

Yoo Min Park

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East Carolina University

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EDUCATION

- 2014-2019 **PhD in Geography and Geographic Information Science (GIS)**
University of Illinois at Urbana-Champaign (UIUC), Illinois, USA.
NSF-Funded Dissertation: “Spatiotemporal Approaches to Understanding Environmental Justice and Multi-Contextual Segregation”
Committee: Mei-Po Kwan (chair), Sara McLafferty, Julie Cidell, and Bo Li
Minor: Statistics, Community Health
- 2011-2013 **MA in Geography** (Specialization: **Spatial Statistics**)
Korea University, Seoul, South Korea.
- 2007-2011 **BA in Geography Education**
Korea University, Seoul, South Korea.

POSITIONS & EMPLOYMENT

- 2019-present **Assistant Professor**, Department of Geography, Planning & Environment, East Carolina University.
- 2018-2019 **Block Grant Fellow**, University of Illinois at Urbana-Champaign.
- 2017-2018 **Research Associate**, Space-Time Analysis and Research Laboratory, University of Illinois at Urbana-Champaign.
- 2017-2018 **Teaching Assistant**, Department of Geography & GIS, University of Illinois at Urbana-Champaign.
- 2016-2017 **Block Grant Fellow**, University of Illinois at Urbana-Champaign.
- 2014-2016 **Teaching Assistant**, Department of Geography & GIS, University of Illinois at Urbana-Champaign.
- 2014 **Researcher**, Korea Environment Institute, Sejong, South Korea.
- 2011-2013 **Research Assistant**, Research Institute of Korean Studies, Korea University, Seoul, South Korea.

RESEARCH & TEACHING INTERESTS

- Geographic Information Science (GIS)
- Geospatial Data Analytics
- Spatio-Temporal Data Analytics
- Low-Cost Air Pollution Sensors
- Spatial Statistics
- Environmental Health
- Environmental Justice/Health Disparities
- Exposure to Air Pollution
- Human Mobility
- Racial Segregation

EXTERNAL RESEARCH GRANTS

- 2020-2021 **Center for Human Health and the Environment (CHHE) Pilot Project Grant**, CHHE at the North Carolina State University (supported in part by the National Institute of Environmental Health Sciences [NIEHS] under Award No. P30ES025128).
Title: “A Low-Cost Mobile Air-Pollution Sensor with Geospatial Mapping: A Tool for Community-Engaged, Environmental Health Disparity Research”
Total Amount: \$31,112
Role: **PI** (with Co-PI Sinan Sousan)
- 2017-2019 **National Science Foundation (NSF) Doctoral Dissertation Research Improvement Grant**, NSF Geography and Spatial Sciences Program (Award No. 1735295).
Title: “Segregation and Its Effects on Social Disparities in Exposure to Air Pollution”
Total Amount: \$10,607
Role: **Co-PI** (with PI Mei-Po Kwan) (*I was not an official PI due to graduate student status but I was the lead writer of the grant proposal for my own project ideas and took direct responsibility for the completion of this project.*)
- 2017 **American Association of Geographers (AAG) Dissertation Research Grant**, AAG.
Total Amount: \$1,000

INTERNAL RESEARCH GRANTS

- 2020-2021 **Diversity and Inclusion Research and Scholarship Program Seed Grant**, Office for Equity and Diversity, East Carolina University.
Title: “Mapping Accessibility with Dignity: An Inclusive, Equitable University Environment for People with Disabilities”
Total Amount: \$10,650
Role: **PI** (with Co-PI Joonkoo Yun)
- 2020-2021 **Engaged Outreach and Scholarship Academy (EOSA) 2020 Cohort**, Office of Community Engagement and Research, East Carolina University.
Title: “Community Air Quality Monitoring Using Low-Cost Air Sensors and Citizen Science Approaches”
Total Amount: \$9,500 (\$5,000 research fund & \$4,500 support for one graduate and two undergraduate research assistants)
Role: **PI (cohort)**
- 2020 **Natural Resources and the Environment Research Cluster (NRERC) Seed Grant**, NRERC, East Carolina University.
Title: “Development of an Advanced Spray Diagnostics Test Rig for the Characterization of Biofuel Spray Flows Exhausted from Liquid Fuel Injectors”
Total Amount: \$10,650
Role: **Co-PI** (with PI Yang Liu)

