ductile composites

June 11 Parallel Keynote Lectures (KB-2)

Venue: Room B, Building J, Shanghai University

Chairman: Giuseppe Rega

15:50--16:20 **Hai-Yan Hu**

A pseudo-oscillator approach to analyzing periodic solutions of nonlinear time-delay systems

16:20--16:50 **Li-Qun Chen**

Nonlinear vibration of axially moving materials: Some new progresses

Tuesday June 12

June 12 Parallel Keynote Lectures (KA-3):

Venue: Room A-B, Conference Center, Lansheng Hotel

Chairman: Tian-Jian Lu

8:00--8:30 **R. Kienzler**

Nonlinear reciprocity relations in configurational mechanics

8:30--9:00 **Quan-Shui Zheng**

Carbon nanotube based nanoelectromechanical systems

9:00--9:30 **Chi-Sing Man, Xiang Gao, Scott Godefroy, Edward A. Kenik**

Estimating geometric dislocation densities in polycrystalline materials from orientation imaging microscopy

June 12 Parallel Keynote Lectures (KB-3):

Venue: Room C, Conference Center, Lansheng Hotel

Chairman: Shi-Yi Chen

8:00--8:30 **Huai-wu Peng, Hui-jing Yuan, Cun-Biao Lee**

Experimental study on lateral force surface waves in a circular cylindrical container

8:30--9:00 **Alan Jeffrey**

Nonlinear waves - A review of techniques and applications

9:00--9:30 **Michael Renardy**

Global existence and stability results for viscoelastic shear flows

9:30--10:00 Coffee Break

10:00--12:00 **Parallel Sessions**

12:00--13:30 **Lunch**

13:30--15:30 **Parallel Sessions**

15:30--15:50 Coffee Break

15:50--17:35 **Parallel Sessions**

18:00-- **Dinner**

June 12 Parallel Session (A-1): Solid Mechanics

The theory of finite deformation, constitutive models; the theory of elasticity and plasticity

Venue: Room A, Conference Center, Lansheng Hotel

Chairmen: E. C. Aifantis, S. C. Song

10:00--10:15 **Tian-min Dai**

On equations of motion for macrocontinuous bodies (I)---results and remarks

10:15--10:30 **Tian-min Dai**

On equations of motion for macrocontinuous bodies (II)---unified equations

10:30--10:45 **Tian-min Dai**

On equations of motion for macrocontinuous bodies (III)---rigid body and coupling theory

10:45--11:00 **D. De Tommasi, D. Ferri, M. D. Piccioni, G. Puglisi**

On Mullins effect for helical shear deformations

11:00--11:15 **Zhi-qiang Fan, Guan-suo Dui, Zi-mao Zhang**

Behavior of a shape memory spherical shell subjected to uniform external pressure

11:15--11:30 **X-L Gao, M. W. Harris**

A new analytical model for stress concentration around hard spherical particles in metal matrix composites

11:30--11:45 **Yun-qiang Guo, Ke-shi Zhang, Xiao-liang Geng, Qin Liu**

Effect of heterogeneous dual-phase microstructure on tensile response of nickel-base superalloy

11:45--12:00 **He Luwu, Yang Xiao**

A nonlinear mathematical model for large deflection of incompressible saturated poroelastic plates with in-plane diffusion

June 12 Parallel Session (B-1): Solid Mechanics

The nonlinear theory of plates and shells

Venue: Room B, Conference Center, Lansheng Hotel

Chairmen: Y. Qiao, J. Q. Zhang

10:00--10:15 **Jing-lin Chen, Wen-juan Yao**

Numerical analysis of cast tubular K-joints and formula of static strength

10:15--10:30 **Tong Chen, Zhi-Ming Ye, Wen-Juan Yao, Huan-Ran Yu**

Numerical study for load-carrying capacity of beam-column members having different young's moduli in tension and compression

10:30--10:45 **Yan Chen, Qun-xing Su, Xi-wei Guo**

Study on penetration damage of target plate through nonlinear finite element simulation

10:45--11:00 **Hong-zhou Deng, Hai-wei Zhu, Xiao-yi Hu**

Analysis on nonlinear wind-induced vibration of guyed masts

11:00--11:15 **Si-hua Deng, Han-liang Wu, Li-li Liu**

Elastic-plastic analysis of strengthening for reinforced concrete frame structures

11:15--11:30 **Yi-ming Fu, Ke-ke Tang, Xiao-xian Xu**

Analysis of creep postbuckling for damaged viscoelastic laminated plates under the

varied temperature field

11:30--11:45 **Bao-kui Gao**

Casing stress analysis with the effects of temperature on material properties considered

11:45--12:00 /

June 12 Parallel Session (C-1): Fluid Mechanics

Venue: Room C, Conference Center, Lansheng Hotel

Chairmen: J. W. M. Bush, C. O. Ng

10:00--10:15 **Ning-guo Chen, Liu Zhang, Xue Yu**

Study on two-dimensional mixed traffic flow problem with cellular automaton method

10:15--10:30 **Xue-hui Chen, Lian-cun Zheng, Xin-xin Zhang**

Approximate solutions for boundary layer flow on moving surface in power law non-newton fluids

10:30--10:45 **Yun Chen, Ping Liang, Xin-feng Long**

The experiments of shear viscosity and interfacial tension of Orimulsion-400

10:45--11:00 **Han-xian Fang, Si-xun Huang, Zhao-bo Shun**

Retrieval theory on GPS dropsonde wind-finding system

11:00--11:15 **Hong-xia Ge, Hui-bing Zhu, Shi-qiang Dai**

Two velocity difference effect in car following model

11:15--11:30 **Hui Guan, Chui-Jie Wu, Shan-Tung Tu**

Three-dimensional numerical study of flow structures and mixing effect of impinging jets in different Y typed micro-mixers

11:30--11:45 **D. Gurarie, L. P. Yip, K. W. Chow, Dao-Hua Zhang**

Relaxation and stationary vortex patterns for two dimensional channel flows

11:45--12:00 **Xiang-lin Han, Chang-yuan Jiang, Xing-li Li, S. Q. Dai, Li-yun Dong**

A modified coupled map car-following model based on application of intelligent transportation system and control of traffic congestion

June 12 Parallel Session (D-1): Solid Mechanics

Nonlinear Mechanics of Structures

Venue: Room D, Conference Center, Lansheng Hotel

Chairmen: H. W. Ma, Z. M. Ye

10:00--10:15 **Yu-zhu Bai, Yue-sheng Wang, Gui-lan Yu**

On existence of interface waves in two dissimilar smoothly contact piezoelectric solids in presence of local separation

10:15--10:30 **Li-hua Chen, Feng-hong Yang, Wei Zhang**

Periodic and chaotic oscillations out of plane for viscoelastic axially moving beam

10:30--10:45 **Guo-jun Du, Jian-qing Ma, Yu-da Hu**

Effects of complex load on nonlinear vibration characteristic of circular sandwich plate

10:45--11:00 **Guo-min Fan, Wei Zhang, Li-hua Chen**

- Nonlinear dynamical behaviors of an axially moving viscoelastic beam
- 11:00--11:15 **Xi-cheng Huang, Yu-ze Chen, Jian-shi Zhu**
Collapse of spherical shell subjected to external pressure
- 11:15--11:30 **Yu-da Hu, Guo-jun Du, Jing Li**
Nonlinear magnetoelastic vibration analysis of current-conducting thin plate in magnetic field
- 11:30--11:45 **Bohua Sun, Bo Zhang**
A novel MEMS optical gyroscope

