

ThermaComp2011 – Conference Program

2nd International Conference on Computational Methods for Thermal Problems
Sept. 5-7, 2011, Dalian University of Technology, Dalian, China

Monday 5 September 2011

Morning

08:00 - 09:30	Registration
09:30 - 10:00	ThermaComp 2011 Opening
10:00 - 10:50	Plenary Lecture: Challenges in the accurate numerical simulation of practical thermal processes and systems Speaker: Yogesh Jaluria , Rutgers University, New Jersey, USA Chairman: Ping Cheng Venue: "Multi-purpose Hall" of Bo-Chuan Library
10:50 - 11:20	Coffee Break
11:20 - 12:00	Keynote Lecture: Micro/nano scale radiative heat transfer Speaker: Yimin Xuan , Nanjing University of Science & Technology, China Chairman: Hongwu Zhang Venue: "Multi-purpose Hall" of Bo-Chuan Library
12:00 - 13:00	Lunch

Monday 5 September 2011

Afternoon

13:00 - 13:50	Plenary Lecture: Surrogate-based modeling and dimension reduction techniques for thermo-fluid & energy systems Speaker: Wei Shyy , Hong Kong University of Science and Technology, China Chairman: Gengdong Cheng Venue: "Multi-purpose Hall" of Bo-Chuan Library
13:50 - 14:30	Keynote Lecture: An efficient immersed boundary method for simulation of heat and mass transfer problems Speaker: Chang Shu , National University of Singapore, Singapore Chairman: Nicola Massarotti Venue: "Multi-purpose Hall" of Bo-Chuan Library
14:30 - 15:00	Coffee Break

Monday 5 September 2011

Afternoon (Cont.)

15:00 - 17:05	MS: DISCRETIZATION METHODS FOR RADIATION DIFFUSION PROBLEMS AND RELATED APPLICATIONS Chairman: Guangwei Yuan & Xia Cui Venue: "ProMinent Hall-Meeting Room 1" of Bo-Chuan Library	MS: LATTICE BOLTZMANN METHOD FOR FLOW AND HEAT TRANSFER Chairman: Zhaoli Guo & Guihua Tang Venue: "Multi-purpose Hall" of Bo-Chuan Library	MS: THERMAL-RELATED STRUCTURAL DESIGN AND OPTIMIZATION Chairman: Gengdong Cheng & Shutian Liu Venue: "ProMinent Hall-Meeting Room 4" of Bo-Chuan Library
15:00 - 15:25	A linear reconstruction algorithm for anisotropic diffusion equations, Chang Lina, Yuan Guangwei	A lattice boltzmann model for variable coefficient elliptic equations, Feng Heying, Zhang Xiaoqing, Chen Huanxin	The optimization model of the heat conduction structure, Zhang Yongcun, Liu Shutian
15:25 - 15:50	Adaptive iteration acceleration for nonlinear parabolic-hyperbolic system, Cui Xia, Yuan Guangwei, Yue Jingyan	Extended thermodynamic approach for heat transfer in microfluidic structures, Zhai Guangxin, Tang Guihua, Tao Wenquan, Gu Xiaojun, Emerson David R.	A deep study on topology optimization of thermo-elastic problems, Zhang Weihong, Yang Jungang
15:50 - 16:15	Finite point method for diffusion equation on irregular computational domain, Lv Guixia, Shen Longjun, Wu Hao	Simulation of the miscible Rayleigh-Taylor instability with variable Prandtl numbers by lattice Boltzmann method, Liu Gaojie, Guo Zhaoli	Concurrent optimization of structure composed of porous ceramic with thermal and structural objectives, Yan Jun, Deng Jiadong, Cheng Gengdong
16:15 - 16:40	Fourth-order approximation for neumann boundary condition of heat conduction, Liao Honglin, Mao Lei	Numeric solutions of thermal problems governed by fractional diffusion, Voller Vaughan, Zielinski Dan P.	Deformation control of thin-walled structures by applied heat flux, Zhang Junhui, Xiang Zhihai, Liu Yinghua, Xue Mingde
16:40 - 17:05	Boundary element method for transient radiative-conductive coupled heat transfer, Gao Xiaowei, Wang Jing	High performance computation of incompressible flow by lattice boltzmann method on multi-node gpu cluster, Wang Xian, Aoki Takayuki	Temperature uniformity determination and optimization of drying ovens using experimentally validated cfd analysis and genetic algorithm, Smolka Jacek, Canibol Piotr, Olczek Piotr, Bulinski Zbigniew, Nowak Andrzej J., Rybarz Dawid
18:00 - 21:00	Dinner		

