

RACHEL D. SCARLETT

Assistant Professor ◊ Department of Geosciences ◊ Georgia State University
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EDUCATION

Ph.D. <i>An Examination of the Interconnected Social and Ecological Dimensions of Stormwater Management</i> Ecological Sciences and Engineering Interdisciplinary Program Department of Agricultural and Biological Engineering Purdue University	2017-2022
Master of Science Ecological Sciences and Engineering Interdisciplinary Program Department of Agricultural and Biological Engineering Purdue University	2015-2017
Bachelor of Science Environmental Studies Program University of California, Santa Barbara (UCSB)	2011-2015
Current Research Interests: Urban Water, Water Quality, Hydrology, Stream Ecology, Stormwater Management, Environmental Justice, Race, Gender, and Class, Inequality, Social Norms	

PROFESSIONAL APPOINTMENTS

Assistant Professor, Department of Geosciences, Georgia State University, Atlanta, GA	2023-
Postdoctoral Fellow, David H. Smith Conservation Research Fellowship, Keller Science Action Center, Field Museum, Chicago, IL	2022-2023
Teaching Assistant, Agricultural and Biological Engineering, Purdue University	2017-2021
Graduate Student Fellow, National Socio-Environmental Synthesis Center (SESYNC)	2017-2019
Research Intern, Johns Hopkins Bloomberg School of Public Health	06/2014-09/2014
Research Intern, Geography Department, UC Santa Barbara	2013-2015
After School Program Director, Let's Explore Applied Physical Science (LEAPS), Santa Barbara, CA	2012-2013
Research Intern, Department of Earth Science, UC Santa Barbara	06/2012-09/2012

FELLOWSHIPS, HONORS, AND AWARDS

David H. Smith Conservation Research Fellowship (2 years; \$118,000)	2021-2023
The Ford Foundation Dissertation Fellowship (\$28,000)	2020-2021
American Association of University Women Dissertation Fellowship (\$20,000; declined)	2020-2021
Bilsland Dissertation Fellowship, Purdue University (\$20,000; declined)	2020-2021
George Washington Carver University Fellowship, Purdue University (5 years; \$102,000)	2015-2020
Kennedy Graves Activism and Engagement in Research Award (\$500)	2015
UCSB Chancellor's Sustainability Fellowship (\$3,000)	2014
UCSB McNair Scholar	2013-2015
UCSB Dean's Honor	2011-2015
Honorable Mention, CAMP-NSF Symposium at UC Irvine	2013
Certificate of Achievement, Leadership and Commitment to the Black Community at UCSB, Zeta Phi Beta Sorority Inc. Delta Rho	2013

GRANTS

David H. Smith Conservation Research Fellowship. PI. Social Equity and Freshwater Conservation: A Case Study of the Chicago Region. (\$40,000)	2021-2023
Graduate Women in Science (GWIS) Grant. PI. Participation in the Urban Riverscape: An Exploration of the Role of Rivers' Rhythms. (\$10,000)	2020-2022
Symposium on Urbanization and Stream Ecology (SUSE) Travel Award (\$700)	2020
Purdue College of Engineering Travel Grant (\$500)	2019
Purdue Graduate Student Government Travel Award (\$1,000)	2018-2019
Global Water Security for Agriculture and Natural Resources Conference Travel Award (\$2,500)	2018
National Science Foundation (NSF) Travel Support (\$2,000)	2018
Purdue Climate Change Research Center Student Travel Award (\$1,000)	2017
Technical University of Dresden Summer Workshop Travel Grant (\$2,000)	2017
Dept. Agricultural and Biological Engineering Travel Grant, Purdue University (\$1,500)	2015-2020

RESEARCH PUBLICATIONS

Peer-Reviewed Journal Articles

Bertuzzo, E, Hotchkiss, E, Argerich, A, Kominoski, J, Oviedo-Vargas, D, Savoy, P, **Scarlett, RD**, von Schiller, D, Heffernan, J (2022). Heterotrophic regimes in rivers: Partitioning sources of ecosystem respiration from metabolism time series. *Limnology and Oceanography*, 67, 2374–2388.

