

Yongwan Chun

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EDUCATION

Ph.D., Geography, 2007, The Ohio State University, Columbus, Ohio.
M.A.S., Statistics, 2006, The Ohio State University, Columbus, Ohio.
M.A., Geography Education, 2002, Seoul National University, Seoul, South Korea.
B.A., Geography Education, 1996, Seoul National University, Seoul, South Korea.

PROFESSIONAL EXPERIENCE

2021–present Professor, School of Economic, Political and Policy Sciences (EPPS), The University of Texas at Dallas.
2015–2021 Associate Professor, School of EPPS, The University of Texas at Dallas.
2009–2015 Assistant Professor, School of EPPS, The University of Texas at Dallas.
2008–2009 Clinical Assistant Professor, School of EPPS, The University of Texas at Dallas.
2007–2008 Postdoctoral Research Fellow, School of EPPS, The University of Texas at Dallas.
2003–2007 Teaching/Research Assistant, Department of Geography, The Ohio State University.
2002–2003 Research Assistant, Center for Mapping, The Ohio State University.
2001–2002 Academic Administration Assistant, Department of Geography Education, Seoul National University.
1997–2001 GIS Analyst/Instructor, Technical Support Department, Esri Korea Inc.

Other Positions

2021–present Director of Graduate Studies and Associate Head, Geospatial Information Sciences Program, School of EPPS, The University of Texas at Dallas.
2017 Acting Program Head, Geospatial Information Sciences Program, School of EPPS, The University of Texas at Dallas (Fall semester).
2013–2018 Coordinator, Graduate Certificate Program, School of EPPS, The University of Texas at Dallas: Geographic Information System, Remote Sensing, and Geospatial Intelligence certificates.

GRANTS

- Integration of spatial autocorrelation to location-allocation problems: Enhancing solving capability and heuristics, **Chun, Y.** (PI), D. A. Griffith, and Hyun Kim (co-PIs), **\$460,000**, National Science Foundation (BCS-1951344), August 01, 2020 – January 31, 2024.
- Analyzing the effects of spatial autocorrelation in geospatial databases, Kim, D. (PI), H. Chang, and **Y. Chun** (co-PIs), **\$336,478**, National Science Foundation (BCS-1560907), September 01, 2016 – February 29, 2020.

- Uncertainty in spatial data: Identification, visualization and utilization, Griffith, D. A. (PI), D. Wong, **Y. Chun**, and D. B. Carr (co-PIs), **\$863,468**, National Institutes of Health (1R01HD076020-01A1), September 01, 2014 – August 31, 2018.
- EDT: Team training mathematical scientists through industrial collaborations, Minkoff, S. (PI), J. Zweck, Y. Gel, F. Pereira, Y. Cao (co-PIs), Y. Lou, M. Goeckner, L. Ammann, **Y. Chun**, and Richard Scotch (Senior Personnel), **\$598,805**, National Science Foundation (DMS-1514808), June 01, 2015 – May 31, 2018.
- Early career participants support for Geocomputation 2015, **Chun, Y.** (PI), **\$37,300**, National Science Foundation (BCS-1461259), March 1, 2015 – December 31, 2015.
- Geospatial research in global health policy, Kim, D. (PI) and **Y. Chun** (co-PI), **\$5,000**, EPPS Advisory Council Grant, School of Economic, Political and Policy Science at the University of Texas at Dallas, January 01, 2015 – December 18, 2015.
- Assessing the statistical quality of eigenvector spatial filter-based estimators, **Chun, Y.** (PI) and D. A. Griffith (co-PI), **\$114,997**, National Science Foundation (BCS-1229223), September 01, 2012 – February 28, 2015.
- Path finding on a continuous surface using GIS, **Chun, Y.** (PI) and D. J. Dean (co-PI), **\$13,000**, Cubes Inc., January 01, 2014 – December 30, 2014.
- Geocomputational aspects in eigenvector spatial filtering method, **Chun, Y.** (PI), **\$5,000**, EPPS Advisory Council Grant, School of Economic, Political and Policy Science at the University of Texas at Dallas, January 14, 2013 – August 15, 2013.
- Enhancement of environment impact Assessments using GIS, **Chun, Y.** (PI) and D. J. Dean (co-PI), **\$12,000**, Sundosoft Inc., August 01, 2012 – December 31, 2012.

PUBLICATIONS (* indicates advisees at the time of research)

Books

- 2021, **Chun, Yongwan**, Mei-Po Kwan, and Daniel A. Griffith (eds.), *Uncertainty and Context in GIScience and Geography: Challenges in the Era of Geospatial Big Data*, London, UK: Routledge, republication of a special issue of *International Journal of Geographical Information Science* (vol. 33, no. 6).
- 2019, Griffith, Daniel A., **Yongwan Chun**, and Bin Li, *Spatial Regression Analysis Using Eigenvector Spatial Filtering*, London, UK: Elsevier.
- 2017, Griffith, Daniel A., **Yongwan Chun**, and Denis J. Dean (eds.), *Advances in Geocomputation: Geocomputation 2015-The 13th International Conference*, Switzerland: Springer International Publishing.
- 2013, **Chun, Yongwan** and Daniel A. Griffith, *Spatial Statistics and Geostatistics: Theory and Applications for Geographic Information Science and Technology*, Thousand Oaks, CA: SAGE Publications.

Journal Special Issues

- 2021, Spatial Data Uncertainty in Public Health Research, Daniel A. Griffith and **Yongwan Chun** (eds.), special issue in *International Journal of Environmental Research and Public Health*.
- 2019, Uncertainty and Context in GIScience and Geography: Challenges in the Era of Geospatial Big Data. **Yongwan Chun**, Mei-Po Kwan, and Daniel A. Griffith (eds.), special issue in *International Journal of Geographical Information Science*, vol. 33, no. 6.

Journal Articles

- 2022, Griffith, Daniel, **Yongwan Chun**, and Hyun Kim, Spatial autocorrelation informed approaches to solving location-allocation problems, *Spatial Statistics*, accepted.
- 2022, Jung, Yeondae*, **Yongwan Chun**, and Kamyong Kim, Modeling crime density with population dynamics in space and time: an application of assault in Gangnam, South Korea, *Crime and Delinquency*, in press.
- 2022, Griffith, Daniel A., **Yongwan Chun**, and Jan Hauke, A Moran eigenvector spatial filtering specification of spatial entropy, *Papers in Regional Science*, in press.
- 2022, Chea, Heewon, Hyun Kim, Shih-Lung Shaw, and **Yongwan Chun**, Assessing trauma center accessibility for healthcare equity using anti-covering approach, revised and resubmitted to *International Journal of Environmental Research and Public Health*, 19, 1459.
- 2021, Donegan, Connor*, **Yongwan Chun**, and Daniel A. Griffith, Modeling community health with areal data: Bayesian inference with survey standard errors and spatial structure, *International Journal of Environmental Research and Public Health*, 18(13), 6859.
- 2021, Koo, Hyeongmo, **Yongwan Chun**, and David Wong, Measuring local spatial autocorrelation with data reliability information, *The Professional Geographer*, 73(3), pp. 464–480.
- 2021, Griffith, Daniel A. and **Yongwan Chun**, Soil sample assay uncertainty and the geographic distribution of contaminants: Error impacts on Syracuse trace metal soil loading analysis results, *International Journal of Environmental Research and Public Health*, 18(10), 5164.
- 2021, Zhang, Huijie, Li An, Richard Bilsborrow, **Yongwan Chun**, Shuang Yang, and Jie Dai, Neighborhood impacts on household participation in payments for ecosystem services programs: Methodological exploration, *Journal of Geographical Sciences*, 31(6), pp. 899–922.
- 2021, Griffith, Daniel A., **Yongwan Chun**, and Monghyeon Lee*, Deeper spatial statistical insights into small geographic area data uncertainty, *International Journal of Environmental Research and Public Health*, 18(1), 231.
- 2020, Jung, Yeondae*, **Yongwan Chun**, and Daniel A. Griffith, Temperature and assault in an urban environment: An empirical study in the city of Seoul, South Korea, *Applied Geography*, 124, 102340.
- 2020, Hu, Lan*, **Yongwan Chun**, and Daniel A. Griffith, Uncovering a positive and negative spatial autocorrelation mixture pattern: a spatial analysis of breast cancer incidences in Broward County, Florida, 2000–2010, *Journal of Geographical Systems*, 22(3), pp. 291–308.
- 2020, Donegan, Connor*, **Yongwan Chun**, and Amy E. Hughes, Bayesian estimation of spatial filters with Moran's eigenvectors and hierarchical shrinkage priors, *Spatial Statistics*, 38, 100450.
- 2020, Hu, Lan*, Daniel A. Griffith, and **Yongwan Chun**, Impacts of spatial autocorrelation in georeferenced beta and multinomial random variables, *Geographical Analysis*, 52(2), pp. 278–298.
- 2020, Koo, Hyeongmo*, Monghyeon Lee*, **Yongwan Chun**, and Daniel A. Griffith, Space-time clusters detection with the cross space-time relative risk function, *Cartography and Geographic Information Science*, 47(1), pp. 67–78.
- 2019, Mainali, Janardan, Heejun Chang, and **Yongwan Chun**, A review of spatial statistical approaches to modeling water quality, *Progress in Physical Geography*, 43(6), pp. 801–826.

