The AMERICAN ASSOCIATION *of* GEOGRAPHERS
Spatial Analysis and Modeling Specialty Group Newsletter
2023 http://sam-aag.org/

Table of Contents

FROM THE CHAIR

Dear SAM members,

I hope your semester is going well. Many thanks to those who contributed to this edition of the SAM newsletter. It is exciting that the 2023 AAG annual meeting is around the corner. As the COVID-19 pandemic has subsided, it will be great to see many of you in person. As usual, SAM hosts and sponsors a number of events. Among others, I would like to highlight the following events at the meeting.

Dr. Jennifer Miller from the University of Texas, Austin will give the 2023 SAM/Geographical Analysis Plenary Lecture, titled, "On null models in spatial ecology". Dr. Miller is a leading scholar in GIS, spatial statistics, and biogeography. She pioneered the incorporation of fundamental spatial concepts including dependence, heterogeneity, scale, accuracy and uncertainty into animal movement analysis and species distribution. The lecture will take place on Sunday, March 26th from 4:30 pm-5:50 pm. Session attendees are also invited to join us for a reception that follows directly after the lecture.

SAM hosts two John Odland Award competition (annual SAM student paper competition) sessions on Saturday, March 25th. You are welcome to attend these sessions and support our student members. This year, we received a total of 20 great submissions with eight papers selected for the final presentation. I would like to express special appreciation to Taylor Oshan (University of Maryland) for organizing the competition and also to all the external reviewers for their time and hard work. The external reviewers are Yingjie Hu (University of Buffalo), Elizabetth Delmelle (University of Pennsylvania), Katarzyna Sila-Nowicka (University of Auckland), René Westerholt (TU Dortmund University), Caitlin Robinson (University of Bristol), Ran Wei (University of California, Riverside), Jed Long (Western University), and Dave Folch (Northern Arizona University).

Our SAM Business meeting has been scheduled on Sunday, March 26th from 11:45 am to 12:45 pm. You are all invited to attend the business meeting. The winners of the John Odland Award, Emerging Scholar Award, and Outstanding Service Award will be announced at the business meeting.

I look forward to meeting/seeing you in Denver and working with you on serving the SAM community.

	Best, Daoqin Tong,  Chair, Spatial Analysis and Modeling Specialty Group Professor, Arizona State University

Upcoming Event: 2023 AAG

As we are approaching the 2023 Annual meeting of AAG, we would like to highlight the news of the Spatial Analysis and Modeling (SAM) Specialty Group.

For 2023 AAG, individuals will have the opportunity to present and learn from the Annual Meeting in person and online.

Thank you for supporting the SAM Specialty Group community and we are looking forward to meeting you at AAG 2023.

SAM Announcements

2023 SAM Plenary Speaker
Dr. Jennifer Miller

We are pleased to announce that Dr. Jennifer Miller is selected for the 2023 SAM Plenary Speaker. Dr. Miller is a Professor in the Department of Geography & the Environment, University of Texas, Austin (See more detail at her web-site UT College of Liberal Arts).

Dr. Miller is a leading scholar in GIS, spatial statistics, and biogeography. Her specific research focus is in the application area of species distribution modeling (SDM), and much of her previous work has addressed explicitly spatial issues associated with SDM, such as incorporating spatial autocorrelation and representing spatial accuracy and uncertainty. Current research investigates the effects that spatial structure, scale and sampling strategies have on SDM using simulated data; using SDM to investigate the effects of climate change; and using spatial simulation to analyze (animal) species movement and interaction.

Dr. Miller's work on integrating spatial analytic concepts and techniques into animal movement pattern analysis and species distribution modeling is highly influential, both within the field of Geography but also in the broader interdisciplinary field of animal movement ecology. She pioneered the incorporation of fundamental spatial concepts such as dependence, heterogeneity, scale, accuracy and uncertainty into animal movement analysis and species distribution. More recently, she is helping to pioneer the emerging field of movement science, integrating animal, human and physical phenomena into a unified and convergent discipline.

Congratulations, Dr. Miller!

