Speaker Biographies

David Babson

Dr. David Babson currently serves as a Program Director at the Advanced Research Projects Agency-Energy (ARPA-E). His focus at ARPA-E includes bioenergy, agricultural systems innovation, and carbon management.

Prior to joining ARPA-E, Babson served as the Senior Advisor for Renewable Energy, Natural Resources, and the Environment in the Office of the Chief Scientist at the U.S. Department of Agriculture (USDA). There, he led R&D coordination efforts on carbon management, climate adaptation, sustainability, agricultural systems innovation, bioenergy, and biotechnology. Prior to joining the USDA, Babson was a Technology Manager in the Department of Energy's Bioenergy Technologies Office (BETO) where he oversaw several Conversion Program projects and worked to understand how to leverage new technologies to advance the emerging bioeconomy and address global energy and climate challenges. Before BETO, Babson advocated for sustainable transportation solutions as a Senior Fuels Engineer at the Union of Concerned Scientists.

Babson earned a B.S. in Chemical Engineering from the University of Massachusetts Amherst and a Ph.D. in Chemical and Biochemical Engineering from Rutgers University.

Teddy Bekele

Teddy serves as the Chief Technology Officer, leading Land O'Lakes' Ag Tech and IT organizations and is responsible for developing and implementing technology solutions for retail and farmer customers to help them produce more sustainable outputs by leveraging agronomic insights from Answer Plot® locations, labs, the Winfield United Innovation Center and the collective knowledge of our organization. Teddy's application of technology and data to the practice of farming has shaped product offerings such as WinField United's R7® Tool, Answer Tech and ATLAS portal.

Prior to his current role, Teddy served as Vice President, Ag Technology for WinField United, as well as Business CIO for WinField United providing full IT management and leadership responsibilities. Teddy holds an MBA from Indiana University and a Bachelor of Science in Mechanical Engineering from North Carolina State University.

Rik van den Bosch

Rik van den Bosch is director of the International Soil Reference and Information Centre (ISRIC). ISRIC is a service provider to the international community in the field of soils. It provides training and capacity building in soil measurement, soil data management and soil mapping. Before his employment at ISRIC

Rik worked for 25 years at Wageningen University and Research as Director Water and Climate Research and as senior researcher in the field of soil fertility, soil erosion, soil pollution and soil-water interactions.

Joe Cornelius

Dr. Joe Cornelius is the chief executive officer for Bill & Melinda Gates Agricultural Innovations, known as Gates Ag One, which aims to ensure high-quality, cutting-edge crop innovations are available and accessible to small holder farmers in developing countries. Joe began his career on a small family farm and now brings more than 30 years experience and a continued dedication to improving the world through agricultural advancements.

Prior to leading Gates Ag One, Joe served as a director for Bill and Melinda Gates Foundation's Global Growth & Opportunity Division and as program director for the Advanced Research Projects Agency in the U.S. Department of Energy, where he led transformational platform efforts in computational agriculture, smart-farm technologies and the sustainable management of carbon, nitrogen, and water to improve terrestrial and marine ecosystems while mitigating greenhouse gas fluxes into the atmosphere.

Joe has led cutting edge life-science research and development for companies like Bayer, Monsanto, Pfizer, and BASF. Notably, Joe collaboratively developed and launched over 75 new product inventions and 8 Ag-Tech start-ups across 60 countries.

Joe holds a PhD in plant genetics and molecular biology and a MS in plant physiology and biochemistry from Michigan State University.