Scarlett, RD, Subramaniam, M, McMillan, SK, Ingermann, AT, Clinton, SM (2021). Stormwater on the margins: Influence of race, gender, and education on willingness to participate in stormwater management. *Journal of Environmental Management*, 290, 112552.

Scarlett, RD, McMillan, SK, Bell, CD, Clinton, SM, Jefferson, AJ, Rao, PSC (2018). Influence of stormwater control measures on water quality at nested sites in a small suburban watershed. *Urban Water Journal*, 15(9), 868-879.

Lin, Y, **Scarlett, RD**, King, JY (2015). Effects of UV photodegradation on subsequent microbial decomposition of *Bromus diandrus* litter. *Plant and Soil*, 395(1): 263-271.

Mendes, SD, Redmond, MC, Voigritter, K, Perez, C, **Scarlett, RD**, Valentine, DL (2015). Marine microbes rapidly adapt to consume ethane, propane, and butane within the dissolved hydrocarbon plume of a natural seep. *Journal of Geophysical Research: Oceans*, 120,1937–1953.

Peer-Reviewed Book Chapters

Hoover, FA & **Scarlett, RD**. Escaping the Practice of Exclusion: Conservation, Greenspace, and Urban Planning in the Age of Environmental Justice (2023). In C. J. Schell & M. R. Lambert (Eds.), *Urban Biodiversity and Equity: Justice-Centered Conservation in Cities*. Oxford University Press.

Other Scholarly Publications

Adeoye, TF, Burch, M, Glenn, T, **Scarlett, RD**, Shenault, DSM. (2021). Mentoring Black Teens during National Pandemics: Mutually Beneficial Service. *Purdue Journal of Service-Learning and International Engagement*, 8(1), 15.

Scarlett, RD (2018). Gendering and Racializing of Intellectual Spaces. *Susan Bulkeley Butler Center for Leadership Excellence and ADVANCE Working Paper Series*, 1(1), 8-9.

Scarlett, RD (2015). Stretching the Boundaries of the University: Freedom Dreams too Large to Swallow? *An Undergraduate Research Journal: BLST Review*, 3, 5-14.

Scarlett, RD, King, JY, Lin, Y (2014). The Effect of UV Radiation on Microbial Decomposition of Plant Litter in a California Grassland. *UCSB McNair Scholars Undergraduate Research Journal*, 4, 37-57.

PRESENTATIONS

Invited Talks

Scarlett, RD (2023). Stormwater on the Margins: How Communities Navigate Exclusionary Stormwater Management. Invited colloquium seminar, Bren School of Environmental Science and Management, University of California Santa Barbara, Santa Barbara, CA. May 1, 2023.

Scarlett, RD (2022). Examining Conservation Practice: The Role of Social Norms and Social Equity. Invited colloquium seminar, Environmental and Water Resources Engineering (EWRE), University of Massachusetts Amherst, Amherst, MA. November 4, 2022.

Scarlett, RD (2022). Stormwater and People: Understanding the Social and Ecological Drivers of Aquatic Ecosystems. Invited colloquium seminar, Department of Geosciences, Georgia State University, Atlanta, GA. March 24, 2022.

Scarlett, RD (2021). Stormwater on the Margins. Keynote at the Indiana Water Summit, Indianapolis, IN. August 10, 2021.

Scarlett, RD, McMillan, SK, Hosen, J (2021). Metabolic Response to Storm Events in Urban Streams. Invited talk in the special session “River Corridor Hydro-Bio-Geochemistry Across Scales From Headwaters to Coasts”. American Geophysical Union (AGU), New Orleans, LA (Virtual attendee).

Scarlett, RD, McMillan, SK, Subramaniam, M (2021). Stormwater on the Margins. Invited webinar in the special session “Pollutants, Toxins, Health and Justice Panel”, Next Steps – Environmental Justice, Climate Change, and Racial Justice Symposium, Purdue University (Virtual Conference).

Scarlett, RD, McMillan, SK, Bell, CD, Clinton, SM, Jefferson, AJ, Rao, PSC (2021). Influence of stormwater control measures on water quality at nested sites in a small suburban watershed. Invited guest lecture, Environmental Science and Resource Management, California State University Channel Islands (Virtual).

Scarlett, RD (2020). Invited panelist for the panel “Together 2020: Fighting Climate Change in a Social and Global Pandemic”. Boilers in Action, Purdue University (Virtual).

