Eun-Hye Enki Yoo

CONTACT INFORMATION

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EDUCATION

University of California Santa Barbara, Santa Barbara, CA, USA.

Ph.D., Geography, Fall 2006

- Thesis Topic: *A Geostatistical Framework for Downscaling Spatial Data*
- Adviser: Phaedon C. Kyriakidis

Seoul National University, Seoul, Korea.

M.A., Geography, Spring 1999

- Thesis Topic: *Spatial statistical analysis in a GIS environment: correlation case study of air pollution and respiratory diseases*
- Adviser: Ki-Ho Park

B.A., Geography, Spring 1997

RELATED TRAINING

Workshops

Center for Global Health Research 2018 Geospatial methods for Closing the Global Mortality Data Divide, Toronto, Canada, 14-15, Jun. 2018

GeoMED 2017 one-day workshop: Health Applications of Google Earth Engine, Porto, Portugal, with Allison Lieber,, 6, Sep. 2017.

GeoMED 2017 one-day workshop: Modelling spatial and spatio-temporal areal unit data in R with CARBayes, Porto, Portugal, with Duncan Lee, 6, Sep. 2017.

StatWeek 2016 one-day workshop: Multi-level models for Social Network Analysis, Wollongong, Australia, with Mark Tranmer, 3, Feb. 2016.

StatWeek 2016 two-day workshop: High-Dimensional Data Analysis, Wollongong, Australia, with Olivier Thas, 1-2, Feb. 2016.

Spatial Accuracy 2014 pre-symposium one-day workshop: Hierarchical Models for Spatio-Temporal Data, East Lansing, USA, with Andrew Finley, Jul. 2014.

Bayesian Modeling of Spatial Health Data with INLA AND WINBUGS, Spatial Statistics 2013, Columbus, Ohio, USA, with Dr. Lawson, 4-7 Jun. 2013.

Multilevel Modeling workshop certification, NIH-supported GIS Population Science 5-day training program in Advanced Spatial Analysis from the Center for Spatially Integrated Science, Santa Barbara, USA, with Dr. Jones and Subramanian, Jul. 2011.

Spatial Accuracy 2010 pre-symposium one-day workshop: Geostatistical Optimization of Spatial Sampling Designs, Leicester, U.K., with Dr. Heuvelink, Jul. 2010.

Spatial Accuracy 2008 pre-symposium one-day workshop: Spatial Uncertainty Propagation, Shanghai, China, with Dr. Heuvelink, Jul. 2008.

Academic Employment

SUNY at Buffalo, Buffalo, NY, USA.

Associate Professor, Department of Geography. Sep. 2014 – present

Assistant Professor, Department of Geography. Aug. 2007 – Aug. 2014

Member of National Center for Geographic Information and Analysis (NCGIA). Mar. 2008 – present

Member of the Asian Studies Advisory Council. Jun. 2013 – Jun. 2016

Affiliate, Division of Environmental Health Sciences in the School of Public Health and Health Professions. Sep. 2010 – present

Affiliate, Research and Education in eNergy, Environment and Water (RENEW) Aug. 2016 – present

University of Cambridge, Department of Geography, Cambridge, CB3 0BU, UK. Lucy Cavendish College, Lady Margaret Road, Cambridge CB3 0BU

Visiting Scholar, Apr. 2016 – Jun. 2016

University of Wollongong, School of Mathematics and Applied Statistics Wollongong, NSW, AU.

Visiting Principal Fellow Jan. 2016 – Mar. 2016

University of Canterbury, Department of Geography, Christchurch, Canterbury, NZ.

Visiting Scholar, Oct. 2015 – Dec. 2015

University of Texas at Dallas, the School of Economic, Political and Policy Sciences Dallas, TX, USA.

Postdoctoral Research Fellow Sep. 2006 – Jun. 2007

University of California Santa Barbara, Department of Geography.

Research Assistant Sep. 2001 – Jun. 2006

Teaching Assistant Sep. 2003 – Jun. 2004

Seoul National University, Department of Geography.

Research Assistant Dec. 1997 – Sep. 2000

Academic Honors and Awards

- Michael Breheny Prize for the Best Paper in Environment and Planning B, Sep. 2014. for *"Neighborhood contexts, health, and behavior: understanding the role of scale and residential sorting",* Environment and Planning B: Planning and Design*, 40(3), 489-506.*
- First recipient of the James L. Smith Medal for Early Career Scientists, International Symposia on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Jul. 2014.

  This award has been initiated to recognize an outstanding contribution, with considerable potential for future such contributions, by an early career scientist to the thematic area of the International Symposia on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, namely how to measure, model and manage uncertainty or error in spatial natural resources or environmental data [from http://www.spatial-accuracy.org/Medals]
- University Consortium for Geographic Information Science (UCGIS) / Environmental Systems Research Institute (ESRI) Junior Scholar Award, University Consortium for Geographic Information Science Symposium, May 2012.

- Dr. Nuala McGann Drescher Affirmative Action/Diversity Leave Program, New York State/United University Professions, Spring 2011.
- Jack and Laura Dangermond Graduate Fellowship, Department of Geography, University of California Santa Barbara, Dec. 2005.
- First place, Student Paper Competition, Spatial Analysis and Modeling Specialty Group of the Association of American Geographers, Apr. 2005.
- Graduate Opportunity Fellowship, Department of Geography, University of California Santa Barbara, Spring 2002.
- Merit based Scholarship, Department of Geography, Seoul National University, Korea, 1995.
- Merit based Scholarship, Han-Won Scholarship Association, Korea, 1994.

