

Connor Donegan

Curriculum Vitae

connordonegan.github.io

Doctoral Candidate 2019–present
Geospatial Information Sciences
The University of Texas at Dallas
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Richardson, TX 75080
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Research Assistant 2019–present
Peter O'Donnell Jr. School of Public Health
University of Texas Southwestern Medical Center
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Health geography; social inequality; Bayesian modeling and spatial statistics; epistemology; open source software development.

Education

Master of Arts 2013
Geography
University of British Columbia
Bachelor of Arts 2010
Geography
University of Minnesota

Articles

- [1] Connor Donegan. “geostan: An R package for Bayesian spatial analysis”. In: *The Journal of Open Source Software* 7.79 (2022), p. 4716. DOI: [10.21105/joss.04716](https://doi.org/10.21105/joss.04716).
- [2] Connor Donegan, Amy E. Hughes, and Simon J. Craddock Lee. “Colorectal Cancer Incidence, Inequalities, and Prevention Priorities in Urban Texas: Surveillance Study With the ‘surveil’ Software Package”. In: *JMIR Public Health & Surveillance* 8.8 (2022), e34589. DOI: [10.2196/34589](https://doi.org/10.2196/34589).
- [3] Connor Donegan, Yongwan Chun, and Daniel A. Griffith. “Modeling community health with areal data: Bayesian inference with survey standard errors and spatial structure”. In: *Int. J. Env. Res. Public Health* 18.13 (2021), p. 6856. DOI: [10.3390/ijerph18136856](https://doi.org/10.3390/ijerph18136856).
- [4] Connor Donegan, Yongwan Chun, and Amy E. Hughes. “Bayesian estimation of spatial filters with Moran’s eigenvectors and hierarchical shrinkage priors”. In: *Spatial Statistics* 38 (2020). DOI: <https://doi.org/10.1016/j.spasta.2020.100450>.
- [5] Connor Donegan. “The making of Florida’s ‘criminal class’: race, modernity and the convict leasing program, 1877-1919”. In: *Florida Historical Quarterly* 97.4 (2019), 408–434, preprint: <https://doi.org/10.31219/osf.io/2wj7s>.

- [6] Tammy Leonard, Amy E. Hughes, **Connor Donegan**, Alejandro Santillan, and Sandi L. Pruitt. “Overlapping geographic clusters of food security and health: Where do social determinants and health outcomes converge in the US?” In: *SSM-Population Health* 5 (2018), pp. 160–170. DOI: <https://doi.org/10.1016/j.ssmph.2018.06.006>.

Pre-prints

- [1] Connor Donegan. “Building spatial conditional autoregressive models in the Stan programming language”. OSF Preprint: <https://osf.io/3ey65/>.

Open-Source Software

- [1] Connor Donegan. *geostan: Bayesian spatial analysis*. The Comprehensive R Archive Network: <https://cran.r-project.org/package=geostan>; <https://connordonegan.github.io/geostan>.
The geostan R package supports a complete spatial analysis workflow with Bayesian models for areal data including exploratory spatial data analysis tools, models for censored outcomes, and spatial measurement error models designed for working with American Community Survey (ACS) estimates. 2021.
- [2] Connor Donegan. *surveil: Public health surveillance*. The Comprehensive R Archive Network: <https://cran.r-project.org/package=surveil>; <https://connordonegan.github.io/surveil>.
The surveil R package provides time series models for routine public health surveillance tasks: model time trends in mortality or disease incidence rates to make inferences about levels of risk, cumulative and period percent change, age-standardized rates, and health inequalities. 2021.

Conferences

- [1] Connor Donegan. *The geostan R package for Bayesian spatial analysis: Strategies for modeling health inequalities*. Annual Meeting of the American Association of Geographers, Virtual. Feb. 2022.
- [2] Connor Donegan, Amy E. Hughes, and Simon J. C. Lee. *Time Series Models for Public Health Surveillance: Colorectal Cancer Incidence, Inequalities, and Prevention Priorities in Urban Texas*. Poster presentation to the Interdisciplinary Association of Population Health Science (IAPHS), Minneapolis. Sept. 2022.
- [3] Connor Donegan, Yongwan Chun, and Danial A. Griffith. *Modeling community health with areal data: Bayesian inference with survey standard errors and spatial structure*. Annual Meeting of the American Association of Geographers, Virtual, April 8. 2021.
- [4] Connor Donegan, Amy E. Hughes, Sandi L. Pruitt, and Simon C. Lee. *Deploying mobile mammography units for more equitable access to care: Can spatial optimization improve deployment strategies?* 67th Annual North American Meetings of the Regional Science Association International, Virtual, November 13. 2020.
- [5] Connor Donegan. *A Bayesian approach to eigenvector spatial filtering with the regularized horseshoe prior*. Special Session on Geocomputation at the 66th Annual North American Meetings of the Regional Science Association International, Pittsburgh, PA, November 16. 2019.