June 12 Parallel Session (E-1): Experimental Solid Mechanics

Venue: Room E, Conference Center, Lansheng Hotel

Chairmen: L. M. Shen, Y. Shindo

- 10:00--10:15 **Gang Chen, Zhong-fu Chen, Jun-lin Tao, Yong-mei Chen, W.F. Xu, X.C. Huang**
Investigation and validation on Johnson-Cook fracture parameters of 45 steel
- 10:15--10:30 **Shou-hui Chen, Hong-lei Yi, Xin Ding, R Fanguero, Jing Ni**
Mechanical behavior of coated membrane materials under bi-axial tensile loads
- 10:30--10:45 **Guo-chang Lin, Zhi-min Wan, Xing-wen Du**
Constitutive equation of fabric reinforced viscous resin composite material
- 10:45--11:00 **Xiao-ling Liu, Shun-cheng Song, Wei Hang, Hong-gang Shi**
Measurements and determinations of matrix micro-properties in tungsten alloy
- 11:00--11:15 **Yan Liu, Zhong-Jin Wang, Jian-Guang Liu, Hui Song**
Determination of constitutive parameters for viscous medium
- 11:15--11:30 **Zhi-liang Liu, Wen-zhi Zhang, Ying-jie Wang**
Research on skin precision model for cold rolling mill
- 11:30--11:45 **Jing-han Lu, Jian-guo Ning**
Experimental investigation on dynamic properties of steel reinforced concrete subjected to shock loading
- 11:45--12:00 **Wen-bo Luo, Xin Tang, Said Jazouli, Toan Vu-Khanh, Yoshihiro Tomita**
Comparative study of models for nonlinear viscoelastic creep of polycarbonate

June 12 Parallel Session (F-1): Nonlinear Dynamics

Venue: Room F, Conference Center, Lansheng Hotel

Chairmen: M. Renardy

- 10:00--10:15 **Luo-nan Chen, Zeng-rong Liu**
Introduction to systems biology
- 10:15--10:30 **Chuan-miao Chen, Qiong Tang**
Study of finite elements for nonlinear Hamilton system
- 10:30--10:45 **K. Czolczyński, A. Stefański, P. Perlikowski, T. Kapitaniak**
Synchronization types of oscillators suspended on elastic structure
- 10:45--11:00 **Ding Hu, Li-Qun Chen**
A numerical investigation into nonlinear models for transverse vibration of strings
- 11:00--11:15 **Fu-mei Fan, Ping Liang**
Experimental research on turbine rotor vibration of nonlinear mechanics based on

- fractalbox counting dimension
- 11:15--11:30 **Chun-biao Gan, Xiao-yin Cheng**
Chaotic and non-chaotic responses in a class of stochastic Hamiltonian systems
- 11:30--11:45 **Shi-qiao Gao, Lei Jin, Hai-peng Liu, Ming-hui Li, M. Kasparski**
Responses of a nonlinear MEMS structural system loaded by a non-stationary stochastic excitation
- 11:45--12:00 **Xiao-fan Gou, Xiao-jing Zheng, You-he Zhou, Guo-rong Chen**
Nonlinear hysteresis of magnetic force-gap in magnetic levitation systems with a high- T_c superconductor

12:00--13:30 Lunch

June 12 Parallel Session (A-2): Solid Mechanics

The theory of finite deformation, constitutive models; the theory of elasticity and plasticity

Venue: Room A, Conference Center, Lansheng Hotel

Chairmen: X. M. Guo, C. S. Man

13:30--13:45 **Mo-jia Huang, Meng-cheng Chen**

Estimation of yield function for anisotropic aggregate of Fcc crystallites

13:45--14:00 **Zhu-ping Huang, Geng-kai Hu, Hong-wu Zhang**

An elastic-plastic constitutive framework for micropolar continua

14:00--14:15 **Li-fu Liang, Tao Fan, Yi-hui Xing**

Generalized quasi-variational principles in nonlinear non-conservative elasto-dynamics and its application

14:15--14:30 **Jian-lin Liu, Xi-qiao Feng**

Capillary adhesion of micro-beams: finite and infinitesimal deformation analyses

14:30--14:45 **Zhi-gang Li, Xiao-yan Niu, Li-qing Meng, Xue-feng Shu**

Study of moisture induced vapor pressure and weakened interfacial strength in csp packages

14:45--15:00 **Jia-na Meng, You Zhang, Zheng-you Zhu**

Analytic solutions of finite deformations of a class of incompressible hyper-elastic spherical structures

15:00--15:15 **Stéphane Otin, Rodrigue Desmorat, Bruno Dambrine**

Incremental damage laws applied to design of combustion chambers

15:15--15:30 **Xiang-he Peng, Wen-li Pi, Xue-song Long**

An investigation to the pseudoelastic behavior of NiTi SMAs subjected to tensile and shear deformation

June 12 Parallel Session (B-2): Solid Mechanics
The nonlinear theory of plates and shells

Venue: Room B, Conference Center, Lansheng Hotel

Chairmen: Y. T. Hu, Q. Wang

13:30--13:45 **Zhi-jun Han, Shan-yuan Zhang**

Dynamic Buckling of plastic column impacted by rigid body

13:45--14:00 **Tian-hu He, Li Cao**

Generalized thermoelastic coupled problem of rod subjected to moving heat source

14:00--14:15 **Yun-long He, Wen-zheng Liu, Juan Wang**

Nonlinear analysis on rockfill dam with asphalt concrete core

14:15--14:30 **Xiao-dong Huang, Yi-min Xie, Guo-xing Lu**

Topology optimization of geometrically and materially nonlinear structures

14:30--14:45 **Yu-Jia Hu, Chang-Jun Cheng**

EFGM for nonlinear mechanical behaviors of single pile and pile groups

14:45--15:00 **Alain Léger, Bernadette Miara**

Justifying obstacle problem in case of shallow shell

15:00--15:15 **Shi-rong Li, Liang-liang Fan**

Free vibration of functionally graded circular plates with/without thermal post-buckling deformation

15:15--15:30 **Hai-peng Liu, Shi-qiao Gao, Lei Jin**

Influences and effects of micro forces in manufacturing and packaging of micro inertial devices

June 12 Parallel Session (C-2): Fluid Mechanics

Venue: Room C, Conference Center, Lansheng Hotel

Chairmen: D. Z. Wang, H. T. Xu

13:30--13:45 **Hao Li, Jian-guo Ning**

Numerical simulation of explosive shock waves

13:45--14:00 **Dirk Helbing, Anders Johansson, HE Habib Z. Al-Abideen**

Crowd turbulence: the physics of crowd disasters

14:00--14:15 **Sixun Huang, Qifa Cai, Jie Xiang**

Numerical simulation of typhoon shanshan and typhoon wind field decomposition with variational method

14:15--14:30 **Jun Hu, Xie-yuan Yin**

Direct numerical simulation of Poiseuille-Rayleigh-Bénard flows in binary fluids with Soret effect

14:30--14:45 **Lei Li, Li-yun Dong, Hong-xia Ge, Shi-qiang Dai**

Analysis and control of traffic flow on elevated road near on-ramp

14:45--15:00 **Xian Liang, Zhen-fu Tian**

Numerical investigation on model-transition of natural convection in heated inclined enclosures with high-order compact projection method