Grants as Principal Investigator

- "Modeling ambient air pollution using optimal sensor placement and multiscale spatiotemporal data fusion"
  Funding source: Research and Education in Energy, Environment and Water (RENEW) Standard Seed Grants (University at Buffalo, SUNY), $35,000, Jan. 15, 2017 – Jan. 15, 2019, **E.-H. Yoo** (PI), T. Singh, N. Napp, and L. Mu (all Co-investigators). Research on a supplementary data collection strategy and a data fusion framework to predict air quality needed in a given epidemiological and regulatory context using recent technological advancements in sensor developments and sensor network design.

Grants as Co-Principal Investigator

- "Use of cellphone-based time-activity data for air pollutant exposure estimation"
  Funding source: National Institute of Health (NIH/NIEHS), R21 ES017826, $440,247, Sep. 1, 2010 – Jan. 31, 2014, L. Mu (PI), M. Demirbas, A. Rudra, **E.-H. Yoo**, and A. Szpiro (all Co-PIs), My role: Individual's time-activity pattern analysis and spatio-temporal modeling of PM2.5 exposure using multivariate kriging methods. Research on the use of GPS-equipped smartphones to collect time-activity data used to refine land use regression- and kriging-based estimates of ambient air pollutant exposures.

Grants as Co-Investigator

- "Improve our understanding of the spatiotemporal variations of critical air pollutants in NYS by fusing multisensory data", $415,010, Apr. 1, 2019 – Mar. 31, 2022, K. Sun (PI), **E.H Yoo**, S. Clark, and M. Shelly, The study aims to improve the availability and resolution of ambient PM2.5 data in order to characterize its potential health effects in Western New York hotspots. (Pending).
- "Improving Population Health through Pediatric Surgery Capacity-Building in the Eastern Democratic Republic of Congo" Funding source: the Office of Global Health Initiatives at University at Buffalo, $50,000, Jun. 15, 2017 – Jun. 14, 2019., D. Rothstein (PI), Ekaterina Noyes, Myron Glick, **E.-H. Yoo**, Sarah B. Cairo, and Elizabeth Borngraber. Research on the disparity in access to pediatric surgical services through a traditional Plan, Do, Study, Act (PDSA) approach. My role involve a global needs assessment to enhance the teams knowledge of available medical resources as well as geographic or other barriers in accessing care.
- "From Real-Time Sensor Data Streams to Continuous Data Fields Models: Formal Foundations and Computational Challenges",
  Funding source: National Science Foundation (NSF), Information & Intelligent Systems (IIS)1527504, $500,000, Sep, 1 2015 – Aug, 31 2018, S. Nittel (PI), M. J. Egenhofer (Co-PI), **E.-H. Yoo**, and C. Renschler (Co-investigators), Research on

new approach for modeling fields in the context of real-time sensor streams.

- "A Three-population three-scale social network model to assess disease dispersion" Funding source: the National Institute Of General Medical Sciences of the National Institutes of Health (NIH/NIGMS), R01GM108731, $2,662,074, Mar. 10, 2015 – Feb. 28, 2020, L. Bian (PI), C. Chen (PI), **E.-H. Yoo**, and E. Halloran (Co-investigators), Research on cell phone data mining to construct a census social network and the disease transmission simulation through the network.

Refereed Journal Publications

[32] S. B. Cairo, L. I. Zeinali, **E-H Yoo**, S. K. Berkelhamer, D. H. Rothstein, Travel distance required to achieve regionalization of esophageal and biliary atresia repair in the United States *Pediatrics* (under review)

[31] R. Kerry, **E.-H. Yoo**, and , B. Ingram, 2018, B. Ingram, Spatial Analysis of Drug Poisoning Deaths in the American West using Profile Regression to adjust for Collinearity and Spatial Correlation, *Health and Place* (under review)

[30] A. M. Weaver, E. Gurley, C. Crabtree-Ide, H. Salje, **E-H Yoo**, L. Mu, N Akter, P K. Ram, Air pollution dispersion from biomass fires to neighboring homes in Mirpur, Dhaka, Bangladesh, *BMC Public Health* (under review)

[29] **E.-H. Yoo**, How short is long enough?: Modeling temporal aspects of human mobility behavior using mobile phone data, *Annals of the Association of American Geographers* (under 2nd review)

[28] Y.-S. Eum, **E.-H. Yoo**, B., Elizabeth, Air Pollution and Emergency Department Visits for Asthma, *Social Science & Medicine* (under 2nd review)

[27] S. J. Martin, R. R. Funch, P. R. Hanson, and **E.-H. Yoo**, 2018, A vast 4000-year-old spatial pattern of termite mounds, *Current Biology*, 28, November 19

[26] H. Lim, **E.-H. Yoo**, and M. Park, 2018, Warehouse rental market segmentation using spatial profile regression, *Journal of Transport Geography*, 73, 64-74

[25] **E.-H. Yoo**, B. Ingram, R. Kerry, B. Ortiz, B. Scully, 2018, Identifying Aflatoxin Risk Areas through the Examination of the Associations Between Risk Factor Profiles and Aflatoxin Contamination, *Spatial Statistics*, DOI:10.1016/j.spasta.2018.06.003.

