L. SHEA ROSE

Professor
Earth and Environmental Sciences
Dr. James 'Earl' Perry College of Mathematics, Computing, and Sciences
University of West Georgia

Education

2008 Ph.D. Geography (Atmospheric/Geospatial Science), The Florida State University
Dissertation: *A Spatial Analysis of Lightning Strikes and Precipitation in the Atlanta, Georgia (USA) Region*

1996 Interdisciplinary Bachelor's Energy and Sustainability, The Evergreen State College
Research Topic: *A Digital Temperature Network for Remote Heat Flow Monitoring*

Academic and Professional Positions

2008– Professor (2019), Department of Natural Sciences

- Program Coordinator, since Fall 2024
- Codirector of the new undergraduate Atmospheric Science certificate, 2019-present
- UWG General Education Assessment Committee, Fall 2020-Spring 2023
- Chair of Academic Dean Review Committee, Spring 2022
- Chair of Post Tenure Review Committee, Fall 2021
- PI or coPI on over half a million dollars in grants to advance science and education
- Risk Management Environmental Health and Safety Community Award for Environmental Sustainability for work with students, staff, and nonprofits on the campus garden and environmental science teaching, 2015
- College of Science and Mathematics, Excellence in Teaching Award, 2013
- Department of Energy Fellowship on Science and Policy at the EPA, Office of Air and Radiation, Washington, D.C., 2011

2017–2020 Assistant Dean, College of Science and Mathematics, University of West Georgia

- 2019–2020 Engage West Emerging Leaders Selection
- Responsible for administering student academic policies
- Coordinate COSM tours, orientations, preview days
- COSM curriculum coordinator
- Faculty activity and workload reporting
- Coordinated with the graduate school on thesis requirements and academic standing
- COSM grant reviewer
- STEM Focus Area development
- Oversee Dean's Circle student representatives
- GIS analysis for retention study for Student Affairs and Enrollment Management, Fall 2018

2002–2008 Graduate Teaching, Research and GIS Lab Assistant, The Florida State University

- NSF funded research in data visualization and urban storm modification
- Assisted students with GIS and technical issues

1998–2002 Research Associate, Lawrence Berkeley National Laboratory, Environmental Energy Technologies Division, Heat Island Group, Berkeley, CA

- Responsible for urban fabric analysis of Chicago, Houston, Sacramento, and Salt Lake City in the EPA's Urban Heat Island Pilot
- Coordinated with scientists, local planners, nonprofits and private companies to acquire data and provide expertise for analysis and policy development related to land use planning, air quality and energy demand

1997–1998 Computer Aided Drafting Department Manager
Webb Structural Steel Design and Detailing, Dothan, AL

- Reduced wastes, while saving time and money, by transitioning the company to computer aided drafting
- Managed employees and trained them on CAD-integrated applications for operational sustainability

1996 Research Assistant, Oak Ridge National Laboratory
Energy and Transportation Science, Buildings Research Group, Oak Ridge, TN

- Analyzed real-time data from building components to determine R-values
- Worked with users of research facilities from private and nonprofit organizations

1993, 1996 Science, Math and English Tutor, Pathways Program, Wallace Community College
Department of Education program for at–risk students, Dothan, AL

- Achieved certification as a tutor in the State of Alabama

Research Proposals

Science Pedagogy Enhanced with CT Reinforced through Exploration (SPECTRE). Shea Rose (PI), Huett, Kimberley, Corley, Jonathan, Paliwal, Veena, and Talbot, Julie. STEM + Computing (STEM+C) Program. NSF. 2019. $1,456,611. Not Funded.

Application of Energy Related Core Ideas and Practices across Middle and Secondary Earth, Environmental, and Life Sciences Content. Dr. L. Shea Rose (PI), Dr. Gail Marshall and Professor Judy Cox (coPIs). US Department of Education. Improving Teacher Quality State Grants Program-Title II, Part A. February 2017–May 2018. $49,492.