- 2019, Hu, Lan*, **Yongwan Chun**, and Daniel A. Griffith, A multilevel eigenvector spatial filtering model of house prices: a case study of house sales in Fairfax County, Virginia, *ISPRS International Journal of Geo-Information*, 8(11), 508.
- 2019, Koo, Hyeongmo*, David Wong, and **Yongwan Chun**, Measuring global spatial autocorrelation with data reliability information, *The Professional Geographer*, 71(3), pp. 551–565.
- 2019, Lee, Monghyeon*, **Yongwan Chun**, and Daniel A. Griffith, An evaluation of kernel smoothing to protect confidentiality of patient locations, *International Journal of Urban Sciences*, 23(3), pp. 335–351.
- 2019, Tardin, Rodrigo H., **Yongwan Chun**, Sheila M. Simão, and Maria Alice S. Alves, Habitat use models of spatially auto-correlated data: a case study of the common bottlenose dolphin, *Tursiops truncatus truncatus*, in southeastern Brazil, *Marine Biology Research*, 15(4), pp. 305–316.
- 2019, Kim, Yushim and **Yongwan Chun**, Revisiting environmental inequity in southern California: Does environmental risk increase in ethnically homogeneous or mixed communities?, *Urban Studies*, 56(9), pp. 1748–1767.
- 2019, Griffith, Daniel A. and **Yongwan Chun**, Implementing Moran eigenvector spatial filtering for massively large georeferenced datasets, *International Journal of Geographical Information Science*, 33(9), pp. 1703–1717.
- 2019, Gaspard, Guetchine, Daehyun Kim, and **Yongwan Chun**, Residual spatial autocorrelation in macroecological and biogeographical modeling: A review, *Journal of Ecology and Environment*, 43, 19.
- 2019, Tardin, Rodrigo H., **Yongwan Chun**, Clinton N. Jenkins, Israel S. Maciel, Sheila M. Simão, Maria Alice S. Alves, Environment and anthropogenic activities influence cetacean habitat use in Southeastern Brazil, *Marine Ecology Progress Series*, 616, pp. 197–210.
- 2019, Lee, Sang-Il, Monghyeon Lee*, **Yongwan Chun**, and Daniel A. Griffith, Uncertainty in the effects of the modifiable areal unit problem under different levels of spatial autocorrelation: A simulation study, *International Journal of Geographical Information Science*, 33(6), pp. 1135–1154.
- 2018, Hu, Lan*, Daniel A. Griffith, and **Yongwan Chun**, Space-time statistical insights about geographic variation in lung cancer incidence rates: Florida, 2000-2011, *International Journal of Environmental Research and Public Health*, 15(11), 2406.
- 2018, Koo, Hyeongmo*, **Yongwan Chun**, and Daniel A. Griffith, Modeling positional uncertainty acquired through street geocoding, *International Journal of Applied Geospatial Research*, 9(4), pp. 1–22.
- 2018, **Chun, Yongwan** and Daniel A. Griffith, Impacts of negative spatial autocorrelation on frequency distributions, *Chilean Journal of Statistics*, 9(1), pp. 3–17.
- 2018, Koo, Hyeongmo*, **Yongwan Chun**, and Daniel A. Griffith, Integrating spatial data analysis functionalities in a GIS environment: Spatial Analysis using ArcGIS Engine and R (SAAR), *Transactions in GIS*, 22(3), 721–736.
- 2018, Lee, Monghyeon*, **Yongwan Chun**, and Daniel A. Griffith, Errors propagation in spatial modeling of public health data: A simulation approach using pediatric blood lead level data for Syracuse, New York, *Environmental Geochemistry and Health*, 40(2), pp. 667–681.
- 2018, Koo, Hyeongmo*, **Yongwan Chun**, and Daniel A. Griffith, Geovisualizing attribute uncertainty of interval and ratio variables: a framework and an implementation for vector data, *Journal of Visual Languages and Computing*, 44, pp.89–96.

- 2017, Tardin, Rodrigo H., **Yongwan Chun**, Sheila M. Simão, Maria Alice S. Alves, Modeling habitat use by Bryde's whale, *Balaenoptera edeni*, off southeastern Brazil, *Marine Ecology Progress Series*, 576, pp. 89–103.
- 2017, Kim, Kamyong, **Yongwan Chun**, and Hyun Kim, p -Functional clusters location problem for detecting spatial clusters with covering approach, *Geographical Analysis*, 49(1), pp. 101–121.
- 2017, Koo, Hyeongmo*, **Yongwan Chun**, and Daniel A. Griffith, Map classification incorporating uncertainty information, *Annals of the American Association of Geographers*, 107(3), pp. 575–590.
- 2016, Griffith, Daniel A. and **Yongwan Chun**, Spatial autocorrelation and uncertainty associated with remotely sensed data, *Remote Sensing*, 8(7), 535.
- 2016, Kim, Kamyong, Denis J. Dean, Hyun Kim, and **Yongwan Chun**, Spatial optimization for regionalization problems with spatial interaction: a heuristic approach, *International Journal of Geographical Information Science*, 30(3), pp. 451–473.
- 2016, Griffith, Daniel A. and **Yongwan Chun**, Evaluating eigenvector spatial filter corrections for omitted georeferenced variables, *Econometrics*, 4(2), 29.
- 2016, **Chun, Yongwan**, Daniel A. Griffith, Monghyeon Lee*, and Parmanand Sinha, Eigenvector selection with stepwise regression techniques to construct eigenvector spatial filters, *Journal of Geographical Systems*, 18(1), pp. 67–85.
- 2016, Kim, Hyun, Changjoo Kim, and **Yongwan Chun**, Network reliability and resilience of rapid transit systems: A case study of the transit system in the greater metropolitan area of Washington D.C., *The Professional Geographer*, 68(1), pp. 53–65.
- 2015, An, Li, Ming-Hsiang Tsou, Steve Crook, **Yongwan Chun**, Brian Spitzberg, Jean Mark Gawron, and Dipak Gupta, Space-time analysis: Concepts, quantitative methods, and future directions, *Annals of the American Association of Geographers*, 105(5), pp. 891–914.
- 2015, Gittner, Lisa S., Barbara Kilbourne, Katy Kilbourne, and **Yongwan Chun**, Climate change and the rise of obesity, *Jacobs Journal of Environmental Sciences*, 2(1), 6.
- 2015, Griffith, Daniel A. and **Yongwan Chun**, Spatial autocorrelation in spatial interactions models: Geographic scale and resolution implications for network resilience and vulnerability, *Networks and Spatial Economics*, 15(2), pp. 337–365.
- 2015, Kim, Hyun, **Yongwan Chun**, and Kamyong Kim, Delimitation of functional regions using p -regions problem approach, *International Regional Science Review*, 38(3), pp. 253–263.
- 2014, Griffith, Daniel A. and **Yongwan Chun**, An eigenvector spatial filtering contribution to short range regional population forecasting, *Economics and Business Letters*, 3(4), pp. 208–217.
- 2014, **Chun, Yongwan**, Analyzing space-time crime incidents using eigenvector spatial filtering: An application to vehicle burglary, *Geographical Analysis*, 46(2), pp. 165–184.
- 2014, **Chun, Yongwan** and Daniel A. Griffith, A quality assessment of eigenvector spatial filtering based parameter estimates for the normal probability model, *Spatial Statistics*, 10, pp. 1–11.
- 2013, Kim, Yushim, Wei Zhong, and **Yongwan Chun**, Modeling sanction choices on fraudulent exchanges of public benefits, *Journal of Artificial Societies and Social Simulation*, 16(2), 8.
- 2013, Griffith, Daniel A., **Yongwan Chun**, Morton E. O'Kelly, Brian J. L. Berry, Robert P. Haining, and Mei-Po Kwan, *Geographical Analysis: the first forty years*, *Geographical Analysis*, 45(1), pp. 1–27.

