

Ruri Sase

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Education

Doctoral student in Civil engineering <i>Kochi University of Technology (Supervisor: Prof. Satoshi Sugiura)</i>	Apr. 2025 – Present <i>Kochi, Japan</i>
M.S. in Civil engineering <i>Hokkaido University (Supervisor: Prof. Satoshi Sugiura)</i>	Apr. 2023 – Mar. 2025 <i>Hokkaido, Japan</i>
B.S. in Civil engineering <i>Hokkaido University</i>	Apr. 2019 – Mar. 2023 <i>Hokkaido, Japan</i>

Appointments

Research Fellowship for Young Scientist (DC1) <i>Japan Society for the Promotion of Science (JSPS)</i>	Apr. 2025 – Present
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Research Keywords

transportation network analysis, connectivity, graph theory, optimization

Publications

Journal Articles

- Ruri Sase, Satoshi Sugiura, Empirical analysis of cut-based approach for screen-line traffic counting location problem with pre-installed sensors, *International Journal of Intelligent Transportation Systems Research*, 2025.
- Ruri Sase, Satoshi Sugiura, and Anthony Chen, Optimized graph-cut approach for the screen-line traffic counting location problem: An exact and efficient solution method, *Expert Systems with Applications*, 2025.
- Ruri Sase, Satoshi Sugiura, Inbound traffic capture link-design problem independent of assumptions on users' route choices, *EURO Journal on Transportation and Logistics*, 2024.

Preprints

- Ruri Sase, Satoshi Sugiura and Fumitaka Kurauchi, A novel zone-cut-based network representation framework for a robust origin-destination trip matrix estimation, 2026.

Conference Presentations

International Conference Presentations

- Toshiki Arai, Ruri Sase, Satoshi Sugiura, Hiroaki Nishiuchi: The screen-line traffic counting location problem under observation uncertainty, *12th International Symposium on Travel Demand Management (TDM)*, Sydney, Australia, December 2025.
- Ruri Sase, Satoshi Sugiura, Fumitaka Kurauchi: Zone-cut based approach for path-independent OD trip matrix estimation, *12th International Symposium on Travel Demand Management (TDM)*, Sydney, Australia, December 2025.
- Ruri Sase, Satoshi Sugiura: Excess-demand isolation vulnerability analysis based on a bipartitioning minimum cut, *The 12th Triennial Symposium on Transportation Analysis conference (TRISTAN)*, Okinawa, Japan, June 2025.
- Ruri Sase, Satoshi Sugiura: O/D cut optimization for traffic sensor location problem, *The 27th International Conference of Hong Kong Society for Transportation Studies (HKSTS)*, Hong Kong, December 2023.

5. Ruri Sase, Satoshi Sugiura: Inflow Traffic to a Specific Community Capturing Link Design Problem Independent of User Routing Assumptions, *The 15th international conference of the eastern asia society for transportation studies (EASTS)*, Shah Alam, Malaysia, September 2023.

Non-Refereed Conference Presentations in Japanese

1. Ruri Sase, Satoshi Sugiura: Empirical analysis of cut-based approach for screen-line traffic counting location problem with pre-installed sensors, *23rd ITS Symposium 2025*, International Conference Center Hiroshima, Hiroshima, Japan, December 2025.
2. Ruri Sase, Satoshi Sugiura: Analysis of link traffic counting location on actual road networks based on screen-line traffic counting location problem, *The 71st JSCE Conference of Infrastructure Planning and Management*, Kagawa University, Kagawa, Japan, June 2025.
3. Kyo Fujita, Satoshi Sugiura, Ruri Sase: Analysis of the effect of transport network improvement on the optimal road restoration design problem to minimise cumulative isolated duration, *The 71st JSCE Conference of Infrastructure Planning and Management*, Kagawa University, Kagawa, Japan, June 2025.
4. Ruri Sase, Satoshi Sugiura, Fumitaka Kurauchi: Zone-cut based OD trip table estimation with vehicle trajectories, *The 70th JSCE Conference of Infrastructure Planning and Management*, Okayama University, Okayama, Japan, November 2024.
5. Ruri Sase, Satoshi Sugiura: Location-based vulnerability analysis: Identifying critical links that cause simultaneous isolation, *The 69th JSCE Conference of Infrastructure Planning and Management*, Hokkaido University, Hokkaido, Japan, May 2024.
6. Satoshi Sugiura, Ruri Sase: Road network restoration optimization problem to minimize cumulative isolated days *The 69th JSCE Conference of Infrastructure Planning and Management*, Hokkaido University, Hokkaido, Japan, May 2024.
7. Ruri Sase, Satoshi Sugiura: Day-to-day O/D trip estimation based on road network topology and observable traffic flow data, *The 68th JSCE Conference of Infrastructure Planning and Management*, Tokyo Metropolitan University, Tokyo, Japan, November 2023.
8. Ruri Sase, Satoshi Sugiura: Inflow traffic capturing link design problem to specific communities independent of route choice assumptions, *Japan Society of Civil Engineers Hokkaido Branch 2022 Annual Meeting*, Sapporo, Hokkaido, Japan, January 2023.

Grants and Awards

Grants and Fellowships

JSPS Grant-in-Aid for JSPS Research Fellows (25KJ2046) <i>JSPS KAKENHI (Principal Investigator)</i>	2025 – Present
Repayment Exemption for Particularly Outstanding Achievement (Full Exemption) <i>Japan Student Services Organization (JASSO)</i>	Jul. 2025
Hokkaido University Mirai IT Talent Scholarship <i>NITORI International Scholarship Foundation, Japan</i>	Apr. 2024 – Mar. 2025

Awards

Best Poster Award <i>23rd ITS Symposium 2025, ITS Japan, Japan</i>	Dec. 2025
Encouragement Research Award for Students, The 7th Re-design Research Award <i>Urban Re-design Design Studies Unit, Japan</i>	Dec. 2025
Best Master's Student Award in Civil Engineering <i>Division of Engineering and Policy for Sustainable Environment, Hokkaido University, Japan</i>	Mar. 2025
Outstanding Poster Award <i>JSCE Committee on Infrastructure Planning and Management, Japan</i>	May 2024