

Bifurcation Governed by Partial Differential Equations

Date: December 20 – 21, 2022
Venue: Green Computing System Research Organization in
Waseda University, Tokyo, Japan

Main Lectures

Tayfun E. Tezduyar “Physical Instabilities in Computational Flow Analysis”
Takaaki Nishida “A Route to Chaos in the Rayleigh-Benard Heat Convection Problem”
(Chun-Hsiung Hsia and Takaaki Nishida)

Schedule

December 20

- 14:40 – 14:50 Opening
- 14:50 – 15:50 Main Lecture by Professor Tezduyar
- 16:00 – 16:30 Yang Liu, Carrier-Domain Method for high-resolution computation of time-periodic long-wake flows
- 16:30 – 17:00 Takahiro Nakamura, Bubble Generation in Water: A Formulation Based on the Homogeneous Nucleation Theory
- 17:10 – 17:40 Masahito Watanabe, Bifurcations of periodic orbit in perturbed Rayleigh-Benard convection
- 17:40 – 18:10 Jumpei Inoue and Homare Sato, Coexistence and segregation in the stationary SKT model
- 18:10 – Evening meeting

December 21

- 10:30 – 11:30 Main Lecture by Professor Nishida
- 12:00 – 12:50 Lunch Meeting
- To advance numerical methods for bifurcating problems**
- 13:00 – 13:10 Overview (Kenji Takizawa, Waseda University)
- 13:10 – 13:50 Pure Mathematics (Takayuki Kubo, Ochanomizu University)
- 13:50 – 14:30 Applied Mathematics (Takahito Kashiwabara, The University of Tokyo)
- 14:40 – 15:20 Data Science (Hirofumi Notsu, Kanazawa University)
- 15:20 – 16:00 Computational Mechanics (Yuto Otoguro, Tokyo University of Science)
- 16:00 – 16:30 Discussions
- 16:30 – 16:40 Closing