15:00--15:15 **Shi-jun Liao**

Can n th-order nonlinear differential equation be replaced by an infinite number of k th-order Linear differential equations with $n \neq k$

15:15--15:30 **Dao-chun Li, Jin-wu Xiang**
Airfoil motion in subsonic flow with hysteresis nonlinear restoring force

**June 12 Mini-symposium (D-2):
Instability, metastability and stability in phase transitions**

Organized by Yongzhong Huo and Hui-Hui Dai

Venue: Room G, Conference Center, Lansheng Hotel

13:30--14:00 **M. Fremond**

Solid liquid phase changes with different densities

14:05--14:35 **De-Xing Kong**

Global structure stability of impact-induced tensile waves in a rubber-like Material

14:40--15:10 **S. J. Kim**

A rate-dependent free energy model for ferroelectric materials

June 12 Parallel Session (E-2): Experimental Solid Mechanics

Venue: Room E, Conference Center, Lansheng Hotel

Chairmen: J. G. Ning, Y. Q. Song

13:30--13:45 **Jerzy Malachowski, Piotr Szurgott**

Saddle-supported pipe: investigation of plastic deformations

13:45--14:00 **Jing Ni, Ren-an Luo, You-liang Chen, Shou-hui Chen**

Evolution law of hysteresis curve and deformation characteristic of pvc membrane materials under cyclic biaxial loads

14:00--14:15 **Xiao-yan Niu, Jiang Lin, Xiao-mei Zhang, Xue-feng Shu**

Numerical simulation for determining mechanical properties of a single crystal from nanoindentation

14:15--14:30 **Xiao-yan Niu, Zhi-gang Li, Guo-zheng Yuan, Xue-feng Shu**

Hygro-thermal mechanical analysis of flip chip package by finite element method

14:30--14:45 **Xing Huang, Jiu-sheng Ren**

Nonlinear deformation of natural rubber: Experiments and modeling

14:45--15:00 **L. Roy Xu, Arun Krishnan, Charles M. Lukehart**

Failure mechanics of nanocomposite materials with discontinuous reinforcements

15:00--15:15 **Lu-ming Shen, Zhen Chen**

Hyper-surface for combined size, rate and temperature effects on material properties of pristine diamond

15:15--15:30 **Hai-yan Liu, Wei-dong Song, Jian-guo Ning**

Fracture behavior 91% tungsten alloys

June 12 Parallel Session (F-2): Nonlinear Dynamics

Venue: Room F, Conference Center, Lansheng Hotel

Chairmen: T. Kapitaniak

13:30--13:45 **Guan Di, Le-sheng Chen**

Nonlinear dynamic modeling and simulation of vibratory roller system

- 13:45--14:00 **Ming-jun Han, Xin-zhi Wang, Gang Wang, Xue-xing Ding**
Complicated nonlinear dynamical behavior of the single-layer shallow conical shells
- 14:00--14:15 **Lin-shan Han, Yun-wen Shen, Hai-jun Dong, Zhen-xu Zhu**
Research on dynamic transmission error for 2K-V-type drive based on non-linear dynamics
- 14:15--14:30 **Yu-sheng Jia, Yi-ping Lin**
Global stability for shunting inhibitory cnns with time-varying delays
- 14:30--14:45 **Ming Yan Leung, Xin-long Dong, T. X. Yu**
Dynamic characterization of micro scale samples using the Hopkinson tensile technique
- 14:45--15:00 **Ping Liang, Xin-feng Long, Fu-mei Fan**
Experimental research on turbine rotor vibration fault diagnosis based on fractal correlation dimension
- 15:00--15:15 **Chuan-xiao Liu**
Identification for fault plane by GPR and study with Kolmogorov entropy theory of nonlinear dynamics
- 15:15--15:30 **Lian-sheng Ma, Zhi-ying Ou, Fan Yang**
Large amplitude vibration of functionally graded circular plate

June 12 Parallel Session (G-2): Applied Mathematics

Venue: Room D, Conference Center, Lansheng Hotel

Chairmen: X. C. Fu, S. X. Huang

- 13:30--13:45 **Long-wei Chen, Yan-gang Miao, Xu-guang Wang**
Synthetical appraisal applied in fuzzy interface calculation
- 13:45--14:00 **Hua-dong Du, Si-xun Huang**
Use of inverse methods in atmospheric sounding problems
- 14:00--14:15 **Xin-Chu Fu, Jinqiao Duan**
On global attractors for nonhyperbolic systems
- 14:15--14:30 **Ming-yuan He, Hua-dong Du, Ji-ping Guan**
Application of variational method to inversion of cloud drift winds
- 14:30--14:45 **Ming-yuan He, Sheng Zheng, Ji-ping Guan**
One kind of image positioning method based on surface characteristics
- 14:45--15:00 **Jing Huang, Ning Tan, Wei Zhang, Feng-hong Yang**
The tendency to steady state of random networks with bistable unite
- 15:00--15:15 **Ali Mohammed Kayed, Zheng-rong Liu**
Solitons for modified form of Camassa-Holm equation
- 15:15--15:30 **Jian-zhang Li, De-Hua Chen, Chao-chun Qu**
Calderón approximation of conductivity in multicircular ring domain

15:30--15:50 Coffee Break

June 12 Parallel Session (A-3): Solid Mechanics

The theory of finite deformation, constitutive models; the theory of elasticity and plasticity

Venue: Room A, Conference Center, Lansheng Hotel

Chairmen: J. N. Reddy, X. Yang

15:50--16:05 **H. Jerry Qi, Francisco Castro**

Constitutive modeling of finite deformation behavior of shape memory Polymers

16:05--16:20 **Jiu-sheng Ren, Lu-wu He, Chang-jun Cheng**

Effect of temperature on the dynamical formation of cavity for thermo-hyperelastic materials

16:20--16:35 **Xin-chun Shang, Chang-jun Cheng**

Numerical analysis for cavitated bifurcation in compression hyperelastic materials

16:35--16:50 **Xin-pu Shen, Guo-xiao Shen, Zhou Lin, Ji-hang Liu**

Mathematical modelling of thermo-hydro-mechanical behaviour for concrete under elevated temperature

16:50--17:05 **Dong-li Shi**

Deformations of carbon nanotubes

17:05--17:20 **Shun-cheng Song, Ting-hui Wang, Hong-nian Cai, Fu-chi Wang**

$T - \sigma - \varepsilon$ model for numerical analysis of adiabatic shearing localization

17:20--17:35 **Shi-yong Sun, Hao-ran Chen**

Application of a continuum constitutive model for fracture analysis of metallic foam with element-free galerkin method

June 12 Parallel Session (B-3): Solid Mechanics

The nonlinear theory of plates and shells

Venue: Room B, Conference Center, Lansheng Hotel

Chairmen: X. Huang, B. H. Sun

15:50--16:05 **Qin Liu, Jian-ting Ren, Yun-qiang Guo**

Modeling and nonlinear vibration analysis of a composite laminated shell with embedded shape memory alloy wires

16:05--16:20 **Da-wei Lü, Lin-rong Xu**

Method for consolidation degree calculation considering nonlinearity of consolidation index of soft soil improved with sand piles

16:20--16:35 **Zhi-ying Ou, Lian-sheng Ma**

Effects of surface energy on stress concentration around a nanosized spheroidal cavity