GRANT/AWARD APPLICATIONS SUBMITTED

- **Training Researchers to Eliminate Disparities (TREND) Grant, Susan G. Komen®.**

Title: “Interdisciplinary Training Program in Rural Breast Cancer Disparities”

Role: **Co-PI** (with PI Alice Richman)

(Funding of the program was cancelled due to COVID-19)

PUBLICATIONS

- Park, Y.M.** (2020). Assessing Personal Exposure to Traffic-Related Air Pollution Using Individual Travel-Activity Diary Data and an On-Road Source Air Dispersion Model. *Health & Place*, 63: 102351.
- Park, Y.M.** & Kwan, M.-P. (2020). Understanding Racial Disparities in Exposure to Traffic-Related Air Pollution: Considering Spatiotemporal Dynamics of Population Distribution. *International Journal of Environmental Research and Public Health*. 17(3), 908.
- Park, Y.M.** & Kwan, M.-P. (2018). Beyond Residential Segregation: A Spatiotemporal Approach to Examining Multi-Contextual Segregation. *Computers, Environment and Urban Systems*, 71, 98-108.
* *Won First Place in the Spatial Analysis and Modeling Specialty Group Student Paper Competition at the 2018 AAG Annual Meeting.*
- Park, Y.M.** & Kwan, M.-P. (2017). Multi-Contextual Segregation and Environmental Justice Research: Toward Fine-Scale Spatiotemporal Approaches. *International Journal of Environmental Research and Public Health*, 14(10), 1205.
- Park, Y.M.** & Kwan, M.-P. (2017). Individual Exposure Estimates May Be Erroneous When Spatiotemporal Variability of Air Pollution and Human Mobility Are Ignored. *Health & Place*, 43, 85-94.
* *The most cited article published in Health & Place since 2017, extracted from Scopus.*
* *Won First Place in the GIS Specialty Group Student Paper Competition at the 2016 AAG Annual Meeting.*
- Park, Y.M.** & Kim, Y. (2014). A Spatially Filtered Multilevel Model to Account for Spatial Dependency: Application to Self-Rated Health Status in South Korea. *International Journal of Health Geographics*, 13:6.
* *Won the Peter Gould Student Paper Award in the AAG Health and Medical Geography Specialty Group Student Paper Competition in 2014.*
- Park, Y.M.** & Kim, Y. (2012). An Evaluation and Suggestion of Photovoltaic Power Plant Locations Based on Environmental and Social Impacts and Sustainability. *Journal of the Economic Geographical Society of Korea*, 15(3), 438-456.
- Park, Y.M.** & Kim, Y. (2011). Agriculture Location Analysis Using Kriging and Analytic Hierarchy Process (AHP). *Journal of the Korean Cartographic Association*, 11(2), 75-90.

AWARDS & FELLOWSHIPS

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| 2020 | Jacques May Thesis Prize for the Best Doctoral Dissertation , Health and Medical Geography Specialty Group, AAG (\$250). |
| 2018-19 | Block Grant Fellowship , Graduate College, University of Illinois (\$16,750). |

