

Rick Bunch

University of North Carolina Greensboro
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Education

University of South Carolina
Ph.D. in Geography (2000)

University of South Carolina
M.S. in Geography (1998)

Ohio State University
B.S. in Geography (1996)

Research Interests

Geographic Information Science

- Geographic Information Systems
- Spatial Cognition/Geographic Analysis and Modeling

Primary Courses

- Introduction to Geographic Information Science (undergraduate)
- Geographic Information Systems (undergraduate)
- Advanced Geographic Information Systems (graduate)

Appointments

UNC Greensboro, Department of Geography, Environment, and Sustainability

- Professor (2012 – Present)
- Associate Professor (2007 – 2012)
- Director, Center for Geographic Information Science (2006 – 2014)
- Assistant Professor (2004 – 2007)

Central Michigan University, Department of Geography

- Assistant Professor (2002 – 2004)
- Director, Center for Geographic Information Science (2002 – 2004)

Southern Illinois University Edwardsville, Department of Geography

- Assistant Professor (2001 – 2002)

University of Minnesota, Department of Geography

- Visiting Assistant Professor (2000 – 2001)

Books

- Bunch, R., Nelson, E., and Nelson, J. (2020). *Geographic Information Science: Introductory Concepts and Applications*. Dubuque, IA: Kendall Hunt. ISBN-13: 978-1524989620; ISBN-10: 1524989622
- Bunch, R., Nelson, E., and Nelson, J. 3rd Edition (2018). *Exploring Geospatial Technology*. Dubuque, IA: Kendall Hunt. ISBN 978-1-5249-6244-9

Book Chapters

- Bunch, R., and Long, M. (2018). Mapping the New South. In M. Sloan and M. Long (Eds), *Southbound – Photographs of and about the New South* (pp. 276-277). Charleston, SC: Halsey Institute of Contemporary Art.
- Bunch, R., Tapp, A., and Pathak, P. (2013). Leveraging the Science of Geographic Information Systems. In D. P. Albert and G. R. Dobbs (Eds), *Emerging Methods and Multidisciplinary Applications in Geospatial Research* (reprint, pp. 255-261). Hershey, PA: IGI Global. doi:10.4018/978-1-4666-1951-7.ch016
- Bunch, R., Nelson, E., Lloyd, R., Kane, M., and Tricot, T. (2008). Instructional Geographic Information Science: A Multidisciplinary Framework for Geospatial Technologies in Education. In A. Milson and M. Alibrandi (Eds), *Digital Geography: Geo-spatial Technologies in the Social Studies Classroom* (pp. 227 – 245). Greenwich, CT: Information Age Publishing.

Peer Reviewed Publications

- El-Elimat, t., Raja, H., Figueroa, M., Al Sharie, A., Bunch, R., Oberlies, N. (2021) Freshwater Fungi as a Source of Chemical Diversity. *Journal of Natural Products*. doi: 10.1021/acs.jnatprod.0c01340
- Mohanty, S., Biggers, B., Sayedahmed, S., Pourebrahim, N., Goldstein, E., Bunch, R., Chi, G., Sadri, F., McCoy, T., and Cosby, A. (2021) A Multi-Modal Approach Towards Mining Social Media Data During Natural Disasters - A Case Study of Hurricane Irma. *International Journal of Disaster Risk Reduction*. doi.org/10.1016/j.ijdrr.2020.102032
- Kesler, K., and Bunch, R. (2020). Modeling Migratory Patterns of the Eastern Monarch Butterfly. *International Journal of Applied Geospatial Research*. 11(4). doi: 10.4018/IJAGR.2020100103
- Nowlin, J., Bunch, R., and Jones, G. (2019). Viticultural Site Selection: Testing the Effectiveness of North Carolina's Commercial Vineyards. *Applied Geography*. 106: 22 – 39. doi:10.1016/j.apgeog.2019.03.003
- Rivera-Chavez, J., El-Elimat, T., Gallagher, J., Graf, T., Fournier, J., Panigrahi, G., Deep, G., Bunch, R., Raja, H., and Oberlies, N. (2019) Delitpyrones: α -Pyrone Derivatives from a Freshwater Delitschia sp. *Planta Medica*. 85(1): 62 – 71. doi:10.1055/a-0654-5850.
- Bunch, R., Murray, C., Gao, X., and Hunt, E. (2018). Geographic Analysis of Domestic Violence Incident Locations and Neighborhood Level Influences. *International Journal of Applied Geospatial Research*, 9(2), 14 – 32. doi:10.4018/IJAGR.2018040102
- Murray, C., Bunch, R., and Hunt, E. (2016). Strengthening Community-Level Understanding of and Responses to Intimate Partner Violence Using Geographic Information Systems (GIS). *Journal of Aggression, Conflict and Peace Research*, 8(3), 197 – 211. doi:10.1108/JACPR-01-2016-0209
- Nowlin, J., and Bunch, R. (2016). A Model for Selecting Viticultural Sites in the Piedmont Triad Region of North Carolina. *International Journal of Applied Geospatial Research*, 7(3), 38–70. doi:10.4018/IJAGR.2016070102
- Nowlin, J., and Bunch, R. (2016). Geography of Wine in North Carolina: Geospatial Concepts Applied to Physical Terroir. *Proceedings of the XI International Terroir Congress 2016*, 482–87.

