# Pinelands Science Forum on Climate Change

May 19, 2023 ~ Pinelands Preservation Alliance
www.pinelandsalliance.org

## *Speaker Biographies*

**Dr. Joanna Burger**, *Distinguished Professor of Biology at Rutgers University in New Jersey Rutgers University – Snakes Slithering from Climate Change*

Dr. Joanna Burger is a Distinguished Professor of Biology at Rutgers University in New Jersey, conducts research on the behavior and ecology of birds, reptiles, and other vertebrates, the intersection of endangered/threatened species and human activities, metal contamination in ecosystems and humans, ecological and human health risks, stressors, and management. She has studied the behavior of Pine Snakes since the late 1970s, examining all aspects of behavior, ecology and evolution, focusing on how Pine Snakes are adapted to life in the New Jersey Pine Barrens. She has studied the nesting behavior of Pine Snakes and has a 38-year mark-recapture study of Pine Snakes, one of the longest in the world. She is particularly interested in how humans and animals can coexist given global population changes, warming climates, and sea level rise. Her long-term studies with Pine Snakes involve many collaborators, including Bob Zappalorti (Herpetological Associates), Emile DeVito (NJ Conservation Alliance), Chris Jeitner (Rutgers Pinelands Field Station), Jason Howell (Pinelands Preservation Alliance), and most recently John Bunnell (Pinelands Commission), as well as a range of state agencies and publics.

She served on several national and international committees including for National Academy of Sciences (NRC), USFWS, EPA, NOAA, SCOPE (Switzerland), and BVVA Awards (Spain). She is a Fellow of the International Union for Pure and Applied Chemistry, American Association for the Advancement of Science, and International Ornithologist's Union. She received the Brewster Medal (the highest one in ornithology in the World), the Distinguished Lifetime Achievement Award from the Society of Risk Analysis, the distinguished Career Award from the Proteomass Society, and is Certified via Eminence by the American Academy of Environmental Engineers and Scientists. She has published over 600 papers in refereed journals, and over 25 books (including one on Pine Snakes and another on the Pine Barrens).

**Dr. Ken Clark**, *Research Forester with USDA Forest Service – Prescribed Fire and Climate Change in the Pine Barrens*

Kenneth L. Clark is a Research Forester with the USDA Forest Service at the Silas Little Experimental Forest in New Lisbon, NJ. He received a Ph.D. in Forest Ecology from University of Florida in 1994, and then served as a post-doctoral researcher focusing on forest carbon dynamics and nutrient cycling in pine-dominated forests of N. Florida. His research in the Pinelands focuses on the impacts of prescribed fire, wildfire, and invasive insects on forest composition, structure, and productivity. He and collaborators have integrated tower-based carbon dioxide and water flux measurements, biometric and remote sensing techniques, and

ecosystem models to understand how disturbance, succession, and climate affect forest carbon dynamics of the Pinelands.

**Dr. Brenda Ekwurzel,** *Senior Climate Scientist and the Director of Climate Science for the Climate & Energy Program at the Union of Concerned Scientists*, *Keynote Speaker*

Brenda Ekwurzel is a senior climate scientist and the director of climate science for the Climate & Energy Program at the Union of Concerned Scientists (UCS). In her role, she ensures that program analyses reflect robust climate science. She contributes to research on the influence of fossil fuel producers on global average temperatures, sea level, and other climate indicators. Dr. Ekwurzel is a co-author of the fourth National Climate Assessment (NCA4) Volume II. She presents frequently to a range of audiences on climate science and practical, achievable solutions for climate change.

Prior to joining UCS, Dr. Ekwurzel was on the faculty of the University of Arizona in their department of hydrology and water resources, with a joint appointment in the geosciences department. She has studied climate variability in places as disparate as the Arctic—where her research brought her to the North Pole—and the desert Southwest. Earlier in her career, Dr. Ekwurzel was a hydrologist, working with communities to protect groundwater.

Dr. Ekwurzel earned a B.S. in geology from Smith College, and an M.S. in geoscience from Rutgers University. She holds a Ph.D. in isotope geochemistry from the Department of Earth and Environmental Sciences at Columbia University's Lamont-Doherty Earth Observatory, and conducted post-doctoral research at Lawrence Livermore National Laboratory, in California.