James P. Dobrowolski

Dr. James P. Dobrowolski is a watershed scientist and National Program Leader for Water and Natural Resources Programs. Jim leads the agency in developing a systems approach to water availability from working, rural and urbanizing lands. He leads the Agricultural and Food Research Initiative (AFRI) Bioenergy, Natural Resources and Environment (BNRE) portfolio: Soil Health, Water Quality and Quantity, and co-leads the Sustainable Agriculture and the cross-cutting Critical Agriculture Research and Extension and Nanotechnology Programs. His portfolio extends to the Small Business Innovation Research (SBIR) Natural Resources Management and the Renewable Resources Extension Act National Focus Funds Programs. He continues to manage the Water for Food Production Systems portfolios at NIFA that focus on the need to maintain adequate water supplies to meet the food, fiber, ecosystem, and energy needs of an expanding population. Jim supports other portfolios including the USDA-NIFA/NSF INFEWS (Track 3) and Signals in the Soil (SitS) partnerships. Prior to USDA-NIFA, Dobrowolski was a tenured teaching/research professor for 16 years in watershed science at Utah State University, Logan, and the State of Washington Watershed Extension Specialist and tenured extension/research professor for seven years at Washington State University, Pullman. Dobrowolski received his PhD in Hydrology and Watershed Management from Texas A&M University, Master of Science in Arid Land Ecology from Washington State University and Bachelor of Science from the University of California at Davis.

Mark Farrell

Dr. Mark Farrell is a Principal Research Scientist at the Commonwealth Scientific and Industrial Research Organisation (CSIRO), based in Adelaide, South Australia. Previously Dr. Farrell was a Research Fellow at Lancaster and Bangor Universities in the UK before moving to Australia in 2010. His research focuses on biological and chemical interactions between soil, soil microorganisms, and the plants that they support. Dr. Farrell has led and contributed to multiple national-scale projects investigating the impacts of management strategies on soil function and crop yield. He was chair of the 7th International Symposium on Soil Organic Matter which was held in Adelaide in October 2019, and is Associate Editor at the scholarly journals Soil Research and European Journal of Soil Science. Dr. Farrell received his B.Sc. and Ph.D. in Environmental Sciences from Bangor University in the UK.

Jerry Hatfield

Jerry L. Hatfield is the retired Director of the USDA-ARS National Laboratory for Agriculture and the Environment in Ames, Iowa. He worked in California at the University of California-Davis from 1975-1983 as a biometeorologist working a range of different crops, joined USDA-ARS in 1983 at the Plant Stress and Water Conservation Unit in Lubbock, TX until his transfer to Ames in 1989 to develop the research program of the National Soil Tilth Laboratory (renamed the National Laboratory for Agriculture and the Environment in 2009). His research focused on the interactions among the components of the soil-plant-atmosphere continuum and their linkage to air, water, and soil quality. His focus has been on the evaluation of farming systems and their response to water and nitrogen interactions across soils and remote sensing methods to quantify field variation. A platform for his research utilizes the genetics x environment x management concept as a framework to work with producers to demonstrate how they can increase their production efficiency, increase soil health, and develop resilience to weather and climate variation as the foundation for food security. His outreach efforts have included participation in the National Climate Assessment as the Lead Author for agriculture for the US and on the IPCC effort on greenhouse gases and climate change. Dr. Hatfield is an accomplished author with 498 refereed publications and 18 monographs and serves as the Editor for Agroecosystems, Geosciences and Environment and Technical Editor for Agriculture and Environmental Letters and ranks in the top 2% of researchers in the world. He edited several volumes including Crop Adaptation to Climate Change and Food Security and Climate Change. His numerous awards include being inducted into the USDA-ARS Hall of Fame for his research impact and the Hugh Hammond Bennett award along with being a Fellow in the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America and serving as President of the American Society of Agronomy in 2007. He received his PhD from Iowa State University in 1975 in the area of agricultural climatology, MS in agronomy from the University of Kentucky in 1972, and a BS in agronomy from Kansas State University in 1971.