[24] **E.-H. Yoo**, P. Brown, Y.-S. Eum, 2018, Ambient Air Quality and Spatio-temporal Patterns of Cardiovascular Emergency Department Visits, *International Journal of Health Geographics* 17(1) 1-16, DOI: 10.1186/s12942-018-0138-8

[23] Z. Dodson, **E-H Yoo**, 2018, Roth, R.N., and Martin-Gill, C. Spatial Methods to Enhance Public Health Surveillance and Resource Deployment in the Opioid Epidemic. *American Journal of Public Health* DOI:DOI:10.2105/AJPH.2018.304524

[22] K. Stanley, **E.-H. Yoo**, 2018, T. Paul, and S. Bell. A Three-population three-scale social network model to assess disease dispersion, *International Journal of Geographical Information Science* DOI: 10.1080/13658816.2018.1434888

[21] J. Mennis and **E.-H. Yoo**, 2018, Geographic Information Science and the analysis of place and health, *Transaction in GIS*, DOI:10.1111/tgis.12337

[20] X. Jiang and **E.-H. Yoo**, 2018, The importance of spatial resolutions of Community Multiscale Air Quality (CMAQ) models on health impact assessment, *The Science of the Total Environment* 627(15), 1528-1543

[19] S. Shekhar, **E.-H. Yoo**, A. Ahmed, R. Haining, S. Kodannolly, 2017, Analysing malaria incidence at the small area level for developing a spatial decision support system: a case study in Kalaburagi, Karnataka, India, *Spatial and Spatio-temporal Epidemiology*, 20, 9-25.

[18] **E.-H. Yoo**, D. Chen, C. Diao, and C. Russell, 2015, The effects of weather and environmental factors on West Nile virus mosquito abundance in Greater Toronto Area, *Earth Interactions*, 20(3), 1-22.

[17] **E.-H. Yoo**, C. Rudra, and M. Glasgow, 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.

[16] **E.-H. Yoo**, C.-L. Lee, and K.-H. Park, 2015, Valuing commercial spaces in multi-story buildings using a three-level mixed effects modeling approach, *International Regional Science Review*, 38(4), 413-436.

[15] M. Glasgow, C.B. Rudra, **E.-H. Yoo**, M. Demirbas, C. Rudra, and L. Mu, 2014, Using Smartphones to collect time-activity data for long-term personal-level air pollution exposure assessment, *Journal of Exposure Science and Environmental Epidemiology*, DOI:10.1038/jes.2014.78.

[14] G. Cao, **E.-H. Yoo**, and S. Wang, 2014, A statistical framework of data fusion for spatial and categorical variables, *Stochastic Environmental Research and Risk Assessment*, 1-15.

[13] **E.-H. Yoo**, 2014, Site-specific prediction of West Nile virus mosquito abundance in Greater Toronto Area using generalized linear mixed models, *International Journal of Geographical Information Science*, 28(2), 296-313.

[12] **E.-H. Yoo**, 2013, Exploring space-time models for West Nile virus mosquito abundance data, *Applied Geography*, 45, 203-210.

[11] **E.-H. Yoo**, B.W. Hoagland, G. Cao, and T. Fagin, 2013, Spatial distribution of trees and landscapes of the past: a mixed spatially correlated multinomial logit model approach for the analysis of the Public Land Survey data, *Geographical Analysis*, 45, 420–441.

[10] S. E. Spielman, **E.-H. Yoo**, and C. Linkletter, 2013, The urban environment, behavior, and health: understanding the role of scale and sorting in the estimation of neighborhood effects, *Environment and Planning B: Planning and Design*, 40(3), 489-506.

[9] Powell, R. L., **E.-H. Yoo**, and C. J. Still. 2012. Vegetation and soil carbon-13 isoscapes for South America: integrating remote sensing and ecosystem isotope measurements. *Ecosphere*, 3(11):109. http://dx.doi.org/10.1890/ ES12-00162.1

[8] K. Patterson and **E.-H. Yoo**, 2012, Trapped in poor places?: an assessment of the residential spatial patterns of housing choice voucher holders in 2004 and 2008, *Journal of Social Service Research*, 38(5), 637-655.

[7] **E.-H. Yoo**, A.B. Trgovac, 2011, Scale effects in uncertainty modeling of presettlement vegetation distribution, *International Journal of Geographical Information Science*, 25(3), 405-421.

[6] **E.-H. Yoo**, P.C. Kyriakidis, and W. Tobler, 2010, Reconstructing population density surfaces from areal data: a comparison of Tobler's pycnophylactic interpolation method and area-to-point Kriging, *Geographical Analysis*, 42 (1), 78-98.

[5] **E.-H. Yoo** and P.C. Kyriakidis, 2009, Area-to-point Kriging in spatial hedonic price models, *Journal of Geographical Systems*, 11(4), 381-406.

[4] S. E. Spielman and **E.-H. Yoo**, 2009, The spatial dimensions of neighborhood effects, *Social Science & Medicine*, 68(6), 1098-1105.

[3] **E.-H. Yoo** and P.C. Kyriakidis, 2008, Area-to-point predictions under boundary conditions, *Geographical Analysis*, 40(4), 355-379.

[2] **E.-H. Yoo** and P.C. Kyriakidis, 2006, Area-to-point Kriging with inequality-type data, *Journal of Geographical Systems*, 8(4), 357-390.

[1] P.C. Kyriakidis and **E.-H. Yoo**, 2005, Geostatistical prediction and simulation of point values from areal data, *Geographical Analysis*, 37(2), 124-151.

Peer Reviewed Conference Proceedings

[13] **E.-H. Yoo** and M. Chipeta, 2018, Adaptive Sampling for Optimal Mobile Sensor Data Collection, geoENV, July 4-5, Belfast, Northern Ireland, UK.

