2025 SNRI Research Symposium – Speaker Biographies

Asmeret Asefaw Berhe is a Professor of Soil Biogeochemistry and Falasco Chair in Earth Sciences and Geology at the Department of Life and Environmental Sciences, University of California, Merced. Her research interests lie at the intersection of soil science, geochemistry, global change science, and political ecology, and seeks to improve our understanding of how the soil system regulates the earth's climate and the dynamic two-way relationship between soil and human communities. Professor Berhe is a Fellow of the American Geophysical Union and the Geological Society of America, and a member of the inaugural class of the US National Academies of Science, Engineering and Medicine's New Voices in Science, Engineering, and Medicine. She also served from 2022-2024 as Director of the US Department of Energy's Office of Science, the largest supporter of basic research in physical sciences in the US.

Josué Medellín-Azuara is a Professor of Environmental Engineering at the University of California, Merced. He is also an Associate Director of the UC Agricultural Issues Center, and an Adjunct Research Fellow at the Public Policy Institute of California. His areas of expertise include the development of large-scale hydro-economic models for water supply, the economics of agricultural, environmental and urban water uses, adaptation to climate change, integrated water management, and consumptive water use. He has a special interest in the Sacramento-San Joaquin Delta and other areas of California. Josué's expertise also includes economic impact studies with an emphasis on the agriculture-related sector. He has experience working for industry and as a consultant for government agencies, NGOs, industry, and academia including the Natural Heritage Institute, the Stockholm Environment Institute, The World Bank, the Catholic University of Chile and the University of Rio Grande do Sul. Josué has served as an official for the California Water and Environmental Modeling Forum since 2013. Josué has degrees in engineering, business and economics, and he obtained his Ph.D. from the University of California, Davis with a dissertation on managing water in the Colorado River.

Srabani Das is a Professor of Cooperative Extension, Regenerative Agriculture. Her research focuses on analyzing sustainable soil health practices and agricultural carbon management, with a goal to develop decision support tools for tracking soil carbon build-up from different practices of regenerative agriculture. Additional interests include the use of perennial & native vegetation in regenerative agriculture and building up climate resilient food systems and farming communities, especially disadvantaged migrant farmers. She strives to increase accessibility and equitability of regenerative agriculture tools and resources for all grower communities, including the marginalized and BIPOC (Black, Indigenous, People of Color) and translate agricultural research into action on ground among grower and extension community. "I envision a world where farmers and growers are healthy, wealthy and 'soil health' wise!"

Thomas (Tom) C. Harmon is a Professor of Civil and Environmental Engineering and Founding Faculty member at the University of California Merced, where he also serves as Director of the Sierra Nevada Research Institute (snri.ucmerced.edu), an organized research unit overseeing the work of 60 faculty and professional researchers. His teaching and research interests focus mainly on developing technologies and approaches to monitor, model, and sustain environmental systems. He also works regularly on identifying pathways toward solving complex socio-environmental problems, most recently as a Director of the University of California multi-campus research program on Labor and Automation in California Agriculture: Equity, Productivity, and Resilience (laca.ucmerced.edu) and in the design of the UC Merced Experimental Smart Farm. Dr. Harmon has B.S. in civil engineering from Johns Hopkins University and an M.S. and Ph.D. in environmental engineering from Stanford University. Working with other leading environmental engineers and scientists, Dr. Harmon co-authored the National Academies report *Environmental Engineering for the 21st Century: Addressing the Grand Challenges*.

Rebecca Ryals is an Associate Professor and Presidential Chair in Climate Change in the Department of Life and Environmental Sciences, University of California, Merced. She is also Director of the UC Merced Center for Resilient, Equitable, and Sustainable Futures. As an agroecologist, she addresses questions of ecosystem-based solutions to climate change and sustainable food production. She studies the role of soil organic amendments, such as compost and biochar, to alter ecosystem carbon storage and life cycle greenhouse gas emissions. Ryals also examines the climate and agroecological impacts of circular ecological-based sanitation systems, novel manure management systems and diversified farming systems. Her research is motivated by the need to better understand agricultural-based climate solutions.