Alison Hoyt

Dr. Alison Hoyt is a postdoctoral researcher at the Max Planck Institute for Biogeochemistry and an affiliate at Lawrence Berkeley National Lab. In the fall, she will be joining Stanford University as an Assistant Professor of Earth System Science. Her work addresses how biogeochemical cycles respond to human impacts, with a particular focus on the most vulnerable and least understood carbon stocks in the tropics and the Arctic. She works closely with International Soil Radiocarbon Database (ISRaD) community to understand rates of soil carbon cycling and their future response to climate change, and currently serves on the ISRaD Steering Committee. She is also involved in other soil databases and observation

networks, including the Soil Incubation Database and the Congo Biogeochemistry Observatory. She received her B.S. from Yale University and completed her Ph.D. at MIT in 2017 in the Department of Civil and Environmental Engineering.

Matthew Kane

In his 21+ years at NSF, Matt Kane has served as a Program Director in both the Division of Environmental Biology (DEB) and the Division of Molecular and Cellular Biosciences, managed or co-managed more than a dozen different programs and the review of over 3,000 proposals, and worked with colleagues throughout the Foundation and with other federal agencies. In addition to his current role in the Ecosystem Science Cluster in DEB, Dr. Kane co-manages the Macrosystems Biology & NEON-Enabled Science program and is the Managing Program Director for the Center for Advancement and Synthesis of Open Environmental Data and Sciences competition.

Dr. Kane is a Fellow of the American Association for the Advancement of Science, and has chaired the General and Applied Microbiology Divisional Group of the American Society for Microbiology. Prior to joining NSF, he held positions at the Smithsonian Institution and Harvard University, and was an NSF Postdoctoral Fellow at the University of Illinois. Dr. Kane received his B.S. in Biology at the University of Michigan, and his Ph.D. in Microbiology at Michigan State University.

Drew Kinney

Drew Kinney has spent the last 33 years as a Soil Scientist for the USDA. Drew's career started in 1988 as a field soil scientist in Gillette, Wyoming for the Soil Conservation Service (SCS), completing the soil survey for Campbell County, Wyoming (Southern Part). In 1994 Drew went to work for the Federal Crop Insurance Corporation/Risk Management Agency in Billings, Montana as a crop insurance underwriter assessing soils and risks. In 2005 Drew took a position as a Soil Scientist/Regional GIS Specialist for the Natural Resources Conservation Service in Texas as a field soil scientist/GIS Specialist. From 2005-2010 Drew worked on three soil surveys Culbertson, Hudspeth and Presidio Counties in West Texas. From 2015 through 2017 Drew was the the Regional Director for Soil Survey, South Central Region in Temple, Texas. Since 2017 Drew has served as the National Leader for Soil Business Systems at the National Soil Survey Center in Lincoln, Nebraska. He received his Bachelor of Science from the University of Wyoming in 1987.

David Lindbo

Dr. Lindbo currently serves as Director of the Soil and Plant Science Division, USDA-Natural Resources Conservation Service, NRCS, and is a Professor Emeritus of Soil Science in the Department of Soil Science at North Carolina State University. Dr. Lindbo is a former President of the Soil Science Society of America.

Dr. Lindbo directs the soil and ecological site survey, research, and interpretation programs for the USDA Natural Resource Conservation Agency. He has spent his career working on land use soils relations, including soil interpretations, hydric soils, wastewater, and related issues. He has worked extensively with K12 students and teachers regarding soils and land use education.

He has authored/co-authored numerous research and extension publications including practitioner training materials related to decentralized wastewater, low-impact development issues, hydric soils, and hydropedology as well as a general interest soil book for young children "Soil! Get the Inside Scoop" and an advanced book "Know Soil, Know Life." He has over 130 publications, has given over 200 invited presentations, and taught well over 10,000 professionals in his array of extension courses.

John Mesko

John Mesko is the Senior Director of Soil Health Partnership at the National Corn Growers Association. Mesko grew up on a diversified crop and livestock farm in Minnesota, gaining a passion for farming and tremendous respect for farmers. After graduating from Purdue University with a bachelor's degree in agronomy and a master's degree in agricultural economics, Mesko's diverse career in agriculture has centered around helping farmers become more financially and environmentally sustainable.

