Speaker Bios

Convening on Biochar Research & Commercialization

March 29 – 30, 2022 (Listed in order of appearance on the convening agenda)

LaKisha Odom, Foundation for Food & Agriculture Research (FFAR)

Dr. LaKisha Odom is a Scientific Program Director at the Foundation for Food & Agriculture Research where she pursues her commitment to promoting the use of innovative science, collective impact, and the development of public private partnerships to tackle today’s complex challenges in food and agriculture. She is also extremely committed to cultivating increased diversity in a new generation of food and agriculture scientists.

At FFAR, Dr. Odom spearheads scientific direction of the Soil Health challenge area and manages a portfolio of projects that address issues in sustainable water management, plant efficiency, ecosystem services, crop pest and disease detection, and developing the next generation of food and agricultural leaders.

Dr. Odom received her B.S. in Environmental Science from Tuskegee University, her M.A. in Environmental Resource Policy from The George Washington University and her Ph.D. in Integrative Biosciences from Tuskegee University.

Marlen Eve, Agricultural Research Service (ARS)

Dr. Marlen Eve serves as the Deputy Administrator over the Natural Resources and Sustainable Agricultural Systems (NRSAS) program area at the USDA Agricultural Research Service, Office of National Programs. NRSAS provides strategic leadership of ARS research programs in water resources, soil and air quality, sustainability of our crop and livestock production systems, and the soil/plant/atmosphere interface. He previously served as a National Program Leader within NRSAS, overseeing research programs in soil and air, as well as pasture and rangeland resources. Dr. Eve also provides leadership as the Chair of the Executive Committee for the USDA Climate Hubs and as the USDA Research, Education and Economics (REE) Climate Adaptation research theme lead.

Prior to joining ARS, Dr. Eve served as Senior Advisor for Climate Change in the USDA Office of the Chief Scientist, and directed the development of new tools for farm-scale estimation of greenhouse gas emissions and reductions within the Climate Change Program Office in USDA’s Office of the Chief Economist.

Marlen has also been responsible for coordinating national level greenhouse gas inventories for agriculture and forestry. Earlier in his career, he was an ARS soil scientist in Fort Collins, where he generated the first national GHG inventory for agricultural soils using the IPCC methodology, subsequently serving as an IPCC author. Dr. Eve grew up on a dryland grain and livestock operation in north-central Montana, received his B.S. in Soil Resources from Montana State University and a Masters and Ph.D. from New Mexico State University using technology and modeling to study landscape dynamics and ecosystem health.

Bianca Moebius-Clune, American Farmland Trust (AFT)

Bianca leads AFT’s national Climate Initiative. Her program focuses on ensuring agriculture continues to move toward fully functioning healthy soils that sequester carbon and regenerate and maintain resilient, effective, environmentally, socially, and economically viable production systems on the nation’s diverse agricultural lands, in collaboration with partner organizations. She works collaboratively to ensure that landowners, partners, and policy makers have access to resources, technical advice, and policy facilitators to enable expanding climate smart agricultural and food systems in diverse ways.

Before joining AFT, Bianca served as the founding Director of the Soil Health Division with the USDA-NRCS from 2014-2021. She led the deployment and integration of the new division’s staff of regional and national specialists who provide leadership on NRCS strategy, policy, tools, training, direct assistance, science and technology integration, and soil health efforts across the country. She led the establishment of national soil health resource concerns, soil health training requirements for agency certified conservation planners, soil health in-field and laboratory assessments and soil health management planning for which NRCS now provides technical and financial assistance, and virtual training and outreach to millions of customers. Her work included development and agency integration of the Soil Carbon Amendment Conservation Practice Standard (Code 336) that enables financial and technical assistance for biochar applications for soil health purposes. Prior to NRCS, Bianca served on the faculty of Cornell University as a Senior Extension Associate and Lecturer, where her research and extension work focused on agricultural management impacts on soil health and nitrogen dynamics. She also taught a class in Sustainable Soil Management. She has authored numerous peer-reviewed and extension publications, NRCS national technical material and policy, and has provided workshops and trainings nationally and internationally. She holds Ph.D. and Master of Science degrees from Cornell University and a Bachelor of Science from University of New Hampshire, all in soil science.

Steve Thompson, National Center for Appropriate Technology (NCAT)

Steve has more than 30 years of experience in natural resource conservation, community-based climate change mitigation, journalism, and project management. A resident of Montana since 1991, he served as executive director of the Montana-based Cinnabar Foundation and was a senior program manager at the National Parks Conservation Association. He has a B.S. degree in rural sociology from Cornell University’s College of Agriculture and Life Sciences. Steve is an avid elk hunter, shallot farmer, and wild ice skater. He and his wife live in uptown Butte.

