

International Symposium on Theories and Methodologies for Large Complex Data

November 21-23, 2019

Venue:

Conference Room 406, Tsukuba International Congress Center
2-20-3 Takezono, Tsukuba, Ibaraki 305-0032, Japan

Organizers:

Makoto Aoshima (University of Tsukuba)
Mika Sato-Ilic (University of Tsukuba)
Kazuyoshi Yata (University of Tsukuba)
Aki Ishii (Tokyo University of Science)

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“Theories and methodologies for large complex data”
(Principal Investigator: Makoto Aoshima)

Grant-in-Aid for Challenging Research (Exploratory) 19K22837 (Project Period: 2019-2021)
“Tackling individualized modeling with ultra-high dimensional data”
(Principal Investigator: Makoto Aoshima)

Program

November 21 (Thursday)

14:00~14:10 Opening

14:10~14:50 Aki Ishii^{*,a}, Kazuyoshi Yata^b and Makoto Aoshima^b

^a(Department of Information Sciences, Tokyo University of Science)

^b(Institute of Mathematics, University of Tsukuba)

Tests for high-dimensional covariance structures under the SSE model

15:00~15:40 Takahiro Nishiyama^{*,a}, Masashi Hyodo^b and Tatjana Pavlenko^c

^a(Department of Business Administration, Senshu University)

^b(Department of Mathematical Sciences, Osaka Prefecture University)

^c(Department of Mathematics, KTH Royal Institute of Technology)

On error bounds for high-dimensional asymptotic distribution of L_2 -type test statistic

15:55~16:35 Hiroumi Misaki (Faculty of Engineering, Information and Systems, University of Tsukuba)

Financial risk management with high-frequency data

(* Speaker)

16:45~17:25 Junichi Hirukawa^{*,a} and Kou Fujimori^b

^a(Faculty of Science, Niigata University)

^b(School of Fundamental Science and Engineering, Waseda University)

Weak convergence of the partial sum of $I(d)$ process to a fractional Brownian motion in finite interval representation

November 22 (Friday)

9:20~10:00 Kengo Kamatani (Graduate School of Engineering Science, Osaka University, and JST CREST)

High-dimensional analysis of the piecewise deterministic Markov process for Bayesian inference

10:10~10:50 Shogo Kato^{*,a} and Peter McCullagh^b

^a(The Institute of Statistical Mathematics)

^b(Department of Statistics, University of Chicago)

A Cauchy family derived by the Möbius transformations of the sphere

11:00~17:35 **Special Invited and Keynote Sessions**

18:30~ Dinner

November 23 (Saturday)

9:20~10:00 Shota Katayama (Faculty of Economics, Keio University)

Direct estimation of conditional averaging treatment effect in high dimensions

10:10~10:50 Kei Hirose^{a,*} and Hiroki Masuda^b

^a(Institute of Mathematics for Industry, Kyushu University)

^b(Faculty of Mathematics, Kyushu University)

Statistical modeling for electricity load forecasting

11:00~11:40 Takuma Bando^a, Tomonari Sei^{*,a} and Kazuyoshi Yata^b

^a(Graduate School of Information Science and Technology, University of Tokyo)

^b(Institute of Mathematics, University of Tsukuba)

Consistency of the objective general index in high dimensional settings

11:40~ 11:50 Closing

(* Speaker)

Special Invited Session

11:00~11:50 **Data beyond the euclidean space**

Speaker: Jörn Schulz

(Department of Electrical engineering and Computer science, University of Stavanger)

Chair: Shogo Kato (The Institute of Statistical Mathematics)

11:50~13:15 Lunch

13:15~14:05 **Change points detection and identification for high dimensional dependent data**

Speaker: Ping-Shou Zhong

(Department of Mathematics, Statistics, and Computer Science, University of Illinois at Chicago)

Chair: Fumiya Akashi (Graduate School of Economics, University of Tokyo)

14:15~15:05 **Towards a sparse, scalable, and stably positive definite (inverse) covariance estimator**

Speaker: Joong-Ho (Johann) Won

(Department of Statistics, Seoul National University)

Chair: Shota Katayama (Faculty of Economics, Keio University)

Keynote Session

15:20~16:20 **A two-stage dimension reduction method and its applications on highly contaminated image sets**

Speaker: I-Ping Tu

(Institute of Statistical Science, Academia Sinica)

Discussion Leader: Yuan-Tsung Chang (Department of Social Information, Mejiro University)

16:35~17:35 **Sample covariance matrices from “bad populations”**

Speaker: Jeff Yao

(Department of Statistics and Actuarial Science, The University of Hong Kong)

Discussion Leader: Kazuyoshi Yata (Institute of Mathematics, University of Tsukuba)