Moderator/Discussant Bios

Leonora Bittleston

Dr. Leonora Bittleston is an Assistant Professor in the Department of Biological Sciences at Boise State University. Her research focuses on microbial community ecology; particularly the relationships among bacteria, fungi, and plants. Before joining Boise State, Leonora was a James S. McDonnell Postdoctoral Fellow in Complex Systems at the Massachusetts Institute of Technology (MIT). She earned her Ph.D. from the Department of Organismic and Evolutionary Biology at Harvard University and her B.S. in Molecular Environmental Biology from the University of California, Berkeley. Her team uses observation, experimentation, functional assays, and metagenomic approaches to better understand the processes influencing Earth's biodiversity. A current goal of Leonora's research is to uncover principles of microbiome assembly and coexistence that enable the persistence of complex, species-rich microbial communities, and to decipher how the functions of these communities impact their ecosystems.

James Carothers

James Carothers is the Dan Evans Associate Professor and Associate Chair for Research and Infrastructure in the Department of Chemical Engineering at the University of Washington. He is also the Co-Director of the UW Center for Synthetic Biology and a member of the UW Molecular Engineering & Sciences Institute. The Carothers Research Group combines computational modeling, CRISPR technology development, and RNA aptamer biosensor engineering for applications in synthetic biology. The main goals are to understand biological design principles and to engineer biology to produce industrially- and medically-important chemicals and materials. Since arriving at the University of Washington in 2012, James has been the lead principal investigator of more than $22M of funded research. Recent work has been supported by multiple awards from the U.S. Department of Energy, the National Science Foundation, and private industry. James is a founding member of the scientific advisory board of Wayfinder Biosciences, a seed-funded biotechnology startup.

Tina Eliassi-Rad

Tina Eliassi-Rad is a professor of computer science at Northeastern University. She is also a core faculty member at Northeastern's Network Science Institute and the Institute for Experiential AI. In addition, she is an external faculty member at the Santa Fe Institute and the Vermont Complex Systems Center. Prior to joining Northeastern, Tina was an Associate Professor of Computer Science at Rutgers University; and before that she was a member of technical staff and principal investigator at Lawrence Livermore National Laboratory. Tina earned her Ph.D. in Computer Sciences (with a minor in Mathematical Statistics) at the University of Wisconsin-Madison. Her research is at the intersection of data mining, machine learning, and network science. She has over 100 peer-reviewed publications (including a few best paper and best paper runner-up awards); and has given over 250 invited talks and 14 tutorials. Tina's work has been applied to personalized search on the World-Wide Web, statistical indices of large-scale scientific simulation data, fraud detection, mobile ad targeting, cyber situational awareness, drug discovery, democracy and online discourse, and ethics in machine learning. Her algorithms have been incorporated into systems used by governments and industry (e.g., IBM System G Graph Analytics), as well as open-source software (e.g., Stanford Network Analysis Project). In 2017, Tina served as the program co-chair for the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (a.k.a. KDD, which is the premier conference on data mining) and as the program co-

chair for the International Conference on Network Science (a.k.a. NetSci, which is the premier conference on network science). In 2020, she served as the program co-chair for the International Conference on Computational Social Science (a.k.a. IC2S2, which is the premier conference on computational social science). Tina received an Outstanding Mentor Award from the U.S. Department of Energy's Office of Science in 2010, became an ISI Foundation Fellow in 2019, was named one of the 100 Brilliant Women in AI Ethics in 2021, and received Northeastern University's Excellence in Research and Creative Activity Award in 2022.

Stephen Fiore

Dr. Stephen M. Fiore is Director, Cognitive Sciences Laboratory, and Professor with the University of Central Florida's Cognitive Sciences Program in the Department of Philosophy and School of Modeling, Simulation, and Training. He maintains a multidisciplinary research interest that incorporates aspects of the cognitive, social, organizational, and computational sciences in the investigation of learning and performance in individuals and teams. His primary area of research is the interdisciplinary study of complex collaborative cognition and the understanding of how humans interact socially and with technology. He is Immediate Past President of the International Network for the Science of Team Science, and Past President for the Interdisciplinary Network for Group Research.