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Tuesday 6 September 2011

Morning

09:10 - 10:00	Plenary Lecture: Semi-empirical models for transient heat transfer of pin-fin heat sinks subjected to non-uniform hot jet heating Speaker: Tianjian Lu , Xi'an Jiaotong University, Xi'an, China Chairman: Yogesh Jaluria Venue: "Multi-purpose Hall" of Bo-Chuan Library		
10:00 - 10:30	Coffee Break		
10:30 - 11:10	Keynote Lecture: A meshless method for thermal problems: from theoretical developments to industrial applications Speaker: Bozidar Sarler , University of Nova Gorica, Slovenia Chairman: Chang Shu Venue: "Multi-purpose Hall" of Bo-Chuan Library		
11:10 - 12:25	MS: THERMO-MECHANICAL COUPLING OF INHOMOGENEOUS MEDIA AND COMPLEX STRUCTURES Chairman: Linzhi Wu Venue: "ProMinent Hall-Meeting Room 4" of Bo-Chuan Library	PS: CONDUCTION, CONVECTION, RADIATION Chairman: Kosov Vladimir Venue: "ProMinent Hall-Meeting Room 1" of Bo-Chuan Library	PS: NUMERICAL METHODS Chairman: Arpino Fausto Venue: "Multi-purpose Hall" of Bo-Chuan Library
11:10 - 11:35	On surface models with couplings among thermal, elastic and electric fields, Chen Weiqiu, Zhu Jun	A generalized Navier-Stokes constitution relation for multiscale gas flows, Guo Zhaoli, Zheng Chuguang	Spectral finite difference analysis of natural convection in a triply-connected region of a nearly parallel enclosure, Mochimaru Yoshihiro
11:35 - 12:00	Thermal-controlled release and absorption of a hybrid gel particle, Wu Zhen, Zhong Zheng	3D IHCP in pool boiling: mathematical formulation, efficient computational strategies and software tool, Heng Yi, Mhamdi Adel, Marquardt Wolfgang	Numerical analysis on melting in a cylindrical heat storage capsule, Sciacovelli Adriano, Verda Vittorio
12:00 - 12:25	Bounds on the effective thermal conductivity of composites with spherical inclusions, Wu Linzhi	Reconstruction of the Stefan-Boltzmann coefficients in the heat transfer process, Cheng Jin, Lu Shuai, Yamamoto Masahiro	Numerical solutions of double diffusion in cavities, Arpino Fausto, Carotenuto Alberto, Massarotti Nicola, Mauro Alessandro
12:25 - 13:30	Lunch		

Tuesday 6 September 2011

Afternoon

13:30 - 14:10	Keynote Lecture: Numerical modeling of coupled heat/mass transport and electrochemical reactions in fuel cells Speaker: Tianshou Zhao , Hong Kong University of Science and Technology, China Chairman: Francisco Chinesta Venue: "Multi-purpose Hall" of Bo-Chuan Library		
14:10 - 15:00	MS: THERMO-MECHANICAL COUPLING OF INHOMOGENEOUS MEDIA AND COMPLEX STRUCTURES Chairman: Linzi Wu Venue: "ProMinent Hall-Meeting Room 4" of Bo-Chuan Library	PS: CONDUCTION, CONVECTION, RADIATION Chairman: Heng Yi Venue: "ProMinent Hall-Meeting Room 1" Of Bo-Chuan Library	PS: NUMERICAL METHODS Chairman: Mauro Alessandro Venue: "Multi-purpose Hall" of Bo-Chuan Library
14:10 - 14:35	Similarity criteria for one dimensional transient with thermo-mechanical interaction, Zhang Xiaomin, Zhang Long, Zhang Peiyuan	Numerical modelling of gravitational convection in three-component gas mixtures in the cylindrical channel, Kosov Vladimir, Poyarkov Igor, Fedorenko Olga	High performance computing utilising fully explicit and semi-implicit characteristic based split (CBS) schemes for subject-specific modeling, Bevan Rhodri L.T., van Loon Raoul, Nithiarasu Perumal
14:35 - 15:00	Numerical simulation for thermal shock resistance of thermal protection materials considering different causative environments, Li Weiguo, Li Dingyu, Wang Ruzhuan, Fang Daining	Benchmark solution of 3D natural convection flows with surface radiation in air-filled cavity, Hu Liyuan, Xin Shihe, Chena Yvonne Chavez, Chergui Jalel, Quere Patrick Le	A generalized scheme of the Characteristic Based Split (CBS) algorithm for incompressible non-isothermal non-Newtonian fluid flows, Duan Qinglin, Li Xikui
15:00 - 15:30	Coffee Break		