Application of Energy Related Core Ideas and Practices across Middle and Secondary Earth, Environmental, and Life Sciences Content. Dr. L. Shea Rose (PI), Dr. Gail Marshall and Professor Judy Cox (coPIs). US Department of Education. Improving Teacher Quality State Grants Program-Title II, Part A. February 2016–May 2017. $47,850.

National Atlas Project: Cartographic Perspectives of the Physical Geography of the Korean Peninsula. Seong, J.C. (PI), Hwang, C. (coPI) and Rose, S. (coPI). Korean Geographical Society. 2015–2016. $8,400.

A Community Garden for the University of West Georgia. Rose, S., Butts, L., Hembree, J., and Fox, J. Community transformation grant from the Centers for Disease Control and Prevention (CDC) led by Tanner Health System. 2014–2015. Gifts in kind for the garden including a sign, raised beds, seeds and soil.

Extending the LiDAR Project of Coastal Regional Commission of Georgia to Okefenokee National Wildlife Refuge. Dr. J.C. Seong (Principal) and Dr. S. Rose (coPI). United States Geological Survey. February 2010–July 2011. $491,214. Includes private companies, student internships, and student assistants.

Analysis of Vegetative Effects on Albedo in Urban Environments. Dr. L. Shea Rose (PI). Lawrence Berkeley National Laboratory, Environmental Energy Technologies Division, Berkeley, CA. November 2009–February 2011. $20,188. Includes 4 student assistants.

Internal

An examination of air quality risks in the Atlanta area arising from shifting climate conditions, Student Research Assistance Program, University of West Georgia (Summer 2023). $1000.

Spatiotemporal Analysis of Weather Extremes in a Climatological Perspective for the Southeast US Region, Student Research Assistance Program, University of West Georgia (2019–2020). $1800.

Research Articles

DeSilva, L.A., Tennakone, K., Zander, C., **Rose, S.** and Kerlin, A. 2019. Measurement of Solar Spectral Irradiance and Surface Ozone at Carrollton, during Great American Eclipse on August 21st, 2017. *Georgia Journal of Science*, Volume 77, Issue 2, Article 2.

Kerlin, A., DeSilva, L.A., **Rose, S.** and Hasbun, J. E. 2016. Calculating the Sun's Photospheric Temperature, an Undergraduate Physics Laboratory. *Georgia Journal of Science*, Volume 74, Issue 2, Article 13.

Rose, L.S. and Levinson, R. 2013. Analysis of the Effect of Vegetation on Albedo in Residential Areas: Case Studies in Suburban Sacramento and Los Angeles, CA. *GIScience & Remote Sensing,* Volume 50, Issue 1, Pages 64–77.

Rose, L.S., Seong, J.C., Ogle, J., Butte, E., Indridason, J., Hall, J., Nelson, S., Jones, T. and Humphry, J. 2013. Challenges and Lessons from a Wetland LiDAR Project: A Case Study of the Okefenokee Swamp, Georgia, USA. *Geocarto International*, Volume 28, Issue 3, Pages 1–17.

Rose, S., Stallins, J.A. and Bentley, M. 2008. Climatological and Single-Event Scale Visualizations of Urban Cloud-to-Ground Flashes in Atlanta, Georgia. *Earth Interactions,* Volume 12, Pages 130.

Akbari, H. and **Rose, L.S.** 2008. Urban Surfaces and Heat Island Mitigation Potentials, *Journal of the Human-Environmental System*, Volume 11, Number 2, Pages 85–101.

Stallins, J.A. and **Rose, S.** 2008. Urban Lightning: Current Research, Methods, and the Geographical Perspective. *Geography Compass,* Volume 2, Pages 620–639.

Stallins, J. A., Bentley, M. L. and **Rose, L. S.** 2006. Cloud-to-Ground Flash Characteristics for Atlanta, Georgia (USA) from 1992–2003. *Climate Research*, Volume 30, Pages 99–112.