Scarlett, RD (2020). Invited panelist for the panel “Race and Class: Environmental Justice in Indiana”. Purdue Student Government (Virtual).

Scarlett, RD (2020). Invited panelist for the “GWIS November 2020 Virtual Conversation: GWIS Fellowship Panel”. Graduate Women in Science (GWIS) (Virtual).

Scarlett, RD (2020). Invited panelist for the panel “Navigating Academic Waters: Essential Skills to Thrive as a Student and Early Career Scientist”. The Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), American Geophysical Union (AGU) (Virtual).

Scarlett, RD (2020). The Urban Riverscape. Invited seminar, Department of Earth and Environment, Florida International University, Miami, FL. February 19, 2020.

Scarlett, RD, Subramaniam, M, McMillan, SK (2019). Influences of Race, Gender, and Class on Willingness to Participate in Stormwater Management. Invited talk in the special session “Biocultural Approaches to Freshwater Conservation”. Society for Freshwater Science Annual Meeting, Salt Lake City, Utah.

Scarlett, RD (2018). Invited panelist for the panel “Everyday Practices that Foster Inclusion”. Susan B. Butler Center for Leadership Excellence, Purdue University, West Lafayette, IN.

Conference Presentations

Scarlett, RD, Clinton, S Hosen, J, Rao, PSC, McMillan, S (2023). Shifts in Stream Ecological Function with Increasing Urbanization. Society for Freshwater Science Southeast Chapter Meeting, Columbus, GA.

Scarlett, RD, Subramaniam, M, McMillan, S, Ingermann, T, Clinton, S (2023). Stormwater on the Margins: Influence of Race, Gender, and Education on Willingness to Participate in Stormwater Management. Association of American Geographers Annual Meeting, Denver, CO.

Scarlett, RD, Subramaniam, M, McMillan, S, Ingermann, T, Clinton, S (2020). Stormwater on the Margins: Influence of Race, Gender, and Education on Willingness to Participate in Stormwater Management. Annual Conference of Ford Fellows (Virtual).

Scarlett, RD, Subramaniam, M, Nixon, R, Abraham, D (2018). Inequities in National Agricultural Policies: Cases of India and South Africa. Global Water Security for Agriculture and Natural Resources Conference hosted by American Society of Agricultural and Biological Engineers, Hyderabad, India.

Scarlett, RD, McMillan, SK, Bell, CD, Clinton, SM, Jefferson, AJ, Rao, PSC (2018). Influence of stormwater control measures on water quality at nested sites in a small suburban watershed. Society for Freshwater Science Annual Meeting, Detroit, MI.

Ma, Z, McMillan, S, Domenech, J, **Scarlett, RD** (2017). Combining societal acceptance and biophysical drivers of conservation practices to improve water quality in multi-use landscapes. Tipping Point Planner Meeting, West Lafayette, IN, April 2017.

Scarlett, RD, Domenech, J, Ma, Z, McMillan, SK (2017). Assessing factors shaping residents’ adoption of water quality improvement practices across different types of landownership. Indiana Water Resources Association Symposium, Marshall, IN.

Cronin, J, Knott, J, Obringer, R, Sandler, L, **Scarlett, RD** (2016). Assessing Human Health in Rio de Janeiro, Brazil using the Local Climate Zone (LCZ) Framework. Office of Interdisciplinary Graduate Programs Spring Reception, Purdue University, West Lafayette, IN.

Scarlett, RD, Lin, Y, King, JY (2015). Impacts of Long-term Use of Reclaimed Water on the Viability of Soils to Support Turfgrass Growth. Undergraduate Research and Creative Activities, University of California, Santa Barbara.

Scarlett, RD, Lin, Y, King, JY (2014). Impacts of Long-term Use of Reclaimed Water on the Viability of Soils to Support Turfgrass Growth. SACNAS National Conference “Creativity, Vision, and Drive: Toward Full Representation in STEM, Los Angeles, CA.

Scarlett, RD, Genello, L, Fry, J, Love, D (2014). An Evaluation of the Johns Hopkins Center for a Livable Future Aquaponics Project: A Survey of Visitors. Leadership Alliance Conference, Stamford, Connecticut.

