Computational and Geometric Approaches for Nonlinear Phenomena

Date: August 5–7, 2015

Location: Meeting Room 04, 05 (2nd floor) at Building No. 63
Waseda University, 3-4-1 Okubo, Shinjuku-ku, Tokyo

Wednesday, August 5

12:30–13:20 Hiroyuki Ochiai (Kyushu University)
Computer graphics and mathematics

13:30–14:20 Kenji Kajiwara (Kyushu University)
Integrable deformations of discrete curves

14:30–15:20 Tomohiro Yanao (Waseda University)
Roles of geometric phases in conformational transitions of molecular systems

15:30–16:20 Mathilde Badoual (University of Paris-Sud)
Modeling homotypic and heterotypic cell interactions in gliomas

16:30–17:20 Yoichi Nakata (University of Tokyo)
Gaps on the flow of the simplified path-preference cellular automaton model

17:30–18:20 Tatsuya Hayashi (University of Tokyo)
Integrate and fire model with refractory period for synchronization of two cardiomyocytes

Thursday, August 6

9:20–10:10 Mariusz Bialecki (Institute of Geophysics, Polish Academy of Sciences)
Random Domino Automaton with short range interactions

10:20–11:10 Akiko Fukuda (Shibaura Institute of Technology)
Computation of eigenpairs based on the discrete integrable systems of hungry type

11:20—12:10 Narimasa Sasa (Japan Atomic Energy Agency)
Momentum conservation law in symplectic integrators for PDEs

12:10-13:30 Lunch Time

13:30–14:20 G.R.W. Quispel (LaTrobe University)
Geometric numerical integration of integrable and non-integrable differential equations

14:30–15:20 Takaharu Yaguchi (Kobe University)
Numerical integrations that preserve energy behaviors using the variational principle

15:30–16:20 Shigetoshi Yazaki (Meiji University)
Structure-preserving numerical scheme for Hele-Shaw flows by the method of fundamental solutions combined with the uniform distribution method

16:30–17:20 Nobito Yamamoto (University of Electro-Communications)
How to construct Lyapunov functions in dynamical systems by validated computation

Friday, August 7

9:20–10:10 Adam Doliwa (University of Warmia and Mazury)
Non-commutative q-P-VI

10:20–11:10 Anton Dzhamay (University of Northern Colorado)
Higher-rank Schlesinger transformations and difference Painlevé equations

11:20–12:10 Folkert Müller-Hoissen (Max-Plank-Institute for Dynamics and Self-Organization)
The combinatorial structure underlying simplex equations, and generalizations of the pentagon equation