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RESEARCH INTERESTS

Combinatorics, Hyperplane arrangements,

EDUCATION

2016 Apr-2020 Mar B.Sc. in mathematics, Hokkaido University,
2020 Apr-2022 Mar M.Sc in mathematics, Hokkaido University,
2022 Apr-2025 Mar PhD course in mathematics, Hokkaido University
(cotutelle with University of Turin)

PHD SUPERVISOR

Mutsumi SAITO (Hokkaido Univ.), Simona SETTEPANELLA (Univ. of Turin)

PAPER(MATH)

- Homogeneous quandles with abelian inner automorphism groups,
Journal of Algebra, Volume 663, 2025, Pages 150-170, (with Sakumi SUGAWARA)
- Non-very generic arrangement in low dimension,
arxiv.org/abs/2202.04794 , to appear in Tohoku mathematical journal, (with Settepanella. S)
- Degeneration in discriminantal arrangements,
arxiv.org/abs/2404.18835, preprint
- A categorification for the characteristic polynomial of matroids,
arxiv.org/abs/2402.09851, preprint, (with Yamagata. S)

PAPER(CHEM)

- Characterizing Reaction Route Map of Realistic Molecular Reactions Based on Weight Rank Clique Filtration of Persistent Homology,
B. Murayama, M. Kobayashi, M. Aoki, S. Ishibashi, T. Saito, T. Nakamura, H. Teramoto, T. Taketsugu. J. Chem. Theory Comput., 2023, 19(15) 5007-5023
- Reproducing the Reaction Route Map on the Shape Space from Its Quotient by the Complete Nuclear Permutation-Inversion Group
H. Teramoto, T. Saito, M. Aoki, B. Murayama, M. Kobayashi, T. Nakamura, T. Taketsugu. J. Chem. Theory Comput., 2023, 19(17) 5886-5896

EXPERIENCE

2020 Nov-2022 Mar Temporary research support staff (without Jan, Apr, Jul, Oct)
- Hokkaido University, Sapporo
2022 Apr-2023 Mar Research Assistant - Hokkaido University, Sapporo

2022 first semester	Teaching Assistant - Hokkaido University, Sapporo
2022 second semester	Teaching Assistant - Hokkaido University, Sapporo
2023 Apr-2025 Mar	JSPS Research Fellowship for Young Scientists
2025 Apr-now	Specially Appointed Assistant Professor - Hokkaido University, Sapporo

GRANT AND FELLOWSHIP

2022 Apr-2023 Mar	Hokkaido University Ambitious Doctoral Fellowship (research expenses: 400,000 JPY)
2023 Apr-2025 Mar	JSPS Grant-in-Aid for JSPS Fellows DC2 (research expenses: 1,800,000 JPY)

ORGANIZING

2023 Mar	The 19th Mathematics Conference for Young Researchers, (Sapporo)
2023 Nov	Mini-Workshop: Topological Data Analysis in Turin, (Turin)
2024 Mar	The 20th Mathematics Conference for Young Researchers, (Sapporo)
2024 Nov-now	Hokkaido University Matroid Seminar