- Linfield College, McMinville OR: Southern Oregon University.
<https://www.calameo.com/read/004433976949ab8885344>
- Ackerman, W., and Bunch, R. (2012). A Comparative Analysis of Indian Gaming in the United States. *American Indian Quarterly*, 36(1), 50 – 74. doi:10.5250/amerindiquar.36.1.0050
- Bunch, R., Tapp, A., Pathak, P. (2011). Leveraging the Science of Geographic Information Systems. *International Journal of Applied Geospatial Research*, 2(2), 33-38. doi:10.4018/jagr.2011040103
- Lloyd, R., and Bunch, R. (2010). Learning Geographic Information from a Map and Text: Learning Environment and Individual Differences. *Cartographica*. 45(3), 169-184.
doi:10.3138/carto.45.3.169
- Long, M., Bunch, R., and Lloyd, R. (2010). Anti-Americanism, Political Cartoons and a Socio-Geographic Imagination: An Invitation for Further Work. *Sociological Inquiry*, 80(4), 650-660.
doi:10.1111/j.1475-682X.2010.00356.x
- Rychtar, J., Jones, E., and Bunch, R., and Gove, R. (2010). Calculating Edge Length Bias and the Relative Size of a 'Neighborhood' in Spatial Social Networks. *Far East Journal of Applied Mathematics*, 39(1), 53-69.
- Long, M., Bunch, R., and Lloyd, R. (2009). Measuring Anti-Americanism in Editorial Cartoons. *Social Science Quarterly*, 90(3), 652 - 673. doi:10.1111/j.1540-6237.2009.00636.x
- Lloyd, R., and Bunch, R. (2008). Explaining Map-Reading Performance Efficiency: Gender, Memory, and Geographic Information. *Cartography and Geographic Information Science*, 35(3), 171 - 202. doi:10.1559/152304008784864677
- Bunch, R., and Lloyd, R. (2006). The Cognitive Load of Geographic Information. *The Professional Geographer*, 58(2), 209 - 220. doi:10.1111/j.1467-9272.2006.00527.x
- Walker, S., Bunch, R., Muñiz, O., Murr, C., Qiu, X., Rockey Moore, M., Warren, M., and Wridt, P. (2005). Cognition and Learning in Geographic Education: A Research Agenda. *Research in Geographic Education*, 7, 21 – 31.
- Lloyd, R., and Bunch, R. (2005). Individual Differences in Map Reading Spatial Abilities Using Perceptual and Memory Processes. *Cartography and Geographic Information Science*, 32(1), 33 - 46.
doi:10.1559/1523040053270774
- Milson, A., DeChano, L., Bunch, R., Caito, J., and Qui, X. (2005). GIS in K-12 Education: Pedagogical Tool or Weapon of Mass Distraction? *Research in Geographic Education*, 7, 62 - 73.
- Lloyd, R., and Bunch, R. (2003). Technology and Map Learning: Users, Methods, and Symbols. *Annals of the Association of American Geographers*, 93(4), 828 - 850. doi:10.1111/j.1467-8306.2003.09304004.x
- Bunch, R., and Lloyd, R. (2002). Are Sex Differences Important for Complex Spatial Tasks? *Research in Geographic Education*, 4(1), 43 - 62.
- Bunch, R., and Lloyd, R. (2000). The Search for Boundaries on Maps: Color Processing and Map Pattern Effects. *Cartography and Geographic Information Science*, 27(1), 15 - 29.
doi:10.1559/152304000783548046
- Bunch, R. (2000). GIS and the Acquisition of Spatial Information: Differences among Adults and Young Adolescents. *Research in Geographic Education*, 2(2) 67 - 97.
- Bunch, R. (1999). Searching for Color Boundaries on Maps. *Southeastern Geographer*, 34(2), 220 - 234.
doi: 10.1353/sgo.1999.0023