Tuesday 6 September 2011

Afternoon (Cont.)

15:30 - 16:45	MS: THERMO-MECHANICAL COUPLING OF INHOMOGENEOUS MEDIA AND COMPLEX STRUCTURES Chairman: Linzhi Wu Venue: "ProMinent Hall-Meeting Room 4" of Bo-Chuan Library	PS: CONDUCTION, CONVECTION, RADIATION Chairman: Heng Yi Venue: "ProMinent Hall-Meeting Room 1" of Bo-Chuan Library	PS: NUMERICAL METHODS Chairman: Mauro Alessandro Venue: "Multi-purpose Hall" of Bo-Chuan Library
15:30 - 15:55	The thermal power around a blunt crack in elliptical inhomogeneity under electric loads at infinity, Song Haopeng, Gao Cunfa	Mixed convection flow in a vertical annulus filled with variable porous material, Kaurangini Muhammad Lawan, Jha Basant K.	Numerical simulation of flow inside differentially heated rotating cavity, Mandal Jadav Chandra, Sonawane Chandrakant
15:55 - 16:20	Waves in a rotating random weakly conducting weakly thermal magneto-viscoelastic medium, Bhattacharyya Rabindra Kumar, Bera Rasajit Kumar	Natural convection in vitreous humor during transpupillary thermotherapy (TTT) of human eye, Kumar Jha Kaushal, Sundarraj C., Arunn Narasimhan	A smoothed finite element method for heat transfer problems, Wu Shengchuan, Liu Guirong
16:20 - 16:45		Identification of heating source in an enclosure dynamically coupled with Thermal transport, Zhao Fuyun, Rank Ernst, Mundani Ralf-Peter, Frisch Jérôme, Liu Di, Wang Hanqing	Fast local transient solution of multi-layered micro-channel heat sink, Beh Shiao Lin, Tio Kek Kiong, Quadir Ghulam Abdul, Seetharamu Kankanahalli Narasimhashastry

18:00 - 21:00	Conference Banquet
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Wednesday 7 September 2011