Zachary Freedman

Dr. Zac Freedman is an Assistant Professor and the ON Allen Professor of Soil Microbiology in the Department of Soil Science at the University of Wisconsin-Madison. Prior to his current position, Dr. Freedman earned his PhD in Ecology and Evolution at Rutgers University with Dr. Tamar Barkay and completed a postdoctoral fellowship at the School for Environment and Sustainability at the University of Michigan with Dr. Don Zak. Dr. Freedman also served as an Assistant Professor and Program Coordinator for Environmental Microbiology in the Division of Plant and Soil Sciences at West Virginia University. Motivated by the need to better understand the massive impact of Earth's smallest organisms, Dr. Freedman's research group explores the ecological consequences of environmental change, including climate change, agricultural land management, as well as natural environmental gradients, through the lens of microbial ecology and carbon and nitrogen biogeochemistry. Examples of ongoing research in the Freedman Lab include investigations to better understand how the forest soil C sink will respond to reduced rates of anthropogenic N deposition, how cropping system decisions affect the production and stabilization of soil C, and whether generalizable rules of life govern the succession of microbial communities across systems.

Emma Frow

Emma Frow is an Associate Professor at Arizona State University, holding a joint appointment with the School for the Future of Innovation in Society (SFIS) and the School of Biological & Health Systems Engineering (SBHSE). Her research focuses on the governance of emerging biotechnologies, with a particular focus on synthetic biology. She studies governance from multiple perspectives, including for example conducting ethnographic research that traces decision-making practices at the micro-scale (governance through technology design), and designing collaborations and experimental engagements with scientists and engineers (interdisciplinary collaboration as a form of governance). Emma has received NSF funding through the 'Rules of Life' program and is the recipient of an NSF CAREER award.

Jeanne Garbarino

Along with the RockEDU team, Jeanne works to help open channels for everyone -- scientists and nonscientists alike -- to develop an appreciation for science as a human endeavor that is steeped in personal connections and perspectives, and to provide equitable access to scientific resources and opportunities that genuinely reflect the process of science. She is deeply interested in how we can strengthen the practice and culture of mentorship in science. Before becoming a practitioner of science engagement, Jeanne kicked off her scientific career as a lipid biochemist, earning her PhD in metabolic biology from Columbia University, then conducting postdoctoral studies on cholesterol transport at Rockefeller.

Ramesh Goel

Goel is an environmental engineering and microbiology professor in the Civil & Environmental Engineering Department at the University of Utah. Dr. Goel obtained his Ph.D. from the University of South Carolina in 2003 and a Post Doctoral fellowship from the University of Wisconsin, Madison, in 2005. He was also a visiting professor in The Netherlands at EAWAG, Switzerland (Dr. Eberhard Morgenroth) and The Radboud University (Dr. Mike Jetten) in 2014. Dr. Goel's research addresses various issues related to water quality, nutrients in municipal wastewater, virology, and surface water quality. He integrates process engineering and computer bioinformatics to understand complex microbial networks in engineered bioreactors and natural ecosystems. His research has appeared in many journals of international repute, including Nature Communications, Water Research, Environmental Science & Technology, Bioresource Technology, Journal of Hazardous Materials, Waters, Environmental Pollution, and Chemosphere. The U.S. Department of Defense, NSF, DOE, EPA, and water quality boards fund Dr. Goel's research. He has received numerous awards, including NSF's CAREER award in 2011, AEESP's outstanding service award, and various research and teaching awards at the department and college levels. He is also serving on the editorial boards of several international journals.

Sandra Loesgen

Sandra Loesgen graduated summa cum laude with a Ph.D. in Organic Chemistry and Pharmacology from Georg-August Universität Göttingen, Germany, in 2007. She was DFG supported postdoctoral fellow in Dr. Bill Fenical's Lab at Scripps Institution of Oceanography, UCSD and her postdoctoral research continued in the lab of Dr. Carole Bewley at the National Institute of Health. From 2013-2019, she was Assistant Professor at Oregon State University. Since September 2019, she is Associate Professor of Chemistry at the Whitney Laboratory for Marine Bioscience, and part of the Chemistry Department at UF.