16:35--16:50 **Yu Qiao, Lance A. Sperball, Venkata K. Punyamurtula**

Honeycomb structure enhanced by nanoporous material functionalized liquid

16:50--17:05 **Jia Shen, Guo-hua Nie**

A nonlinear quasi-continuum model for ultra-thin plate-type nano-materials

17:05--17:20 **Wei-dong Song, Jian-guo Ning**

Perforation mechanism in stiffened plates

17:20--17:35 **Zhi-hong Tan, Chun-an Tang, Wu-an Cao, Tian-hong Yang**

Influence of Karst cave's position on wall rock long-term stability of tunnel

June 12 Parallel Session (C-3): Fluid Mechanics

Venue: Room C, Conference Center, Lansheng Hotel

Chairmen: S. Kida, D. C. Wan

15:50--16:05 **Pei-chao Li, De-tang Lu, Xiang-yan Kong**

Discussion on lattice Boltzmann models for incompressible flows in porous media

16:05--16:20 **Gao-lian Liu**

Dual variational principles for 3-D Navier-Stokes equations

16:20--16:35 **Jin-hua Liu, Ai-ming Yang, Pei-fen Weng**

Transonic hovering rotor aeroacoustic predictions using Navier-Stokes/kirchhoff method

16:35--16:50 **Yong-feng Liu, You-tong Zhang, Hong-seng Tian, Jian-jun Qin**

Calculation of the turbulent two-phase flow in direct-injection diesel engine

16:50--17:05 **Yu-lu Liu, Xiang Qiu, Yong-xiang Huang, Zhi-ming Lu**

Analysis of turbulent counter gradient transport in stably stratified flow using empirical mode decomposition

17:05--17:20 **Zhen-hua Liu, Qi-lin Zhang, He Li**

Numerical simulation of fluid-structure interaction for the wind pressure distribution of membrane structures located horizontally

17:20--17:35 **Emily M. Tian**

Instability of electric field induced pattern formation in thin liquid films

June 12 Mini-symposium (D-3):

Instability, metastability and stability in phase transitions

Organized by Yong-zhong Huo and Hui-Hui Dai

Venue: Room D, Conference Center, Lansheng Hotel

15:50-16:20 **M. Kamlah**

Ferroelectric ceramics: experiments, constitutive modeling and finite element simulation

16:25-16:55 **Yongjun He**

Continuum modeling on macroscopic domain patterns during stress induced phase transition in Niti tubes

17:00-17:30 **Hui-Hui Dai**

The analytical descriptions for the shear band formation in a strip composed of a phase-transforming material

June 12 Parallel Session (E-3): Experimental Solid Mechanics

Venue: Room E, Conference Center, Lansheng Hotel

Chairmen: D. N. Fang, M. J. Huang

15:50--16:05 **Yan-qi Song, Chun-yan Gao**

Application of Matlab on Moire image processing

16:05--16:20 **S. Wang, R. Maucher**

Engine structure analysis with simulation and measurement

16:20--16:35 **Lin-chun Wei, Ren-an Luo, Jing Ni, Ping Zheng**

- Experimental study and FEM analysis of CFRP confined concrete columns
- 16:35--16:50 **Gui-ying Wu, Yong-gang Zhao, Gui-tong Yang**
Experimental investigations of dynamic counterintuitive behaviors of circular plates subjected to impact loading
- 16:50--17:05 **Yan-xia Wu, Wei-yi Chen**
Effect of triaxial stress constraint on ratcheting behavior and low cycle fatigue life of polypropylene
- 17:05--17:20 **Xiao-peng Yan, Li-jun Zhang, Hong-wei Ma, Gui-tong Yang**
Numerical simulation and experimental study on dynamic splitting tensile behaviour of concrete
- 17:20--17:35 **Ming-hua Zhang, Jiang-ying Chen, Jue Zhu, Jian-kang Chen**
Experiment on the average modulus of ettringite

June 12 Parallel Session (F-3): Nonlinear Dynamics

Venue: Room F, Conference Center, Lansheng Hotel

Chairmen: L. Q. Chen, W. Zhang

- 15:50--16:05 **Zong-min Qiao, Jia-xing Cheng**
Global exponential synchronization of class of chaotic neural networks based on LMI approach
- 16:05--16:20 **Huan-huan Qi, Jian Xu**
Periodic motion and bifurcation in self-excited oscillation system due to dry friction
- 16:20--16:35 **Zhi-ying Qin, Qi-shao Lu**
Grazing bifurcations and asymmetry transitions in an impact oscillator with symmetric stops
- 16:35--16:50 **Hui-li Shang, Jian Xu**
Influence of delayed position feedback on safe basins in a parametrically excited system
- 16:50--17:05 **Shou-feng Shen, Jun Zhang**
Single homoclinic orbit of (3+1)-dimensional nonlinear Schrodinger equation
- 17:05--17:20 **Ji Wang, Feng-hong Yang, Wei Zhang**
Stick-slip oscillations induced by dry friction in an automotive disc brake system
- 17:20--17:35 **Ru-bin Wang, Zhi-kang Zhang, En-hua Shen**
Energy function and energy evolution on neuronal population

June 12 Parallel Session (G-3): Applied Mathematics

Venue: Room D, Conference Center, Lansheng Hotel

Chairmen: L. N. Chen

- 15:50--16:05 **Zheng-rong Liu, Shao-yong Li**
Limit cycles for a cubic Hamiltonian system with lower perturbations
- 16:05--16:20 **Zheng-rong Liu, Ming Song**
Traveling wave solutions of generalized PC equation
- 16:20--16:35 **Yan-mei Li**
Classification of phase portraits of planar quintic Hamiltonian vector field with

Z_2 -equivariant property

16:35--16:50 **Bao-zhen Pan, Chuan-qing Gu**

Lagrange-type function-valued Padé-type approximation using for solution of Fredholm integral equations

16:50--17:05 **Jia-qing Pan**

Asymptotic behavior of solutions of modified Navier-Stokes equations in R^3

17:05--17:20 **Ping-xing Sheng, Xi-bo Duan**

Qualitative analysis of FHN model

17:20--17:35 **Quan-di Wang**

Classification of graphs for quartic algebraic curve with three parameters

18:00-- Dinner

June 13 Wednesday

June 13 Mini-symposium (A-4): Nanomechanics

Venue: Room A, Conference Center, Lansheng Hotel

Chairmen: Q. C. He, Q. S. Zheng

8:00--8:15 **J.-X. Wang**

Continuum theory of interface effects in heterogeneous media and nanomaterials

8:15--8:30 **Christian Licht, Med Lamine Leghmizi, Gérard Michaille**

A nonlinear model of thin films made of martensitic materials

8:30--8:45 **Q. C. He**

Variational principles and bounds for the effective elastic properties of nanocomposites

8:45--9:00 **Yan-yao Jiang, Ji-xi Zhang**

Constitutive modeling of cyclic hardening and nonproportional hardening of polycrystalline copper

9:00--9:15 **Jian-lin Liu, Xi-qiao Feng**

Capillary adhesion of micro-beams: finite and infinitesimal deformation analyses

9:15--9:30 **Quan-Shui Zheng, Yilun Liu**

Thermally driven large-amplitude fluctuations in carbon-nanotube-based devices: Molecular dynamics simulations

9:30--9:45 **Yu Qiao, Jin Chen, Lance A Operhall, Venkata K. Punyamurtula**

Size effect in cleavage cracking in polycrystalline thin films

9:45--10:00 **Q. Wang, W. H. Duan, K. M. Liew, X. Q. He**

Modeling instability of carbon nanotubes: from continuum mechanics to molecular dynamics