Morning

09:10 - 10:00	Plenary Lecture: Steps towards a real time solution of fire in tunnels Speaker: Francisco Chinesta , UMR CNRS-Ecole Centrale de Nantes, France Chairman: W.Q.Tao Venue: "Multi-purpose Hall" of Bo-Chuan Library		
10:00 - 10:30	Coffee Break		
10:30 - 11:10	Keynote Lecture: Modeling of free surface flows: understanding falling drops Speaker: Gautam Biswas , Indian Institute of Technology Kanpur, Kanpur, India Chairman: Bozidar Sarler Venue: "Multi-purpose Hall" of Bo-Chuan Library		
11:10 - 12:25	PS: POWER PLANTS AND EQUIPMENT SIMULATION Chairman: Bevan Rhodri Venue: "ProMinent Hall-Meeting Room 4" of Bo-Chuan Library	PS: HEAT AND MASS TRANSFER IN POROUS MEDIA Chairman: Voller Vaughan Venue: "ProMinent Hall-Meeting Room 1" of Bo-Chuan Library	PS: NUMERICAL METHODS Chairman: Duan Qinglin Venue: "Multi-purpose Hall" of Bo-Chuan Library
	Numerical simulation of acoustic streaming in the piston-driven resonator by gas-kinetic BGK scheme, Feng Heying, Zhang Xiaoqing, Chen Huanxin, Peng Yehui	Turbulent reacting flow in radial porous combustors, de Lemos Marcelo J.S.	A robust artificial compressibility algorithm for turbulent incompressible flows in urban areas, Arpino Fausto, Buonanno G., Scungio M., Massarotti Nicola, Mauro Alessandro
	Particle deposition effects on heat transfer from a porous heat sink, Hooman Kamel, Odabae Mostafa, Tamayol Ali	Natural convection in a vertical porous annulus from two thermal sources, Do Younghae, Sankar M., Lopez Juan M.	On the small-scale anomalies in the scalar field in homogeneous and isotropic turbulence, Langella Ivan, Scalo Carlo, de Felice Giuseppe, Meola Carlo
	Numerical investigation on thermal stratification phenomenon in a shutdown cooling system piping, Kim Sun Hye, Sung Hee Dong, Kim Young Jin, Park Jung Soon, Choi Young Hwan	Influence of porosity and electrokinetic effects on flow through microchannels, Radha Narayanan	High order explicit solutions for transient incompressible flows, Arpino Fausto, Cortellessa Gino, Dell'isola Marco, Massarotti Nicola, Mauro Alessandro
12:25 - 13:30	Lunch		

13:30 - 14:10	Keynote Lecture: Multiscale simulations of heat transfer and fluid flow problems Speaker: Wenquan Tao , Xi'an Jiaotong University, Xi'an, China Chairman: P. Nithiarasu Venue: "Multi-purpose Hall" of Bo-Chuan Library		
14:10 - 15:50	PS: POWER PLANTS AND EQUIPMENT SIMULATION Chairman: Bevan Rhodri Venue: "ProMinent Hall-Meeting Room 4" of Bo-Chuan Library	PS: HEAT AND MASS TRANSFER IN POROUS MEDIA Chairman: Voller Vaughan Venue: "ProMinent Hall-Meeting Room 1" of Bo-Chuan Library	PS: NUMERICAL METHODS Chairman: Duan Qinglin Venue: "Multi-purpose Hall" of Bo-Chuan Library
14:10 - 14:35	Thermal modeling of power transformer radiators using a porous medium based CFD approach, Fdhila Rebei Bel, Kranenborg Jurjen, Laneryd Tor, Olsson Carl Olof, Samuelsson Bertil, Gustafsson Andreas, Lundin Lars Ake	A 3D mixed convection study in a porous cavity, Kumar Bayya Venkatesulu Rathish, Murthy S.V.S.S.N.V.G. Krishna	Analysis of flow and heat transfer characteristics in a square cavity with convective boundary condition, Aswatha As, Gowda C.J. Gangadhara, Seetharamu Kankanahalli Narasimhashastry
14:35 - 15:00	Finite element applications in heat exchangers, Seetharamu Kankanahalli Narasimhashastry	Explicit solutions for heat and fluid flow in cylindrical porous domains, Arpino Fausto, Carotenuto Alberto, Massarotti Nicola, Mauro Alessandro	Sheared vortex-induced vibration of a circular cylinder at low reynolds number, Singh Satya Prakash, Biswas Gautam
15:00 - 15:25	Performance evaluation of heat leak to the evaporator and the effect of longitudinal heat conduction from a counter-flow cryogenic heat exchanger using finite element method, Krishna Venkataram, Pradeep Hegde, Seetharamu Kankanahalli Narasimhashastry, Seetharam Tr	Double diffusive free convection process induced by boundary layer flow along a vertical surface in a doubly stratified fluid saturated porous medium with solet and dufour effects under MHD forces, Murthy S.V.S.S.N.V.G. Krishna, Magoules Frederic, Kumar Bayya Venkatesulu Rathish	
15:25 - 15:50	Effects of aspect ratio on natural convection in a vertical annulus embedded with porous medium with different types of cold wall boundary conditions, Mukesh Patil, Pradeep Hegde, Seetharam Tr, Seetharamu Kankanahalli Narasimhashastry		
15:50 - 16:15	Conference Closure		