- 2012, **Chun, Yongwan**, Hyun Kim, and Changjoo Kim, Modeling interregional commodity flows with incorporating network autocorrelation in spatial interaction model: An application of the U.S. interstate commodity flows, *Computers, Environment and Urban Systems*, 36(6), pp. 583–591.
- 2012, **Chun, Yongwan**, Yushim Kim, and Heather Campbell, Using Bayesian methods to control for spatial autocorrelation in environmental justice research: An illustration using toxics release inventory data for a Sunbelt county, *Journal of Urban Affairs*, 34(4), pp. 419–439.
- 2012, Kim, Changjoo, Sunhee Sang, **Yongwan Chun**, and Wook Lee, Exploring urban commuting imbalance by jobs and gender, *Applied Geography*, 32(2), pp. 532–545.
- 2011, **Chun, Yongwan** and Daniel A. Griffith, Modeling network autocorrelation in space-time migration flow data: An eigenvector spatial filtering approach, *Annals of the American Association of Geographers*, 101(3), pp. 523–536.
- 2010, Qiu, Fang, Harini Sridharan, and **Yongwan Chun**, Spatial autoregressive model for population estimation at the census block level using LIDAR-derived building volume information, *Cartography and Geographic Information Science*, 37(3), pp. 239–257.
- 2009, Liu, Desheng and **Yongwan Chun**, The effects of different classification models on error propagations in land cover change detection, *International Journal of Remote Sensing*, 30(20), pp. 5345–5364.
- 2009, Xiao, Ningchuan and **Yongwan Chun**, Visualizing migration flows using Kriskograms, *Cartography and Geographic Information Science*, 36(2), pp. 183–191.
- 2008, **Chun, Yongwan**, Modeling network autocorrelation within migration flows by eigenvector spatial filtering, *Journal of Geographical Systems*, 10(4), pp. 317–344.
- 2008, **Chun, Yongwan** and Yoonhwan Park, Neighborhood effects and spatial patterns in urban crime: A case study of the City of Dallas, Texas, *Journal of the Korean Urban Geographical Society*, 11(1), pp. 85–99.
- 2007, **Chun, Yongwan**, A Bayesian approach to spatial interaction model with spatial random effects for origins and destinations: A case of internal migration within the city of Seoul, *Journal of the Korean Urban Geographical Society*, 10(1), pp. 103–114.
- 2004, **Chun, Yongwan**, The pattern of migration in Seoul, South Korea during 1995–2002, *Journal of Geography Education*, Seoul National University Press: Seoul, South Korea, 48, pp. 87–99.

Book Chapters

- 2022, Koo, Hyeongmo and **Yongwan Chun**, GIS Science: Addressing Aggregation and Uncertainty, in M. Rosenberg, S. Lovell, and S. Coen (eds.), *Handbook of Methodologies in Human Geography*, London: Routledge, forthcoming.
- 2021, Griffith, Daniel A. and **Yongwan Chun**, Spatial autocorrelation and Moran eigenvector spatial filtering, in M. Fischer and P. Nijkamp (eds.), *Handbook of Regional Science*, 2nd edition, Berlin: Springer-Verlag, pp. 1863–1894.
- 2019, Griffith, Daniel A., **Yongwan Chun**, Marco Millones, Benoit Parmentier, and Stuart E. Hamilton, Hurricane Rita's impact on vegetation: A spatio-temporal statistical approach to characterize abrupt change in, and potential disaster management for, target areas, in N. Valcik (ed.), *Geospatial Information System Use in Public Organizations*, New York: Routledge, pp. 13–24.
- 2019, Lee, Monghyeon*, **Yongwan Chun**, and Daniel A. Griffith, The urban hierarchy and spatial relationships between poverty and cancer: does location error matter?, in I. Vojnovic, A.

- Pearson, G. Asiki, G. DeVerteuil, and A. Allen (eds.), *Handbook of Global Urban Health*, New York: Routledge, pp. 394–410.
- 2018, Griffith, Daniel A. and **Yongwan Chun**, GIS and Spatial Statistics/Econometrics: An Overview, in B. Huang (ed.), *Comprehensive Geographic Information Systems*, Oxford, UK: Elsevier, pp. 1–26.
- 2018, Kim, Kanyoung, Hyun Kim, and **Yongwan Chun**, A robust heuristic approach for political districting problems, in S. Dragicevic and J.-C. Thill (eds.), *GeoComputational Analysis and Modeling of Regional Systems*, Berlin: Springer, pp. 305–324.
- 2017, Lee, Monghyeon*, **Yongwan Chun**, and Daniel A. Griffith, Spatial data analysis uncertainties introduced by selected sources of error, in D.A. Griffith, Y. Chun, and D.J. Dean (eds.), *Advances in Geocomputation: Geocomputation 2015-The 13th International Conference*, New York: Springer, pp. 303–313.
- 2017, Sinha, Parmanand*, Monghyeon Lee*, **Yongwan Chun**, and Daniel A. Griffith, The statistical distribution of coefficients for constructing eigenvector spatial filters, in D.A. Griffith, Y. Chun, and D.J. Dean (eds.), *Advances in Geocomputation: Geocomputation 2015-The 13th International Conference*, New York: Springer, pp. 295–302.
- 2017, Parmentier, Benoit, Marco Millones, Daniel A. Griffith, Stuart E. Hamilton, **Yongwan Chun**, and Sean McFall, When space beats time: a proof of concept with hurricane Dean, in D.A. Griffith, Y. Chun, and D.J. Dean (eds.), *Advances in Geocomputation: Geocomputation 2015-The 13th International Conference*, New York: Springer, pp. 207–215.
- 2016, Lee, Monghyeon* and **Yongwan Chun**, Residential relocation in a metropolitan area: A case study of Seoul metropolitan area, South Korea, in R. Patuelli and G. Arbia (eds.), *Spatial Econometric Interaction Modelling*. Springer International Publishing, pp. 441–463.
- 2015, Griffith, Daniel A., David Wong, and **Yongwan Chun**, Uncertainty-related research issues in spatial analysis, in J. Shi, B. Wu, and A. Stein (eds.), *Uncertainty Modelling and Quality Control for Spatial Data*, London: Taylor & Francis Group/CRC Press, pp. 3–11.
- 2014, Griffith, Daniel A. and **Yongwan Chun**, Spatial analysis of census mail response rates: 1990–2010, in M.-P. Kwan, D. Richardson, D. Wang, and C. Zhou (eds.), *Space-Time Integration in Geography and GIScience: Research Frontiers in the US and China*, Dordrecht: Springer, pp. 145–156.
- 2014, Griffith, Daniel A. and **Yongwan Chun**, Spatial autocorrelation and spatial filtering, in M. Fischer and P. Nijkamp (eds.), *Handbook of Regional Science*, Berlin: Springer-Verlag, pp. 1477–1507.
- 2013, **Chun, Yongwan**, Network autocorrelation and spatial filtering, in T. Scherngell (ed.), *The geography of networks and R&D collaborations*, Berlin: Springer, pp. 99–113.
- 2013, Kim, Hyun, **Yongwan Chun**, and Casey Anderson-Gould, Crime scene locations in criminal homicides: A spatial crime analysis in a GIS environment, in M. Leitner (ed.), *Crime Modeling and Mapping Using Geospatial Technologies*, Berlin: Springer, pp. 181–202.

Encyclopedia Entries

- 2019, Griffith, Daniel A. and **Yongwan Chun**, Spatial Statistics, in E. Wohl (ed.), *Oxford Bibliographies in Environmental Science*, New York: Oxford University Press, DOI: 10.1093/OBO/9780199363445-0125.

- 2018, **Chun, Yongwan** and Hyun Kim, Network Defined, John P. Wilson (ed.), *The Geographic Information Science & Technology Body of Knowledge*, DOI: 10.22224/gistbok/2018.4.3.
- 2017, **Chun, Yongwan** and Daniel A. Griffith, Measuring spatial dependence, in D. Richardson (ed.), *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology*, London: Wiley-Blackwell, DOI: 10.1002/9781118786352.
- 2017, **Chun, Yongwan**, Spatial statistical visualization, in S. Shekar and H. Hong (eds.), *Encyclopedia of GIS*, Second edition. New York: Springer, pp. 2072–2086.

Proceedings

- 2018, Lee, Monghyeon*, Griffith, Daniel. A., and **Yongwan Chun**, The Impact of locational uncertainty on local geographic cluster detection: An application to cancer data from Florida, 2006–2010, in Y. Ge, X. Li, and G. Heuvelink (eds.), *Proceedings of Spatial Accuracy 2018*, Beijing, China, pp. 18–24.
- 2016, **Chun, Yongwan**, Hyeongmo Koo*, and Daniel A. Griffith, A comparison of optimal map classification methods incorporating uncertainty information, in J-S Bailly, D. Griffith, and D. Josselin (eds.), *Proceedings of Spatial Accuracy 2016*, Avignon, France, pp. 177–181.
- 2016, Griffith, Daniel A., **Yongwan Chun**, and Monghyeon Lee*, Locational error impacts on local spatial autocorrelation indices: A Syracuse soil sample Pb level data case study, in J-S Bailly, D. Griffith, and D. Josselin (eds.), *Proceedings of Spatial Accuracy 2016*. Avignon, France, pp. 131–143.
- 2015, Griffith, Daniel A., Roger Bivand, and **Yongwan Chun**, Implementing approximations to extreme eigenvalues and eigenvalues of irregular surface partitionings for use in SAR and CAR Models, *Procedia Environmental Sciences*, 26, 119–122.
- 2015, Koo, Hyeongmo*, **Yongwan Chun**, and Daniel A. Griffith, Geovisualization of attribute uncertainty, In *Proceedings of the 13th International Conference on GeoComputation*, pp. 230–236.
- 2014, **Chun, Yongwan** and Daniel A. Griffith, Impacts of positional error on spatial statistics confidence intervals, In *Proceedings of the 11th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environment Sciences*, pp. 48–53.
- 2013, Lee, Monghyeon*, Parmanand Sinha*, **Yongwan Chun**, and D. A. Griffith, An Equation for Identifying the Candidate Set of Eigenvectors From Which Ones Are Selected when Constructing an Eigenvector Spatial Filter, In *Proceedings of the 12th International Conference on Geocomputation*, 4 pages.
- 2012, **Chun, Yongwan** and Daniel A. Griffith, On the quality of eigenvector spatial filtering based parameter estimates for the normal probability model: implications about uncertainty and specification error for georeferenced data, In *Proceedings of the 10th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environment Sciences*, pp. 1–6.
- 2008, Liu, Desheng and **Yongwan Chun**, Simulation analysis of error propagation on land cover change maps: A comparison of contextual and non-contextual models, In *Proceedings of the 8th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environment Sciences*, pp. 405–411.
- 2005, **Chun, Yongwan**, Roger Bivand, and Michael Tiefelsdorf, Using open source data analysis environments for prototyping modeling implementations for spatial data: Weights in R, In *Proceedings of the 8th International Conference on GeoComputation*, 21 pages.