June 13 Parallel Session (B-4): Solid Mechanics

The nonlinear theory of plates and shells

Venue: Room B, Conference Center, Lansheng Hotel

Chairmen: C. Q. Ru, S. A. Zhou

8:00--8:15 **Li-hua Jin, Yan Yan, Yong-zhong Huo**

Nonlinear opto-mechanical behavior in photochromic liquid crystal elastomers

8:15--8:30 **Xing-zhe Wang**

A variational modeling of magneto-thermo-elasticity for nonlinear ferromagnetic plates

8:30--8:45 **Hua-ning Wang**

Analytic study of time-varying axisymmetric problem of viscoelasticity

8:45--9:00 **Rui Wang, Tie-feng Wang, Shan-yuan Zhang**

Stress wave induced buckling of elastic bar and dynamic post-buckling behavior

9:00--9:15 **Kristofer Westbrook, H. Jerry Qi**

Design of environmentally responsive hydrogel based sensors and actuators

9:15--9:30 **Wei Xie, Qi-qing Huang, Masanori Kikuchi**

Study on ductile fracture of semi-elliptical surface cracks

- 9:30--9:45 **Jing-jing Xu, Xue-feng Li, Xiao-jing Wang, Xiu-rong Wang**
Electrostatic-structural coupling simulation of a shuffle micro electro mechanical system by scratch drive actuator
- 9:45--10:00 /

June 13 Parallel Session (C-4): Fluid Mechanics

Venue: Room C, Conference Center, Lansheng Hotel

Chairmen: C. B. Lee, C. Y. Wang

- 8:00--8:15 **Xing-li Li, Jian-ping Meng, Xiang-lin Han, Shi-qiang Dai**
Stochastic master-equation approach to traffic breakdown caused by reduction of highway lanes
- 8:15--8:30 **Dong-Qiang Lu, Chiu-On Ng**
Interfacial capillary-gravity waves due to a Stokeslet
- 8:30--8:45 **Zhan-bin Lu**
Interactions of flame balls
- 8:45--9:00 **Zhi-ming Lu, Su-mei Tian, Yu-lu Liu**
Similarity solutions of decaying shearless turbulence mixing layer
- 9:00--9:15 **Jian-ping Meng, Li-yun Dong**
A simple stochastic car-following model for traffic flow
- 9:15--9:30 **Jian Qian**
Asymptotic behavior of turbulence statistics
- 9:30--9:45 **Zheng Ran**
New Sedov-type solution of isotropic turbulence
- 9:45--10:00 **Wei Shi, Ye-liu Mo, Yu Xue**
Multiple look-ahead optimal velocity models with multi-velocity difference

**June 13 Parallel Session (D-4): Solid Mechanics
Nonlinear Mechanics of Structures**

Venue: Room D, Conference Center, Lansheng Hotel

Chairmen: X. H. Peng, Y. H. Zhou

- 8:00--8:15 **Zhi-fang Liu, Tie-feng Wang, Shan-yuan Zhang**
Nonlinear flexural wave equation and exact traveling solutions in beams
- 8:15--8:30 **Yan-qi Liu, Wei Zhang, Li-hua Chen, Hong-xing Zhang**
Three-dimensional nonlinear vibrations of an axially moving viscoelastic belt with integral constitutive law
- 8:30--8:45 **Yun-liang Li, Chang-gou Wang, Hui-feng Tan**
Research on free vibration of wrinkled membranes
- 8:45--9:00 **Jerzy Malachowski**
Numerical study of coupling problem: interaction between pipe and peak pressure
- 9:00--9:15 **Dong-fa Sheng, Yuan-yuan Zhu, De-ru Chi, Shao-feng Zeng, C. L. Zhu**
Dynamical analysis for viscoelastic beam-columns with damage
- 9:15--9:30 **Qi-guo Sun, Gert van der Heijden**
A model for a 3D spinning rigid electrodynamic tether

- 9:30--9:45 **G. H. M. van der Heijden, J. Valverde**
Buckling conducting wires and instabilities of electrodynamic space tethers
- 9:45--10:00 **Can Wang, Yu-xin Wang, Hao-ran Chen**
Three dimensional simulation for dynamic failure of aluminum foam sandwich structure under ballistic impact

**June 13 Mini-symposium (E-4):
Mechanics of Electromagnetic Materials and Structures**

Organized by Ji Wang, Yuntai Hu, Jiashi Yang, and Daining Fang

Venue: Room E, Conference Center, Lansheng Hotel

- 8:00--8:30 **Jiashi Yang**
H. F. Tiersten and continuum electrodynamics
- 8:30--8:50 **Fei Qin, Dongmei Yan**
Perturbed magnetic fields induced by mechanical stress
- 8:50--9:10 **Pu Chen, Qicai Peng, Guangbin Zhao, Lun Zeng**
Piezoelectric ALN thin films synthesized by mid-frequency dual-target magnetron sputtering
- 9:10--9:30 **Weijun Ju, Denghua Li, Meijuan Jia, Yongcheng Ma**
Research on Voltage Sensitivity of Vibration Accelerometer Based on 1-3 Piezocomposites
- 9:30--9:50 **Ji Wang, Renjie Yao, Jianke Du, Zheng Zhong**
A two-dimensional analysis of the coupled extensional and surface acoustic wave modes in finite elastic solids

June 13 Parallel Session (F-4): Nonlinear Dynamics

Venue: Room F, Conference Center, Lansheng Hotel

Chairmen: J. Xu, L. Q. Chen

- 8:00--8:15 **Xiang Wang, Guang-dong Wang, Xiao-qian Ning**
Nonlinear dynamic analysis of mooring cables
- 8:15--8:30 **Xiu-mei Wang, Xiao-qiang Li, Yi-min Wu**
Effect of material properties on deep drawing of steel beverage can
- 8:30--8:45 **Wu Fan, Tan Ning, Zhang Wei, Man-li He, Li-hua Chen**
Nonlinear analysis of in-plane vibration for high-speed train-track coupled system
- 8:45--9:00 **Zhao-wang Xia, Xian-dong Li, Shao-pu Yang, Ying-chun Shan**
Nonlinear characteristics of vibration isolating system for magneto-rheological damper
- 9:00--9:15 **An-Zhi Yan, Jun Teng, Zhi-xiong Lu**
Simulation study of nonlinear stiffness considered in satmd device
- 9:15--9:30 **Chen-xi Yang, Min-ying Tang**
Bifurcation of limit cycles for a perturbed polynomial system with $2n+1$ degree
- 9:30--9:45 **Zhen Yang, San-min Wang, Ye-sen Fan**
Nonlinear-dynamic study of a two-stage gear train with multi-factor coupling
- 9:45--10:00 **Ming-hui Yao, Wei Zhang**

Multi-pulse homoclinic orbits with Melnikov method and chaotic dynamics in motion of parametrically excited viscoelastic moving belt

10:00--10:20 Coffee Break

June 13 Parallel Session (A-5): Solid Mechanics

The theory of finite deformation, constitutive models; the theory of elasticity and plasticity

Venue: Room A, Conference Center, Lansheng Hotel

Chairmen: Y. Y. Jiang, X. C. Shang

10:20--10:35 **Shao-qiang Tang**

Finite difference approach for concurrent multiscale computations in solids

10:35--10:50 **Zhi-qiao Wang, Guan-suo Dui**

Analysis on the cyclic finite deformations of linear compressible elastic materials