Editor's column

Meet Dr. Wenwen Li
SAM Emerging Scholar (2019)

Dr. Wenwen Li, Professor
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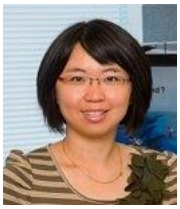
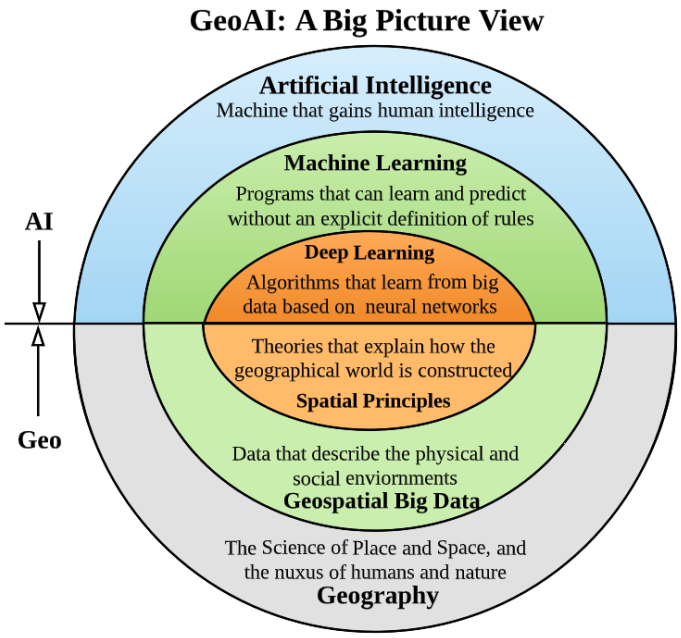


Dr. Wenwen Li is a professor in the School of Geographical Sciences and Urban Planning, Arizona State University. She directs the Cyberinfrastructure and Computational Intelligence Lab and serves as the Research Director for the Spatial Analysis Research Center (SPARC) at ASU. Her research interests include cyberinfrastructure, big data, geospatial artificial intelligence (GeoAI) and their applications in data-intensive environmental and social sciences, including global warming and Arctic change, terrain analysis, disaster relief, and water insecurity in underserved communities. Her research has been supported by multiple agencies for a total of $14 M in funding as PI or co-PI. She is the recipient of the NSF's early CAREER award in 2015, the NSF's Mid-Career Advancement award in 2021, and the SAM Emerging Scholar Award in 2019.

A very exciting research area my team has been working on is the development of novel **GeoAI** (Geospatial Artificial Intelligence) models to monitor changes in our environment. As we are aware, the world is undergoing significant changes, with increasing frequency and intensity of disasters, such as drought, extreme heat and cold, hurricanes, floods, all threatening the sustainable development of our living environment. To better cope with climate change, we need to develop capabilities to support

real-time mapping and monitoring of the Earth. Although massive Earth observation data have been collected on a daily basis, we are lacking scalable and intelligent means to analyze the data to keep pace with the rapid changes the world is encountering today. To address this challenge, my team has been working diligently to develop new data-driven approaches, especially advanced GeoAI, to analyze the ever-increasing big data and to detect, segment, and map the natural environment, especially terrain features.



The focus of my team's GeoAI research has been two-fold. First, we have been pushing the formulation and definition of GeoAI to distinguish it from general AI research in the computer science domain (Li 2020, Li and Hsu, 2022). In particular, we have been experimenting with the integration of spatial principles and laws into AI model design, to make it more powerful in solving both geospatial and non-geospatial problems (Li et al. 2021). Second, we have applied these models to analyze terrain features in different parts of the world. Collaborating with scientists at the United States Geological Survey, we are applying our GeoAI methods to support nationwide delineation of natural terrain features to build an intelligent National Map and to support 3D Topography Modeling at USGS (Li et al. 2022a). Collaborating with Arctic scientists, we are developing real-time capabilities to support pan-Arctic mapping of permafrost features and to monitor their thawing stages, an important indicator of Arctic warming and global climate change (Li et al. 2022b). Ultimately, I hope to make my contributions in restoring the environmental health of the planet.