Book Reviews

- 2020, **Chun, Yongwan**, A review of *GIS: An Introduction to Mapping Technologies* (P. McHaffie, S. Hwang, and C. Follett, 2019, Boca Raton, FL: CRC Press), *International Journal of Geographical Information Science*, 34(7), pp. 1500–1501.
- 2009, **Chun, Yongwan**, A joint review of *Encyclopedia of Geographic Information Science* (K. Kemp ed., 2008, Los Angeles: SAGE Publications), and *Encyclopedia of GIS* (S. Shekar and H. Hong eds., 2008, New York: Springer), *Annals of the American Association of Geographers*, 99(3), pp. 635–636.

Other Publications

- 2019, **Chun, Yongwan**, Mei-Po Kwan, and Daniel A. Griffith, Uncertainty and Context in GIScience and Geography: Challenges in the Era of Geospatial Big Data (editorial), *International Journal of Geographical Information Science*, 33(6), pp. 1131–1134.

PRESENTATIONS

Conference Presentations

- 2021, “Impacts of variable uncertainty in spatial interaction modeling of population flows,” The 68th Annual North American Meetings of the Regional Science Association International, Denver, CO, November 13 (Chun, Y., D. Griffith, and D. Wong).
- 2021, “Delineating police patrol areas using a p -median location problem,” The 68th Annual North American Meetings of the Regional Science Association International, Denver, CO, November 12 (Lee, C., H. Kim, Y. Chun, and D. Griffith).
- 2021, “Modeling community health with areal data: Bayesian inference with survey standard errors and spatial structure,” The 117th Annual Meeting of the American Association of Geographers, Virtual, April 08 (Denegan, C., Y. Chun, and D. Griffith).
- 2021, “Spatial interaction modeling of population flows with uncertainty,” The 117th Annual Meeting of the American Association of Geographers, Virtual, April 07 (Chun, Y., D. Griffith, and D. Wong).
- 2020, “Assay measurement error and the geographic distribution of contaminants: Syracuse heavy metal soil loading uncertainties,” The 67th Annual North American Meetings of the Regional Science Association International, Virtual Conference, November 10 (Griffith, D. and Y. Chun).
- 2019, “A multilevel eigenvector spatial filtering model of house prices: an application to the house sales in Fairfax County, Virginia,” The 66th Annual North American Meetings of the Regional Science Association International, Pittsburgh, PA, November 16 (Hu, L., Y. Chun, and D. Griffith).
- 2019, “An efficient solution approach for solving p -median problem using spatial autocorrelation,” The 66th Annual North American Meetings of the Regional Science Association International, Pittsburgh, PA, November 15 (Kim, H., Y. Chun, and D. Griffith).
- 2019, “Some Useful Details about Indices of Spatial Autocorrelation,” The 66th Annual North American Meetings of the Regional Science Association International, Pittsburgh, PA, November 14 (Griffith, D. and Y. Chun).
- 2019, “Modeling house prices with a multilevel spatial eigenvector filtering approach: an application to house sales in Fairfax County, Virginia, 2016-2017,” The 2019 Annual meeting of the

- Southwestern Division of the American Association of Geographers, Fort Worth, TX, October 11 (Hu, L., Y. Chun, and D. Griffith).
- 2019, "A study on the spatial accessibility of the adult day care centers in the Seoul metropolitan area," The 115th Annual Meeting of the American Association of Geographers, Washington, D.C., April 05 (Rhyu, K., Y. Chun, and J. Shin).
- 2019, "A Moran eigenvector spatial filtering specification of spatial entropy," The 115th Annual Meeting of the American Association of Geographers, Washington, D.C., April 04 (Griffith, D., Y. Chun, and J. Hauke).
- 2019, "Impacts of positive-negative spatial autocorrelation mixtures on frequency distributions," The 115th Annual Meeting of the American Association of Geographers, Washington, D.C., April 04 (Chun, Y. and D. Griffith).
- 2019, "Spatial autocorrelation for solving p -median problem," The 115th Annual Meeting of the American Association of Geographers, Washington, D.C., April 04 (Kim, H., Y. Chun, and D. Griffith).
- 2019, "Space-time statistical insights about geographic variation in lung cancer incidence rates: Florida, 2000-2011," The 115th Annual Meeting of the American Association of Geographers, Washington, D.C., April 04 (Hu, L., D. Griffith, and Y. Chun).
- 2018, "Space Beats Time: a spatio-temporal method for analyzing abrupt environmental change," American Geophysical Union Fall Meeting, Washington DC, December 10 (Parmentier, B., D. Casey, M. Millones, B. McGill, A. Decatur, E. Wolff, S. Vanhuysse, S. Georganos, O. Brousse, N.P.M. Van Lipzig, C. Linard, S. Dujardin, D. Griffith, Y. Chun, and S.E. Hamilton).
- 2018, "A Moran eigenvector spatial filtering specification of spatial entropy," The 65th Annual North American Meetings of the Regional Science Association International, San Antonio, TX, November 08 (Griffith, D., Y. Chun, and J. Hauke).
- 2018, "Integrating spatial data analysis functionalities in a GIS environment: Spatial Analysis using ArcGIS Engine and R (SAAR)," Esri User Conference, San Diego, CA, July 10 (Koo, H., Y. Chun, and D. Griffith).
- 2018, "Uncertainty in the effects of the modifiable areal unit problem under different levels of spatial autocorrelation: A simulation Study," The 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Beijing, China, May 23 (Lee, S.-I., M. Lee, Y. Chun, and D. Griffith).
- 2018, "Small area estimation of cancer rates: A case study of lung cancer in Florida, 2000-2010," The 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Beijing, China, May 22 (Hu, Lan, Y. Chun, and D. Griffith).
- 2018, "The impact of locational uncertainty on local geographic cluster detection: an application to cancer data from Florida in 2006 to 2010," The 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Beijing, China, May 22 (Lee, M., D. Griffith and Y. Chun).
- 2018, "When space beats time," The 114th Annual Meeting of the American Association of Geographers, New Orleans, LA, April 13 (Millones, M., B. Parmentier, D. Griffith, Y. Chun, and S. Hamilton).
- 2018, "Residual spatial autocorrelation in biogeographical and ecological modeling," The 114th Annual Meeting of the American Association of Geographers, New Orleans, LA, April 13 (Gaspard, G., D. Kim, and Y. Chun).