[12] R. Kerry, **E.-H. Yoo**, 2018, B. Ingram, Spatial Analysis of Drug Poisoning Deaths in the American West using Profile Regression to adjust for Collinearity and Spatial Correlation, geoENV, July 4-5, Belfast, Northern Ireland, UK.

[11] Q. Pu and **E.-H. Yoo**, 2018, Spatio-temporal Modeling of PM2.5 concentrations in Beijing, China, The 13$^{\text{th}}$ International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Beijing, China, 22-23, May 2018

[10] **E.-H. Yoo**, 2017, Mapping urban scale air quality using Big Data: accounting for uncertainty, GeoMED, Sep. 06-09, Porto, Portugal

[9] **E.-H. Yoo**, B. Ingram, R. Kerry, B. Ortiz, B. Scully, Identifying Aflatoxin Risk Areas through the Examination of the Associations Between Risk Factor Profiles and Aflatoxin Contamination, Spatial Statistics 2017, July 4-7, Lancaster, UK.

[8] **E.-H. Yoo** and Y.-S. Eum, Using GPS-enabled mobile phones to characterize individuals activity patterns for epidemiology applications, GIScience 2016, pp. 388-392, September 27-30, Montreal, Ontario, Canada

[7] **E.-H. Yoo** and J. Lee, 2016, Modeling spatial risk of the Foot-Mouth-Disease epidemic in South Korea, *The proceedings of the 12th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, July 5-8, Montpellier, France.

[6] R. Kerry, B. Ortiz, B. Ingram, B. Scully, **E.-H. Yoo**, 2016, Irregularly Sampled Data in Space and Time: Using Poisson Kriging to Reduce the Influence of Uncertain Observations in Assessing the Risk of Aflatoxin Contamination of Corn in Southern Georgia, USA, *The proceedings of the 12th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, July 5-8, Montpellier, France.

[5] Yan Zhuang, Feng Lin, **E.-H. Yoo**, and Wenyao Xu, 2015, AirSense: A Portable Context-sensing Device for Personal Air Quality Monitoring, *The proceedings of the 2015 Workshop on Pervasive Wireless Healthcare*, 17-22, Association for Computing Machinery (ACM), New York, NY, USA.

[4] **E.-H. Yoo**, 2014, Spatiotemporal downscaling under the volume-preserving constraint, In: S., A.M., M., J.P., F., A. & Kravchenko, S. (Eds.). *The proceedings of the 11th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, pp. 2-5, July 8-11, East Lansing, Michigan, USA.

[3] **E.-H. Yoo**, D. Chen, and C. Russell, 2012, Site-specific prediction of mosquito abundance using spatio-temporal Geostatistics, The proceedings of the 10th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, 305-310.

[2] **E.-H. Yoo** and P.R. Trawinski, 2010, Joint space-time modeling of West Nile virus vector mosquito abundance, The proceedings of the 9th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, 193-195.

[1] **E.-H. Yoo**, Y.-C. Wang, and A. Trgovac, 2008, Spatial uncertainty assessment in the reconstruction of presettlement forest patterns in Western NY, USA, The proceedings of the 8th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, vol. 1, 278-279.

Book Chapters

[3] X. Jiang and **E.-H. Yoo**, 2019, Evaluating the effect of domain size of CMAQ model on regional PM2.5 simulations, In: Y. Lu and E. Delmelle (Eds) *Geospatial Technologies of Urban Health*, Elsevier.

[2] **E.-H. Yoo**, 2017, Geostatistics, In: T. J. Cova and M.-H. Tsou (Eds) *Comprehensive Geographic Information Systems: GIS principles and technical designs of GIS*, Elsevier.

[1] **E.-H. Yoo**, D. Chen, and C. Russell, 2014 West Nile virus mosquito abundance modeling using a non-stationary spatio-temporal geostatistics, In: D. Chen, B. Moulin, J. Wu (Eds) *Analyzing and Modeling Spatial and Temporal Dynamics of Infectious Diseases*, Chap. 14, pp. 263-282, John Wiley & Sons, Hoboken, NJ.

Book Reviews

[2] **E.-H. Yoo**, 2015, *Scale in Spatial Information and Analysis* by Jingxiong Zhang, Peter Atkinson, Michael F. Goodchild, CRC Press, Boca Raton, FL, 2014, *Photogrammetric Engineering & Remote Sensing (PE&RS)*.

[1] **E.-H. Yoo** and J. Aldstadt, 2011, *Principles of Modeling Uncertainties in Spatial Data and Spatial Analyses* by Shi, Wenzhong, CRC Press, 2010, *Journal of Regional Science*, vol. 51(4), 860.