- 2018 **Teachers Ranked as Excellent by Their Students (Top 10%),** University of Illinois.
- 2018 **Teaching Excellence Award,** Department of Geography and GIS, University of Illinois.
- 2018 **First Place,** Student Paper Competition, Spatial Analysis and Modeling Specialty Group, AAG (\$500).
- 2018 **Graduate College Conference Travel Grant,** University of Illinois (\$225).
- 2017 **Teachers Ranked as Excellent by Their Students,** University of Illinois.
- 2017 **Messina Stanley Graduate Scholarship,** Department of Geography and GIS, University of Illinois (\$1,000).
- 2017 **Student Paper Award,** Korean-American Association for Geospatial and Environmental Sciences (\$500).
- 2017 **Travel Award,** Spatial Analysis and Modeling Specialty Group, AAG (\$250).
- 2017 **Travel Award,** Urban Geography Specialty Group, AAG (\$100).
- 2017 **Sim Travel Award,** Korean-American Association for Geospatial and Environmental Sciences (\$500).
- 2016-17 **Block Grant Fellowship,** Graduate College, University of Illinois (\$16,500).
- 2016 **First Place,** Student Honors Paper Competition, GIS Specialty Group, AAG (\$1,000).
- 2015 **Third Place,** International Student Paper Competition, Korea Environment Institute (\$1,000).
- 2014 **Peter Gould Student Paper Award,** Peter Gould Student Paper Competition, Health and Medical Geography Specialty Group, AAG (\$100).
- 2013 **Second place,** Research Poster Competition, National Geographic Information Institute (\$500).
- 2012-13 **National Research Scholarship** (for an outstanding graduate thesis proposal), Korea Student Aid Foundation (\$8,000).
- 2010 **Second Place,** Travel Program Proposal Competition, Korea Travel Conference (\$1,000).
- 2008-10 **Academic Excellence Awards,** Department of Geography Education, Korea University.
- 2007-08 **Admission Scholarship** (awarded to selected students with exceptional scores in the national entrance examination), Korea University (\$8,500).

INVITED TALKS

- **Park, Y.M.** “A User-Friendly Portable Air Pollution Sensor for Community-Engaged, Environmental Health Disparity Research.”, KSEA Annual Seminar, WebEx meeting, May 2020.
- **Park, Y.M.** “Moving Beyond Residential Neighborhoods: A Fine-Scale Spatiotemporal Approach to Examining Environmental Inequalities.” School of Geography, University of Leeds, Leeds, UK, April 2018.
- **Park, Y.M. (Invited Panelist).** “What Next for New and Emerging Forms of Data?” HABITS Symposium (New and Emerging Forms of Data for Policy Making: Transport, Health and Air Quality Management), Leeds, UK, April 2018.
- **Park, Y.M.** “A Spatiotemporal Analysis of Racial Disparities in Exposure to Air Pollution.” HABITS Symposium (New and Emerging Forms of Data for Policy Making: Transport, Health, and Air Quality Management), Leeds, UK, April 2018.
- **Park, Y.M.** “Where, When, and How Long You Stay at a Given Location Determine Your Level of Exposure to Air Pollution.” School of Earth, Society, and the Environment’s Research Review, University of Illinois, IL, February 2017.

RESEARCH EXPERIENCE

- 2017-19 **Co-PI, *Segregation and Its Effects on Social Disparities in Exposure to Air Pollution.*** National Science Foundation (NSF) Geography and Spatial Sciences Program.
- Conceived and designed the dissertation research project and wrote the grant proposal as a lead writer.
 - Performed air pollution modeling; assessed segregation and air pollution exposure using geospatial data on individual daily travel patterns; conducted geovisualization and statistical analysis to examine the association between segregation and unequal exposure to air pollution.
- 2017-18 **Research Associate, *Internationally Collaborative Research Project on Environmental Exposure and Community Health.*** Space-Time Analysis and Research Laboratory, University of Illinois (In partnership with the Latin United Community Housing Association (LUCHA) in Chicago; in collaboration with Peking University, Beijing, China; supported by the National Natural Science Foundation of China)
- Participated in the entire process of designing and preparing for the collection of high-resolution, individual-level geospatial datasets.
 - Developed a survey questionnaire on daily activities and travel patterns.
 - Chose an optimal portable sensing device for measuring indoor/outdoor air pollution levels in real-time.
 - Remotely monitored participants’ GPS and environmental sensing devices and troubleshoot problems with data collection processes.
 - Developed follow-up interview questions and conducted interview in the Humboldt Park neighborhood, Chicago (fieldwork).