For more news about my team's research, please visit: https://www.public.asu.edu/~wenwenl1/and http://cici.lab.asu.edu

References:

Li, W. (2020). GeoAI: Where machine learning and big data converge in GIScience. *Journal of Spatial Information Science*, (20), 71-77.

Li, W., & Hsu, C. Y. (2022). GeoAI for large scale image analysis and machine vision: Recent progress of artificial intelligence in geography. *ISPRS International Journal of Geo-Information*, *11*(7), 385.

Li, W., Hsu, C. Y., & Hu, M. (2021). Tobler's First Law in GeoAI: A spatially explicit deep learning model for terrain feature detection under weak supervision. *Annals of the American Association of Geographers*, *111*(7), 1887-1905.

Li, W., Wang, S., Arundel, S. T., & Hsu, C. Y. (2022). GeoImageNet: A multi-source natural feature benchmark dataset for GeoAI and supervised machine learning. *GeoInformatica*, https://doi.org/10.1007/s10707-022-00476-z.

Li, W., Hsu, C. Y., Wang, S., Witharana, C., Liljedahl, A. (2022). Real-time GeoAI for High-resolution Mapping and Segmentation of Arctic Permafrost Features: The case of ice-wedge polygons. In: *SIGSPATIAL '22*. ACM, New York, NY, USA. https://doi.org/10.1145/3557918.3565869

Meet Dr. Eun-Hye Enki Yoo

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Geospatial perspectives on public health threats under the face of climate change

According to the 2022 report of the Lancet Countdown (Romanello et al. 2022), heat-related deaths increased by 68% between 2000-2004 and 2017-2021. There is also growing evidence suggesting that changing climates negatively affect physical health, increase the spread of infectious diseases, and exacerbate mental disorders (Yoo et al. 2021). Transformative, proactive, and effective adaptation measures are immediately required to manage these climate-driven health threats. Here, I argue that geospatial perspectives can play a key role in the creation of evidence-based policies. These geospatial perspectives can evaluate the health threats of climate change at multi-scale levels (i.e., global, regional, and local communities) and through a 'spatial' view.

For example, my research group at University at Buffalo (UB) has been working on spatially-temporally resolved assessments of exposure to environmental hazards (i.e., extreme temperature, air pollution, and greenspace), while accounting for human mobility and daily routine activity patterns. We also have investigated the role of geographic and socioeconomic disparities in environmental exposures and their impact on poor health outcomes. Specifically, we have developed a framework for geospatial data fusion based on advanced statistical and computational methods. We have obtained spatially and temporally resolved predictions of ambient air pollution from this framework (Jiang and Yoo 2019, Pu and Yoo 2020, Yoo et al. 2020, Pu and Yoo 2022), and have incorporated proxy data from multiple sources, such as multiplatform satellite-based aerosol optical depth and chemical transport model outputs. More recently, we have used low-cost portable air pollution sensors to increase the availability and resolution of sparse monitoring data. Furthermore, my research group proposed a dynamic mobility-based exposure assessment approach, which estimates individuals' exposure to environmental hazards based on combining static information (e.g., place of residence) and dynamic information involving individuals' daily activities (Yoo et al. 2015, Yoo et al. 2021, Yoo and Roberts 2022). This is a critical improvement over traditional assessment approaches as it increases measurement accuracy, which in turn increases the possibility of effective interventions to reduce exposure and mitigate adverse health outcomes. Our group also paired individuals' detailed mobility patterns with their reported onset of influenza illness and identified key mobility metrics that indicate the occurrence of influenza-like symptoms (Eum and Yoo 2022). Using spatially and temporally resolved mobility data from mobile phones, we also identified the minimum time period to observe routine human mobility patterns, which has substantial implications for human subject related study design (Yoo 2019). Lastly, we investigated the associations between environmental exposures to heat and air pollution and adverse health outcomes, including asthma among children, cardiovascular disease among the elderly, and mental disorders, while focusing on sociodemographic and geographic disparities (Eum et al. 2019, Yoo et al. 2021, Yoo et al. 2022). Embracing new developments in applied spatial statistics (i.e., spatio-temporal hierarchical Bayesian models) and time series models (i.e., distributed non-linear lag models), we have mined emergency room visit records in New York State and assessed the negative effects of short-term exposures to environmental hazards on physical and mental health outcomes, as well as their disproportional effects on vulnerable populations and socially and economically disadvantageous communities.