Reports and Other Publications

- Bunch, R., and Long, M. Mapping Southernness websites (2018 and 2020)
<https://www.arcgis.com/apps/MapSeries/index.html?appid=55a1b8b3d5f6488d8cfcdb0a109d219f>

<https://scgis.maps.arcgis.com/apps/webappviewer/index.html?id=7f8e8a44e4a247278e387f8e1f350677>

- Bunch, R., Final Report: Mammography Facility Surveillance (Contract No. 200-2008-27889). Submitted to the Division of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control (2013, August). (With Darryl Cooney and Shawn Hirsch of SciMetrika). pgs. 1 – 62.
- Bunch, R., Summary Report: Mammography Facility Surveillance (Contract No. 200-2008-27889). Submitted to the Division of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control (2013, March). (With Darryl Cooney and Shawn Hirsch of SciMetrika). pgs. 1 – 18.
- Bunch, R., Indoor Mobile Phone Signal Strength Survey of the University of North Carolina Greensboro (2011, June). Submitted to Facilities Management, University of North Carolina Greensboro. pgs. 1 – 113.
- Bunch, R., and Tapp, A., Assessment of the 2008-2009 Bus Routing Network of Guilford Child Development (2009, July). Submitted to Guilford Child Development, Greensboro, NC. pgs. 1 – 29.
- Tapp, A., and Bunch, R. (2008). Mapping the Invisible World: Modeling Wireless Communications with Geographic Information Systems. *ACSM Bulletin*, 232, 14 – 17.
- Bunch, R., Patton, J., Nelson, E., Hertz, C., and Stine, R. 2006. “Geographic Information Science in Health: Priming the Pump.” *Directions Magazine: The Worldwide Source for Geospatial Technology*. (2006, May).
- Bunch, R., Nelson, E., and Stine, R. 2005. GIS and Public Health: A GIS Workbook. Department of Geography, University of North Carolina Greensboro. pgs. 1 - 76.
- Nelson, E., Bunch, R., and Stine, R. 2005. GIS and Public Health: A GIS Primer. Department of Geography, University of North Carolina Greensboro. pgs. 1 - 46.
- Bunch, R., Curry, K., and Patton, D. 2003. Geographic Information Systems Needs Assessment and Implementation Strategy for Isabella County, MI. Center for Geographic Information Science, Central Michigan University. pgs. 1 - 80.

