Mathematical optimization and statistical theories using geometric methods

Date : October 20–21, 2022 (Japan Standard Time)
Venue : Academic Extension Center (Osaka Metropolitan University)
Contents : Workshop (Hybrid: physical/virtual)

- This workshop is held as a part of OCAMI Joint Usage/Research (JPMXP0619217849)
"MEXT Joint Usage/Research Center on Mathematics and Theoretical Physics"

- This workshop is also supported by Japan Science and Technology Agency, CREST
"Innovation of Deep Structured Models with Representation of Mathematical Intelligence" in "Creating information utilization platform by integrating mathematical and information sciences, and development to society"

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Program

- October 20 (Thursday)

13:00–13:50 **Shoji Toyota** (SOKENDAI)
Invariance Learning based on Label Hierarchy

14:00–14:50 **Sho Sonoda** (RIKEN AIP)
Ridgelet Transforms for Neural Networks on Manifolds and Hilbert Spaces

15:00–15:50 **Tomonari Sei** (The University of Tokyo)
Ushio Tanaka (Osaka Metropolitan University)
Stein-type distributions on Riemannian manifolds

16:10–17:00 **Tomasz Skalski** (Wroclaw University of Science and Technology: LAREMA, University of Angers)
On LASSO and SLOPE estimators and their pattern recovery

17:10–18:00 **Carlos Amendola Ceron** (Technical University of Berlin)
Likelihood geometry of correlation models

- October 21 (Friday)

9:00– 9:50   **Piotr Zwiernik** (University of Toronto)
Mixed convex exponential families and locally associated graphical models

11:00–11:50   **Koichi Tojo** (RIKEN Center for Advanced Intelligence Project)
Classification problem of invariant q-exponential families on homogeneous spaces

13:50–14:40   **Yoshihiko Konno** (Osaka Metropolitan University)
Adaptive shrinkage of singular values for a low-rank matrix mean when a covariance matrix is unknown

14:50–15:40   **Satoshi Kuriki** (The Institute of Statistical Mathematics)
Expected Euler characteristic heuristic for smooth Gaussian random fields with inhomogeneous marginals

16:00–16:50   **Piotr Graczyk** (LAREMA, University of Angers)
Pattern recovery by SLOPE