

Advancing Data Sharing to Strengthen One Health Effectiveness: Relevance and Intersections with Climate Change

Speaker Bios

Lauren Charles, MS, DVM, PhD

Dr. Charles is a veterinarian, Chief Data Scientist, and Group Lead of the Applied Artificial Intelligence (AI) Systems Group at Pacific Northwest National Laboratory (PNNL). Her research integrates multimodal data, e.g., medical records and disease reporting with opensource data, natural disasters, meteorology, topography, and socioeconomic factors, into complex models to advance current Biosurveillance, event and anomaly detection, threat assessment, and early warning through a One Health (OH) approach. Dr. Charles leads PNNL's AI-Driven OH Security program, which focuses on disrupting health threats and their impacts. Leveraging PNNL's leadership in operational AI and OH, the team works at the local, regional, national, and global levels to achieve optimal health and security results. Charles sits on the editorial board of *Nature's Scientific Reports*, *Pathogens* journal, and is an associate editor for CABI *One Health*. She also serves as an advisor on Senator Gillibrand's One Health Security Council and holds a joint appointment with Washington State University's Paul Allen School for Global Health.

Natasha Sadoff, MA

Natasha Sadoff is a geographer and social scientist who works at the nexus of environmental management, governance, and Earth science with a user-centric perspective. She has over fifteen years of experience defining actionable environmental data for diverse users and connecting those users to resources to improve their decision-making activities. Toward that end, she uses co-production principles and design thinking methodologies to implement stakeholder needs assessments, user engagement activities, training and outreach, and capacity building/development, particularly in the usage of Earth observations for societal benefit.

From 2021 until January 2024, she served as the NASA PACE Project Applications Deputy Coordinator based at Goddard Space Flight Center where she connected users and communities to the PACE mission and helped define future applied uses of the data. Prior to that, she spent 13 years in the private sector where she developed and led a portfolio of projects for Federal government partners such as US EPA, NASA, and USAID building capacity domestically and internationally for environmental management. She holds a master's degree in Geography from The Ohio State University, a BS in Environmental Studies from the University of Vermont Rubenstein School of Environment and Natural Resources, and a certificate in Foundations of Design Thinking from IDEO U.

Chris Reberg-Horton, MS, PhD

Chris Reberg-Horton is Professor of Cropping Systems at North Carolina State University. He manages cloud computing for research networks in collaboration with USDA Agricultural Research Service. Those networks integrate IoT derived data, human collected data, and AI to ingest, store and analyze with as little manual intervention as possible. The partnership also assists teams by curating best of class software for managing inter-institutional partnerships to overcome perceived and real barriers to data

sharing and privacy regulations. Chris also serves as the Platform Director for Resilient Agricultural Systems at the Plant Sciences Initiative at NC State University. As such, he supports teams addressing climate change, food security, and use of new technologies for adaptive management of farms. Before working in digital agriculture, Chris worked in extension with the University of California at Davis, North Carolina State University, and the University of Maine.