Presentations

- Bunch, R., and Long M. “Mapping the Index of Southerness,” AAG Washington, DC, 2019.
- Bunch R. “The Index of Southerness,” Halsey Institute of Contemporary Art at the College of Charleston, Charleston, SC, 2019.
- Bunch R. “Mapping Southerness Using Geographic Information Systems,” UNC Greensboro Medicinal Chemistry Collaborative, Greensboro, NC, 2018.
- Nowlin, J., and Bunch R. “New Pierce’s Disease Resistant Grape Varieties: The Implications for the Southeastern U.S. Wine Industry,” AAG Boston, MA, 2017.
- Nowlin, J., and Bunch R. “North Carolina Vineyard Site Selection: Testing the Effectiveness of North Carolina Cooperative Extension Guidance,” SEDAAG, Columbia, SC, 2016.
- Nowlin, J., and Bunch R. “North Carolina Terroir(s),” AAG, San Francisco, CA, 2016.
- Nowlin, J., and Bunch R. “Boundary Interpretations of American Viticultural Areas within North Carolina,” SEDAAG, Pensacola, FL, 2016.
- Bunch R. “Geographic Information Science as a Framework to Understand Health Care Access and Utilization,” The Science of Healthy Behaviors, Greensboro, NC, 2013.
- Bunch R. “Geospatial Intelligence and Engineering,” Office of Naval Research and Technology, Renaissance Computing Institute, Chapel Hill, NC, 2012.
- Bunch R. “Space Analysis,” Human Domain Analysis Workshop, U.S. Army Special Operations Command, Airborne and Special Operations Museum, Fayetteville, NC, 2012.

- Bunch, R. "GIS and Radio Wave Propagation Modeling," Colloquium Guest Speaker, Department of Geography, University of South Carolina, Columbia, SC, 2010.
- Bunch, R., and Tapp, A. "Predicting Broadband Service Coverage for Wireless Networks," The e-NC Authority Data Confab, Chapel Hill, NC, 2010.
- Ackerman, W., and Bunch, R. "A Comparative Analysis of Indian Gaming in the United States," Annual Meeting of the Association of American Geographers, Washington D.C. 2010.
- Hertz, C., Jones, E., Noble, E., Bunch, R., Murphy, A., Tobin, G., and Faas, A. "Combining GIS and Network Analysis to Compare Social Distance with Geographic Distance," American Anthropological Association, San Francisco CA, 2008.
- Bunch, R., and Lloyd, R. "Variations in Map-Reading Performance Efficiency," Spatial Learning in Geography Workshop, National Geographic Society and the National Science Foundation, Washington D.C. 2008.
- Bunch, R. "Geographic Information Systems and Radio Wave Propagation Modeling," Colloquium Speaker Series, College of Engineering, North Carolina A&T State University, NC 2007.
- Bunch, R. "The Role of GIS in Health," Annual Conference of the North Carolina Public Health Association, New Bern, NC 2006.
- Gels, D., Stine, R., and Bunch, R. "Finding the Trail to Troublesome Creek: Withdrawal Route and Position after the Battle of Guilford Courthouse, 15-16 March 1781," Southeastern Division of the Association of American Geographers, Morgantown, WV 2006.
- Patton, J., Nelson, E., Bunch, R., and Williams, R. "The Map Prototype: Experts and Novices," Annual Meeting of the Association of American Geographers, Chicago, IL 2006.
- Bunch, R. "GIS and School Emergency Management: An Intra-space Perspective," North Carolina Geographic Information Systems Conference, Winston-Salem, NC 2005.
- Williams, R., Patton, J., Nelson, E., and Bunch, R. "Defining the Map Prototype," North American Cartographic Information Society, Portland, ME 2004.
- Bunch, R. "GIS and School Emergency Planning," Department of Political Science, College of Charleston, Charleston, SC 2004.
- Bunch, R., and Lloyd, R. "Sex and Familiarity with State Shapes and Locations," Annual Meeting of the Association of American Geographers, Philadelphia, PA 2004.
- Lloyd, R., and Bunch, R. "Competing Sex Differences in Spatial Cognition," Southeastern Division of the Association of American Geographers, Charlotte, NC 2003.
- Bunch, R., and Lloyd, R. "Geographic Information Systems and Spatial Information," Annual Meeting of the Association of American Geographers, New Orleans, LA 2003.
- Lloyd, R., and Bunch, R. "Computation and Visualization of Learning Processes: GIS Functions and Users," Annual Meeting of the Southeastern Division of the Association of American Geographers, Richmond, VA 2002.
- Bunch, R. "Slope-Aspect Visualization," Annual Meeting of the Southeastern Division of the Association of American Geographers, Lexington, KY, 2001.
- Bunch, R. "Metric Map Distortions for Adults and Young Adolescents," Annual Meeting of the Southeastern Division of the Association of American Geographers, Chapel Hill, NC 2000.
- Lloyd, R., and Bunch, R. "Visual Search: Cognitive and Cartographic Effects," Annual Meeting of the Association of American Geographers, Pittsburgh, PA 2000.
- Hodgson, M., Lloyd, R., and Bunch, R. "A Justification for Ordering Information Extraction Steps: A Cognitive View," 2000 ASPRS Annual Conference, Washington, DC 2000.
- Bunch, R. "Searching for Color Boundaries on Maps," Annual Meeting of the Southeastern Division of the Association of American Geographers, Memphis, TN 1998.
- Bunch, R. "Searching for Color Boundaries on Bi-polar Choropleth Maps," Annual Meeting of the South Carolina Academy of Science, Greenwood, SC 1998.