Chuck Hassebrook, Biochar Policy Project, National Center for Appropriate Technology (NCAT)

Chuck Hassebrook of Lincoln, NE is the Leader of the Biochar Policy Project of the National Center for Appropriate Technology. He also serves as Vice President for Project Development of Sandhills Energy, where he has played an integral role in development of over one GW of solar projects.

Previously, Chuck spent 36 years with the Center for Rural Affairs, a national rural advocacy and development organization based in Lyons, NE. He served 17 years as Executive Director, leading the organization in winning key policy reforms and providing loans, training, and business-planning assistance to over 10,000 small businesses. Chuck served 18 years on the Board of Regents of the University of Nebraska, including two terms as Chair. He served on the Board of the USDA North Central Region Rural Development Center, the Nebraska Rural Development Commission, the USDA Commission on Small Farms, and the Board of Bread for the World.

Jim Amonette, DOE Pacific Northwest National Laboratory and Washington State University

Jim Amonette is a soil chemist with more than 39 years of research experience in the areas of environmental geochemistry and soil mineralogy. He has been with the Pacific Northwest National Laboratory (PNNL) since 1986 and has held a Joint Appointment with CSANR at Washington State University since 2017. His WSU work focuses on assessing the climate-change mitigation potential of biochar at the county level and on measuring the impact of biochar amendments on the plant-available water-holding capacity of soils. His primary scientific interest is to find ways of sustainably harnessing the large carbon flux passing through the terrestrial ecosystem to help mitigate global climate change. Dr. Amonette has authored or coauthored more than 115 peer-reviewed scientific journal publications, numerous book chapters and technical reports, 7 patents in the areas of photoacoustic spectroscopy and slow-release nitrogen fertilizer, and a book on quantitative methods in soil mineralogy. His PNNL staff profile can be found at <https://www.pnnl.gov/science/staff/staff_info.asp?staff_num=5639>

Kristin Trippe, Agricultural Research Service

Kristin Trippe Ph.D. is a research microbiologist with the Agricultural Research Service, an agency within the US Department of Agriculture in Corvallis, Oregon. Her laboratory focuses on the effects of biochar on soil health and microbial community dynamics and developed the Pacific Northwest Biochar Atlas. The Atlas is an online decision support tool kit that connects producers and users of biochar-based amendments. Her laboratory has also examined the role of biochar in rangeland restoration, mine reclamation, forest-to-farm biochar systems, soil water dynamics, and increasing agricultural yields, as well as a broad spectrum of studies focused on natural products and microbial biochemistry. Dr. Trippe has served on the USBI Board of Directors since 2018. She is also the Chair of the Soil Biology and Biochemistry Division of the Soil Science Society of America.

Carlos Rodríguez-Franco, US Forest Service, Senior Leader for Strategic Forest Science Synthesis

Carlos Rodríguez-Franco (doctorate in Forest Sciences from Yale University). In Mexico worked for the National Institute of Forestry, Agriculture and Animal Husbandry Research (INIFAP) for 25 years. He was the former Forestry Research General Director at INIFAP from 1996 to 2000. Currently, he works with the US Forest Service, where he is a Senior Forester. He is the former Deputy Chief for Research and Development (2016 – 2018). He has covered several positions as the Associate Deputy Chief for FS R&D. Previously he was the Director for Forest Management Sciences staff from 2007 to 2013. He has written more than 90 scientific articles on subjects related to forest inventories, silviculture, forest management, forest soils, plant production techniques, forest plantations, and agroforestry systems published in Mexico and the USA. He has taught silviculture, forest stands growth, and forest sampling at Chapingo Autonomous University and the Colegio de Postgraduados from 1982 to 1999. He has conducted 28 bachelors, 20 Master of Sciences and 3 Doctoral theses. He authored a book in Spanish titled “Sampling designs applied to forest inventories”. Some of his contributions were his participation in the “Forestry Compendium” published by CAB International in the United Kingdom**,** and the book “Pines of silvicultural importance” that was published by CAB International in 2002**,** and a chapter in the book “Urban air pollution and Forests: Resources at risk in the Mexico City Air Basin” which was published by Springer Verlag, New York in its ecological studies series. More information about the research work he coordinates in FS can be found at: <http://www.fs.fed.us/research/vmpr.shtml>

Johannes Lehmann, Liberty Hyde Bailey Professor of Soil and Crop Sciences, School of Integrative Plant Science, Cornell University

Johannes focuses his research and teaching in soil biogeochemistry and soil fertility management. His specialization is in soil organic matter and nutrient studies of managed and natural ecosystems with a focus on soil carbon sequestration, nutrient recycling from wastes, biochar systems, circular economy, and sustainable agriculture in the tropics (especially Africa). His research stretches from ultra-fine scale microscopy to examine carbon stabilization in soils to global-scale carbon and nutrient cycles. Learn more about Johannes' work on the [Lehmann Lab website](http://lehmannlab.cals.cornell.edu/).