Invited Seminars & Presentations

[26] **E.-H. Yoo** and N. Napp, Mapping urban scale air quality using big data: Accounting for uncertainty, Air Sensors International Conference, Oakland, CA, USA, 12-14, Sep. 2018

[25] **E.-H. Yoo** and M. Chipeta, 2018, Adaptive Sampling for Optimal Mobile Sensor Data Collection, The 12th geoENV, Belfast, Ireland, 8-11, Jul. 2018

[24] Q. Pu and **E.-H. Yoo**, 2018, Spatio-temporal Modeling of PM2.5 concentrations in Beijing, China, The 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Beijing, China, 22-23, May 2018

[23] **E.-H. Yoo**, Mapping urban scale air quality using Big Data: accounting for uncertainty, GeoMED, Porto, Portugal, Sep. 06-09, 2017,

[22] **E.-H. Yoo**, A geospatial approach to exposure assessment for PM2.5, Graduate School of Public Health, Seoul National University, Seoul, S. Korea, Apr. 8, 2016

[21] **E.-H. Yoo**, A geospatial approach to air pollution exposure assessment, National Institute of Applied Statistics Research Australia (NIASRA), School of Mathematics and Applied Statistics, University of Wollongong, Wollongong NSW 2522, Australia, Mar. 3, 2016

[20] **E.-H. Yoo**, A geospatial modeling approach to public health research, University of Pittsburgh Graduate School of Public Health, Pittsburgh PA 15261, USA, Sep. 14, 2015

[19] **E.-H. Yoo**, Foot-and-Mouth disease in South Korea, Symposium on Health, Well-Being, Social Security and Vulnerability in Asia, University at Buffalo, The State University at New York, USA, Sep. 10, 2015

[18] **E.-H. Yoo**, Activity-based dynamic air pollution exposure assessment, Department of Geography, Seoul National University, Korea, May 19, 2015.

[17] **E.-H. Yoo**, A geospatial approach for activity-based dynamic exposure assessment, Geography & Geographic Information Science, University of Illinois at Urbana-Champaign, Champaign, IL, 13 Mar., 2015.

[16] **E.-H. Yoo**, An uncertainty-aware dynamic personal exposure assessment to air pollution, UB Air Pollution Workshop, Buffalo, NY, 26 Sep., 2014.

[15] **E.-H. Yoo**, Propagation of uncertainty in dynamic air pollution exposure modeling, GIScience Research Track, Esri International User Conference, San Diego, California, 14-18 Jul., 2014.

[14] **E.-H. Yoo**, 2014, Spatiotemporal downscaling under the volume-preserving constraint, The 11^{th} International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, East Lansing, MI, USA, 8-11, Jul. 2014 (keynote speaker)

[13] **E.-H. Yoo**, Spatio-temporal prediction of PM2.5 concentrations in the presence of uncertainty, Department of Social and Preventive Medicine, University at Buffalo, The State University at New York, USA, Oct. 4, 2013

[12] **E.-H. Yoo**, Site-specific mosquito abundance modeling: case study in Greater Toronto Area, Department of Geography, Kyounghee University, Korea, Jun. 24, 2013.

[11] **E.-H. Yoo**, Spatio-temporal modeling mosquito abundance in Greater Toronto Area, Department of Geoinformatics, University of Seoul, Korea, Jun. 18, 2013.

[10] R. L. Powell, **E.-H. Yoo**, C. J. Still, Ecosystem Carbon-13 Isoscapes and uncertainty estimates for Africa: integrating Remote Sensing and field Isotope measurements, the American Geophysical Unions 45^{th} annual Fall Meeting, San Francisco, CA, Dec. 3-7, 2012.

[9] **E.-H. Yoo**, Modeling uncertainty in combining two centuries of census data, 2012 University Consortium for GIScience (UCGIS) Symposium, Washington, DC, USA, Jun. 01, 2012.

[8] **E.-H. Yoo**, A dynamic zero-inflated count model for West Nile Virus vector mosquito, Department of Geography, Queens University, Kingston, Ontario, Canada, Apr. 05, 2012.

[7] **E.-H. Yoo**, Uncertainty modeling of presettlement vegetation distribution, Department of Geoinformatics, University of Seoul, Korea, Jan. 06, 2012.

[6] **E.-H. Yoo**, Geostatistical modeling under preferential sampling, Department of Geography and National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign, Urbana Champaign, Illinois, USA, Aug. 26, 2011.

[5] **E.-H. Yoo**, The Potentials and limitations of multivariate Geostatistics, Center for Spatial Analysis Seminar Series, McMaster University, Hamilton, Ontario, Canada, Mar. 26, 2010.

[4] **E.-H. Yoo**, Spatial uncertainty assessment: presettlement vegetation reconstruction, Integrated Graduate Education and Research Traineeship Program (IGERT) Colloquium, University at Buffalo, The State University at New York, USA, Nov. 14, 2008.

[3] **E.-H. Yoo**, Spatial uncertainty assessment: presettlement vegetation reconstruction, The Institute for Korean Regional Studies, Seoul National University, Korea, Jul. 22, 2008.

[2] **E.-H. Yoo**, A Geostatistical framework for downscaling spatial data, Department of Geoinformatics, University of Seoul, Korea, Jul. 18, 2008.

[1] **E.-H. Yoo**, A Geostatistical framework for downscaling spatial data: population density surface reconstruction, Korea Research Institute for Human Settlements, Anyang-si, Gyeonggi-do, Korea, Jul. 15, 2008.

Conference Presentation with Abstracts

[32] Z. Dodson, **E.-H. Yoo**, and J. Buchanich, Leveraging Geospatial Methods to Accurately Identify Clusters of Opioid Drug Abuse and Target Interventions, The 39th Annual Meeting of the Society for Medical Decision Making.

[31] **E.-H. Yoo**, Young-Seob Eum, Xiangyu Jiang Air Pollution and Emergency Department Visits for Cardio Vascular Disease, The 113$^{\text{th}}$ Annual meeting of the Association of American Geographers, Hynes Convention Center, Boston, MA, USA, Apr. 5 - Apr. 9, 2017.