- 2018, "Space-time cluster detection with a modified space-time relative risk function," The 114th Annual Meeting of the American Association of Geographers, New Orleans, LA, April 11 (Koo, H., M. Lee, Y. Chun, and D. Griffith).
- 2018, "Impacts of Negative Spatial Autocorrelation on Exponential and Beta Random Variables," The 114th Annual Meeting of the American Association of Geographers, New Orleans, LA, April 11 (Hu, L., D. Griffith, and Y. Chun).
- 2018, "The Urban Hierarchy and Spatial Relationships Between Poverty and Cancer: Does Location Error Matter?" The 114th Annual Meeting of the American Association of Geographers, New Orleans, LA, April 11 (Lee, M., Y. Chun, and D. Griffith).
- 2017, "A cascading approach for eigenvector spatial filter construction for large spatial tessellations," The 64th Annual North American Meetings of the Regional Science Association International, Vancouver, BC, Canada, November 10 (Chun, Y. and D. Griffith).
- 2017, "Adjusted degrees of freedom for correcting estimated variance in eigenvector spatial filtering," The 64th Annual North American Meetings of the Regional Science Association International, Vancouver, BC, Canada, November 10 (Lee, M., Y. Chun, and D. Griffith).
- 2017, "Spatial Analysis using ArcGIS Engine and R (SAAR)," The 64th Annual North American Meetings of the Regional Science Association International, Vancouver, BC, Canada, November 10 (Koo, H., Y. Chun, and D. Griffith).
- 2017, "Impacts of negative spatial autocorrelation on selected probability distributions: the Gaussian, Poisson, and binomial models," Spatial Statistics 2017, Lancaster, UK, July 06 (Chun, Y. and D. Griffith; poster).
- 2017, "On Employing Multi-Resolution Weather Data in Crop Insurance," The Workshop on Mining Big Data in Climate and Environment, the 17th SIAM International Conference on Data Mining, Houston, TX, April 29 (Ghahari, A., Y. Gel, S. Lyubchich, Y. Chun, and D. Uribe).
- 2017, "Ethnicity-Based Environmental Inequity in Southern California," The 47th Annual Conference of the Urban Affairs Association, Minneapolis, MN, April 20 (Kim, Y., Y. Chun, and H. Campbell).
- 2017, "Uncertainty and the presence of negative spatial autocorrelation in georeferenced data," The 113th Annual Meeting of the American Association of Geographers, Boston, MA, April 06 (Chun, Y. and D. Griffith).
- 2017, "A spatial analysis of breast cancer incidences in Duval County, FL: model specification issues," The 113th Annual Meeting of the American Association of Geographers, Boston, MA, April 06 (Hu, L., Y. Chun, and D. Griffith).
- 2017, "Spatial Analysis using ArcGIS and R (SAAR)," The 113th Annual Meeting of the American Association of Geographers, Boston, MA, April 06 (Koo, H., Y. Chun, and D. Griffith).
- 2017, "An Evaluation of Kernel Smoothing to Protect Confidentiality of Patient Locations," The 113th Annual Meeting of the American Association of Geographers, Boston, MA, April 06 (Lee, M., Y. Chun, and D. Griffith).
- 2017, "On Employing Multi-Resolution Weather Data in Crop Insurance," The Conference of Texas Statisticians 2017, Dallas, TX, March 24, (Ghahari, A., Y. Gel, V. Lyubchich, Y. Chun, and D. Uribe; poster)

- 2016, "Modeling Positional Uncertainty Incurred Through Street Geocoding," The 63rd Annual North American Meetings of the Regional Science Association International, Minneapolis, MN, November 12 (Koo, H., Y. Chun, and D.A. Griffith).
- 2016, "Uncertainties Arising from Selected Sources of Error in Syracuse Blood Lead Level Data," The 63rd Annual North American Meetings of the Regional Science Association International, Minneapolis, MN, November 10 (Lee, M., D.A. Griffith, and Y. Chun).
- 2016, "Uncertainty in the presence of negative spatial autocorrelation in georeferenced data," the 2016 Annual meeting of the Southwestern Division of the American Association of Geographers, Denton, TX, October 21 (Chun, Y. and D.A. Griffith).
- 2016, "A spatial analysis of breast cancer incidences in Duval County, FL: model specification issues," the 2016 Annual meeting of the Southwestern Division of the American Association of Geographers, Denton, TX, October 21 (Hu, L, Y. Chun, and D.A. Griffith).
- 2016, "Spatial autocorrelation features of locational uncertainty introduced with kernel smoothing to protect confidentiality," the 2016 Annual meeting of the Southwestern Division of the American Association of Geographers, Denton, TX, October 21 (Lee, M., Y. Chun, and D.A. Griffith).
- 2016, "Visualization of uncertainty in image classification with special reference to spatial autocorrelation," the 2016 Annual meeting of the Southwestern Division of the American Association of Geographers, Denton, TX, October 21 (Koo, H., Y. Chun, and D.A. Griffith).
- 2016, "Impacts of Locational Error on Local Spatial Autocorrelation Indices: A Cancer Data Case Study," Conference on Geospatial approaches on Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD, September 13 (Griffith, D.A., Y. Chun, and M. Lee; poster).
- 2016, "A comparison of optimal map classification methods incorporating uncertainty information," The 12th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Montpellier, France, July 07 (Chun, Y., H. Koo, and D.A. Griffith).
- 2016, "Locational error impacts on local spatial autocorrelation indices: A Syracuse soil sample Pb level data case study," The 12th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Montpellier, France, July 06 (Griffith, D.A., Y. Chun, and M. Lee).
- 2016, "Advances in Spatial Interaction Analytics," UCGIS 2016 Symposium, Scottsdale, AZ, May 24 (Chun, Y., D.A. Griffith, F. Qiu, M. Tiefelsdorf, and M. Yuan).
- 2016, "Spatializing Health: Geography, GI Science and Urban Health—Discussion points pertaining error in spatial data," The 13th International Conference on Urban Health and the 112th Annual Meeting of the American Association of Geographers, San Francisco, CA, April 02 (Griffith, D.A., Y. Chun, and M. Lee).
- 2016, "Impacts of location errors on spatial cancer data analyses: A simulation approach," The 112th Annual Meeting of the American Association of Geographers, San Francisco, CA, April 01 (Lee, M, Y. Chun, and D.A. Griffith).
- 2016, "Optimal Map Classification Methods Incorporating Uncertainty Information," The 112th Annual Meeting of the American Association of Geographers, San Francisco, CA, March 30 (Koo, H., Y. Chun, and D.A. Griffith).

- 2015, "A Parallelized Bayesian Spatial Autoregressive Panel Probit Model," The 62nd Annual North American Meetings of the Regional Science Association International, Portland, OR, November 14, (Hughes, A., Y. Chun, T. Leonard, D. Kim, D.A. Griffith, and S.L. Pruitt).
- 2015, "Extreme eigenvalues of irregular surface partitionings: Approximations and implementations," The 62nd Annual North American Meetings of the Regional Science Association International, Portland, OR, November 13, (Griffith, Bivand, and Chun).
- 2015, "Implementing approximations to extreme eigenvalues and eigenvalues of irregular surface partitionings for use in SAR and CAR models," Spatial Statistics 2015, Avignon, France, June 12 (Griffith, Bivand, and Chun; poster).
- 2015, "Geovisualization of attribute uncertainty," The 13th International Conference on Geocomputation, Richardson, TX, May 22 (Koo, H., Y. Chun, and D.A. Griffith).
- 2015, "The statistical distribution of coefficients for constructing eigenvector spatial filters," The 13th International Conference on Geocomputation, Richardson, TX, May 22 (Sinha, P., M. Lee, Y. Chun, and D. A. Griffith).
- 2015, "Uncertainties on spatial data analysis by various sources of error," The 13th International Conference on Geocomputation, Richardson, TX, May 21 (Lee, M., Y. Chun, and D. A. Griffith).
- 2015, "Adjusted variance estimates in eigenvector spatial filtering," The 111th Annual Meeting of the American Association of Geographers, Chicago, IL, April 25 (Lee, M., Y. Chun, D.A. Griffith, and P. Sinha).
- 2014, "Space-Time Cluster Detection Using Space-Time Kernel Density Estimation," The 61st Annual North American Meetings of the Regional Science Association International, Washington DC, November 13, (Lee, M., H. Koo, and Y. Chun).
- 2014, "Adjusted variance estimates in eigenvector spatial filtering," The 61st Annual North American Meetings of the Regional Science Association International, Washington DC, November 13, (Chun and Griffith).
- 2014, "An experimental investigation of eigenvector spatial filter based estimation," Joint International Conference on Geospatial Theory, Processing, Modelling and Applications (by ISPRS TCII and IGU): Toronto, Canada, October 08 (Chun, Y., D.A. Griffith, M. Lee, and P. Sinha).
- 2014, "Impacts of positional error on spatial statistics confidence intervals," The 11th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, East Lansing, MI, July 09 (Chun and Griffith).
- 2014, "A spatial optimization approach for districting housing market areas," The 110th Annual Meeting of the American Association of Geographers, Tampa, FL, April 12 (Kim, K., H. Kim, and Y. Chun).
- 2014, "Eigenvector selection with stepwise regression techniques to construct eigenvector spatial filters," The 110th Annual Meeting of the American Association of Geographers, Tampa, FL, April 11 (Lee, M., P. Sinha, Y. Chun, and D. A. Griffith).
- 2013, "Location Optimization for Detecting p-Functional Regions," The 60th Annual North American Meetings of the Regional Science Association International, Atlanta, GA, November 15, (Kim, K., H. Kim, and Y. Chun).