Luca Montanarella

Dr. Luca Montanarella currently serves as the Project Portfolio leader for the Joint Research Centre work programme 2021 – 2027 on Soil Health. He has chaired (2012-2018) the Intergovernmental Technical Panel on Soils (ITPS) and co-chaired (2016-2018) the Intergovernmental Platform for Biodiversity and Ecosystem. In 2011, Dr. Montanarella established the Global Soil Partnership (GSP) at FAO.

Dr. Montanarella won numerous awards and memberships, including the Glinka Word Soil Prize in 2020. He is a member of the Academy of Agricultural Sciences of France, Doctor Honoris Causa at the Academy of Agricultural Sciences of Bulgaria and a member of the Academy of Agricultural Sciences of Slovakia.

Adrian Percy

Adrian Percy is an advocate of the need for and benefits of modern agriculture. He is also a strong proponent of the development and adoption of new agricultural and food technologies that support global food security while conserving the environment.

Adrian currently serves as the CTO of UPL Ltd, a major crop protection company that is a leader in global food systems. He also serves as a Venture Partner at Finistere Ventures LLC, a technology and life sciences venture capital investor, focused on transforming the food value chain.

Adrian serves on the board of directors of BioLumic, HiFidelity Genetics, Biotalys and Evogene. He is also a member of the science and technology boards of Biotalys, Terramera and Rothamsted Research.

Born and raised in the United Kingdom, Adrian holds a doctorate in biochemistry from the University of Birmingham. He now resides in the Research Triangle area of North Carolina, USA.

Karsten Temme

Dr. Karsten Temme is CEO and co-founder of Pivot Bio, a company that has designed and commercialized a microbial nitrogen solution to displace synthetic fertilizer. He has dedicated his career to improving

farmer outcomes while decreasing agriculture's environmental footprint. Dr. Temme earned his Bachelor of Science and Master of Science degrees in biomedical engineering from the University of Iowa and his Ph.D. in bioengineering from the University of California-Berkeley Joint Graduate Group

Samantha Weintraub

Dr. Samantha Weintraub is a Research Scientist with the National Ecological Observatory Network. She oversees protocols and data products involving observational collections of plant and soil biogeochemistry. Dr. Weintraub works closely with NEON colleagues to integrate sampling efforts with other measurement streams including airborne remote sensing, soil sensors, and microbial communities. She also conducts research into the controls on soil carbon and nitrogen cycling and has strong experience using light stable isotopes to reveal new biogeochemical insights. She received her B.S. from the University of California Berkeley, her Ph.D. from the University of Colorado Boulder, and conducted postdoctoral research at the University of Utah before joining NEON.

Skye Wills

Dr. Skye Wills is the National Leader for Soil Research at the National Soil Survey Center. The center is part of USDA-NRCS's Soil and Plant Science Division and supports the science, business, standards and training needs of the National Cooperative Soil Survey. She has published previously on soil carbon stocks, digital soil mapping and the use and interpretation of soil survey data and information. She has worked in a range of soil environments from tidal marches to semi-arid rangelands. Dr. Wills received her B.S. in Agronomy from Kansas State University and M.S. and Ph.D. in Soil Genesis and Classification from Iowa State University.

Stephen Wood

Dr. Wood is a Senior Scientist for Agriculture & Food Systems in the Global Science and Tackle Climate Change teams at The Nature Conservancy.

Steve's expertise is in soil carbon cycling. His work has focused on both the mechanisms of how soil carbon builds and decomposes, as well as on quantifying the agronomic and environmental benefits of soil carbon and organic matter. Steve works on TNC's agriculture strategies, where he aims to bringing cutting-edge science to the organizations efforts to use agriculture to promote conservation, climate mitigation, and food production. Steve was the lead on a SNAPP working group to build targets for managing soils for conservation goals. The group develop the AgEvidence data platform showing the impact of conservation agriculture practices in the US Corn Belt.