

A3 Workshop on Applied Inverse Problems and Related Topics

Date: November 28 (Tue.) – November 30 (Thu.), 2017

Venue: Lecture Hall, Graduate School of Mathematical Sciences, Komaba Campus, The University of Tokyo

Supported by the A3 Foresight Program “Modeling and Computation of Applied Inverse Problems” (JSPS, NSFC, NRF), Grant-in-Aid for Scientific Research (S) 15H05740 (JSPS), Sakura Science Plan S2017F0731461 (JST) and Leading Graduate Course for Frontiers of Mathematical Sciences and Physics.

Program

November 28 (Tue.)

10:30-11:15 Registration

11:15-11:20 Opening address

Tiangang Lei (National Natural Science Foundation of China)

11:20-12:05 Gang Bao (Zhejiang University)

Progress and challenges in scattering and inverse scattering problems

12:05-14:30 Lunch break

14:30-15:15 Yoko Hoshi (Hamamatsu University School of Medicine)

Estimation of optical properties of rat and monkey brains from in situ femtosecond time-resolved measurements

15:15-15:45 Group photo & coffee break

15:45-16:30 Hiroshi Fujiwara (Kyoto University)

Quantitative simulation of light emitting by optical fibers in the radiative transport equation

16:30-17:15 Manabu Machida (Hamamatsu University School of Medicine)

Coefficient inverse problems for the time-fractional linear Boltzmann equation

17:15-17:45 Yuko Hatano (Tsukuba University)

Long-term atmospheric contaminations of the Fukushima accident

18:00-19:30 Banquet (common room)

November 29 (Wed.)

- 10:00-10:45 Johannes Elschner (Berlin)
Acoustic scattering from corners, edges and conic points
- 10:45-11:30 Jialin Hong (Chinese Academy of Sciences)
Stochastic symplectic methods for stochastic Schrödinger equation
- 11:30-13:30 Lunch break
- 13:30-14:15 Jin Cheng (Fudan University)
Some results on unique continuation
- 14:15-15:00 Won-Kwang Park (Kookmin University)
Real-time detection of moving anomaly in microwave tomography: analysis and real-data experiment
- 15:00-15:30 Coffee break
- 15:30-16:15 Jijun Liu (Southeast University)
On fluorescence imaging: diffusion equation model and non-uniqueness of the inverse problem
- 16:15-17:00 Hiromichi Itou (Tokyo University of Science)
On inverse problems of a crack and a cavity in linearized elasticity
- 17:00-18:00 Free discussion

November 30 (Thu.)

- 10:00-10:45 Shuai Lu (Fudan University)
On parameter identification in linear stochastic differential equations by Gaussian statistics
- 10:45-11:30 Xiang Xu (Zhejiang University)
Inverse random source problem on biharmonic equation
- 11:30-13:20 Lunch break
- 13:20-17:00 **Short communications**
- 13:20-13:40 Zewen Wang (East China University of Technology)
Multivariate numerical derivative by solving an inverse heat source problem
- 13:40-14:00 Takahito Kashiwabara (The University of Tokyo)
Finite element method for slip and leak boundary conditions of friction type
- 14:00-14:20 Wen Zhang (East China University of Technology)
A two-dimensional, two free-interface problem in combustion
- 14:20-14:40 Hongxiang Lin (The University of Tokyo)
Towards the discretization aspects on the adjoint approach of photoacoustic tomography
- 14:40-15:00 Jianhua Zhang (East China University of Technology)
A new iterative method for solving complex symmetric linear systems
- 15:00-15:20 Coffee break
- 15:20-15:40 Jun-Yong Eom (Tohoku University)
Reconstruction of the shear modulus of viscoelastic systems in a thin cylinder
- 15:40-16:00 Zhousheng Ruan (East China University of Technology)
Simultaneous inversion of the fractional order and the space-dependent source term for the time-fractional diffusion equation
- 16:00-16:20 Suguru Maekawa (Kyoto University)
Coefficient reconstruction in time harmonic viscoelastic equation for MR elastography by multiscale algorithm
- 16:20-16:40 Yunliang Zhang (East China University of Technology)
Two class of non-Newtonian fluids underground state
- 16:40-17:00 Hiroshi Takase (The University of Tokyo)
Inverse problem related to the St. Venant equation for one dimensional water flow
- 17:00-17:10 Closing address
Masahiro Yamamoto (The University of Tokyo)

Facility & Equipments during Workshop

- **Wi-Fi connection**

ONLY eduroam is available. Due to the regulation, we cannot provide other internet connection for participants.

- **Facility for speakers**

A pointer, a standard VGA connector and a common laptop will be provided.

If you will use your own laptop which does not have a VGA connector, please prepare an adaptor by yourself (esp. Mac users).

If you will use the common laptop, please prepare the file in your USB memory.

- **Discussion room**

A seminar room for free discussion will be provided every day.

Nov. 28 (Tue.): Room 052

Nov. 29 (Wed.): Room 470

Nov. 30 (Thu.): Room 052

- **Print, copy and library**

Please ask anyone affiliated to the host institute.