Bruce Rohwer, Paullina Iowa farmer and member of the Board, National Corn Growers Association

Bruce Rohwer is a fourth generation Northwest Iowa farmer, third generation on the farm his Grandfather purchased in 1905. Farming with him are his two adult children and he looks forward to his Grandchildren being able to make their living from this farm. He received his BA from Knox College in Political Science and International Relations. In 1975 he started farming in partnership with his father.

During the 1980’s, in addition to farming, he owned a Commodity Introducing Brokerage, in the 1990’s he owned and operated an independent crop insurance agency. From 2002 thru 2007 he was a member of the Board of Directors of Agri Industries, a regional Cooperative, and served as Secretary of Mrs. Clark’s Foods Board of Directors.

In 2007 he was elected to the Board of Directors of Iowa Corn Growers Association, serving as President in the 2012-2013. 2015 through 2021 he served on the Board of Directors of the National Corn Growers Association. During this time with the Corn Growers, he testified before the Risk Management Agency (RMA) Board for a new multi-year coverage provision for Federal Crop Insurance; he testified before the EPA for a herbicide renewal; and he was the NCGA witness for the 2018 farm bill before the Senate Ag Committee.

In 2017 he joined the US Grains Council’s Mideast and Africa Action Team working on ways to facilitate US exports of corn, sorghum, barley and ethanol to markets in the Middle East, Africa, Europe, and south Asia.

In 2010 he started a company installing farm drainage tile with his son. In 2014 his daughter joined the 1350 acre row crop production part of the farm as a farm operator. Currently they raise corn and soybeans and have a hog confinement to produce much of their own fertilizer. In the past, in addition to row crops, his farm has included a cow/calf operation, and he was a partner in a swine operation with a sow herd producing feeder pigs and fat hogs.

David Laird, President & CEO N-Sense Inc. & Professor Emeritus Soil Science Iowa State University

David Laird is a professor in the Department of Agronomy and Environmental Science Program at Iowa State University. Previously, David was a Lead Scientist with USDA-ARS National Laboratory for Agriculture and the Environment in Ames, IA.  He has professional memberships with the American Society of Agronomy, Soil Science Society of America, Clay Minerals Society, American Chemical Society, and American Association for the Advancement of Science.  He was named a Fellow in 2008 by Soil Science Society of America, a Fellow in 2007 by American Society of Agronomy, recipient of the Raymond and Mary Baker Agronomic Excellence Award in 2003, and the Marion L. and Christie M. Jackson Soil Science Award in 2000. Research interests include the use of pyrolysis to process biomass into bioenergy and biochar co-products, and the impact of biochar amendments on soil quality, the stability of biochar in soils, and the net impact of biochar on greenhouse gas emissions from soils. Other research interests include the chemical, mineralogical, and surface properties of soil clays, interactions of pesticides and other organic compounds with clays, the nature of soil humic substances, clay-humic interactions, and the development of field-mobile near infrared diffuse reflectance spectroscopy for mapping soil organic carbon and other properties.

Robert Brown, Iowa State University

Dr. Brown is Anson Marston Distinguished Professor in Engineering and Gary and Donna Hoover Chair in Mechanical Engineering at Iowa State University (ISU). He holds the rank of Professor in the Departments of Mechanical Engineering, Chemical and Biological Engineering, and Agricultural and Biosystems Engineering.

Dr. Brown is widely recognized as a thought leader in processing of biomass into energy, fuels, and chemicals. He has been recognized by *Biofuels Digest* as one of the “Top 100 People” in bioenergy for seven consecutive years. His activities have been cited hundreds of times in the press including *Nature Magazine*, *Scientific American*, *New York Times*, *Discovery Magazine, BBC*, *Aljazeera International*, and the *Chronicle of Higher Education*. He has dozens of invited talks to audiences ranging from the Iowa Democratic Caucus to the GE Whitney Symposium. Dr. Brown is the founding director of the Bioeconomy Institute (BEI), which coordinates ISU’s research, educational, and outreach activities related to biobased products and bioenergy. He also helped launch ISU’s Biorenewable Resources and Technology (BRT) graduate program, the first such degree-granting program in the United States.