Rose, L. S., Akbari, H. and Taha, H. 2003. Characterizing the Fabric of the Urban Environment: A Case Study of Greater Houston, Texas. LBNL-51448. Berkeley, CA.

Akbari, H., **Rose, L. S.** and Taha, H. 2003. Analyzing the land cover of an urban environment using high-resolution orthophotos. *Landscape and Urban Planning*, Volume 63, Issue 1, Pages 1–14.

Berdahl, P., Akbari, H. and **Rose, L. S.** 2002. Aging of reflective roofs: Soot Deposition. *Applied Optics*, Volume 41, Issue 12, Page 2355–2360.

Akbari, H. and **Rose, L. S.** 2001. Characterizing the Fabric of the Urban Environment: A Case Study of metropolitan Chicago, Illinois. LBNL-49275. Berkeley, CA.

Akbari, H. and **Rose, L. S.** 2001. Characterizing the Fabric of the Urban Environment: A Case Study of Salt Lake City, Utah. LBNL-47851. Berkeley, CA.

Akbari, H., **Rose, L. S.** and Taha, H. 1999. Characterizing the Fabric of the Urban Environment: A Case Study of Sacramento, CA. LBNL-44688. Berkeley, CA.

*Google Scholar https://scholar.google.com/citations?user=zcX_lgsAAAAJ&hl=en&oi=ao

Selected Research Presentations

Rodgers, J. A.* and **Rose, L.S.** 2021. GIS Analysis of a Southeastern Shift in Continental U.S. Tornado Intensity and Frequency. Annual Meeting of the American Association of Geographers. Virtual.

Rose, L.S. 2017. Developing undergraduate research through integrating the R-language into an applied climatology course. The Geological Society of America Annual Meeting. Seattle, Washington.

Marshall, G., Cox, J. and **Rose, S.** 2017. Alternative Energy Sources: Developing the STEM Concepts and Practices Necessary to Prepare Students for this Rapidly Advancing Career Field (Grades 6–12). Georgia STEM Forum. Athens, Georgia.

Rose, L.S. and LaRow, T. 2016. The Relationship between Climate Oscillations and Regional Extremes. American Geophysical Union Annual Conference. San Francisco, CA.

Rose, S., Chambers, K., McClain, M., Ojiagbaje, S., Moore, J. and Eytalis, J. 2015. GIS Field Collection to Support a Tree Inventory for Campus Sustainability. Association for the Advancement of Sustainability in Higher Education Annual Conference. Minneapolis, Minnesota.

Rose, S. 2015. American Meteorological Society Climate Studies Implementation in a Hybrid Course Format. 95th American Meteorological Society Annual Meeting. Phoenix, Arizona.

Rose, S. 2014. Active Learning in an Undergraduate Energy and Sustainability Course. Third Conference on the Physics of Sustainable Energy: Using Energy Efficiently and Producing It Renewably. American Physical Society. Berkeley, California.

Seong, J.C., **Rose, S.,** Ogle, J. and Indridason, J. 2012. LiDAR Surveying on Okefenokee Swamp: Issues and Challenges. American Society for Photogrammetry and Remote Sensing (ASPRS) 2012 Annual Conference. Sacramento, CA.

Invited Speaker

Climate and Economics: Risks for the Southeast. ECON 3480 Environment and Natural Resource Economics. UWG. Fall 2023

Science, Energy, and Sustainability: Progress and Challenges. National Science Honor Society Induction Ceremony and Energy Expo, Luella High School, Locust Grove, GA, December 2017.

Professional Affiliations

Association of American Geographers
American Meteorological Society: 2014–15 Climate Diversity Project Cohort
International Association for Urban Climate
Phi Kappa Phi Academic Honor Society
Southeastern Division of the Association of American Geographers

Computer Skills

ArcGIS, QGIS, ERDAS Imagine, Geoda, HYSPLIT, MS ACCESS, MS Excel, R language, FORTRAN and Visual Basic