- 2017
(Mar-May) **Research Assistant**, for *Tariq Omar Ali's book project*.
Department of History, University of Illinois.
- Created and designed historical maps of Bengal using GIS.
- 2016
(Mar) **Research Assistant**, for *Jessica Vantine Birkenholtz's book project*.
Department of Religion, University of Illinois.
- Created and designed a map of the Himalayan region using GIS.
- 2016
(Jan) **Research Assistant**, for *Brian Jefferson's journal articles*.
Department of Geography and GIS, University of Illinois.
- Created 2D and 3D crime maps in Chicago and New York using GIS.
- 2014
(Jan-Mar) **Researcher**, *Assessment of risks associated with climate change and sea level rise*.
Korea Adaptation Center for Climate Change, Korea Environment Institute.
- Collected data on several social/environmental variables for risk assessments.
 - Created a dasymetric map of population density using GIS to identify population at risks associated with climate change and sea level rise.
- 2011-13 **Research Assistant**, *Compilation of publicly available digital maps of modern Korea*.
Research Institute of Korean Studies, Korea University.
- Transformed scanned paper maps from the historical archives into GIS-based digital maps by georeferencing and digitizing.

TEACHING EXPERIENCE

- SP 2020 **Instructor**, *Medical Geography (GEOG 4340/6340)*.
Department of Geography, Planning, and Environment, East Carolina University.
* **Teaching effectiveness score (student evaluation): 4.74/5.00**
- SP 2020 **Guest Lecturer**, *Transportation Planning and Policy (PLAN 4075/ PLAN6075)*.
Lecture Title: "Travel behavior modeling"
Department of Geography, Planning, and Environment, East Carolina University.
- FA 2019 **Instructor**, *GIS II/Advanced GIS (GEOG 4430/6430)*.
Department of Geography, Planning, and Environment, East Carolina University.
* **Teaching effectiveness score (student evaluation): 4.82/5.00**
- SP 2018 **Teaching Assistant (Lab Instructor)**, *Business Applications of GIS (GEOG 440)*.
Department of Geography and GIS, University of Illinois.
* **Included in the List of Teachers Ranked as Excellent by Their Students (Top 10%).**
* **Teaching effectiveness score (student evaluation): 4.75/5.00**
- FA 2017 **Teaching Assistant (Lab Instructor)**, *Introduction to GIS Systems (GEOG 379)*.
Department of Geography and GIS, University of Illinois.
* **Included in the List of Teachers Ranked as Excellent by Their Students.**
* **Teaching effectiveness score (student evaluation): 4.63/5.00**

- SU 2016 **Instructor**, *Digital Earth (GEOG 105 – Online Course)*.
Department of Geography and GIS, University of Illinois.
- SP 2016 **Teaching Assistant (Lab Instructor)**, *Business Applications of GIS (GEOG 440)*.
Department of Geography and GIS, University of Illinois.
- FA14-15 **Teaching Assistant**, *Geography of Globalization (GEOG 106)*.
Department of Geography and GIS, University of Illinois.
- FA 2010 **Teaching Assistant**, *Intermediate Geographic Information Systems (GEOG 458)*.
Department of Geography, Korea University.
- SP 2010 **Student Teacher**, *Teaching practice in a high school*.
Bucheon Girls' High School, Bucheon, South Korea.