Dr. Brown was the director of the Center for Sustainable Environmental Technologies, a center within the Institute for Physical Research and Technology, from 1996 until it was merged with the Bioeconomy Institute in 2014. He was one of the founders of ISU’s BioCentury Research Farm, which was recognized in 2010 by *Biofuels Digest* as the “Institutional Research Facility of the Year.” He organized the Symposium on Thermochemical and Catalytic Sciences for Biofuels and Biobased Products, which bi-annually brings together international experts in gasification, pyrolysis, and solvent liquefaction to discuss recent developments in the field. Dr. Brown has built multi-disciplinary teams at ISU around several promising thermochemical platforms including bio-oil production and upgrading, syngas production and upgrading, bio-oil and syngas fermentation, and biochar production and application, resulting in over $100 million in research contracts and grants as PI or co-PI. Among the most prominent programs under his leadership is the $16.5 million ConocoPhillips Biofuels program at ISU and a $22 million NSF EPSCoR Track 1 RII Project in Renewable Energy. Dr. Brown has published over 225 refereed papers and book chapters. He wrote *Biorenewable Resources: Engineering New Products from Agriculture*, now in its second edition, the most widely used textbook in biorenewables over the last decade. He edited *Thermochemical Processing of Biomass*, published in 2011, a book for professionals working in this field. He co-authored *Why Are We Producing Biofuels,* a book targeting general readership, recognized by Biofuels Digest as the Book of the Year in 2012. Dr. Brown received his PhD in Mechanical Engineering from Michigan State University in 1980. He is a Fellow of the American Society of Mechanical Engineering. He received the Don Klass Award for Excellence in Thermochemical Conversion Science in 2015. He has eighteen patents, one of which received a R&D 100 Award from Research and Development Magazine in 1997.

David Zilberman, Robinson Chair and Professor, Agricultural and Resource Economics Department U.C. Berkeley

Professor David Zilberman holds the Robinson Chair in the Agricultural and Resource Economics Department, University of California at Berkeley. He is the recipient of the 2019 Wolf Prize in Agriculture and was elected a member of the U.S. National Academy of Science 2019. David served as the 2018-19 President of the Agricultural & Applied Economics Association (AAEA). He's a Fellow of the AAEA, Association of Environmental and Resource Economists, European Association of Environmental and Resource Economists, and Honorary Life Member of the International Association of Agricultural Economists. David has published in both professional and popular outlets. He has than 350 refereed articles in journals ranging from Science to ARE-Update and has edited 20 books. In addition, he has served as a Consultant to the U.S. Environmental Protection Agency, the World Bank, and FAO.

David's research analyzes innovation supply chain and policy economics, emphasizing the interactions between agriculture, energy, and the environment. He has researched the economics and political economy of agricultural biotechnology and the potential of the bioeconomy. In addition, he has been working on water policy programs and the economic impacts of the covid pandemic.

Dale Smith, Director, Enterprise Environmental Sustainability, The Boeing Company

Dale Smith leads Boeing’s work with sustainable aviation fuel (SAF) Producers and SAF Policy strategy. This includes company SAF procurement/use, and strategies for international, national, and state policies and partnerships that accelerate scale up of lowest carbon commercially viable SAF. He partners with colleagues assessing emerging SAF technology companies and project developers, and company SAF R&D priorities.

In over 33 years with Boeing, Dale has worked in Boeing commercial airplanes, defense, space, and services business units as a senior specialist in aviation industry decarbonization goals/roadmaps, technology strategies, business operations, finance, and corporate citizenship.

Nichole Fitzgerald, DOE Bioenergy Technologies

Dr. Nichole Fitzgerald is the Advanced Algal Systems (AAS) and Feedstock Technologies (FT) Program Manager in the Bioenergy Technologies Office (BETO) at the U.S. Department of Energy. Nichole has pioneered several bioproduct and functional replacement initiatives for BETO. As the Program Manager for the AAS and FT Programs, Nichole oversees $80M in annual appropriations aimed at advancing the state of technology for algal biofuels production and feedstock supply and logistics.

Prior to her current role, Nichole developed new initiatives for BETO Including [BOTTLE](https://www.bottle.org/), which develops new biobased recycling and upcycling technologies; [ChemCatBio](https://www.chemcatbio.org/), an Energy Materials Network consortium focused on catalysis for bioenergy applications; and [BioESep](https://www.bioesep.org/), a national lab-led consortium on separations for bioenergy. Nichole served as an AAAS Science and Technology Policy Fellow at BETO and was an NIH post-doctoral fellow at the University of California, Berkeley where she developed highly effective reagents for pharmaceutical applications.

Nichole earned her Ph.D. in Chemistry from Stanford University and a B.S. in Chemistry from the College of William and Mary.