

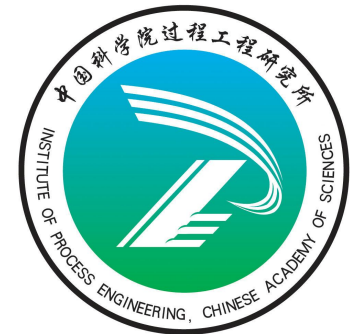
3rd International Conference on Multiscale Structures and Systems

— *a high level forum on multiscale science*

12-13 June, 2010

Process Engineering Plaza, Beijing, China

CONFERENCE PROGRAM (Preliminary)



Day 1- Saturday, 12 June 2010

8:00	Registration Lobby of Process Engineering Plaza, Institute of Process Engineering, Chinese Academy of Sciences
8:30	Opening remarks Prof. Jinghai Li (Vice President of Chinese Academy of Sciences)
8:50	Welcome address Prof. Suojiang Zhang (Director of Institute of Process Engineering, Chinese Academy of Sciences)

Academic Perspective (AP1 – AP6)

Chairs: Dr. Pradip (Tata R&D Design Centre) Dr. Shin G. Kang (ALSTOM Power Inc.)

9:00	Lecture AP1 Prof. Joachim Werther (Hamburg University of Technology) <i>The final goal of modeling: simulation of system and plant performance</i>
9:25	Lecture AP2 Prof. Richard Williams (University of Leeds) <i>Use of multiscale simulations in the design of nuclear plant decommissioning</i>
9:50	Lecture AP3 Prof. Jonathan Seville (University of Warwick) <i>Structures in fluidisation</i>

10:15 **MORNING TEA**

10:45	Lecture AP4 Dr. Madhava Syamlal (National Energy Technology Laboratory) <i>Multiscale modeling for accelerating the development of carbon capture technology</i>
11:10	Lecture AP5 Dr. Phil Schwarz (CSIRO Mineral) <i>Multi-scale modeling of minerals processing operations</i>
11:35	Lecture AP6 Prof. K.D.P Nigam (Indian Institute of Technology Delhi) <i>Flow in complex geometries</i>
12:00	Panel discussion (AP1 – AP6) Chair: Dr. Guoping Lian (Unilever)
12:30	LUNCH & Poster
Industrial Perspective (IP1 – IP7) Chairs: Prof. Joachim Werther (Hamburg University of Technology) Prof. Richard Williams (University of Leeds)	
13:30	Lecture IP1 Dr. Philippe RICOUX (TOTAL) <i>Some industrials Multifluids flows challenges in oil industry, upstream and downstream</i>
13:55	Lecture IP2 Dr. Shin G. Kang (ALSTOM Power Inc.) <i>Alstom CCS development and multiphase modeling</i>
14:20	Lecture IP3 Dr. Andrew Bayly (Proctor & Gamble) <i>Spray dried product design – an overview of modeling from micro to macro</i>

14:45	AFTERNOON TEA
15:15	Lecture IP4 Dr. Pradip (Tata R&D Design Centre) <i>Molecular dynamics simulations of self-assembly of surfactants at interfaces</i>
15:40	Lecture IP5 Dr. Guoping Lian (Unilever) <i>Optimal delivery of functional and healthy benefits from foods and personal care products – Challenges and opportunities in multiscale modeling</i>
16:05	Lecture IP6 Prof. Shaoping Zhu (Institute of Applied Physics and Computational Mathematics) <i>Computer Simulation on Laser Fusion</i>
16:30	Lecture IP7 Dr. Li Weng (National Institute of Clean and low Carbon Energy) <i>Lessons from the past, crafting the future: better understanding the process with EMMS modeling</i>
16:55	Panel discussion (IP1—IP7) Chair : Dr. Phil Schwarz (CSIRO Mineral)
17:25	Site visit to the multiscale HPC system at IPE and real-time demos of multiscale discrete simulation Prof. Wei Ge (Institute of Process Engineering, Chinese Academy of Sciences)

Day 2- Sunday, 13 June

Modeling & Application (MA1–MA3)

Chairs: Prof. Jonathan Seville (University of Warwick) Dr. Madhava Syamlal (National Energy Technology Laboratory)

9:00	Lecture MA1 Prof. Yilong Bai (Institute of Mechanics, Chinese Academy of Sciences) <i>A new and efficient simulation from molecules to continuum – Molecular/cluster statistical thermodynamics (MST/CST)</i>
9:25	Lecture MA2 Prof. Stefan Luding (University of Twente) <i>Multiscale phenomena in particle systems</i>
9:50	Lecture MA3 Prof. Shiyi Chen (Peiking University) <i>Multiscale simulation and modeling of fluid turbulence</i>
10:15	MORNING TEA
10:45	Lecture MA4 Prof. Junzhi Cui (Academy of Mathematics and System Sciences, Chinese Academy of Sciences) <i>The second-order two-scale computation for the physics and mechanical behaviors of FGM's structure with random distribution</i>
11:10	Lecture MA5 Prof. Aibing Yu (University of New South Wales) <i>Linking discrete particle simulation to continuum process modelling for granular matter: theory and application.</i>
11:35	Lecture MA6 Prof. Kai H Luo (University of Southampton, UK) <i>Multiscale simulation of multiphysics processes in thermal fluids engineering</i>

12:00	Panel discussion Chair: Prof. Ulrich Ruede (University of Erlangen)
12:30	LUNCH & Poster
Many Core & Parallel Computation (MCPC1-MCPC7) Chairs: Prof. Aibing Yu (University of New South Wales) Prof. Stefan Luding (University of Twente)	
13:30	Lecture MCPC1 Prof. Ulrich Ruede (University of Erlangen) <i>Petascale computing for the direct numerical simulation of particle laden flows</i>
13:55	Lecture MCPC2 Prof. Zeyao Mo (Institute of Applied Physics and Computational Mathematics) <i>Largescale parallel programming demands a new paradigm</i>
14:20	Lecture MCPC3 Prof. Tetsuya Sato (University of Hyogo) <i>Macro-Micro Interlocked Algorithm and Problem-Posing simulation</i>
14:45	AFTERNOON TEA
15:15	Lecture MCPC4 Prof. Rainer Spurzem (Heidelberg University) <i>Computational astrophysics in China and Germany with many-core accelerators (GPU, FPGA)</i>
15:40	Lecture MCPC5 Prof. Wenguang Chen (Tsinghua University) <i>Write once, run anywhere : programming GPUs beyond CUDA</i>

16:05	Lecture MCPC6 Dr. Hatem Ltaief (University of Tennessee) <i>High performance dense linear algebra algorithms on multicores with GPU accelerators</i>
16:30	Lecture MCPC7 Dr. Christoph Müller (ETH Zurich, Switzerland) <i>Discrete particle model simulations –validation and analysis</i>
16:55	Panel discussion: Chair: Prof. Wei Ge