- 2013, "Eigenvector selection with stepwise regression techniques to construct eigenvector spatial filters," The 60th Annual North American Meetings of the Regional Science Association International, Atlanta, GA, November 14, (Chun, Y., D. Griffith, M. Lee, and P. Sinha).
- 2013, "An exploratory analysis of flow redistributions in a network space," Spatial Statistics 2013, Columbus, OH, June 05 (Lee, M. and Y. Chun).
- 2013, "An Equation for identifying the candidate set of eigenvectors: Ones that are selected when constructing an eigenvector spatial filter," The 12th International Conference on GeoComputation, Wuhan, China, May 23, (Lee, M., P. Sinha, Y. Chun, and D. Griffith).
- 2013, "Eigenvector selection for eigenvector spatial filtering," The 12th International Conference on GeoComputation, Wuhan, China, May 24, (Sinha, P., M. Lee, Y. Chun, and D. Griffith; poster).
- 2013, "Statistical Consistency of Eigenvector Spatial Filter Estimators," The 109th Annual Meeting of the American Association of Geographers, Los Angeles, CA, April 13 (Sinha, P., M. Lee, Y. Chun, and D. A. Griffith).
- 2013, "Location Optimization for Detecting p Functional Spatial Clusters," The 109th Annual Meeting of the American Association of Geographers, Los Angeles, CA, April 13 (Kim, K., H. Kim, and Y. Chun).
- 2013, "An examination of traffic accidents," The 109th Annual Meeting of the American Association of Geographers, Los Angeles, CA, April 09 (Kim, C., Y. Chun, and H. Kim).
- 2012, "Geographical flows decomposition: a comparative analysis," The 59th Annual North American Meetings of the Regional Science Association International, Ottawa, Canada, November 09 (Chun and Griffith).
- 2012, "A heuristic approach for delineating functional regions," The 59th Annual North American Meetings of the Regional Science Association International, Ottawa, Canada, November 08 (Kim, K., Y. Chun, and H. Kim).
- 2012, "On the quality of eigenvector spatial filtering based parameter estimates for the normal probability model: implications about uncertainty and specification error for georeferenced data," The 10th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Florianópolis, SC, Brazil, July 10-13 (Chun and Griffith).
- 2012, "Exploring modifiable areal unit problem using the eigenvector spatial filtering," The 108th Annual Meeting of the American Association of Geographers, New York, NY, February 27.
- 2012, "Developing a heuristic algorithm for a p-functional region problem," The 108th Annual Meeting of the American Association of Geographers, New York, NY, February 26 (Kim, K., H. Kim, and Y. Chun).
- 2011, "Some Noteworthy Equivalencies between Spatial Autoregressive and Eigenfunction Spatial Filter Model Specifications," The 58th Annual North American Meetings of the Regional Science Association International, Miami, FL, November 10 (Chun and Griffith).
- 2011, "Districting functional regions using geographical flows," The 58th Annual North American Meetings of the Regional Science Association International, Miami, FL, November 10 (Kim, H., Y. Chun, and K. Kim).
- 2011, "Spatial differences in urban commuting by race and occupation", The 107th Annual Meeting of the American Association of Geographers, Seattle, WA, April 15 (Kim, C, Y. Chun, and S. Sang).

- 2011, "Analyzing space-time crime incidents using eigenvector spatial filtering: an application of vehicle burglary in the city of Plano, Texas," The 107th Annual Meeting of the American Association of Geographers, Seattle, WA, April 13.
- 2010, "Environmental inequalities in a Sunbelt county: A Bayesian spatial analysis," The 57th Annual North American Meetings of the Regional Science Association International, Denver, CO, November 12 (Chun, Y., Y. Kim, and H. Campbell).
- 2010, "Network Reliability and Resiliency of Rapid Transit Systems: A Case Study of the Transit System in the Greater Metropolitan Area of Washington D.C.," The 57th Annual North American Meetings of the Regional Science Association International, Denver, CO, November 11 (Kim, H., C. Kim, and Y. Chun).
- 2010, "Modeling network autocorrelation in space-time migration flow data: An eigenvector spatial filtering approach," The 106th Annual Meeting of the American Association of Geographers, Washington DC, April 17 (Chun and Griffith).
- 2010, "Network autocorrelation in modeling commodity flows of the U.S.," The 106th Annual Meeting of the American Association of Geographers, Washington DC, April 16 (Kim, C., Y. Chun, and H. Kim).
- 2010, "Population estimation from a three dimensional perspective," The 106th Annual Meeting of the American Association of Geographers, Washington DC, April 16 (Sridharan, Qiu, and Chun).
- 2010, "Crime scene locations in case of criminal homicide: Spatial crime analysis in a GIS environment," The 106th Annual Meeting of the American Association of Geographers, Washington DC, April 15 (Kim, H., C. Anderson, and Y. Chun).
- 2009, "Modeling traffic accident counts based on network links: a panel data analysis," The 56th Annual North American Meetings of the Regional Science Association International, San Francisco, CA, November 20 (Kim, C., Y. Chun, and H. Kim).
- 2009, "From Data to Action: Evaluating Simulation Data in Agent-Based Models," North American Association for Computational Social and Organization Sciences (NAACSOS), Tempe, AZ, October 24 (Kim, Y., and Y. Chun).
- 2009, "The Interplay of Certainty, Severity, and Celerity in Punishment for Wrongdoing: Fraud Control in Public Service Delivery," The 10th Public Management Research Association Conference, Columbus, OH, October 03 (Kim, Y., W. Zhong, and Y. Chun).
- 2009, "Modeling network autocorrelation in space-time panel data: An eigenvector spatial filtering approach," The 105th Annual Meeting of the American Association of Geographers, Las Vegas, NV, March 26 (Chun and Griffith).
- 2009, "Eigenvector selection with stepwise regression techniques to construct spatial filters," The 105th Annual Meeting of the American Association of Geographers, Las Vegas, NV, March 25 (Griffith and Chun).
- 2009, "An examination of network autocorrelation on urban traffic volume," The 105th Annual Meeting of the American Association of Geographers, Las Vegas, NV, March 25 (Kim, C. and Y. Chun).
- 2008, "The p -values of Local Moran's I_i to explore spatial patterns," The 55th Annual North American Meetings of the Regional Science Association International, New York, NY, November 21 (Chun and Tiefelsdorf).

- 2008, "Eigenvector selection with stepwise regression techniques to construct spatial filters," The 55th Annual North American Meetings of the Regional Science Association International, New York, NY, November 21 (Griffith and Chun).
- 2008, "Simulation analysis of error propagation on land cover change maps: a comparison of contextual and non-contextual models," The 8th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Science, Shanghai, China, June 25 (Liu and Chun).
- 2008, "Spatial filtering of bladder cancer mortalities by Poisson regression," The 104th Annual Meeting of the American Association of Geographers, Boston, MA, April 17 (Madrid, Chun, and Tiefelsdorf).
- 2008, "Modeling network autocorrelation within migration flows by spatial eigenvectors," The 104th Annual Meeting of the American Association of Geographers, Boston, MA, April 17.
- 2007, "Modeling network autocorrelation among migration flows by spatial eigenvector filtering," The 103rd Annual Meeting of the American Association of Geographers, San Francisco, CA, April 21.
- 2006, "Estimating Auto-Poisson regression models by spatial eigenvector filtering," The 102nd Annual Meeting of the American Association of Geographers, Chicago, IL, March 11, In an organized session on "Perspectives on Spatial Data Analysis: A Session in Honor of Arthur Getis" (Chun and Tiefelsdorf).
- 2005, "Using open source data analysis environments for prototyping spatial modeling implementations in R," The 8th International Conference on GeoComputation, Ann Arbor, MI, August 02 (Chun, Bivand, and Tiefelsdorf).
- 2005, "Spatial filtering by eigenvectors in iteratively re-weighted regression models," The 101st Annual Meeting of the American Association of Geographers, Denver, CO, April 9 (Chun and Tiefelsdorf).
- 2004, "Local effects of misspecifications in spatial interaction models," The 100th Annual Meeting of the American Association of Geographers, Philadelphia, PA, March (Tiefelsdorf and Chun).
- 2003, "Analyzing the spatial pattern of crime in Seoul, South Korea," The 99th Annual Meeting of the American Association of Geographers, New Orleans, LA, March.

Invited Presentations, Workshops, and Short Courses

- 2020, "Uncertainty issues in spatial analysis and modeling: visualization, measurement, and modeling," colloquium presentation, Department of Geography, Portland State University, December 03 (online).
- 2020, "Uncertainty in spatial analysis: visualization, measurement, and modeling," colloquium presentation, Department of Geography, University of Cincinnati, October 16 (online).
- 2018, "Visualizing georeferenced data: with selected examples," Department of Geography Education, Seoul National University, Seoul, South Korea, May 30.
- 2015, "Statistical modeling for spatial data," Cubes, Inc., Seoul, South Korea, July 30.
- 2015, "Statistics for modeling spatial data," Department of Information and Industrial Engineering, Yonsei University, Seoul, South Korea, July 17.
- 2014, "Spatial autocorrelation and spatial interaction," Environics Analytics, Toronto, Canada, October 09 (Griffith and Chun).