Carbone, G., Lloyd, R., Bunch, R., and Li, X. "Comparison of Different Interpolation Techniques with Monthly Precipitation Data," Annual Meeting of the Association of American Geographers, Boston, MA 1997.

External Funding

- Murray, C., and Bunch, R. STIR Labs Challenge for City of West Sacramento: Assessing the Efficacy of the Police-Social Services Co-Responder Model for Community-Wide Mental Health, City Innovate (STIR Labs), San Francisco, CA \$27,786 (Submitted 2020).
- Murray, C., and Bunch, R. Identifying High-Risk, Underserved Victim Populations in Cleveland County, NC, Using Geographic Information Systems (GIS) and Geographic Analyses. Justice Research Statistics Association/Department of Justice Office for Victims of Crime, Washington, DC \$15,000 (2020).
- Bunch, R., and Tapp, A. GIS and Cellular Communications Network Planning, CityScape Consultants, Boca Raton, FL \$26,519 (2014).
- Bunch, R., and Tapp, A. Increasing the Spatial Resolution of Broadband Coverage Models, NC Department of Commerce/National Telecommunications and Information Administration (ARRA Funding), Washington, DC, \$171,360 (2013-14).
- Bunch, R., and Tapp, A. Implementing Google Transit for the Piedmont Authority for Regional Transportation, Piedmont Authority for Regional Transportation, Greensboro, NC \$4,500 (2013).
- Bunch, R., and Tapp, A. Coverage Modeling and Network Planning for Cellular Communications, Cityscape Consultants, Boca Raton, FL \$13,059 (2013).
- Bunch, R., and Tapp, A. Mammography Facility Surveillance Using Geographic Information Systems, SciMetrika/Centers for Disease Control (CDC), Research Triangle Park, NC, \$20,500 (2012-2013).
- Bunch, R., and Tapp, A. Cellular Communication Planning Using Geographic Information Systems, Cityscape Consultants, Boca Raton, FL, 13,059 (2013).
- Bunch, R., and Tapp, A. Research and Development of Propagation and Data Models for Wireless and Wireline Broadband Coverage in North Carolina, NC Department of Commerce/National Telecommunications and Information Administration (ARRA Funding), Washington, DC, \$60,102 (2012).
- Bunch, R., and Tapp, A. Assessing Cellular Networks Using Geographic Information Systems, Cityscape Consultants, Boca Raton, FL, \$13,059 (2012).
- Bunch, R., and Tapp, A. Guilford County Neighborhood and Community Assessment and Mapping, Habitat for Humanity of Greater Greensboro, \$1,560 (2012).
- Bunch, R., and Tapp, A. Geographic Information Systems and Broadband Availability Mapping, e-NC Authority/National Telecommunications and Information Administration (ARRA Funding), Washington, DC, \$30,240 (2011).
- Bunch R. Analyzing Incidence and Mortality Rates for Ovarian Cancer in the United States, SciMetrika, Research Triangle Park, NC, \$45,150 (2011).
- Bunch R., and Tapp, A. Updating Wireless Broadband Prediction Surfaces for the State of North Carolina, e-NC Authority/National Telecommunications and Information Administration (ARRA Funding), Washington, DC, \$14,994 (2011).
- Bunch R., and Tapp, A. Integration, Analysis and Display of Geospatial Data for Health Research, SciMetrika, Research Triangle Park, NC, \$7,347 (2011).
- Bunch, R., and Tapp, A. Building Geospatial Datasets for Broadband Subscribers in North Carolina, e-NC Authority/National Telecommunications and Information Administration (ARRA Funding), Washington, DC, \$10,967 (2011).