10:50--11:05 **Bao-lai Wang, Yang Liu, Jun Liang, Shan-yi Du**

Mesoscopic investigation on moduli prediction in visco-elastic particle reinforced composites

11:05--11:20 **Dong-dong Wang, Jiun-Shyan Chen**

Nonlinear homogenization of hyperelastic composites using an enhanced meshfree method

11:20--11:35 **Dong-dong Wang, Tung Hua Lin**

Micromechanical analysis of high-cycle fatigue intrusion for single crystals with geometry change influence

11:35--11:50 **Yu Wang, Dai-ning Fang, Bin Liu**

Nonlinear tensile deformation of single-walled carbon nanotubes with different radius and chirality

11:50--12:05 **Wen-ping Wu, Ya-fang Guo, Guan-suo Dui, Yue-sheng Wang**

Study on micromechanical behavior in ni-based single crystals superalloys

June 13 Parallel Session (B-5): Solid Mechanics

The nonlinear theory of plates and shells

Venue: Room B, Conference Center, Lansheng Hotel

Chairmen: X. Z. Wang, X. F. Shu

10:20--10:35 **Kai-yu Xu, E. C. Aifantis**

Strain analysis of a gradient elastic nanofiber in tension

10:35--10:50 **De-Can Yang**

Modeling on gravity stiffness of suspension bridges by finite element method of geometric nonlinearity

10:50--11:05 **Yi-xia Yan, Zhi-ming Hao**

FEM analysis on the moving of the laser spot during laser welding process of the steel shell

11:05--11:20 **W. J. Yao, Xiang Wang², X. F. Jiang**

- Computation and analysis of non-linear stability for large shell cylinder structure
- 11:20--11:35 **Yi-hui Yin, Yuan-zhang Zhang**
On buckling critical state of a circular plate subjected to united heat and lateral pressure
- 11:35--11:50 **Can-Hui Zhang, Dong-dong Wang, Jian-lin Zhang**
An improved simple fixed-point iteration method for stress evaluation in nonlinear hybrid finite elements
- 11:50--12:05 **Neng-hui Zhang, Jing-jing Xing, Jin-ying Shan**
Multiscale simulation for nanomechanical behavior of gene chips in label-free biodetection

June 13 Parallel Session (C-5): Fluid Mechanics

Venue: Room C, Conference Center, Lansheng Hotel

Chairmen: S. J. Liao, C. J. Wu

- 10:20--10:35 **Zhen-hua Liu, Qi-lin Zhang, Shao-xia Sun**
Numerical simulation for fluid-structure interaction on the flutter behavior of membranes in a wind tunnel
- 10:35--10:50 **De-cheng Wan**
A computational analysis of fluid-structure interaction in moving mechanical valves
- 10:50--11:05 **Chang-yi Wang**
Review of stagnation flows- exact solutions of Navier-Stokes equations
- 11:05--11:20 **Mo-ran Wang, Ning Pan, Shi-yi Chen**
Mesoscopic modeling and predictions of effective dielectric permittivity of multiphase micro porous media
- 11:20--11:35 **Gang Wei, Xiao-bing Su, Yun-xiang You**
Evolution of an interfacial soliton past a submerged barrier floating in a two-layer fluid
- 11:35--11:50 **Pei-fen Weng, Ai-ming Yang, Jue Ding, Xin Zhou, Tiao-ling Ge**
Numerical analysis of active flow control around airfoil by zero-net-mass-flux jet technology in low-Reynolds number
- 11:50--12:05 **Jie Liu, Pei-fen Weng**
Numerical investigation of aerodynamics of micro air vehicle

June 13 Parallel Session (D-5): Solid Mechanics Nonlinear Mechanics of Structures

Venue: Room D, Conference Center, Lansheng Hotel

Chairmen: Q. P. Sun, J. K. Chen

- 10:20--10:35 **Can Wang, Yu-xin Wang, Hao-ran Chen**
Three dimensional simulation for dynamic failure of aluminum foam sandwich structure under ballistic impact
- 10:35--10:50 **Xin-zhi Wang, Lei Li, Gang Wang, Ming-jun Han, Xiao-mei Gu**
Nonlinear dynamic characters of shallow reticulated spherical shells under the static and the dynamic loads

- 10:50--11:05 **Zhi-ren Wang, Ping Wang, Xiang-zhong Bai**
Magnetic-elasticity buckling of a thin current plate
- 11:05--11:20 **Ji-chen Yang, Qi-shao Lu, Jia-kun Song**
Mode analysis and control of smart timoshenko beam
- 11:20--11:35 **Xiao-li Yang, Wei Zhang, Li-hua Chen**
Complex nonlinear dynamics analysis of thin spinning discs
- 11:35--11:50 **Z. G. Yao, W. Zhang, L. H. Chen**
Periodic and chaotic oscillations of laminated composite piezoelectric rectangular plate with 1:2:3 internal resonances
- 11:50--12:05 **Chun Zeng, Chang-sheng Xu**
Influence of steel rope elasticity to dynamic properties of bridge crane's bridge structure

**June 13 Mini-symposium (E-5):
Mechanics of Electromagnetic Materials and Structures**

Organized by Ji Wang, Yuntai Hu, Jiashi Yang, and Daining Fang

Venue: Room E, Conference Center, Lansheng Hotel

- 10:20--10:50 **Yasuhide Shindo, Fumio Narita, Jun Nakagawa**
Nonlinear dynamic deflection and sound level in functionally graded piezoelectric actuators under AC electric field
- 10:50--11:10 **Yongmao Pei, Daining Fang**
The Magnetostriction in Tb_{0.3}Dy_{0.7}Fe_{1.95} Alloys under Two Types of Magnetomechanical Loading
- 11:10--11:30 **Ji Wang, Zhen Wu, Jianke Du, Xun Gong**
The thermal effect of two-layer metal electrodes on the thickness-shear vibrations of quartz crystal plates
- 11:30--11:50 **Weiping Zhang**
On the coupling of TSH modes and one class of unwanted modes in Z-length, AT-cut quartz strip resonators

June 13 Parallel Session (F-5): Nonlinear Dynamics

Venue: Room F, Conference Center, Lansheng Hotel

Chairmen: S. Q. Gao, Q. S. Lu

- 10:20--10:35 **Wei-long Yin, Jin-wu Xiang**
Nonlinear analysis for helicopter ground resonance using multiscale method
- 10:35--10:50 **Guo-yong Yuan, Shi-Ping Yang, Shi-gang Chen**
Dynamical behaviors of spiral waves driven by complex signals
- 10:50--11:05 **Xin-jun Zhang**
Advanced aerodynamic stability analysis of long-span suspension bridges
- 11:05--11:20 **Yan-long Zhang, Guan-wei Luo, Li Ma**
Stability and bifurcations in a multi-degree-of-freedom vibratory system with a gap
- 11:20--11:35 **Yan Zhang, Johan Liu, Jing-yu Fan, Ragnar Larsson**
Second order multi-scale micropolar model for microsystem interconnections

- 11:35--11:50 **Zhi-liang Zhang, Chang-jun Cheng**
Jump phenomena in electrodynamic loudspeaker
- 11:50--12:05 /