My research group at UB will continue to improve our understanding the associations between environmental exposures and health outcomes, and respond appropriately to the health needs of vulnerable populations and disadvantaged communities under the threats posed by global warming.

References:

Eum, Y., E. Yoo and E. Bowen (2019). "Socioeconomic determinants of pediatric asthma emergency department visits under regional economic development in western New York." *Social Science & Medicine* 222: 133-144.

Eum, Y. and E.-H. Yoo (2022). "Using GPS-enabled mobile phones to evaluate the associations between human mobility changes and the onset of influenza illness." *Spatial and Spatio-temporal Epidemiology* 40: 100458.

Jiang, X. and E.-H. Yoo (2019). "Modeling wildland fire-specific PM2. 5 concentrations for uncertainty-aware health impact assessments." *Environmental Science & Technology* 53(20): 11828-11839.

Pu, Q. and E.-H. Yoo (2020). "Spatio-temporal modeling of PM2. 5 concentrations with missing data problem: a case study in Beijing, China." *International Journal of Geographical Information Science* 34(3): 423-447.

Pu, Q. and E.-H. Yoo (2022). "A gap-filling hybrid approach for hourly PM2. 5 prediction at high spatial resolution from multi-sourced AOD data." *Environmental Pollution:* 120419.

Romanello, M., C. Di Napoli, P. Drummond, C. Green, H. Kennard, P. Lampard, D. Scamman, N. Arnell, S. Ayeb-Karlsson and L. B. Ford (2022). "The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels." *The Lancet*.

Yoo, E. H. (2019). "How short is long enough? Modeling temporal aspects of human mobility behavior using mobile phone data." *Annals of the American Association of Geographers* 109(5): 1415-1432.

Yoo, E. H., Y. Eum, Q. Gao and K. Chen (2021). "Effect of extreme temperatures on daily emergency room visits for mental disorders." *Environ Sci Pollut Res Int* 28(29): 39243-39256.

Yoo, E. H., Y. Eum, J. E. Roberts, Q. Gao and K. Chen (2021). "Association between extreme temperatures and emergency room visits related to mental disorders: A multi-region time-series study in New York, USA." *Science of the Total Environment*: 148246.

Yoo, E. H., Q. Pu, Y. Eum and X. Jiang (2021). "The Impact of individual mobility on long-term exposure to ambient PM2. 5: Assessing effect modification by travel patterns and spatial variability of PM2. 5." *International Journal of Environmental Research and Public Health* 18(4): 2194.

Yoo, E. H. and J. E. Roberts (2022). "Static home-based versus dynamic mobility-based assessments of exposure to urban green space." *Urban Forestry & Urban Greening* 70: 127528.

Yoo, E. H., J. E. Roberts, Y. Eum, X. Li and K. Konty (2022). "Exposure to urban green space may both promote and harm mental health in socially vulnerable neighborhoods: A neighborhood-scale analysis in New York City." *Environ Res* 204(Pt C): 112292.

Yoo, E. H., C. Rudra, M. Glasgow and L. Mu (2015). "Geospatial estimation of individual exposure to air pollutants: Moving from static monitoring to activity-based dynamic exposure assessment." *Annals of the Association of American Geographers* 105(5): 915-926.

Yoo, E. H., A. Zammit-Mangion and M. G. Chipeta (2020). "Adaptive spatial sampling design for environmental field prediction using low-cost sensing technologies." *Atmospheric Environment* 221: 117091.

Meet John Odland Student Paper Competition Winner (2022)

Lenka Hašová
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Haska.lenka@gmail.com

My name is Lenka Hasova, and I am in the final year of my PhD studies in Advanced Quantitative Methods at the University of Bristol. I have thoroughly enjoyed my time at the University of Bristol, and I am grateful to my supervisors, who have provided me with excellent research opportunities. I have been part of the SAM community for almost a year now, which has provided me with many opportunities to attend exciting and enriching seminars and workshops. I encourage any early career researcher to join the community.