Bunch, R., and Tapp, A. Spatial Analysis of Ovarian Cancer Care and the Availability of Gynecologic Oncologists, SciMetrika, Research Triangle Park, NC, \$10,884 (2010).

Bunch, R., and Tapp, A. Geospatial Database Development and Maintenance for Broadband Subscribers, e-NC Authority/National Telecommunications and Information Administration (ARRA Funding) , Washington, DC, \$6,289 (2010).

Bunch, R., and Tapp, A. Building a Geodatabase using Broadband Subscriber Data, e-NC Authority/National Telecommunications and Information Administration (ARRA Funding), Washington, DC, \$4,896 (2010).

Bunch, R., and Tapp, A. Mobile and Fixed Wireless Broadband: Radio Wave Propagation Modeling for the State of North Carolina, e-NC Authority/National Telecommunications and Information Administration (ARRA Funding), Washington, DC, \$259,692 (2009-10).

Bunch, R., and Bennett, G. Advanced Spatial Analysis for Banking, Oak Ridge Financial Services, Oak Ridge, NC, \$27,628 (2009-10).

Tapp, A., Bunch, R. and Sultana, S. Geographic Information Systems for Educational Nonprofit, Guilford Child Development, Greensboro, NC, \$4,435 (2009).

Bunch, R., and Tapp, A. Radio Wave Propagation Modeling Using Geographic Information Systems, Cityscape Consultants, Boca Raton, FL, \$72,462 (2009-12).

Tapp, A., and Bunch, R. Assessment of Geographic Information Systems for Educational Nonprofit, Guilford Child Development, Greensboro, NC, \$4,435 (2009).

Bunch, R., and Tapp, A. Geographic Information Science: Retail and Commercial Property Development, Kotis Properties, Greensboro, NC, \$9,626 (2008-09).

Bunch, R., and Tapp, A. Implementation of a Wireless Communication Network Planning and Optimization System using Enterprise Geographic Information Systems, Equitable Resources, Pittsburgh, PA, \$90,833 (2008).

Bunch, R., and Tapp, A. Network Analysis Using Geographic Information Systems, Guilford Child Development, Greensboro, NC, \$4,187 (2008).

Bunch, R., and Bennett, G. Advanced Geographic Information Systems for Banking, Oak Ridge Financial Services, Oak Ridge, NC, \$26,670 (2008-09).

Bunch, R. Using Geographic Information Systems for Health Care Strategic Marketing and Needs Assessment, Organizational Objectives Associates, Greensboro, NC, \$12,728 (2007-08).

Bunch, R., and Bennett, G. Geographic Information Systems for Banking, Oak Ridge Financial Services, Oak Ridge, NC, \$26,340 (2007-08).

Bunch, R. Using Geographic Information Systems for Retail and Commercial Site Selection and Property Development, Kotis Properties, Greensboro, NC, \$20,771 (2007-08).

Bunch, R. Geographic Information Systems Modeling Techniques for Wireless Telecommunications, Cityscape Consultants, Boca Raton, FL, \$2,448 (2007).

Bunch, R., Stine, R., and Patton, J. Geographic Information Systems and Advanced Modeling of Wireless Telecommunications, Cityscape Consultants, Boca Raton, FL, \$71,254 (2006 - 2009).

Bunch, R. Rapid Response Project 516, Phase II: Integrating Electronic Field Data Collection into Bioterrorism Preparation and Response in North Carolina, Guilford County Department of Public Health - Health Surveillance and Informatics Unit, Greensboro, NC, \$20,000 (2006).

Stine, R., Bunch, R., and Patton, J. Geographic Information Systems and Telecommunication Models for Public Policy, Cityscape Consultants, Boca Raton, FL, \$23,751 (2005-06).