- [6] Connor Donegan. *A sparse Bayesian approach to eigenvector spatial filtering*. Southwest Division of the American Association of Geographers Annual Meeting, Fort Worth, TX, October 11. 2019.
- [7] Connor Donegan. *Convict leasing and the geography of prison sentencing in Jim Crow Florida*. New Scholars Award panel at the Annual Meeting of the Labor Research and Action Network, Howard University, June 9. 2017.
- [8] Tammy Leonard, Amy E. Hughes, **Connor Donegan**, Alejandro Santillan, and Pruitt Sandi L. *Food security and poor health: Predicting spatial cluster overlaps*. 64th Annual North American Meetings of the Regional Science Association International, Vancouver, BC, November 15. 2017.
- [9] Connor Donegan. *Peonage, race and law in Florida's convict leasing program, 1877-1919*. Annual Meeting of the American Association of Geographers, Los Angeles, CA, April 1. 2013.

Invited Lectures and Talks

- [1] Connor Donegan. *The geostan R package for Bayesian spatial analysis*. Invited talk. Stan-Connect 2022: Stan Through Space and Time (Stan modeling language user conference, virtual/international), Oct. 2022.
- [2] *Bayesian analysis with Stan: an introduction*. Guest lecture. EPPS 7390: Bayesian Analysis for Social and Behavioral Sciences, The University of Texas at Dallas, Nov. 2021.
- [3] *Public health surveillance with the **surveil** R package*. Invited talk. Population and Data Sciences, UT Southwestern Medical Center, Dec. 2021.

Ad-Hoc Peer Review

Transactions in GIS (1)	2022
International Journal of Geographical Information Science (1)	2021
Journal of Urban Health (1)	2021
Health & Place (1)	2020

Teaching

UTD

Graduate Instructor	
- Geog/Geos/Gisc 3304: Principles of Geospatial Information Sciences	2023

UBC

Teaching Assistant, with discussion sections	
- Geog 121: Geography, Environment and Globalization	2012
- Geog 122: Geography, Modernity and Globalization	2013

Previous Positions

Support Statistician	2019
College Transition Collaborative	
Stanford University/University of Waterloo	
Data Scientist	2017-2018
Quest Analytics	
San Francisco, CA & Appleton, WI	

Research Assistant Dr. Tammy Leonard Community Assistance Research (CARE) University of Dallas and: Dr. Amy Hughes Department of Clinical Sciences University of Texas Southwestern Medical Center	2017-2018
Teaching Assistant Department of Geography University of British Columbia	2012-2013
Research Assistant Dr. Jamie Peck Department of Geography University of British Columbia	2011

Awards

Poster Award. Interdisciplinary Association for Population Health Science (IAPHS).	2022
PhD Research Small Award. Office of Graduate Education, UT Dallas (\$1,000)	2021
Esri Development Center Student of the Year Award—UT Dallas. Esri (\$500)	2020
Student Travel Award. Spatial Analysis and Modeling Specialty Group, AAG (\$200)	2020
Pioneer Graduate Fellowship. GIS Program, UT Dallas (\$7,500)	2019-2022
New Scholars Research Grant. Labor Research and Action Network (\$1,746.50)	2017
Faculty of Arts Graduate Award. University of British Columbia (\$8,000)	2011
Outstanding Graduating Senior. Geography, University of Minnesota (\$100)	2010
Undergraduate Internship Award. College of Liberal Arts, UMN. \$1,500.	2008

Funding

Unfunded

National Cancer Institute (NCI): F31 Predoctoral Fellowship

Measuring Multiple Dimensions of Cancer Inequality: A spatial analysis of the Texas Colorectal Cancer Burden, 2000–2017

Develop rigorous methodologies for measuring and monitoring social and geospatial cancer inequalities through an extended case study of colorectal cancer incidence in Texas (2000–2017).

Role: PI

Professional Associations (Current)

American Association of Geographers

- Health and Medical Geography Specialty Group
- Spatial Analysis and Modeling Specialty Group

Young Scholars Initiative, Institute for New Economic Thinking

American Public Health Association

Interdisciplinary Association for Population Health Science

International Society for Bayesian Analysis

Service

Vice President, Graduate Student Assembly, UT Dallas Governing Body.	2021-2022
Graduate Student Representative, Dean’s Council—School of Economic, Political, and Policy Sciences. UT Dallas.	2020-present
Representative—School of Economic Political and Policy Sciences, Graduate Student Assembly, UT Dallas.	2020-2021
Executive Committee Member & Shop Steward. Canadian Union of Public Employees Local 2278.	2012-2013
Equity and Diversity Committee Member, Dept. of Geography, University of British Columbia.	2012
Human rights observer, Brigadas Civiles de Observación, Centro de Derechos Humanos Fray Bartolomé de Las Casas, Chiapas, Mexico (3 weeks).	2009