Lucas Miller

Lucas Miller is a Ph.D. candidate in the lab of Dr. Lydia Contreras at the University of Texas At Austin. Lucas graduated Summa Cum Laude from Rensselaer Polytechnic Institute in 2019 with a B.S. in Chemical Engineering. He became interested in understanding protein function as an undergraduate, and he has further explored how proteins interact with chemically modified RNA species throughout his Ph.D.. Lucas leads research with a collaborative team to characterize interactions of RNA binding proteins with modified RNA both in vitro and in silico to determine the fundamental rules behind

protein recognition of modified RNA species. Lucas has been awarded the NSF GRFP for his work in this area and has presented his findings in the context of oxidative stress at multiple conferences.

Hollie Putnam

Hollie Putnam is an integrative biologist using cross-scale approaches to understand how corals and other marine invertebrates acclimatize and adapt to a changing environment through mechanisms such as parental effects, symbiosis, and (epi)genetics. She received her Ph.D. in Zoology from the University of Hawai'i at Mānoa in 2012, and completed subsequent positions as a NSF Ocean Sciences Postdoctoral fellow and Assistant Researcher at the Hawai'i Institute of Marine Biology, and as a Research Associate at the University of Washington. Putnam is currently a tenured Associate Professor at the University of Rhode Island in the Department of Biological Sciences. She has published > 85 peer reviewed papers and her work is supported by local, national, and international governmental agencies, as well as private foundations.

Keith Slotkin

Keith Slotkin's academic journey has taken him from Michigan (where he was raised), to the University of Arizona (undergraduate), Berkeley (Ph.D.), Cold Spring Harbor (postdoc), The Ohio State University (Assistant and Associate Professor), and now to St. Louis. He currently has a joint position between the Donald Danforth Plant Science Center and the University of Missouri. His lab has four main goals: 1) Investigate how transposable elements and transgenes are selected to undergo epigenetic silencing, 2) Produce next-generation technologies, 3) Work with industry to commercialize our findings and technologies, and 4) Train the next generation of scientists. He is the lead-PI on a Understanding the Rules of Life – Epigenetics project that collaborates with six other labs, including mathematicians and computer scientists, to understand the lasting heritable effects of a higher CO2 atmosphere on plant chromatin organization and growth.

James Strange

James P. Strange is currently the Chair of and a Professor in the Department of Entomology. He came to OSU in 2019 after working for USDA-ARS for 13 years as a research entomologist. Jamie began his career working as a USDA technician working on alfalfa breeding and seed production at the Irrigated Agriculture Research and Extension Center in Prosser, WA. He attended graduate school and studied honeybee health and genetics at Washington State University. He spent a year doing a post-doc at Cornell University before returning to the USDA-ARS at the Pollinating Insect- Biology, Management, Systematics Research Unit in Logan, UT. There he began working on bumble bees, their conservation, parasites, and population genetics. His lab currently focuses on bumble bee health related to landscape, including how bumble bee respond to parasites in different landscapes and how landscape impacts gene flow among populations.

Maioyan Wang

Miaoyan Wang is an assistant professor of statistics at UW-Madison. She is also a faculty affiliate in the Institute for Foundations of Data Science (IFDS, a multi-University TRIPODS Phase II Initiative) and the Center for Demography of Health and Aging (CDHA). Prior to UW-Madison, she was a joint postdoc in Computer Science at UC Berkeley and in Mathematics at University of Pennsylvania. She received PhD in Statistics from the University of Chicago and B.S. in Mathematics from Fudan University. Miaoyan's

research is in machine learning theory, nonparametric statistics, and higher-order tensors. She received NSF CAREER award (2022), Best Student Paper Awards (with her as advisor, 2021-2023, three times in a row) from American Statistical Association and New England Statistical Society (2022), the Madison Teaching and Learning Excellence Fellow (2019), and multiple prestigious young researcher awards in statistics, machine learning, and genetics.