A widely quoted expert on climate change, Dr. Ekwurzel co-authored the UCS guide *Cooler Smarter: Practical Steps for Low-Carbon Living*. In 2016, she was named a AAAS fellow, and cited for her "distinguished contributions to analysis and outreach aimed at strengthening support for sound U.S. climate policies, and making the science of climate change accessible to diverse audiences." She has appeared on ABC News, CBS News, CNN, *Good Morning America,* NBC News, NPR, and *The Colbert Report,* and has been cited by *Associated Press, New York Times, Reuters, USA Today* and *Washington Post.*

**Jeanne Herb**, *Executive Director of the Environmental Analysis and Communications Group at the Rutgers University Bloustein School of Planning and Public Policy and Co-Director of the New Jersey Climate Change Resource Center - Mitigating Climate Change*

Jeanne Herb is Executive Director of the Environmental Analysis and Communications Group at the Rutgers University Bloustein School of Planning and Public Policy and Co-Director of the New Jersey Climate Change Resource Center, a statutorily established and academically housed service center providing support to communities, state and local decision-makers and the private sector to advance equitable and science-informed climate change solutions. Jeanne's leads applied research projects, cross-sector collaborative initiatives that focus on the intersection of social and environmental determinants of health, health equity, environmental sustainability,

state and local public policy, and inclusive, participatory decision-making. Jeanne co-facilitates the New Jersey Climate Change Alliance, a collaboration of diverse New Jersey thought leaders that, for 12 years, has advanced science-informed climate action in New Jersey, and she serves as a member of the senior leadership teams for the Rutgers Coastal Climate Risk and Resilience Program.

Jeanne co-manages the New Jersey Inclusive Healthy Communities grant program on behalf of the New Jersey Department of Human Services that seeks to advance policy, systems and environmental change to advance health equity for people with disabilities. Jeanne is an adjunct member of the faculty, teaching graduate courses on science communication and city and regional planning studios focused on environmental sustainability. Prior to joining Rutgers in 2010, Jeanne spent more than two decades at the state Department of Environmental Protection, most recently as the Assistant Commissioner of Policy, Planning and Science where she oversaw multidisciplinary programs related to environmental health, sustainable planning and development Environmental Justice, climate change and coastal management. Jeanne is chair of a National Academy of Sciences workshop committee on Communities, Climate Change and Health Equity. She also serves on the New Jersey Department of Health *Healthy New Jersey 2030 Advisory Committee*, the *Regional Plan Association's* New Jersey Committee, and the New Jersey State League of Municipalities *Educational Foundation Board*. She is an alumnus of the Robert Wood Johnson Foundation *Culture of Health Leaders Program* and the *Rutgers Leadership Academy.* She is a 1981 alumnus of Rutgers University and has a master's degree in science, Health and Environmental Journalism from New York University.

***Henry John-Alder**, Professor of Ecology, Evolution, and Natural Resources at Rutgers University – Importance of Micro-climates on Local Species*

Henry John-Alder is a Professor of Ecology, Evolution, and Natural Resources at Rutgers University in New Brunswick. He has a B.S. from Franklin & Marshall College, an M.S. from the Pennsylvania State University, and a Ph.D. from the University of California, Irvine. After serving as Chair of his department for 12 years, in 2021 Henry became Director of Rutgers Pinelands Field Station at Silas Little Experimental Forest in Pemberton Township, where he forged a close tie with Pinelands Preservation Alliance. He has been conducting research in the Pinelands since 1985, and his research addresses basic issues in ecological and evolutionary physiology – including effects of and adaptations to temperature – using lizards and frogs as focal organisms. Current projects include a collaborative investigation of how forest structure constrains animal ecology through effects on microclimate. For example, a recent study authored by Julia Brennan reported that forest management through selective thinning of trees causes the microclimate to become warmer and drier and thus leads to a dramatic decrease in the abundance and diversity of ticks in the NJ Pinelands.

***Kirk Raper**, New Jersey Department of Environmental Protection, Division of Science and Research – Evidence of Climate Change in the Pinelands*

Kirk Raper is a research scientist with the Division of Science and Research at the New Jersey Department of Environmental Protection. His efforts focus on the science of climate change, supporting various State programs, and identifying/addressing knowledge gaps in New Jersey. For the last ten years, much of Kirk's research has focused on understanding coastal change over time, especially in relation to sea-level rise. He has been working closely with research partners to integrate data across the region and develop a database for the New Jersey Tidal Wetland Monitoring Network in order to make these data more accessible and achieve a broader spatial assessment of coastal change.

***Jessica Ray**, Staff Scientist at Raritan Valley Community College – Coastal Resilience Projects*

Jessica Ray is a Staff Scientist with the Center for Environmental Studies at RVCC, where she manages a variety of projects involving ecological research and restoration. She holds a B.S. in Ecology, Evolution, and Natural Resources from Rutgers University and has four years of experience with the forest ecology project at RVCC and rare plant species research in New Jersey with the New Jersey Department of Environmental Protection, Office of Natural Lands Management.

***Virginia Rettig**, Refuge Manager for Forsythe National Wildlife Refuge – Planning for Migration*

Virginia is a professional biologist and habitat manager. She has worked with the US Fish and Wildlife Service for over 20 years. Virginia is the refuge manager for Forsythe National Wildlife Refuge in New Jersey. Her passions lie with creating wildlife habitats and advancing women and girls in education and in their professions.