

**The 21st Century COE Program for Research and Education  
on Complex Functional Mechanical Systems**

# **Kyoto- Seoul National- Tsinghua University Thermal Engineering Conference, 2004**

December 14 - 16, 2004

Kyoto University Centennial Clock Tower Memorial Hall



Conference Co-Chairpersons:

Makino, Toshiro	Kyoto University
Lee, Joon Sik	Seoul National University
Li, Zhi-Xin	Tsinghua University

Sponsored by

The 21st Century COE Program for Research and Education  
on Complex Functional Mechanical Systems

## PROGRAM

### December 14, Tuesday, 2004

09:00 - 09:20 **Registration**

09:20 - 09:40 **Opening & Introductio**

< *break* >

09:50 - 11:30 **Session 1**

Joon Sik Lee\*: Recent Progresses in Micro/Nanoscale Transport Modeling

Zeng-Yuan Guo and Xin-Gang Liang\*: Thermal Mass and Thermal Force

Atsumasa Yoshida\*: Measurement on Thermophysical Properties of Thin Solid Materials by  
Photo-Acoustic Method

Junghoon Lee\*: Nano Assembly: New Paradigms and Applications

< *Lunch* >

13:00 - 14:15 **Session 2**

Kouji Nagata\*, Fumihiko Sagara and Satoru Komori: A New Method to Generate Stationary,  
Homogeneous and Isotropic Turbulence Using Townsend's Eddy Forcing and Its Application to  
Blocking Effects in Turbulent Boundary Layer

Ji-An Meng\* and Zeng-Yuan Guo: Optimization for Laminar Convection Heat Transfer

Tomoaki Kunugi\*, Zensaku Kawara and Yasuharu Okamoto: Heat Transfer Enhancement by  
Nano- and Micro-Scale Porous Layer

< *break* >

14:35 - 15:25 **Session 3**

David M. Christopher\*: Moving Vapor Bubbles Dynamics on Microwires

Mitsuhiro Matsumoto\*, Hidenobu Wakabayashi and Toshiro Makino: Dynamics of Micro/Nano  
Bubbles

< *break* >

15:45 - 16:35 **Session 4**

J. H. Jeong, Y. S. Woo and Woo Il Lee\*: Analysis of Nano-Imprint-Lithography Process Using  
Continuum Hypothesis

Peng Xiao\* and Zhi-Xin Li: Molecular Dynamics Simulation on Thermal Conductivity of  
Single-Crystal Silicon Thin Film at Nanoscale

< *break* >

17:40 - 19:30 **Welcome Party** at Kyoto University Centennial Clock Tower Memorial Hall

### December 15, Wednesday, 2004

09:20 - 10:35 **Session 5**

Kahp Y. Suh\*, Pilnam Kim and Hong H. Lee: Capillary Kinetics of Thin Polymer Films in  
Permeable Microcavities

Zensaku Kawara\* and Akimi Serizawa: Recent Study on Two-Phase Flow in Microchannels

Wei Wang and Zhi-Xin Li\*: Thermal Design and Experiments of Droplet-Based Micro  
Oscillating-Flow PCR Chip

< *break* >

10:50 - 11:40 **Session 6**

Daisuke Yamashita, Keisuke Kuwabara, Kazuya Tatsumi and Kazuyoshi Nakabe\*: Use of Micro Gas Turbine System for Alternative-Fuel-Supplied Operation and Mechanical Engineering Education

Shu-Ye Lei\*: Extraordinary Phenomena in Porous Media

< *Lunch* >

13:10 - 14:00 **Session 7**

Seho An, Kun Joong Park and Seung Jin Song\*: SNU Micro Power Device Research

Yutaka Oda\* and Hideo Yoshida: Numerical Simulation of Micro- to Milli-Scale Thermoelectric Power Generator with Rectangular-Fin Type Elements

< *break* >

14:05-14:25 **Closing & Announcement**

< *move to the museum* >

15:00-16:00 **Museum Visit** Kyoto University Museum

Toshiro Makino\*: Exhibition and Interactive Experiments for Visualization of Thermodynamics and Heat Transfer

**December 16, Thursday, 2004**

13:30-16:15 **Technical Tour** Shimadzu Corporation <http://www.shimadzu.com/>

## **PARTICIPANTS**

### **Tsinghua University**

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