Bunch, R., Stine, R., and Nelson, E. Geographic Information Systems and Public Policy Dimensions: Emerging and Merging Solutions to Bioterrorism. Guilford County Department of Public Health – Health Surveillance and Informatics Unit, Greensboro, NC, \$70,000 (2005).

Stine, R., Bunch, R., and Patton, J. 3-D Cell Tower and Mapping Analysis, Cityscape Consultants, Boca Raton, FL, \$16,328 (2004-05).

Bunch, R., and Curry, K. Hazard Mitigation Plan Using GIS for Isabella County, Isabella County, MI, \$30,000 (2003).

- Bunch, R., Patton, D., and Curry, K. Geographic Information Systems Needs Assessment and Implementation Strategy. Isabella County, Mount Pleasant, MI, \$12,706 (2003).
- Bunch R. Geospatial Database Development. University City, Department of Planning and Development, University City, MO, \$1,200 (2001).
- Bunch R. Cartographic Specialty Group Graduate Thesis Research Grant, \$300 (1997).

Internal Funding

- Mohanty, S., Sadri, F., Bunch, R., Cox, R., and Kellam, L. Leveraging Twitter and Big Data Analytics for Natural Disaster Management and Recovery – A Case Study for Hurricanes Irma and Harvey, UNC Greensboro Giant Steps Grant, \$25,000 (2018).
- Murray, C., Bunch, R., and Gao X. Identifying High-Risk and Underserved Neighborhoods for Interpersonal Violence and Abuse in Greensboro Using GIS and Big Data Analysis, UNC Greensboro Strategic Seed Grant, \$25,000 (2017).
- Bunch R. Indoor Assessment of Cellular Communications, Information Technology, UNC Greensboro, \$14,450 (2011).
- Tapp, A., and Bunch, R. Geographic Information Science for Group Related Violent Crime Reduction, Center for Youth, Family and Community Partnerships, UNC Greensboro, \$38,245 (2009-10).
- Bunch R., and Jones, E. Pilot Study for New Orleans, College of Arts and Sciences and Office of Public/Private Sector Partnerships, UNC Greensboro, \$6,294 (2008).
- Bunch, R. Using Geographic Information Systems for Facilities Management, Facilities Operations, UNC Greensboro, \$18,775 (2008-09).
- Bunch, R. Using Geographic Information Systems for Facilities Management, Facilities Operations, UNC Greensboro, \$18,839 (2007-08).
- Bunch, R. Summer Excellence Research Grant, UNC Greensboro, \$4,000 (2005).
- Bunch, R. Faculty Research and Creative Endeavors, Central Michigan University, \$550 (2004).
- Bunch, R. Faculty Research and Creative Endeavors, Central Michigan University, \$1,000 (2003).
- Bunch, R. Faculty Research and Creative Endeavors, Central Michigan University, \$747.57 (2003).
- Bunch, R., and Curry, K. Drainage Basin Site Map, Environmental Science, Central Michigan University, \$250 (2002).
- Bunch, R. Geography Achievement Week Material Development, Michigan Geographic Alliance, Central Michigan University, \$3,300 (2002).

Students

Ph.D.

Craig Pederson (current)

Karen Kesler (current)

Merhrnaz Khademian (current)

John Nowlin, *“The Geography of Wine in North Carolina: Terroir, Site Selection Efficacy, and Implications for Pierce’s Disease Resistant Grape Varieties in the Southeastern U.S.”* Department of Geography, UNC Greensboro (2018).

Jasraj Gramopadhye, *“Quantitative Analysis of Resource Conflict and Urban Sustainability in Central North Carolina: A GIScience Based Approach,”* Department of Geography, UNC Greensboro (2013).

Carly Hertz, *“Measuring Social Vulnerability to Natural Hazards: An Examination of the United States Virgin Island,”* Department of Geography, UNC Greensboro (2011).

Thomas Tricot, *“Instructional Geographic Information Science: Map Overlay and Spatial Abilities,”* Department of Geography, UNC Greensboro (2010).

