Wataru Morioka

Ph.D. Candidate (Advisor, Professor Mei-Po Kwan)
Department of Geography and Geographic Information Science
University of Illinois at Urbana-Champaign
Natural History Building 1054, 1301 West Green Street, Urbana, IL 61801, USA.

Email: watarum2@illinois.edu
Website: https://ggis.illinois.edu/directory/profile/watarum2

(Updated in December 2021)

Research Interests

GIScience, Space-Time Analytics, Network Spatial Analysis, Point Pattern Analysis,
Economic Geography, Health Geography.

Education

2022.05	**Ph.D. in Geography and GIScience (Expected)** Department of Geography and Geographic Information Science, University of Illinois at Urbana-Champaign (UIUC), US
2017.03	**M.S. in Environmental Studies** Department of Socio-Cultural Environmental Studies, Graduate School of Frontier Sciences, University of Tokyo, Japan
2014.03	**B.A. in Cultural and Creative Studies** Department of Cultural and Creative Studies, School of Cultural and Creative Studies, Aoyama Gakuin University, Japan

Employment

2021.05 - 2021.07	**Research Assistant** in the Department of History, UIUC (with Dr. Roderick Ike Wilson)
2019.09 - 2020.07	**Research Assistant**: A multi-institutional NSF award under the Convergence Accelerator Program for creating an open knowledge network for civic infrastructure systems (with Co-PI Dr. Arnab Chakraborty [Department of Urban & Regional Planning], PI Dr. Nora El-Gohari [Department of Civil Engineering], and others)
2017.11 - 2018.07	**Research Assistant** in the Center for Spatial Information Science, University of

Tokyo

2013.04 - 2014.03   **Research Assistant** in Society-Academy Collaborative Research and Education
Center, Aoyama Gakuin University (with Dr. Atsuyuki Okabe and Dr. Norio Iguchi)

*Teaching experiences are listed in Course Taught.

Courses Taught

(University of Illinois at Urbana-Champaign)

2021.08 – 2021.12   GEOG 105 - The Digital Earth (TA, with Dr. Brian J Jefferson)

2021.06 – 2021.08   GEOG 105 - The Digital Earth (Instructor)

2021.01 – 2021.05   GEOG 105 - The Digital Earth (TA, with Dr. Brian J Jefferson)

2020.01 – 2020.05   CERE 5100* - Introduction to Sustainability (TA, with Dr. Nichole Hugo)
*Illinois Innovation Network Course hosted by Eastern Illinois University

2019.08 – 2019.12   GEOG 205 - Business Location Decisions (Grader, with Dr. Sara L McLafferty)

(Chuo University)

2015.10 - 2016.01   Introduction of Spatial Information Science (TA, with Dr. Ikuho Yamada)

2015.04 - 2015.07   Urban Environments and Human Behavior (TA, with Dr. Ikuho Yamada)

2014.10 - 2015.01   Introduction of Spatial Information Science (TA, with Dr. Ikuho Yamada)

(Aoyama Gakuin University)

2012.04 - 2014.03   Seminar-Basic, (TA, with Dr. Atsuyuki Okabe)

Publications

Peer Reviewed Papers

Morioka, W., A. Okabe, M.-P. Kwan, and S. L. McLafferty, "An exact statistical method for analyzing co-location on a street network and its computational implementation", *International Journal of Geographical Information Science* (2021 online) doi:10.1080/13658816.2021.1976409

Morioka, W., A. Okabe, and S. Sadahiro, "Spatio-Temporal Analysis of Store Location Using the Gini Coefficient" *Journal of the Japan Statistical Society*, 49(1), 2019, pp.115-131 (in Japanese)

Taima, M., Y. Asami, K. Hino, and **W. Morioka**. "Influential Factors and Prediction of Location of Building Coverage in a City Block in Tokyo Commercial Zones" *Theory and Applications of GIS*,24(2), 2016, pp.85-96 (in Japanese)

(Working Papers)

Morioka, W., M.-P. Kwan, A. Okabe, and S. L. McLafferty, "A statistical method for analyzing agglomeration zones of co-location between diverse facilities on a street network" (under review)

Morioka, W., M.-P. Kwan, A. Okabe, and S. L. McLafferty, "Local Indicator of Co-location on a Network: Model Development and Application to Retail Location" (under review)

Morioka, W., M.-P. Kwan, K. Hino, and I. Yamada, "Spatial Analysis of Walking with a Focus on Accessibility to Grocery Stores at the Neighborhood Scale" (in preparation)

Non-Peer Reviewed Papers

Morioka, W., H. Kim, T. Hamada, and K. Hino. "A Report on Spatial Distribution of Wells: A Case Study of Ogusuku and Ogido District in Okinawa Prefecture", *Reports of the City Planning Institute of Japan,* No.15, pp.313-316, Japan, February 2017. (in Japanese)

Conference Presentations

(Paper Presentations)

Morioka, W., M-P. Kwan, K. Hino, and I. Yamada. "Spatial Analysis of Walking with a Focus on Accessibility to Grocery Stores at the Neighborhood Scale", American Association of Geographers Annual Meeting, February 2022.

Morioka, W., M-P. Kwan, A. Okabe, and S.L. McLafferty. "Local Indicator of Co-location on a Network: Specifying the Method and Discovering the Trend of Opening Store Locations", West Lakes Division American Association of Geographers Annual Meeting Online, November 2021.

Okabe, K., **W. Morioka**, Y. Kasai, A. Nakagawa, K. Takeyama, and A. Matsumoto. "Visualizing Daily Neighborhood Space of Ritto City in Shiga Prefecture using Leaflet", Papers and Proceedings of the Geographic Information Systems Association, 30, D31-3-3 (CD-ROM), Japan, October 2021.