[30] X. Jiang and **E.-H. Yoo**, Bringing together multiple sources of data for modeling spatio-temporal variability of particulate matter in New York, USA , The 112$^{\text{th}}$ Annual meeting of the Association of American Geographers, San Francisco, CA, USA, Mar. 29 - Apr. 2, 2016.

[29] Y.-S. Eum and **E.-H. Yoo**, Contextualization of GPS data with applications to epidemiological study, The 112$^{\text{th}}$ Annual meeting of the Association of American Geographers, San Francisco, CA, USA, Mar. 29 - Apr. 2, 2016.

[28] **E.-H. Yoo**, Uncertainty-aware personal air pollution exposure assessment, The 111$^{\text{th}}$ Annual meeting of the Association of American Geographers, Chicago, IL, USA, Apr. 22-25, 2015.

[27] **E.-H. Yoo**, Spatio-temporal prediction & simulation under the volume preserving constraints, The 11$^{\text{th}}$ International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, East Lansing Michigan, 48824, USA, Jul. 8-11, 2014.

[26] X. Jiang and **E.-H. Yoo**, Spatiotemporal Contextual Units for Environmental Exposure Study, The 110$^{\text{th}}$ Annual meeting of the Association of American Geographers, Tampa, FL, USA, Apr. 8-12, 2014.

[25] **E.-H. Yoo**, An uncertainty-aware dynamic air pollution exposure assessment, Spatial Statistics 2013, Columbus, OH, USA, Jun. 4-7, 2013.

[24] **E.-H. Yoo**, D. Chen, and C. Russell, 2013, Site-specific prediction of mosquito abundance in Greater Toronto Area using generalized linear mixed-effects models, The 109th Annual meeting of the Association of American Geographers, Los Angeles, CA, USA, Apr. 9-13, 2013.

[23] X. Pu and **E.-H. Yoo**, 2013, Assessing the effects of clustered sampling of Public Land Survey records for historic tree distribution reconstruction, The 109th Annual meeting of the Association of American Geographers, Los Angeles, CA, USA, Apr. 9-13, 2013.

[22] **E.-H. Yoo**, D. Chen, and C. Russell, 2012, Site-specific prediction of mosquito abundance using spatio-temporal Geostatistics, The 10th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Florianopolis, SC, Brazil, Jul. 10-13, 2012.

[21] M. Glasgow, L. Mu, P. Nayak, C. Crabtree Ide, M. Demirbas, **E.-H. Yoo**, A. Szprio, A. Rudra, J. Merriman, J. Wactawski-Wende, C. Rudra, Smartphone technology for improving air pollution exposure estimates, The 45th Society for Epidemiologic Research's Annual Meeting, Jun, 27-30, 2012.

[20] **E.-H. Yoo** and H. Hu, 2012, Floating U.S. Census boundaries, The 108th Annual meeting of the Association of American Geographers, NY, USA, Feb. 24-28, 2012.

[19] T. Fagin, **E.-H. Yoo**, B.W. Hoagland, and G. Cao, Modeling spatial distribution of PLS witness tree data using a multinomial logistic mixed model, The 108th Annual meeting of the Association of American Geographers, NY, USA, Feb. 24-28, 2012.

[18] **E.-H. Yoo** and W. Mering and P.R. Trawinski, 2011, A space-time zero-inflated count model of West Nile Virus vector mosquitoes, The 107th Annual meeting of the Association of American Geographers, Seattle, USA, April 12-16, 2011.

[17] **E.-H. Yoo** and S. E. Spielman, and C. Linkletter, 2010, Sorting out the effect of scale and residential selection on bias in estimates of contextual effects, The 57th North American Meetings of the Regional Science Association International, Denver, USA, Nov. 10-13, 2010.

[16] **E.-H. Yoo** and P.R. Trawinski, 2010, Joint space-time modeling of West Nile virus vector mosquito abundance, The 9th International Symposium on Spatial Accuracy Assessment (ISARA) in Natural Resources and Environmental Sciences, Leicester, UK, Jul. 20-23 2010.

[15] **E.-H. Yoo** and A. Trgovac, Scale effects in uncertainty modeling of presettlement vegetation distribution, The 106th Annual meeting of the Association of American Geographers, Washington, DC, USA, Apr. 14-18, 2010.

[14] S. E. Spielman and **E.-H. Yoo**, The spatial dimensions of neighborhood effects, The 55th Annual North American meetings of the Regional Science Association International, Brooklyn, NY, USA, Nov. 19-22, 2008.

[13] **E.-H. Yoo**, Y.-C. Wang, and A. Trgovac, Spatial uncertainty assessment in the reconstruction of presettlement forest patterns in western NY, USA, The 8th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Shanghai, China, Jun. 25-28, 2008.

[12] **E.-H. Yoo** and D.-J., Kim, Geostatistical accuracy assessment of public land appraisal values, The 104th Annual meeting of the Association of American Geographers, Boston, IL, USA, Apr. 7-11, 2008.

[11] **E.-H. Yoo** and P.C. Kyriakidis, Area-to-point coKriging in spatial hedonic price models, The 103rd Annual meeting of the Association of American Geographers, San Francisco, CA, USA, Apr. 17-21, 2007.

[10] **E.-H. Yoo**, Spatial modeling of housing prices using Factorial Kriging, The 53rd Annual North American meetings of the Regional Science Association International, Toronto, Canada, Nov. 16-18, 2006.

[9] **E.-H. Yoo**, P.C. Kyriakidis, and W. Tobler, Reconstructing population density surfaces from areal data, The 102th Annual meeting of the Association of American Geographers, Chicago, IL, USA, Mar. 7-11, 2006.