Timothy Mulrooney, *“Turning Data into Information: Assessing and Reporting GIS Metadata Integrity Using Integrated Computing Technologies,”* Department of Geography, UNC Greensboro (2009).
Elizabeth Walton, *“Using Ecological Niche Modeling to Predict Actual and Potential Habitat for the Bog Turtle, Glyptemys mublenbergii,”* Department of Geography, UNC Greensboro (2009). (Co-Advisor).

Master’s

Jessica Miller (current)

Boyster, Meagan, *“Geography of Primary Healthcare in Forsyth County, North Carolina,”* Department of Geography, Environment, and Sustainability, UNC Greensboro (2020).
Christopher Barbieri, *“Vehicle Safety and Vision Zero: An Equitable Approach,”* Department of Geography, Environment, and Sustainability, UNC Greensboro (2020). Non-thesis internship option.
Crawford Liner, *“Visualization of Traffic Schedules and Traffic Impact Studies,”* Department of Geography, Environment, and Sustainability, UNC Greensboro (2019). Non-thesis internship option.
Karen Kesler, *“The Direct and Indirect Effects of Site Suitability on Eastern Monarch Butterfly Migratory Populations,”* Department of Geography, Environment, and Sustainability, UNC Greensboro (2019).
Dominique Haller, *“Environmental, Ecological and Recreational Impacts of a Proposed Hydroelectric Dam on the Teno River, Chile,”* Department of Geography, UNC Greensboro (2018).
Megan Grigg, *“Geographic Information Systems and Law Enforcement,”* Department of Geography, UNC Greensboro (2016). Non-thesis option.
Pamela Hurst, *“A Comparison of Interpolation Methods for Estimating Mountaintop Removal,”* Department of Geography, UNC Greensboro (2014).
Sean Kelly, *“A Model for Predicting Highway Noise Using Geographic Information Systems: Interstate 73 in Guilford County, North Carolina,”* Department of Geography, UNC Greensboro (2013).
John Nowlin, *“A Mesoscale Geophysical Capability/Suitability Model for Vitis Vinifera Vineyard Site Selection in the North Carolina Piedmont Triad Region: Case Study of Rockingham County, NC,”* Department of Geography, UNC Greensboro (2013).
Kristin Johnston Wooten, *“Project Safe Neighborhoods Program,”* Department of Geography, UNC Greensboro (2013). Non-thesis option.
Stephanie Edwards, *“Geographic Information Systems in the Social Sector: Trends, Opportunities, Barriers, and Best Practices,”* Department of Geography, UNC Greensboro (2011).
Scott Baker, *“Analyzing the Impacts of Tree Canopy on Cellular Radio Networks,”* Department of Geography, UNC Greensboro (2010). (Co-Advisor).
Jason Parrish, *“Geographic Information Systems and Spatial Analysis of Market Segmentation for Community Banks,”* Department of Geography, UNC Greensboro (2009).
Anna Tapp, *“Mapping the Impact of Vegetation and Terrain on Cellular Signal Levels,”* Department of Geography, UNC Greensboro (2008).
Carly Hertz, *“The Role of Geographic Information Systems in Epidemiology and Public Health,”* Department of Geography, UNC Greensboro (2006).
Guy-Justin Andromel Nuyda, *“Using Geographic Information Systems with Wireless Telecommunication and Topography,”* Department of Geography, UNC Greensboro (2005).
Douglas Gels, *“Finding the Trail to Troublesome Creek,”* Department of Geography, UNC Greensboro (2005). (Co-Advisor).

Undergraduate

Undergraduate Honors Thesis, Kaitlyn Jessee, "*Predicting Vulnerable Areas for Hurricane Destruction in the Southeastern United States*," Department of Geography, Environment & Sustainability, UNC Greensboro (2019).

Senior Assignment Advisor, Jared Eatmon, "*The Addition of Thompson Bend Riparian Corridor to the U.S. Army Corps of Engineers Database*," Department of Geography, Southern Illinois University (2002).

Senior Assignment Advisor, Robert Hursey, "*The Cartographic Process: Mapping SIUE Alumni*," Department of Geography, Southern Illinois University (2002).