PRESENTATIONS

- **Park, Y.M. & Zhao, K.** “User-Friendly Mobile Air Sensing Devices: The Key to the Success of Community-Based Participatory Research on Air Pollution Monitoring.” Air Sensor International Conference, Pasadena, CA, May 2020. (Cancelled due to COVID-19)
- **Park, Y.M.** “Assessing Personal Exposure to Traffic-Related Air Pollution Using Individual Travel-Activity Diary Data and an On-Road Source Air Dispersion Model.” American Association of Geographers Annual Meeting, Denver, CO, April 2020. (Cancelled due to COVID-19)
- **Park, Y.M.** “Assessing Personal Exposure to Air Pollution Using Human Movement Data.” KSEA-NC Interdisciplinary Research Conference, Raleigh, NC, February 2020.
- **Park, Y.M.** “Where You Visit, How Long You Stay There, and What You Do There Affect Your Exposure to Air Pollution.” STEM@Starlight – Collaboration in the Sciences and Beyond, Greenville, NC, October 2019.
- **Park, Y.M. & Kwan, M.-P.** “How Does Human Mobility Affect Urban Segregation and Environmental Justice? A Spatiotemporal Approach.” American Association of Geographers Annual Meeting, Washington D.C., April 2019.
- **Park, Y.M. & Kwan, M.-P.** “Spatiotemporal Analysis of Multi-Contextual Segregation in Urban Areas.” American Association of Geographers Annual Meeting, New Orleans, LA, April 2018.
- **Park, Y.M. & Kwan, M.-P.** “Spatiotemporal Uncertainties in Assessing Individual Exposure to Air Pollution.” American Association of Geographers Annual Meeting, Boston, MA, April 2017.
- **Park, Y.M.** “Segregation in Various Geographical and Temporal Contexts in Daily Life and Its Effects on Social Disparities in Exposure to Air Pollution.” Geography & GIScience Colloquium, University of Illinois at Urbana-Champaign, IL, February 2017.
- **Park, Y.M. & Kwan, M.-P.** “Assessment of Personal Exposure to Air Pollution and Its Effects on Health: Using Hourly Estimates, Human Movement Data, and Three-Dimensional Visualization to Address the Uncertain Geographic Context Problem.” American Association of Geographers Annual Meeting, San Francisco, CA, April 2016.

- **Park, Y.M.** “A Spatially Filtered Multilevel Model to Account for Spatial Dependency: Application to Self-Rated Health Status in South Korea.” American Association of Geographers Annual Meeting, Chicago, IL, April 2015.
- **Park, Y.M.** “Assessment of Regional Health Inequality in South Korea: A Coupled Multilevel Analysis and Spatial Filtering Method.” The Association of Korean Geographers Conference, Seoul, South Korea, May 2013.
- **Park, Y.M.** “An Evaluation and Suggestion of Photovoltaic Power Plant Locations Based on Environmental and Social Impacts and Sustainability.” The Association of Korean Geographers Conference, Gongju, South Korea, May 2012.
- **Park, Y.M.** “Agriculture Location Analysis Using Kriging and Analytic Hierarchy Process (AHP).” The Korean Cartographic Association Conference, Seoul, South Korea, December 2011.

PROFESSIONAL SERVICE

- 2019-present **Graduate Faculty Member**, East Carolina University.
- 2017-present **Manuscript Reviewer**, *Health & Place* (3); *Computers, Environment and Urban Systems* (2); *Annals of the American Association of Geographer* (1); *PLOS ONE* (1); *Cities* (1); *The Professional Geographer* (1); *Science of the Total Environment* (1); *Sustainable Cities and Society* (1).
- 2019-20 **Social Committee**, Department of Geography, Planning, and Environment, East Carolina University.
- 2017-18 **Vice President**, Geography Graduate Student Association, Department of Geography and GIS, University of Illinois.
- 2015-16 **Research Review Committee**, School of Earth, Society, and the Environment, University of Illinois.
- 2015-16 **Social Chair**, Geography Graduate Student Association, Department of Geography and GIS, University of Illinois.
- 2011 **Field Trip Assistant**, Department of Geography, Korea University.

MENTORING & ADVISING

- 2020-present **Thesis Committee Member**: M.S. student (Lu Kernstine), Department of Biology, East Carolina University.
- 2020-present **Thesis Committee Member**: M.S. student (Samantha Dowiarz), Department of Biology, East Carolina University.