[8] **E.-H. Yoo**, H.-S. Shin, and H.-G. Son, Spatial prediction of housing prices in Seoul using a geostatistical approach, The Korean Geographical Society, Seoul, Korea, Jun. 8-9, 2006.

[7] **E.-H. Yoo** and P.C. Kyriakidis, Area-to-point Kriging with inequality-type data, The 8th International Conference on Geocomputation, Ann Arbor, Michigan, USA, Aug. 1-3, 2005.

[6] **E.-H. Yoo**, Area-to-point Kriging prediction under boundary conditions, The 101th Annual meeting of the Association of American Geographers Student Paper Competition, Denver, CO, USA, Apr. 6-9, 2005.

[5] P.C. Kyriakidis and **E.-H. Yoo**, Geostatistical prediction/simulation of point values from areal data, The 7th International Conference on Geocomputation, Southampton, UK, Sep., 8-10, 2003.

[4] **E.-H. Yoo**, Spatial statistical analysis in a GIS environment, Geographic Information System Association of Korea, Ewha Women's University, Seoul, Korea, Nov., 1998.

[3] Washburn, L., P.C. Kyriakidis, **E.-H. Yoo**, and J. Clark, Spatial scales and distribution of hydrocarbon seeps near Coal Oil Point, CA, Annual meeting of the American Association of Petroleum Geologists, Salt Lake City, UT, May 2003.

[2] **E.-H. Yoo** and K.-H. Park, Spatial pattern analysis of urban crime, The 98th Annual meeting of the Association of American Geographers, Los Angeles, CA, USA, Mar. 12-23, 2002.

[1] **E.-H. Yoo** and K.-H. Park, The way of linking S-plus and Arcview, The 8th ESRIs GIS Workshop, Seoul, Korea, Sep., 1998.

Teaching Experience

SUNY at Buffalo, Buffalo, NY, USA

Instructor Sep. 2007 to present

- GEO 100, Geographic Perspectives and World Issues (undergraduate)
- GEO 281, Web GIS (undergraduate)
- GEO 410/505, Univariate Statistics in Geography (cross-listed)
- GEO 481/506, Geographical Information Systems (cross-listed)
- GEO 482/507, Locational Analysis (cross-listed)
- GEO 503, Geography Seminars (graduate) taught under the following subtitles [Special Topics in Spatial Data Analysis (2007), Advanced Geostatistics (2008), Practical Geostatistics (2009, 2010), GEO 577. Environmental Statistics (2012 to Present)]

University of Texas at Dallas, the School of Economic, Political and Policy Sciences
Dallas, TX, USA

Guest instructor Jun. 2008

- Training workshop in Spatial Filter Modeling for Environmental, Health and Social Scientists and Applied Statisticians, disseminating the novel methodology of spatial filtering to a group of emanating academics and established professionals, who are engaged in spatial analysis, demography, epidemiology, ecology and econometrics.

University of Calfiornia, Santa Barbara, Santa Barbara, CA, USA

Teaching assistant and project consultant

- Spatial Perspectives on Analysis for Curriculum Enhancement (SPACE), Jul. 2005 & Jun. 2006.
  training university and college instructors to design and implement innovative curriculum that will enhance undergraduate students to integrate and analyze spatially reference data with GIS, analytical cartography, and spatial statistics, Center for Spatially Integrated Social Science (CSISS)
- GIS and Population Science, Jun. 2005 - Jul. 2005 & Jul. 2006 - Aug. 2006. Training Ph.D. candidates and researchers in social science to use of spatial methods in population research, Center for Spatially Integrated Social Science (CSISS).

Kyung-Hee University, Seoul, Korea

Instructor Mar. 2001 to Jun. 2001

- AJ005: Geographical Data Analysis
- AJ119: Quantitative Geography

Graduate Dissertation Committees

Ph.D.	Graduated(1)	Supervised(0)
MA/MS	Graduated(4)	Supervised(3)
Ph.D.	Current(3)	Supervising(1)
MA/MS	Current(3)	Supervising(3)

MA/MS Committee Chair

- Youdi Shi, Graduate student in Geography (Completed, 2018)
- J. Zhang, Graduate student in Geography (Completed, 2017)
- Y. Luo, Graduate student in Geography (Completed, 2015)
- H. Yu, Graduate student in Geography (Completed, 2015)
- X. Jiang, Graduate student in Geography, "A search for spatio-temporal contextual units relevant to environmental exposure study " (Completed, 2013).
- X. Pu, Graduate student in Geography, "Assessing the effects of clustered sampling of Public Land Survey records for historic tree distribution reconstruction" (Completed, 2013).
- Q. Wang, Graduate student in Geography, "Evaluation of accessibility to social welfare facilities: housing choice voucher holders in Erie county, NY", (Completed, 2013).
- H. Hao, Graduate student in Geography. "Uncertainty analysis of areal weighting interpolation based on simulated incompatible census boundaries" (Completed, 2012).
- S.G. Cramblet Graduate student in Geography. "Buffalo in the brownfields: environmental injustice?" (Completed, 2012).