Scarlett, RD, Lin, Y, King, JY (2014). The Effect of UV Radiation on Microbial Decomposition of Plant Litter in a California Grassland. McNair National Conference, University of Maryland, College Park.

Scarlett, RD, Lin, Y, King, JY (2013). The Effect of UV Radiation on Microbial Decomposition of Plant

Litter in a California Grassland. UCSB McNair Scholar Symposium, University of California, Santa Barbara.

Scarlett, RD (2013). It's Not Just an Environment. It's a Just Environment. A discussion of environmental injustices in African- American communities. Afrikan Black Coalition Conference, University of California, San Diego.

Scarlett, RD, Mendes, S, Valentine, D (2013). Stable Isotope Ratio of $^{13}\text{C}/^{12}\text{C}$ as Indicators of Microbial Consumption of Hydrocarbons from Natural Marine Seeps. CAMP-NSF Statewide Research Symposium, University of California, Irvine.

TEACHING

Courses

Georgia State University, Atlanta, GA

Instructor, Environmental Science, ENVS 1401, Fall 2023

Purdue University, West Lafayette, IN

Co-instructor, Computations for Engineering Systems, ABE 20500, Fall 2019

Co-instructor, Computations for Engineering Systems, ABE 20500, Fall 2018

Teaching Assistant, Ecological Sciences and Engineering Graduate Seminar, GRAD 59000, Fall 2016

K-12 Education

Let's Explore Applied Physical Science (LEAPS), After-school Program Director, Santa Barbara, CA, 2012-2013

STUDENT RESEARCH MENTORING

Committee Member

Dre Presswood, Department of Geosciences, MS

PROFESSIONAL SERVICE AND ENGAGEMENT

Member, American Geophysical Union, 2021-present

Special Session Organizer, Inequitable Waterscapes: Examining Environmental Justice in Aquatic Systems, Society for Freshwater Science Annual Meeting, May 2021.

Member, Society for Freshwater Science, 2018-2020.

Volunteer, Conference for Pre-tenure Women, 2017, 2018, and 2019, Susan B. Butler Center for Leadership Excellence, Purdue University, 2017-2019.

Social Chair, Agricultural and Biological Engineering Graduate Student Association, Purdue University, May 2016-May 2017.

Conference Planning Committee, Ecological Sciences and Engineering Interdisciplinary Program Symposium, Purdue University, March 2016-September 2016

Member, Leadership Alliance, 2014-present.

Member, National Society for Black Engineers (NSBE), 2013-present.

Outreach Chair, Black Student Union, University of California Santa Barbara, 2013-14.

Member, McNair Scholars Program, 2013-present.

Environmental Justice Chair, Environmental Affairs Board, University of California Santa Barbara, 2012-13.

Occasional Reviewer

Reviewer, Urban Water Journal

Reviewer, Water Resources Research

Reviewer, Socio-Ecological Practice Research

CONTRIBUTIONS TO COMMUNITY

Lafayette Climate Action Plan Steering Committee, City of Lafayette, Lafayette, IN, January 2020.

Volunteer Scientist, Wabash River Sampling Blitz, Wabash River Enhancement Corporation, West Lafayette, IN, September 2019.

Activist Member, Younger Women’s Task Force, Lafayette, IN, January 2018-present.

Mentor and tutor (high school students), HeadsUp Tutoring and Life Skills Program, Lafayette, IN, May 2016-present.

Volunteer, Educating Leaders for the Future (ELF) Community Garden Project, Santa Barbara Housing Authority, Santa Barbara, CA, 2013-2014.

Volunteer, Chemistry Outreach Program, University of California Santa Barbara, Santa Barbara, CA, 2012

Volunteer, Heal the Bay, Redondo Beach, California, 2008-2011

COMMUNITY ENGAGEMENT

State of Our Watersheds: Metro Atlanta Urban Waters Symposium, West Atlanta Watershed Association, October 2023.

Civic Innovation Hub, Stormwater Community Participant Field Trip, Chicago, IL, October 2023.

Civic Innovation Hub, Stormwater Community Participant Field Trip, Chicago, IL, September 2023.

Metro Atlanta Racial Equity Atlas Official Launch, Partnership for Southern Equity, September 2022.