12:10-13:30 Lunch

June 13 Parallel Session (A-6): Solid Mechanics

The theory of finite deformation, constitutive models; the theory of elasticity and plasticity

Venue: Room A, Conference Center, Lansheng Hotel

Chairmen: H. J. Qi, S. Q. Tang

13:30--13:45 **Long Xiao, H. Jerry Qi**

A structural micromechanical approach for modeling large deformation behavior of red blood cells

13:45--14:00 **Li-hong Yang, Yun-zeng He, Jia Qu**

Investigation on large deformation constitutive model based on solid cylinder torsion test

14:00--14:15 **Xiao Yang, Lu-wu He**

Large deflection of a cantilever incompressible poroelastic beam

14:15--14:30 **Yi-hui Yin, Chi-bin Guo**

Advances in investigations of effects of heating rate on materials properties

14:30--14:45 **Xue-gang Yuan, Zheng-you Zhu, Chang-jun Cheng**

Controllability conditions of nonlinearly periodic oscillations of incompressible hyper-elastic spherical shells

14:45--15:00 **Jian-hua Wu, Hai-xiang Yu, Qiang Li**

A damage constitutive model for concrete based on ideal undamaged state

15:00--15:15 **Li-li Zhang, Xin-chun Shang**

Approximate analysis and experimental investigation for contact problem of a rubber-like sphere compressed between two rigid plates

15:15--15:30 **Xiao-jing Zheng, Le Sun**

A one-dimension coupled hysteresis model for giant magnetostrictive materials

June 13 Parallel Session (B-6): Solid Mechanics

The nonlinear theory of plates and shells

Venue: Room B, Conference Center, Lansheng Hotel

Chairmen: G. H. Nie, Y. H. Zhou

13:30--13:45 **Guang-hui Zhao, Nian-mei Zhang, Gui-tong Yang, Zheng Liang**

Effect of Peierls-Nabarro force on dynamic responses of semi-infinite bar

13:45--14:00 **Yong-gang Zhao, Shi-rong Li, Lian-sheng Ma**

Nonlinear response of FGM circular plates subjected to periodic surface thermal loadings

14:00--14:15 **Jie-jiang Zhu, Qiong Zheng**

New approach to nonlinear analysis of reinforced concrete space frame considering the second-order effect

- 14:15--14:30 **Jue Zhu, Yong-hui Cao, Jian-kang Chen**
Transversal inertial effect on one-dimensional dynamic viscoelastic constitutive relation
- 14:30--14:45 **Yuan-yuan Zhu, Yu-jia Hu, Fusanori Miura**
Large deformation analysis of piles with elastic joints
- 14:45--15:00 **Rui Zhang, Zhi-ping Tang**
Multiscale algorithm of coupling discrete and finite element methods and its validation
- 15:00--15:15 **Shu-ang Zhou**
Electrodynamics of ion channel of biological cell
- 15:15--15:30 **Jie Xiang, Xi-jun Zhang, Yi Luan**
Sensitivity analysis of statistical-dynamic model by adjoint method

June 13 Parallel Session (C-6): Fluid Mechanics

Venue: Room C, Conference Center, Lansheng Hotel

Chairmen: S. Q. Dai, W. R. Hu

- 13:30--13:45 **Chun-xiu Wu, Peng Zhang, Shi-qiang Dai, S. C. Wong**
Asymptotic solution of a wide cluster in Kühne's higher-order traffic flow model
- 13:45--14:00 **Kai-teng Wu, Cheng Wang, Lian-ming Mu**
A novel numerical method and its application in complex fluid field
- 14:00--14:15 **Li-hong Wu, Xi-sheng Feng, Pei-liang Gong, Zhong Jin**
Viscous force and added mass for complex configuration with an implicit dual time method
- 14:15--14:30 **Xi-lin Xie, Wei-wei Ma, Hui-liang Zhou**
Spatial dynamics of some classical open shear flows
- 14:30--14:45 **Hai-tao Xu, Nicholas T. Ouellette, Eberhard Bodenschatz**
Multi-particle statistics – lines, shapes, and volumes in high Reynolds number turbulence
- 14:45--15:00 **Jing-jing Xu, Chao-dong Li, Zhi-wei Zhang, Xue-feng Li, X. R. Wang**
Numerical research on the traveling wave locomotion for large amplitude elongated-body swimming micro-mechanism
- 15:00--15:15 **Song-li Xu, Jing-yu Fan, Dao-zeng Wang**
PDA measurement of mean and turbulence properties for a particle-laden open channel flow
- 15:15--15:30 **Zhi-gang Yang, Jing Ma**
Numerical assessment of effects of inflow distortion on performance of wind tunnel axial flow fan

15:30--15:50 Coffee Break

**June 13 Mini-symposium (D-6):
Instability, metastability and stability in phase transitions**

Organized by Yongzhong Huo and Hui-Hui Dai

13:30--14:00 **T. Roubicek**

Models of martensitic transformation in shape-memory alloys

14:05--14:35 **Xiang-He Peng**

An investigation to the pseudoelastic behavior of NiTi SMAs subjected to tensile and shear deformation

14:40--15:10 **Zong-Xi Cai**

On the effects of end boundary conditions for phase transitions in a slender elastic cylinder

**June 13 Mini-symposium (E-6):
Mechanics of Electromagnetic Materials and Structures**

Organized by Ji Wang, Yuantai Hu, Jiashi Yang, and Daining Fang

Venue: Room E, Conference Center, Lansheng Hotel

13:30--14:00 **Weiqiu Chen**

The potential theory method for a penny-shaped crack with electric saturation

14:00--14:20 **Huan Xue, Yuantai Hu**

Coupled optimization on a piezoelectric harvester with an improved harvesting structure and an adapt storage circuit

14:20--14:40 **Jiashi Yang**

Piezoelectricity research in IEEE UFFC-S (In memory of R. D. Mindlin)

14:40--15:00 **Y. Zhang, E. Pan, P. W. Chung**

Calculation of strain energy density and relative strain energy in QWR nanostructures using a bimaterial BEM formulation

15:00--15:20 **Fang Li, James H.-C. Wang, Qingming Wang**

Monitoring cell adhesion and characterizing cell viscoelasticity by using thickness shear mode acoustic wave sensors

**June 13 Mini-symposium (F-6):
Lattice Boltzmann method and related topics**

Organized by YueHong Qian

13:30--14:00 **Ruey-Hung Chen**

An acoustic method for detecting aerosol particles

14:00--14:30 **Michael M. Dupin, I. Halliday, C. M. Care, A. Lyuba, Lance L. Munn**

Modeling the flow of dense suspensions of deformable particles in three dimensions

14:30--15:00 **Kunio Kuwahara**

High Reynolds number flow simulation and its visualization

15:00--15:30 **Hong Luo**

Development and application of a discontinuous Galerkin method for computational fluid dynamics

15:30--15:50 Coffee Break

June 13 Parallel Session (A-7): Solid Mechanics

The theory of finite deformation, constitutive models; the theory of elasticity and plasticity; experimental solid mechanics

Venue: Room A, Conference Center, Lansheng Hotel

Chairmen: X. L. Gao, L. R. Xu

15:50--16:05 **Hao-miao Zhou, You-he Zhou**

A nonlinear constitutive model for soft ferromagnetic rods

16:05--16:20 **Lin-li Zhu, Xiao-jing Zheng**

Effects of grain-boundary on elastic modulus of nanocrystalline materials

16:20--16:35 **S. L. Zhang, M. X. Zhang, A. A. Javadi**

Nonlinear behaviour of sand reinforced with denti-inclusions

16:35--16:50 **X. J. Zheng, Y. R. Liang**

Experimental researches on magneto-thermo-mechanical characterization of Terfenol-D