MA/MS Committee Member

- S. Zhang, Graduate student in Geography
- P.Wang, Graduate student in Geography (Completed, 2012)
- E. Ameroso, Graduate student in Geography (Completed, 2010)

Ph.D. Committee Chair

- X. Jiang, Graduate student in Geography (in progress)
- Y. Eum, Graduate student in Geography (in progress)

Ph.D. Committee Member

- S. Zhong, Graduate student in Geography (in progress).
- D. Yin, Graduate student in Geography (in progress).
- W. Ji, Graduate student in Geography (Completed, 2017)
- C. Diao, Graduate student in Geography (Completed, 2017)
- G. Galindo, Graduate student in Industrial and Systems Engineering (Completed, 2012)
- M. Henchey, Graduate student in Industrial and Systems Engineering (Completed, 2012)
- D.J. Kim, Graduate student in Geography (Completed, 2009)

Professional Service

Editorship

- Board of Editors, *Annals of the Association of American Geographers*, 2018 to present.
- Board of Editors, *International Journal of Environmental Research and Public Health*, 2015 to present.

Board Appointments

- Board of Directors, University Consortium for Geographic Information Science (Jul. 1, 2017 – Jun. 30, 2020).
- Board of Directors, Spatial Analysis and Modeling (SAM) specialty group of the Association of American Geographers (2014–2016)
- Board of Directors, University Consortium for Geographic Information Science (2014 – 2015).
- Secretary, University Consortium for Geographic Information Science (2011 – 2012).

Non-Panelist Proposal Reviewer

- *NSF for the Geography and Spatial Sciences (GSS) Program*, the U.S. National Science Foundation (NSF), Oct. 2015.
- *NSF for the Geography and Spatial Sciences (GSS) CAREER Program*, the U.S. National Science Foundation (NSF), Aug. 2015.
- *General Research Fund* of the Research Grants Council (RGC) of Hong Kong, Apr. 2014.
- *NSF for the Geography and Spatial Sciences (GSS) Program*, the U.S. National Science Foundation (NSF), Nov. 2013.
- *NSF Partnerships for International Research & Education program*, University at Buffalo, Jan. 2009.

Committees & Board Appointments

- Program committee: "BigSpatial 2018" (7th ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data)

- Program committee: "The 10th International Conference on Geographic Information Science", in Melborne, Australia, Aug. 28 to 31, 2018.
- Program committee: "UCGIS 2018 Symposium and CaGIS Auto Carto: Frontiers of Geospatial Data Science", in Madison, WI, May. 22 to 24, 2018.
- Steering committee: "The 13th International Spatial Accuracy Research Association in Natural Resources and Environmental Sciences", Beijing, China, May 21–24, 2018.
- Program committee: "BigSpatial 2017" (6th ACM SIGSPATIAL International Workshop on Analytics for Big Geospatial Data)
- Steering committee: Air Quality IDEAS Lab, Hayes Hall on South Campus, University at Buffalo, Buffalo, NY, USA, Jun 13-15, 2017
- Program committee: "The 9th International Conference on Geographic Information Science", in Montreal, Canada, Sep. 27 to 30, 2016.
- Steering committee: "The 12th International Spatial Accuracy Research Association in Natural Resources and Environmental Sciences", Montpellier, France, Jul. 5–8, 2016.
- Committee members: *International Geospatial Health Research Symposium: Creating Synergies*, AAG Annual Meeting, Chicago, April 21-25, 2015
- Session organizer: *Spatio-temporal analysis of vector-borne disease*, a part of the Symposium: Geography, GIScience, and Health: Spatial Frontiers of Health Research and Practice, The Annual Meeting of the Association of American Geographers, April 9-13, 2013.
- Program committee: "The 1st The Association for Computing Machinery (ACM) SIGSPATIAL international HealthGIS 2012 Workshop", Redondo Beach, CA, USA, Nov. 6, 2012.
- Scientific committee: "The 9th International Spatial Accuracy Research Association in Natural Resources and Environmental Sciences", Leicester, UK, Jul. 20–23, 2010.

Promotion and Tenure Review
University Texas at Dallas (2014)

Invited Panelist
- *A New Landscape of Medical Geography in Korea*, Panel session to discuss the potentials and tasks of medical geography in Korea. The Korean Geographical Society, Seoul, Korea. Jun. 21-22, 2013
- *20 Years of Spatial Statistics*, Panel session to commemorate the 20th anniversary publication of the Dan Griffith's landmark book, Organizer: Antonio Pez, The 55th Annual North American meetings of the Regional Science Association International, Brooklyn, NY, USA, Nov. 19-22, 2008.

Manuscript Reviewer
- *American Journal of Public Health*
- *Annals of the Association of American Geographers*
- *Applied Geography*
- *Building and Environment*
- *Computers & Geosciences*
- *Computers, Environment and Urban Systems*
- *Environment and Planning A*
- *Geographical Analysis*
- *Health & Place*
- *International Journal of Environmental Research and Public Health*

- *International Journal of Geographical Information Science*
- *International Regional Science Review*
- *Journal of Ecosystem & Ecography*
- *Journal of Environmental and Public Health*
- *Journal of Geovisualization and Spatial Analysis*
- *Journal of Geographical System*
- *Papers in Regional Science*
- *PLOS One*
- *Science of the Total Environment*
- *Social Problems*
- *Social Science & Medicine*
- *Spatial and Spatio-temporal Epidemiology*
- *Spatial Statistics*
- *Stochastic Environmental Research and Risk Assessment*
- *The Geographic Information Science & Technology Body of Knowledge*
- *The Professional Geographer*
- *Transactions in GIS*
- *Urban Geography*
- *Water Resources Research*

Book Reviewer

- *Routledge, Taylor & Francis Group (Applied GIS and spatial modeling)*, 2014
- *Springer (Statistics)*, 2007