I am honoured to have received first place in the 2022 John Odland student paper competition with my paper titled 'Form and Function in Spatial Interaction - A New Approach to Spatial Structure'. In the paper, we provided a new perspective on spatial structure by describing the relationship between the static formative structure of the interaction and the dynamic functional structure of the interaction in the context of graphs and networks. We then propose using graph structural information to depict the spatial structure and as a method of pattern validation. Specifically, we found the Page Rank algorithm to be very effective in capturing changes in the interaction network structure, given its hierarchical nature.

My current research combines the two fields of Geography with Network Science to understand better the spatiotemporal patterns of spatial interaction and its spatial structure, as well as the behavioural aspects of the changing patterns in SI.

Whilst Network Science provides us with the concepts and algorithms to answer geographical questions, these two research communities are separated by language and motivational differences. I believe geographic thinking is critical for clarifying issues or seeing opportunities to translate these algorithmic approaches for answering questions such as 'why does this process occur?' and 'what are the results of the process?' I also believe that solving real geographical problems helps ground these theories alongside these algorithmic approaches.

In the future, I plan to focus closer on the validation question in the Spatial Interaction modelling framework. In the current framework, the model validation is based on flat methods that compare predicted (single) interactions to historical (single) interactions. Our approach also compares if the relationships between interactions and locations are reflected in prediction. The abovementioned paper only represents the current literature on spatial pattern replication and spatial validation in Spatial Interaction models. However, we are yet to apply this to a broader theoretical context. We are eager to explore new methods that could offer similar or better ways of spatial-specific model validation. Such research will open new doors to the Spatial Interaction modelling framework and broaden its scope, as it will allow the use datasets varying in their scale and character.

I want to thank the SAM community for this opportunity to introduce myself and my research and wish good luck to all the contestants in this year's John Odland paper competition.

SAM-Sponsored Sessions at 2023 AAG Meeting

The SAM SG is sponsoring the sessions below. Click the link for your access to the detailed information of sessions.

- Spatial Analysis and Modeling Specialty Group Business Meeting
- John Odland SAM student paper competition I
- John Odland SAM student paper competition II
- Spatial Analysis and Modeling (SAM) / Geographical Analysis Plenary: Jennifer Miller, University of Texas, Austin
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Reproducibility and Replicability in the Human-Environment and Geographical Sciences I
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Reproducibility and Replicability in the Human-Environment and Geographical Sciences II
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Geospatial Social Science Approaches to Understanding Human-Environment Interactions in Hazards and Disasters
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: CyberGIS and High-Performance Geospatial Computing
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions - CyberGIS and Spatial Decision Support Systems (University Consortium for Geographic Information Science)
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Data-Intensive Geospatial Understanding for Sustainability Solutions
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Convergence of CyberGIS and Geospatial AI
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Ethics in Geospatial AI and Data Science
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Data-intensive and Computational Geography

- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: The Revenge of Unintended Consequences: Impacts of Managing and Modeling Geospatial Big Data
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Harnessing Mobility Data for Spatial Knowledge Discovery
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Computation and Uncertainty of Spatial Accessibility
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Data-intensive Spatial Modeling for Complex Geographic Problems
- Symposium on Harnessing the Geospatial Data Revolution for Sustainability Solutions: Geospatial Artificial Intelligence and Deep Learning
- Spatial Optimization and Analysis I
- Spatial Optimization and Analysis II
- GeoAI and Deep Learning Symposium: A 5-Year Milestone: Advances and Limitations in GeoAI Research So Far
- GIScience and Hazard I
- Regional Economic Resilience
- Regional Economic Resilience (2)
- Resources, Flows, and Land Systems
- GIScience and Energy Transition
- Spatial dimensions and assessment of food system transformations
- Symposium on Human Dynamics Research: Uncovering the Bias in Big Data: Who is under-represented and how can we help#2
- Agricultural Landscapes
- Contemporary urban form, COVID-19, social disadvantage, and health outcomes
- David Mark, The Thinker 1: Does the road cross the park?
- Geographies of Inequality: Beyond ‘Left Behind’ Places 1
- Geographies of Inequality: Beyond ‘Left Behind’ Places 2
- Geographies of Inequality: Beyond ‘Left Behind’ Places 3
- Geographies of Inequality: Beyond ‘Left Behind’ Places 4
- Geographies of Inequality: Beyond ‘Left Behind’ Places 5
- Symposium on Geospatial Approaches to Pressing Grand Challenges: Global Pandemics, Climate Change, and Food Security: Vector-borne Diseases under Environmental Changes 1
- Symposium on Geospatial Approaches to Pressing Grand Challenges: Global Pandemics, Climate Change, and Food Security: Vector-borne Diseases under Environmental Changes 2
- Symposium on Geospatial Approaches to Pressing Grand Challenges: Global Pandemics, Climate Change, and Food Security: Challenges and Innovations on Environmental Contexts and Human Mobility Research in the Global Pandemic
- Progress in Uncertainty and Sensitivity Analysis for Spatial Models
- Symposium on Human Dynamics Research: Understanding Human-Pandemic Dynamics using Geospatial Big Data
- Symposium on Human Dynamics Research: Mining Human Dynamics with Big Data
- Symposium on Human Dynamics Research: Lessons Learned From the COVID-19 Pandemic - Evolving Geospatial Methods and Perspectives

of Human Mobility and Urban Dynamics Research 1

- Symposium on Human Dynamics Research: Lessons Learned From the COVID-19 Pandemic - Evolving Geospatial Methods and Perspectives of Human Mobility and Urban Dynamics Research 2
- Symposium on Human Dynamics Research: Lessons Learned From the COVID-19 Pandemic - Evolving Geospatial Methods and Perspectives of Human Mobility and Urban Dynamics Research 3
- Symposium on Human Dynamics Research: Lessons Learned From the COVID-19 Pandemic - Evolving Geospatial Methods and Perspectives of Human Mobility and Urban Dynamics Research 4
- Symposium on Human Dynamics Research - Participatory AI
- Symposium on Human Dynamics Research: Exploring Social Inequality and Segregation with Geospatial Big Data
- Contemporary urban form, COVID-19, social disadvantage, and travel behavior
- Past, Present and Future of GIScience
- GeoAI and Deep Learning Symposium: Spatially Explicit Machine Learning and Artificial Intelligence I
- GeoAI and Deep Learning Symposium: Spatially Explicit Machine Learning and Artificial Intelligence II
- GeoAI and Deep Learning Symposium: Spatially Explicit Machine Learning and Artificial Intelligence III
- GeoAI and Deep Learning Symposium: Urban Visual Intelligence
- Art, GIScience, and Geography
- The Waldo Tobler Distinguished Lecture in GIScience and Transactions in GIS Plenary Presentations
- GeoAI and Deep Learning Symposium: Intelligent Geospatial Analytics
- GeoAI and Deep Learning Symposium: Geoprivacy and Ethics in Geospatial Data and GeoAI
- Future Directions for Urban Analytics and City Science I: Urban Structure and Equity
- Future Directions for Urban Analytics and City Science II: Trajectories and Change
- Future Directions for Urban Analytics and City Science III: Deep Learning and Image Analysis
- Future Directions for Urban Analytics and City Science IV: Mobility and Transportation
- Future Directions for Urban Analytics and City Science V: Microsimulation
- Future Directions for Urban Analytics and City Science VI: Panel
- Geospatial Big Data: Theory, Methods, and Applications I
- Geospatial Big Data: Theory, Methods, and Applications II
- Social Determinants of Health (SDOH) and Quality of Life I
- Social Determinants of Health (SDOH) and Quality of Life II
- Land Systems Science at AAG and Beyond: Open Discussion of Future Directions
- Spatiotemporal disease mapping and analysis
- HDGC Symposium: Leveraging Geospatial Technologies to Improve Climate Resilience
- Transportation equity and environmental justice
- Characterizing spatial patterns of land change