- 2014, "Geospatial Analysis for Health Care," short course at ICDDR,B and BRAC University, Dhaka, Bangladesh, September 22–26, funded by the USAID (Kim and Chun).
- 2014, "Spatial Statistics for Spatial Accuracy Research," workshop at The 11th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, East Lansing, MI, July 09 (Griffith and Chun).
- 2014, "Spatial Statistical Methods for Georeferenced Data," workshop at The 110th Annual Meeting of the American Association of Geographers, Tampa, FL, April 12 (Griffith and Chun).
- 2013, "Spatial statistical methods in regional science," workshop at The 60th Annual North American Meetings of the Regional Science Association International, Atlanta, GA, November 14 (Griffith and Chun).
- 2013, "Spatial statistics for spatial accuracy research," workshop at the Spatial Statistics 2013 Conference, Columbus, OH, June 04 (Griffith and Chun).
- 2012, "GIS methodologies in the U.S. environment impact statement process," Korea Environment Institute, Seoul, Korea, December 17.
- 2012, "An introduction to spatial statistical methods in regional science," workshop at The 59th Annual North American Meetings of the Regional Science Association International, Ottawa, Canada, November 07 (Griffith and Chun).
- 2012, "Spatial statistics for spatial accuracy research," workshop at The 10th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Florianópolis, SC, Brazil, July 10 (Griffith and Chun).
- 2011, "Understanding spatial autocorrelation," workshop at Korea Research Institute for Human Settlements (KRIHS), Anyang, Gyeonggi, Korea, May 26 (Griffith and Chun).
- 2011, "Understanding spatial autocorrelation," workshop at Department of Geography Education, Seoul National University, Seoul, Korea, May 25 (Griffith and Chun).
- 2008, "Spatial filtering workshop" sponsored by *National Science Foundation*, School of Economic, Political and Policy Sciences, The University of Texas at Dallas, Richardson, TX, June 16-20.
- 2008, "Network autocorrelation in migration flows," Department of Geography and Planning, The University of Akron, Akron, OH, February 22.
- 2008, "Modeling spatial dependencies with and in inter-regional flows: A spatial filtering approach," Department of Civil, Architectural and Environmental Engineering, The University of Texas at Austin, Austin, TX, February 8 (Griffith, Tiefelsdorf, and Chun).
- 2007, "A spatial filtering approach in modeling network autocorrelation among migration flows," School of Economic, Political and Policy Sciences, The University of Texas at Dallas, Richardson, TX, July 2.
- 2007, "Analyzing Spatial Data with R," workshop (lectured by R. Bivand) at the 103rd Annual Meeting of the Association of American Geographer, San Francisco, CA, April 17 (Lab assistant).
- 2001, "Introduction to GIS," The Institute of the Study of Educational Administration, Seoul National University, South Korea, August.

AWARDS AND RECOGNITIONS

- Nominee, President's Teaching Excellence Award (Undergraduate instruction and Graduate/Professional Instruction), 2019, The University of Texas at Dallas.

- Nominee, President's Teaching Excellence Award (Graduate/Professional Instruction), 2018, The University of Texas at Dallas.
- Emerging Scholar Award, Spatial Analysis and Modeling Specialty Group, 2017, The American Association of Geographers.
- Special Faculty Development Assignment, Spring 2017, The University of Texas at Dallas
- EPPS Outstanding Teaching Comet Award, 2013, School of Economic, Political and Policy Sciences, The University of Texas at Dallas.
- 1st place, Graduate Student Paper Competition, Spatial Analysis and Modeling Specialty Group, 2008, the 104th Annual Meeting of the American Association of Geographers, Boston, MA, April 19.
- Invited participant (with travel grant), 2008, Student Forum on Science and Technology Policy sponsored by National Academies, Washington, DC, January 4–5.
- Summer Research Award, 2007, Department of Geography, The Ohio State University.

TEACHING EXPERIENCES

University Teaching

School of Economic, Political and Policy Sciences, The University of Texas at Dallas:

- GISC 2301: Introduction to Geographic Information Systems (Fall 2011; Spring 2012)
- GISC 4326: Cartography and Geovisualization (Fall 2013–2016; Spring 2019–2021)
- GISC 4382: Applied Geographic Information Systems (Spring 2022)
- GISC 6326: Geovisualization (Fall 2009, 2011–2013)
- GISC 6379: Special Topics: Geovisualization (Fall 2007)
- GISC 6381: Geographic Information Systems Fundamentals (Fall 2012–2021; Spring 2013–2016, 2019–2021)
- GISC 6382: Applied Geographic Information Systems (Fall 2012)
- GISC 6387: Geospatial Sciences Workshop (Summer 2013–2018, 2021)
- GISC 6388: Advanced GIS Programming (Spring 2008–2017, 2022; Fall 2019–2020)
- GISC 6389: Geospatial Information Sciences Master's Research (Fall 2017–2018)
- GISC 7361: Spatial Statistics (Fall 2008)
- GISC 7363: Internet Mapping and Information Processing (Fall 2010)

Department of Geography, The Ohio State University (Lab instructor and/or TA):

- Geog 200: World Regional Geography (Winter 2005–2006; Autumn 2003)
- Geog 580: Elements of Cartography (Winter 2004)
- Geog 683: Introduction to Geographic Analysis (Autumn 2006)
- Geog 687: Design and Implementation of Geographic Information Systems (Spring 2004)
- Geog 883.01: Application of Quantitative Methods in Geography I (Winter 2006)
- Geog 883.02: Application of Quantitative Methods in Geography II (Spring 2006–2007)

Student Advising

PhD Supervision (10):

- Xiaohe Yu, 2021, “Cloud detection and PM2.5 estimation using machine learning,” (co-advisor: David Lary).
- Lan Hu, 2020, “Negative spatial autocorrelation and its impacts on georeferenced data analyses: with case studies of cancer incidences,” current position: Research analyst, 2M Research, Arlington, Texas.

- Yeondae Jung, 2019, “Spatio-temporal modeling of crime in urban environments: Three case studies in Seoul, South Korea and Dallas, Texas,” current position: Assistant professor, Department of Police Administration, Joongbu University.
- Yuen Ting Yolanda Tsang, 2019, “Building recognizability in urban environment,” current position: Assistant professor, Department of Social Sciences, Tarleton State University.
- Hyeongmo Koo, 2018, “Visualizing and modeling spatial data uncertainty,” current position: Assistant professor, Department of Geoinformatics, University of Seoul.
- Monghyeon Lee, 2017, “Impacts of location uncertainty on statistical modeling of georeferenced data,” (co-advisor: Daniel A. Griffith), current position: Geospatial analyst, T Map Mobility, Seoul, South Korea.
- Connor Donegan (ABD, 2021), “A multi-scale spatial analysis of the Texas colorectal cancer burden.”
- Meifang Chen (in progress).
- Changho Lee (in progress).
- Dongeun Kim (in progress).

PhD Committee (34)

PhD External Examiner (1)

Master Supervision (23)

Master thesis committee (2)

Master research committee (4)

Teaching at Professional Education Institutes

GIS Education Center, Ewha Womans University, South Korea:

- GIS fundamental skill course with ArcInfo 8.1 (July 2001)

Education Center, Esri Korea Inc. (1997–1999):

- Introduction to ArcInfo
- Programming ArcInfo with VBA
- Customizing ArcInfo with AML
- Using GRID with ArcInfo
- SDE Administration
- Introduction to ArcView
- Introduction to Avenue
- ArcView Spatial Analyst
- Introduction to PC ArcInfo

Advanced Institute of Information Technology, South Korea (A national GIS education center):

- GIS Instructor Training course (February, August 1999; August 1998)
- GIS Programming course (March, August 1999; August 1998)
- GIS Analyst course (October 1999; November, February 1998; November 1997)

Seoul Metropolitan Government Computer Center, South Korea:

- GIS practical business issues (July 1999; October 1997)

SOFTWARE AND COMPUTING CODE

- Functions to find extreme eigenvalues of a binary symmetric spatial weights matrix and its row-standardized matrix in *spdep* of R: `lextrB()`, `lextrW()`, `lextrS()`, and `lmax()`, Roger Bivand, Yongwan Chun, and Daniel A. Griffith, 2015.
- Functions for Eigenvector spatial filtering in *spdep* of R: `SpatialFiltering()`, Yongwan Chun, Michael Tiefelsdorf, and Roger Bivand, 2005.

PROFESSIONAL ACTIVITIES, SERVICES, AND MEMBERSHIPS

Editorial Activities

2021–present Associate Editor, *Frontiers in Sustainable Cities*, Urban Economic specialty section
 2021–2023 Editorial Board, *Journal of Geographical Systems*
 2019–2023 Editorial Board, *The Professional Geographer*
 2014–2023 Editorial Board, *Journal of the Korean Urban Geographical Society*
 2013–2019 Editorial Board, *Journal of the Korean Cartographic Association*

Others:

2008–2014 Editorial Assistant, *Geographical Analysis*,
 2012–2013 Newsletter Editor, Spatial Analysis and Modeling Specialty Group, The American Association of Geographers.

Board and Committee Activities

Board activities:

- Chair, Spatial Analysis and Modeling Specialty Group, The American Association of Geographers, 2019–2022.
- Vice Chair, Spatial Analysis and Modeling Specialty Group, The American Association of Geographers, 2018–2019.
- Board member, Spatial Analysis and Modeling Specialty Group, The American Association of Geographers, 2012–2015.

