

Singularity theory and its applications



RIMS-Sing 1 Workshop

Date : October 3rd (Monday), 2022 – October 5th (Wednesday), 2022
Venue : Room 420, Research Institute for Mathematical Sciences, Kyoto University, Japan.
HP : <http://www.math.kobe-u.ac.jp/HOME/saji/math/conf2022/spmon/index.html>

[Program]

October 3rd

- 10:30–10:40 Opening
- 10:40–11:30 Takashi Nishimura (Yokohama National University)
What is an envelope created by a line family in the plane?
- 13:30–14:20 Goo Ishikawa (Hokkaido University)
Legendre singularities of sub-Riemannian geodesics
- 14:40–15:30 Maciej Denkowski (Jagiellonian University) [Zoom]
Medial axes and singularity theory
- 15:50–16:40 Tomasz Pelka (Basque Center for Applied Mathematics) [Zoom]
Equimultiplicity of μ -constant families

October 4th

- 9:30–10:20 ~~Victor Goryunov (University of Liverpool) [Cancel]~~
~~**Families of skew-symmetric matrices of even size**~~
- 10:40–11:30 Naoki Kitazawa (Kyushu University) [Zoom]
Round fold maps and construction of ones on some manifolds
- 13:30–14:20 Naomichi Nakajima (Hokkaido University)
Information geometry from singularity theory viewpoint
- 14:40–15:30 Maxim Laurentiu (University of Wisconsin-Madison) [Zoom]
Singularities and Optimization
- 15:50–16:40 Miruna-Stefana Sorea (SISSA) [Zoom]
Poincare-Reeb graphs of real algebraic domains

October 5th

- 9:30–10:20 Sanchez Quiceno Eder Leandro (ICMC, USP) [Zoom]
**Topology of mixed polynomials with
a Newton inner non-degenerate boundary**
- 10:40–11:30 Piotr Mormul (University of Warsaw)
Weak and strong nilpotency of geometric distributions
- 13:30–14:20 Kyoya Hashibori (Hokkaido University)
Gauss-Bonnet type theorems for front bundles and their applications
- 14:40–15:30 Yanlin Li (Hangzhou Normal University) [Zoom]
**Evolutoids and pedaloids of curves from viewpoint
of singularity theory and envelope theory**
- 15:50–16:40 Victor Goryunov (University of Liverpool) [Zoom]
Families of skew-symmetric matrices of even size

* All times are Japan Standard Time (JST).

Videos in HP during the period of the workshops RIMS-Sing 1 to RIMS-Sing 4:

- Shinichi Tajima (Niigata University)
**A deterministic method for computing Chern-Schwartz-MacPherson classes of
a family of singular projective varieties with deformation parameters**
- Masato Tanabe (Hokkaido University)
Structure of orbit spaces of definable groupoids
- Kerner Dmitry (Ben-Gurion University of the Negev)
Characteristic-free approach to left-right equivalence of $\text{Maps}((k^n, o), (k^p, o))$

Organizers:

Kentaro Saji (Kobe University),

Masatomo Takahashi (Muroran Institute of Technology),

Minoru Yamamoto (Hirosaki University),

Takahiro Yamamoto (Tokyo Gakugei University),

Kaoru Ono (Kyoto University, Research Institute for Mathematical Sciences).