16:50--17:05 **Wei-zhou Zhong, Qing-ping Zhang, Xi-cheng Huang, Si-zhong Li**

Experimental research on compressive property of carbon fiber reinforced composite material structure

17:05--17:20 **Huai-Liang Zhu, Lei Yu, Chun-Ling Hu, Si-Hui Liang**

Anisotropic and nonlinear properties of living pig cornea under biaxial loads

17:20--17:35 **Jue Zhu, Yong-hui Cao, Jiang-ying Chen**

Analysis on dynamic constitutive relationship of cement mortar specimens in sulphate erosion using SHPB

June 13 Parallel Session (B-7): Solid Mechanics

Nonlinear Mechanics of Structures

Venue: Room B, Conference Center, Lansheng Hotel

Chairmen: W. Q. Chen, X. Q. Feng

15:50--16:05 **Jun-hua Zhang, Wei Zhang, Min-hui Yao**

Global dynamics for a non-autonomous buckled plate with parametrically and externally excitations

16:05--16:20 **Shan-yuan Zhang, Zhi-fang Liu**

Study on propagation properties of nonlinear torsional wave in non-circular cross-sectional rod

16:20--16:35 **Yu-xin Hao, Wei Zhang, Li-hua Chen**

Nonlinear oscillations of the orthotropic FGM rectangular plates with simply supported edges based on the third-order shear deformation plate theory

16:35--16:50 **Mei-juan Gao, Wei Zhang, Ming-hui Yao**

Singular-pulse orbits and chaotic dynamics in a six-dimensional viscoelastic moving belt

16:50--17:05 **Rong-guo Zhao, Zhong-fu Chen**

- Nonlinearity identification in dynamic response of wedged-ring joint structure
 17:05--17:20 **Bin Zhen, Jian Xu**
 Critical velocity of moving body on infinite beam with elastic foundation
 17:20--17:35 **Hao-miao Zhou, You-he Zhou**
 Numerical simulation for nonlinear dynamic and control characteristics of giant magnetostrictive smart laminated beams

June 13 Parallel Session (C-7): Fluid Mechanics

Venue: Room C, Conference Center, Lansheng Hotel

Chairmen: J. Qian, J. J. Zhou

- 15:50--16:05 **Zhi-gang Yang, Ning Ma, Qi-liang Li, Lan-ping Zhao**
 Effect of solidity on wind tunnel corner vane losses
 16:05--16:20 **Wei Yao, Guang-hong Ding**
 On hemodynamics mechanism of edema formation
 16:20--16:35 **Hao Zhang, Xin-xin Zhang, Lian-cun Zheng**
 The characteristic of the boundary layer in power law fluid
 16:35--16:50 **Liang Zhang, Si-xun Huang, Li-feng Zhang**
 Numerical experiments about growth of disturbance energy of linear potential vorticity equation within finite time scope
 16:50--17:05 **Na-Zhao, Lian-cun Zheng, Xin-xin Zhang**
 Singular perturbation problem of laminar flow in a channel with porous uniformly accelerating rigid walls in the presence of a transverse magnetic field
 17:05--17:20 **Ji-jie Zhou, M. Gharib, Xiao Huang**
 Flow passing carbon nanotube arrays
 17:20--17:35 **Hui-Bing Zhu Shi-Qiang Dai**
 A new cellular automaton traffic model with density-dependent randomization

June 13 Mini-symposium (D-7):

Instability, metastability and stability in phase transitions

Organized by Yongzhong Huo and Hui-Hui Dai

- 15:50--16:20 **Y. B. Zhen**
 Dynamics of steps along a martensitic phase boundary
Q. P. Sun
 16:25--16:55 Instability, domain evolution and hysteresis in a shape memory alloy plate: Roles of the material microstructure
 17:00--17:30 **Yong-Zhong Huo**
 Nucleation and growth in martensitic transformations

June 13 Parallel Session (E-7): Nonlinear Dynamics

Venue: Room F, Conference Center, Lansheng Hotel

Chairmen: R. B. Wang

- 15:50--16:05 **Ming Zhao, Ping Liang, Xin-feng Long**

- Forecasting corrosion depth based on maximum Lyapunov exponent
- 16:05--16:20 **Yan-ying Zhao, Jian Xu**
Vibration suppression in a two-degree-of-freedom vibration system using delayed feedback control
- 16:20--16:35 **Yu-bao Zhen, Anna Vainchtein**
Motion and nucleation of steps along phase boundary
- 16:35--16:50 **Jun Zhou, You-he Zhou**
A wavelet multi-resolution collocation method for nonlinear vibration of MDOF systems
- 16:50--17:05 **Jin Zhou**
Global synchronization in complex delayed dynamical networks
- 17:05--17:20 **J. Zhu, C. Q. Ru, A. Mioduchowski**
High-order subharmonic parametric resonance in comb-drive microbeam arrays
- 17:20--17:35 **Feng-de Zong, Zhi-liang Zhang, Yang Yang, Liu-de Zheng**
Influence of subharmonic resonance on a bubble driven by intensive sound during stable cavitation

June 13 Mini-symposium (F-7):

Lattice Boltzmann method and related topics

Organized by YueHong Qian

- 15:50--16:10 **Houhui Yi, Ding Li, Yanyan Chen, Huabing Li, Haiping Fang**
Lattice Boltzmann simulations of three-dimensional particles migration in a Poiseuille flow
- 16:10--16:30 **Qing Li, Peng Zhao, YueHong Qian**
Scientific visualization of LBM computation
- 16:30--16:50 **Zhaoli Guo, Chuguang Zheng**
Analysis of boundary conditions for lattice Boltzmann equation in simulating micro gas flows
- 16:50--17:10 **YueHong Qian, Lu-Bing Wang**
Simplicity and complexity in LBM
- 17:10--17:30 **Hua-bing Li, Hou-hui Yi, Xiao-wen Shan, Haiping Fang**
Shape changes and motion of a vesicle in a fluid using a lattice Boltzmann model
- 17:30--17:50 **Hou-hu Yi, Shi-xiong Xu, YueHong Qian, Haiping Fang**
Lattice Boltzmann simulation of the blood flow in blood vessels with the rolling Massage

18:00--19:10 Dinner

19:20 Leave for Evening Sightseeing with a Pujiang River Cruise

June 14 Thursday

8:00--10:15 Plenary Lectures

Venue: Conference Center, Lansheng Hotel

Chairmen: R. Grimshaw, Gao-Lian Liu

8:00--8:45 **Giuseppe Rega**

Nonlinear dynamics of sagged cables: A summary of recent theoretical and experimental research

8:45--9:30 **Wen-Rui Hu**

Two bifurcation processes for onset of oscillatory thermocapillary convection in a floating half zone

9:30--10:15 **Stuart S. Antman**

Quasistaticity

10:15--10:30 Coffee Break

10:30--12:00 Plenary Lectures

Chairman: A. Jeffrey

10:30--11:15 **Shi-Qiang Dai**

Density waves in traffic flows

10:15--12:00 **J. W. M. Bush**

Surface tension in biology

12:00--12:30 Closing Ceremony

Chairman: S. Q. Dai