Committee activities:

- Research Grants Committee, The American Association of Geographers, 2021–2024.
- Medal Committee, International Spatial Accuracy Research Association, 2020–present.
- Nystrom Award Committee, The American Association of Geographers, 2020.
- Student Paper and Travel Awards Committee, Korean-American Association for Geospatial and Environmental Sciences, 2015–2020.
- Chair, Student paper competition committee, the 13th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environment Sciences, 2018.
- Student paper competition Committee, the 12th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environment Sciences, 2016.
- John Odland Award Committee (AAG SAM Sepcialty Group Student Paper Competition), 2013–2015, 2019.
- Pixoneer Scholarship Awards Committee, Korean-American Association for Geospatial and Environmental Sciences, 2009.

Review Activities

Panel member for grant proposals:

- National Science Foundation: 2021(2), 2020

Ad hoc reviews for grant proposals:

- National Science Foundation
 - Geography and Spatial Science Program: 2014, 2012
 - Methodology, Measurement, and Statistics Program: 2020, 2019, 2016(2), 2014
- American Association for the Advancement of Science
 - Indo-US Science & Technology Forum: 2012
- Research Grants Council of Hong Kong: 2017(2), 2016

Paper reviews:

- *Annals of GIS*: 2014
- *Annals of the American Association of Geographers*: 2021, 2019, 2018, 2016(3), 2015, 2012(2)
- *Annals of Operations Research*: 2011
- *Area*: 2019
- *Applied Geography*: 2020
- *Cartography and Geographic Information Science*: 2010
- *Chilean Journal of Statistics*: 2017, 2016
- *Computers & Geosciences*: 2009
- *Computers, Environment and Urban Systems*: 2021(4), 2020(4), 2019(4), 2018(2), 2017(6), 2016(4), 2015(2), 2014(3), 2013, 2012(3)
- *Earth Science Informatics*: 2014(2)
- *Economics and Business Letters*: 2014
- *Environment and Planning B*: 2019
- *Geographical Analysis*: 2021(4), 2020, 2019(3), 2018(4), 2017(3), 2014(2)
- *GIScience & Remote Sensing*: 2010
- *IEEE Transactions on Geoscience and Remote Sensing*: 2012(2)
- *International Journal of Applied Geospatial Research*: 2016, 2013, 2011(2)
- *International Journal of Geographic Information Science*: 2021, 2020, 2019(3), 2018, 2017(2), 2016(2), 2015(2), 2014(3)
- *International Journal of Geospatial and Environmental Research*: 2018, 2017
- *International Journal of Health Geographics*: 2010
- *International Journal of Urban Sciences*: 2018(2)
- *International Regional Science Review*: 2020
- *International Review of Public Administration*: 2018
- *Journal of Geographical Systems*: 2021(2), 2019, 2015, 2013, 2012(2), 2010
- *Journal of the Korean Cartographic Association*: 2014(3), 2013, 2012, 2011(2)
- *Journal of the Korean Urban Geographical Society*: 2012
- *Journal of Quantitative Criminology*: 2014
- *Journal of Sensors*: 2020, 2018
- *Journal of Spatial Econometrics*: 2021(2)
- *Journal of Transport Geography*: 2016(3), 2013(2)
- *Journal of Urban Technology*: 2019, 2018
- *Journal of Visual Languages and Computing*: 2015
- *Landscape and Urban Planning*: 2016
- *Letters in Spatial and Resources Sciences*: 2016
- *Papers in Regional Science*: 2018(3)
- *Regional Studies*: 2015
- *Review of Urban & Regional Development Studies*: 2017(2)

- *Science of the Total Environment*: 2015
- *Southeastern Geographer*: 2017
- *Spatial and Spatio-temporal Epidemiology*: 2021, 2020
- *Spatial Statistics*: 2020, 2017, 2015(2), 2014(2), 2013
- *Stochastic Environmental Research and Risk Assessment*: 2010
- *Transactions in GIS*: 2022, 2021(2), 2019, 2016(2), 2013
- *The Professional Geographer*: 2021(2), 2020(3), 2019
- *Transportation Research Part E: Logistics and Transportation Review*: 2013(2)
- *Urban Geography*: 2009

Book chapter reviews:

- Routledge Handbook of Global Urban Health, eds. by I. Vojnovic, A. Pearson, G. Asiki, G. DeVerteuil, and A. Allen, Routledge, 2018
- The Geography of Networks and R&D Collaborations, ed. by T. Scherngell, Springer, 2013

Encyclopedia entries reviews:

- The Geographic Information Science & Technology Body of Knowledge, ed. by J. Wilson, 2019

Book publication reviews:

- Chapman & Hall/CRC: 2017, 2014
- CRC Press: 2016
- ESRI Press: 2013
- SAGE Publishing: 2018
- Springer: 2017

Ad hoc reviews for dissertation/thesis awards:

- Reviewer, Jacques May Thesis Prize, Health and Medical Geography Specialty Group, The American Association of Geographers, 2017.

Conference Activities

Conference organization:

- Organizing Committee, The 13th International Conference on Geocomputation, Richardson, Texas, May 20–23, 2015.
- Organizing Committee, Spatial Statistics 2013 Conference, Columbus, Ohio, June 4–7, 2013.

Conference Program Committee/Paper Reviews:

- Scientific Advisory Board member, Thematic Session on “Geographic Information System (GIS) & Remote Sensing”, of Archaeology & Cultural Heritage Symposium, Stockholm, Sweden, August 11–14, 2019.
- Program committee member, 2017–2022, International Conference on Information Visualization Theory and Applications (IVAPP)
 - Vienna, Austria, February 6–8, 2022
 - Virtual conference, February 8–10, 2021
 - Valletta, Malta, February 27–29, 2020
 - Prague, Czech Republic, February 25–27, 2019
 - Funchal, Madeira, Portugal, January 27–29, 2018
 - Porto, Portugal, February 27–March 1, 2017

- Scientific committee member, Uncertainty and Context in Geography and GIScience, a featured theme in the 2017 AAG Annual Meeting, Boston, MA.
- Reviewer, XXIII ISPRS Congress 2016, WG II/5 - GeoComputation and GeoSimulation

Conference session organization:

- American Associations of Geographers Annual Meetings: Seattle (Virtual, 2021), Washington DC (2019), New Orleans (2018), Boston (2017), San Francisco (2016), Chicago (2015), Tampa (2014), Los Angeles (2013), New York (2012)
- The Southwest Division of the American Association of Geographers Annual Meeting: Denton (2016)

Conference session chair:

- American Associations of Geographers Annual Meetings: Seattle (Virtual, 2021), Washington DC (2019), New Orleans (2018), Boston (2017), San Francisco (2016), Chicago (2015), Tampa (2014), Los Angeles (2013), New York (2012), Seattle (2011), Las Vegas (2009), Boston (2008)
- GeoComputation Conference: Dallas, TX (2015), Wuhan, China (2013)
- International Conference on Geospatial Theory, Processing, Modelling and Applications (by ISPRS TCII and IGU): Toronto, Canada (2014)
- International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences: Beijing, China (2018)
- Spatial Statistics Conference: Columbus, OH (2013)

Memberships

- The American Association of Geographers (2002–present)
- The Regional Science Association International (2008–present)
- Sigma XI (2021–present)

UNIVERSITY SERVICE

The University of Texas at Dallas

University Service:

- Committee on Education Policy (2016–2020)
- Internal program review committee:
 - Human Development and Early Childhood Disorder program (2017)
- Chair, Ad hoc committee for Tenure review (2019)
- Ad hoc committee for Tenure review (2020)
- Ad hoc committee for Mid-probation review: 2017, 2016(2)
- Examining Committee Chair, PhD dissertation final oral examination: 2021, 2020, 2017, 2016, 2010
- Faculty mentor, Faculty Mentoring Program (2021–2022)

School Service:

- Search committee, Visiting assistant professor in Geospatial Information Sciences (2021)
- Chair, Ad hoc committee for non-tenure track faculty review (2017)
- Effective Teaching Committee, School of Economic, Political and Policy Sciences (2013–2014)
- Geospatial Information Sciences Program Committee (2020–2021, 2013–2014)

Program Service:

- Organizer, Geospatial Information Sciences Colloquium Series (2014–2020)

- Organizer, Student presentation clinic, Geospatial Information Sciences program (2014–2017, 2019–present)
- GIS Program name change committee (2019)
- Pioneer Scholarship committee (2017–2019)
- Search committee member, Part time Lecturer in Geospatial Information Sciences (2016)
- Advisor, Geospatial Information Sciences Student Organization (2010–2014)

CERTIFICATES

- The 1st degree Certificate for National Information Processing Technician (1997), Issued by the Korea Industrial Labor Management Agency, Ministry of Labor, Korea
- The 2nd degree Certificate for Middle/High school Teachers in Geography (1996), Issued by Ministry of Education, Korea

Lastly updated on 01/27/2022