Morioka, W., A. Okabe, M-P. Kwan, and S.L. McLafferty. "Exact Statistical Method for Analyzing Co-location on a Street Network and Its Computational Implementation", American Association of Geographers Annual Meeting Online, April 2021.

Morioka, W., A. Okabe, M-P. Kwan, and S.L. McLafferty. "Exact Statistical Method for Analyzing Co-location on a Street Network and Its Computational Implementation", West Lakes Division American Association of Geographers Annual Meeting Online, November 2020.

Morioka, W., A. Okabe, M-P. Kwan, and S.L. McLafferty. "Dual Cross K Function on Networks: An Alternative Method for Discovering Spatial Colocation Patterns", American Association of Geographers Annual Meeting in Denver, April 2020. (in-person meeting was cancelled due to COVID-19)

Morioka, W., Y. Sadahiro, and A. Okabe. "Spatio-temporal Analysis of Hot Spots by Using a Telephone Book", Papers and Proceedings of the Geographic Information Systems Association, 26, B-2-2 (CD-ROM), Japan, October 2017. (in Japanese)

Morioka, W., Y. Sadahiro, S. Mishio, and T. Kobayashi. "Evaluation of Defensive Situations in Football Games: Focusing on the Possibility of Passes", Papers and Proceedings of the Geographic Information Systems Association, 24, C-4-2 (CD-ROM), Japan, October 2015. (in Japanese)

Morioka, W. and A. Okabe. "A GIS-based Method for Converting Area-based Data to Network-based Data and Its Application", Papers and Proceedings of the Geographic Information Systems Association, 22, D-4-3 (CD-ROM), Japan, October 2013. (in Japanese)

Okabe, A. and **W. Morioka**. "A GIS-based Method for Converting Area-based Data to Network-based Data and Its Application", ICA Workshop on Street Networks and Transport Proceedings, pp3, Germany, August 2013.

(Poster Presentations)

Morioka, W., M-P. Kwan, A. Okabe, and S.L. McLafferty. "Local Network Dual K Function: A Statistical Method for Discovering Trends of Opening Store Locations", GIS Day in UIUC (Online), November 2021.

Okabe, K., Y. Kasai, A. Nakagawa, K. Takeyama, **W. Morioka**, and A. Matsumoto. "Utilizing Allotment of Land in Chiken-torisirabe-soezu along Tokaido in Ritto City, Shiga Prefecture", CSIS DAYS 2021, DD07, Japan, November 2021. (in Japanese, Online)

Morioka, W., M-P. Kwan, A. Okabe, and S.L. McLafferty. "Catchment Zones of Co-Location: a Statistical Analysis of Spatial Proximities Among Various Types of Stores on a Street Network", UCGIS 2021 Symposium Poster Gallery (Online), June 2021.

Morioka, W., M-P. Kwan, A. Okabe, and S.L. McLafferty. "A Statistical Method for Analyzing Catchment Zones of Co-location between Multiple Types of Facilities alongside a Network", SESE Research Review in UIUC (Online), April 2021.

Morioka, W., A. Okabe, M-P. Kwan, and S.L. McLafferty. "An Exact Statistical Method for Analyzing Co-location on a Street Network and Its Computational Implementation", GIS Day in UIUC (Online), November 2020.

Morioka, W., Y. Sadahiro, S. Mishio, and T. Kobayashi. "Evaluation of Defensive Situations in Football Games: Focusing on the Possibility of Passes", 11th spring meeting of the Japan Statistical Society poster session, No.41, Japan, March 2017. (in Japanese)

Morioka, W., T. Sekiguchi, and Y. Asami. "Evaluation of the Proximity to the Nearest Store Measured by Route Distance", CSIS DAYS 2014, C01, Japan, November 2014. (in Japanese)

Map Provision

Wilson, R. "Turbulent Streams — An Environmental History of Japan's Rivers, 1600–1930—", Leiden, The Netherlands: Brill, 2021

Okabe, A. "Spatial tessellations", *International Encyclopedia of Geography, 15 Volume Set: People, the Earth, Environment and Technology*. John Wiley & Sons, 2017. edited by Richardson, D.

Honors and Awards

- Finalist, AAG Peter Gould Student Paper Competition in Health & Medical Geography Specialty Group, 2022 AAG Annual Meeting *The winner will be determined in February 2022.
- Third Place, Illinois GIS Day Student Poster Competition, 2021 GIS Day in UIUC
- Third Place, Doctoral-level Oral Presentation Award, 2021 West Lakes Division of the AAG Annual Meeting
- George Beatty Graduate Fellowship (Fall 2021)
- GGIS Summer Research Grants (Summer 2021)
- Finalist, AAG GIScience & Systems (GISS) Specialty Group Student Paper Competition, 2021 AAG Annual Meeting
- Second Place, Illinois GIS Day Student Poster Competition, 2020 GIS Day in UIUC
- Graduate College Supplementary Summer Block Grant, UIUC (Summer 2020)
- Student Travel Award, AAG Spatial Analysis and Modeling (SAM) Specialty Group, 2020 AAG Annual Meeting
- Research Award, AAG Applied Geography (AG) Specialty Group, 2020 AAG Annual Meeting
- Runner-Up in the Best Dynamic Web Map Part of the Student Map & Poster Competition, 2019 GIS Day at UIUC
- Scholarship Incentive Award, Aoyama Gakuin University, 2012-2014

Professional Service

- Research Staff in SANET team (2020 - present)
- Visiting Researcher in Center for Spatial Information Science, University of Tokyo (2021 – present)

Skills

- Geospatial Software (ArcGIS, QGIS, PostGIS, SANET, OpenStreetMap, Leaflet)
- Programing, Database and Statistical Knowledge (Python, SQL, R, SPSS, Excel, Access)