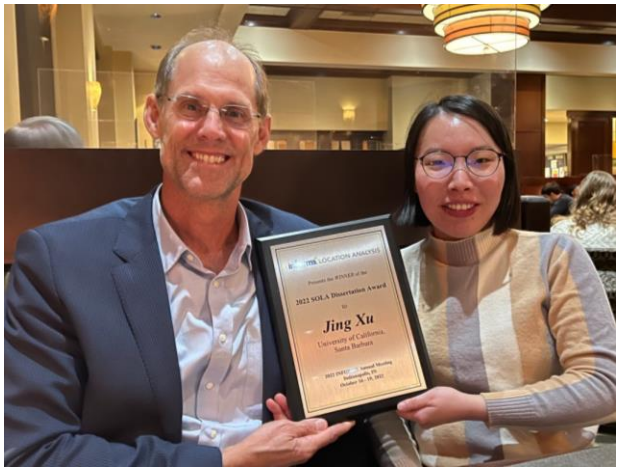
- Our Human Planet: Supporting Sustainable Development through Improved Spatial Data and Models

News From SAM Community

Richard Church was elected as Member, US National Academy of Sciences and Fellow, INFORMS.

Professor Church has been a major presence in geographical analysis, regional science, and spatial optimization, and as a result, was elected as a 2020 Member of the US National Academy of Sciences and an elected 2020 Fellow of INFORMS. Details of his National Academy of Sciences membership can be found at: http://www.nasonline.org/member-directory/members/20054368.html. The announcement of his election as a Fellow of INFORMS can be found at: https://www.informs.org/Recognizing-Excellence/Fellows/INFORMS-Fellows-Class-of-2022. Both highlight his sustained contributions across facility location theory and modeling, forest reserve planning and spatial resilience planning, among other areas. Congratulations Rick on an amazing career and the recent recognition of your scholarship!

2022 SOLA Dissertation Award (Section on Location Analysis, INFORMS - The Institute for Operations Research and the Management Sciences) given to **Dr. Jing Xu**. Her Ph.D. dissertation titled "Addressing facility workload balancing in coverage problems" was completed at University of California at Santa Barbara in 2021, under the supervision of Alan Murray (chair), Richard Church and Ran Wei (UC Riverside).



As a part of the inaugural NSF AI Center for Environmental Science (www.ai2es.org), SAM members **Dr. Antonio Medrano** and PhD student Marina Vicens-Miquel from Texas A&M University–Corpus Christi won a supplemental award to fund a collaboration with the AI4Oceans lab (www.aiforoceans.org) at the University of Valencia led by Dr. Veronica Nieves. They will travel to Valencia next year to develop a sub-seasonal to seasonal ocean water level prediction model, to be applied to Gulf of Mexico coastal habitats in order to protect sea turtle nests from inundation.

A special issue **'Incorporating Knowledge-Infused Approaches in Remote Sensing'** was recently organized. Its scope covers 'spatial analysis and modeling. Please find details by clicking the special issue link.
https://www.mdpi.com/journal/remotesensing/special_issues/637CU8ZDMM

About Spatial Analysis and Modeling (SAM) Specialty Group

Our mission is to foster and maintain interaction, cooperation and community among individuals interested in the analysis of geo-referenced data,

modeling of spatio-temporal processes and the use of analytical and computational techniques in solving geographic problems. The specialty group promotes the scientific study of physical, environmental and socioeconomic geography and the development, use and teaching of analytical cartography, GIS, remote sensing, spatial statistical, mathematical and computational techniques for spatial analysis. For more information, see the SAM-SG homepage (http://sam-aag.org/).

Membership Dues

Regular: $6
Student: $1

Submissions

This newsletter reaches many readers and is therefore an excellent venue for getting the word out on community news, departmental happenings, research findings, media appearances, and the like. It is also a good place to post calls for proposals, awards, grants, fellowships, and jobs. We also invite you to submit commentaries or features of broad interest to specialty group members.

The newsletter relies on volunteers to submit articles, so please take a moment to send along relevant items when they are solicited.

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