

**THE SIXTH INTERNATIONAL NOBEYAMA WORKSHOP
ON THE NEW CENTURY OF COMPUTATIONAL FLUID DYNAMICS
April 21-24, 2003 at Nobeyama, Japan**

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Honorary Chairman: Prof. Kunio Kuwahara
The Institute of Space and Astronautical Science
in celebration of his 60th birthday

PROGRAM

Chairpersons:
Prof. Kozo Fujii, The Institute of Space and Astronautical Science
and
Prof. Kazuhiro Nakahashi, Tohoku University

April 21 (Monday)

Afternoon Session 1 (14:30-15:30) Z. J. Wang (Michigan State Univ.)

- 21-1-1 Peter R. Eiseman (Program Development Company)
 Grid Topology Automation
- 21-1-2 Kazuhiro Nakahashi (Tohoku University)
 Unstructured Mesh Generation for High-Fidelity Geometry CFD

Coffee Break (15:30-15:50)

Afternoon Session 2 (15:50-16:50) K. N. Ghia (Univ. of Cincinnati)

- 21-2-1 Jay P. Boris (US Naval Research Laboratory)
 Computational Fluid Dynamics for Nanoscale Atmospheric Modeling
- 21-2-2 Ken Naitoh (Yamagata University)
 An approach on DNA computing using actual living organism

April 22 (Tuesday)

Morning Session 1 (09:00-10:00) S. Obayashi (Tohoku Univ.)

- 22-1-1 Kunio Kuwahara (The Institute of Space and Astronautical Science)
Development of Implicit Large Eddy Simulation

Coffee Break (10:00-10:20)

Morning Session 2 (10:20-11:50) E. S. Oran (US Naval Research Lab.)

- 22-2-1 Jaw-Yen Yang (National Taiwan University)
An Efficient Spectral Collocation Method with Domain Decomposition for Optical Waveguides Analysis
- 22-2-2 Katsuya Ishii (Nagoya University)
Flow Simulation Using Combined Compact Difference Scheme with Spectral-like Resolution
- 22-2-3 Z. J. Wang (Michigan State University)
A new high-order finite volume method for the Euler equations on triangular grids

Lunch Time (11:50-14:00)

Afternoon Session 1 (14:00-15:30) U. Ghia (Univ. of Cincinnati)

- 22-3-1 Kirti N. Ghia (University of Cincinnati)
Large-Eddy Simulation of Separated Flows inside Turbomachinery Cascades
- 22-3-2 Ho Sang Kwak (Kumoh National Inst. of Tech.) and Jae Min Hyun (Korea Advanced Inst. of Science and Tech.)
Numerical simulations of time-dependent buoyancy-driven convection in an enclosure
- 22-3-3 Kozo Fujii (The Institute of Space and Astronautical Science)
Some Remarks on the Reliability of CFD Simulations in Aerospace
(How can we trust CFD simulation result?)

Coffee Break (15:30-15:50)

Afternoon Session 2 (15:50-16:50) J. M. Hyun (KAIST)

- 22-4-1 Shigeru Obayashi (Tohoku University)
Evolutionary Multi-objective Optimization and Visualization
- 22-4-2 Urmila Ghia (University of Cincinnati)
On Fluid-Structure Interactions

April 23 (Wednesday)

Morning Session 1 (09:00-10:00) J. Y. Yang (National Taiwan Univ.)

- 23-1-1 Takuya Matsuda (Kobe University)
 Source-sink flow on a rotating stellar surface
- 23-1-2 Elaine S. Oran (US Naval Research Laboratory)
 Numerical Simulation of the Deflagration State of Type Ia Supernovae

Coffee Break (10:00-10:20)

Morning Session 2 (10:20-11:50) N. J. Zabusky (Rutgers Univ.)

- 23-2-1 Ryutaro Himeno (Institute of Physical and Chemical Research)
 Computation of Flows around a Baseball
- 23-2-2 Matthias Meinke (RWTH Aachen)
 Some Aachen Contributions to Computations of Vortical Flows
- 23-2-3 Reima Iwatsu (Tokyo Denki University)
 Vortex breakdown flows in cylindrical geometry

Lunch Time (11:50-14:00)

Afternoon Session 1 (14:00-15:30) J. C. Hill (Iowa State Univ.)

- 23-3-1 Osamu Inoue (Tohoku University)
 Direct Numerical Simulation of Acoustic Field
- 23-3-2 Kiyoshi Horiuchi (Tokyo Institute of Technology)
 A process for formation of turbulent structures along the vortex sheet
- 23-3-3 Tetsuya Kawamura (Ochanomizu University)
 Numerical simulation of formation and movement of various sand dunes

Coffee Break (15:30-15:50)

Afternoon Session 2 (15:50-17:20) K. Fujii (ISAS)

- 23-4P Panel discussion:
 "CFD in Future: Structured overset, Unstructured, or Cartesian?"
 Kunio Kuwahara (ISAS), Kazuhiro Nakahashi (Tohoku Univ.)
 Ryutaro Himeno (RIKEN), Z. J. Wang (Michigan State Univ.)

 (Possible speakers for 5-10 minutes)

April 24 (Thursday)

Morning Session 1 (09:00-10:00) P. R. Eiseman (PDC)

- 24-1-1 Norman J. Zabusky (Rutgers University)
 Science and Art of Fluid Motion
- 24-1-2 Hideo Miyachi (KGT Inc.)
 Parallel Visualization Systems

Coffee Break (10:00-10:20)

Morning Session 2 (10:20-11:50) J. P. Boris (US Naval Research Lab.)

- 24-2-1 James C. Hill (Iowa State University)
 Computational Challenges in Chemical Reaction Engineering: Turbulent Mixing
 with Chemical Reaction
- 24-2-2 Nobuyasu Ito (The University of Tokyo)
 Statistical Physics Approach for Multiphase Flow Simulation
- 24-2-3 Keisuke Sawada (Tohoku University)
 Fully Conservative Algorithm for Capturing Contact Surface