

RIMS Workshop  
on  
Mathematical Analysis in Fluid and Gas Dynamics

Organizers Takayuki Kobayashi  
(Osaka University)  
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(Keio University)

Date : from July 8 to 10, 2015

Venue : RIMS, Kyoto University, Room No. 420

Program

Wednesday, July 8

- 14 : 00 ~ 14 : 50    Tetsu Mizumachi (Hiroshima University)  
On stability of line solitons for the KP-II equation
- 15 : 00 ~ 15 : 50    Bongsuk Kwon (UNIST, Korea)  
Transition fronts in Cahn-Hilliard systems
- 16 : 10 ~ 17 : 00    Hiroaki Yoshida (Toyota Central R&D Labs.)  
Analysis of electro-osmotic flows in micro-channels with undulated surfaces

Thursday, July 9

- 10 : 00 ~ 10 : 50    Tsuyoshi Yoneda (Tokyo Inst. Tech.)  
Loss of continuity of the solution map for the Euler equations using large Lagrangian deformation.
- 11 : 00 ~ 11 : 30    Kazuyuki Tsuda (Kyushu University)  
Time-periodic problem for the compressible Navier-Stokes-Korteweg system on  $\mathbf{R}^3$

- 11 : 40 ~ 12 : 10 Hirokazu Saito (Waseda University)  
Global solvability of the Navier-Stokes equations with a free surface
- 14 : 00 ~ 14 : 50 Taku Yanagisawa (Nara Women's University)  
On the stability of stationary solutions to the MHD equations with large boundary data
- 15 : 00 ~ 15 : 50 Cheng-Jie Liu (City University of Hong Kong, China)  
Some results on the three-dimensional Prandtl equations and boundary layers of compressible fluids
- 16 : 10 ~ 17 : 00 Yoshihiro Shibata (Waseda University)  
On the two-phase problem of viscous fluid

Friday, July 10

- 10 : 00 ~ 10 : 50 Daisuke Tagami (Kyushu University)  
Some investigations into finite element methods for viscoelastic flow problems
- 11 : 00 ~ 11 : 50 Makoto Iima (Hiroshima University)  
Spatially localized patterns of bioconvection generated by collective photomovement of *Euglena gracilis*
- 13 : 30 ~ 14 : 00 Noboru Chikami (Tohoku University)  
On the solvability of Navier-Stokes-Poisson system in two and higher dimension
- 14 : 10 ~ 14 : 40 Naofumi Mori (Tohoku University)  
Global existence and optimal decay rates of solutions to the classical Timoshenko system in the framework of Besov spaces
- 14 : 50 ~ 15 : 40 Yoshitaka Yamamoto (Osaka University)  
Existence of unbounded solutions to the isentropic  $p$ -system with a self-gravitational term