EPA Region 10 HABs Workshop

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Biographies of Presenters

Dr. Lorraine Backer is a Senior Scientist and Environmental Epidemiologist at the National Center for Environmental Health (NCEH), Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. She received her PhD in genetic toxicology from the University of Kansas in Lawrence, Kansas and her MPH in epidemiology from the University of North Carolina, Chapel Hill, North Carolina. She has been with the CDC since 1994. Dr. Backer created and led the Clean Water for Health Program for NCEH, which focused on the public health effects associated with drinking water from private wells, from 2007 to 2015. She oversaw numerous projects, including a cooperative agreement with 10 states to conduct data discovery for private wells and private well water quality. Dr. Backer has led CDC's HAB-related efforts since 1998, when *Pfiesteria piscicida* was found in the Chesapeake Bay, Maryland, USA. The topics of her research included the public health effects from exposure to Florida red tides and recreational exposure to cyanobacteria and related toxins.
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Dr. Lesley D'Anglada is a Senior Microbiologist with the United States Environmental Protection Agency (EPA). She currently serves as the Harmful Algal Blooms lead for the Office of Science and Technology, Office of Water. Lesley is the manager of the EPA Drinking Water Health Advisories for Cyanotoxins and is the Office of Water representative on the Interagency Working Group for HABHRCA (Harmful Algal Blooms, Hypoxia, Research and Control Act). She is a member of the World Health Organization's Water Quality and Health Technical Advisory Group (WQTAG) since 2010, an ex-officio member of the National HABs Committee since 2013, and co-editor of special issues of *Toxins* on HABs and Public Health since 2014. She received her Doctorate in Public Health and her Masters on Environmental Health from the University of Puerto Rico, Medical Science Campus, and her Bachelor Degree in Industrial Microbiology from the University of Puerto Rico, Mayaguez Campus.
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Dr. Theo Dreher is a Professor in Microbiology at Oregon State University, where he has worked since 1987, serving as Department Chair 2004-1014. His laboratory studies cyanobacterial blooms from lakes and reservoirs in Oregon, Washington, Northern California, Kansas and Texas. The research focus is on genetic and genome identification of cyanobacteria, and on understanding the factors that cause certain cyanobacteria to bloom, to be replaced by other cyanobacteria, and finally to decline. Recent studies have determined the genome sequence of Anabaena sp. WA102, the major anatoxin-a producer in Anderson Lake in Jefferson County, WA.
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Ms. Caitlin Gould is the coordinator for the Interagency Working Group on HABHRCA since August 2014. As the coordinator, she works to meet the requirements prescribed by HABHRCA, including preparing reports, collaborating with interagency partners, engaging with non-Federal stakeholders, and working with the Executive Office of the President and Congress. Prior to joining to NOAA, Caitlin worked at The Pew Charitable Trusts for five years, most recently advocating for global shark

conservation measures. She has a Master's Degree in Public Policy & Administration from the University of Massachusetts, with a focus on energy and environmental policy. Her BA, also from UMass, is in French & Francophone Studies and Political Science.
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Dr. Jennifer Graham has been a Research Hydrologist with the U.S. Geological Survey in Lawrence, Kansas since 2006. Since 1997, Jennifer's research has focused on the effects of anthropogenic influence on aquatic ecosystems. She also is a nationally recognized expert in cyanobacteria and associated nuisance compounds. For the past seventeen years she has conducted research on environmental factors influencing the occurrence of cyanotoxins in the United States. She has conducted both regional and single system studies at a variety of spatiotemporal scales.
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Mr. Neil Harrington joined the Jamestown S'Klallam Tribe in 2012 and since that time has been focused on harmful algal blooms and shellfish, outreach and education as well as restoration project effectiveness monitoring. He has over 11 years of experience working on water quality, shellfish and salmon habitat restoration projects on the North Olympic Peninsula. He holds a Master of Science in Biological Oceanography from the University of California, Santa Cruz.
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Dr. Joan Hardy is a toxicologist with Office of Environmental Public Health Sciences, Washington State Department of Health. She holds a BA from Whitman College, a MS and Ph.D. from University of Washington, Seattle, and completed a post-doctoral fellowship in B.C., Canada. Her recent work focuses on research, education, and tracking of human and animal illnesses associated with toxic cyanobacterial blooms in Washington lakes, rivers, and estuaries. Collaborative work includes findings on microcystin bioaccumulation in freshwater fish and marine mussels, and environmental factors associated with cyanotoxin blooms. Joan also works on other issues associated with human health and aquatic toxicology, such as persistent bioaccumulative toxins in freshwater biota, marine fish and shellfish, and sediments.
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Ms. Rebecca Hillwig has 26 years of experience in the environmental and health field. She began working for the Utah Department of Environmental Quality in 1990, and since then has worked for Oregon OSHA as an Industrial Hygienist, and for Oregon DEQ in several areas including Program Coordination. In 2011 Rebecca went to work for the Oregon Health Authority as the Program Coordinator for the Harmful Algae Bloom Surveillance and Beach Monitoring programs. In addition to HABs Rebecca also evaluates and issues fish consumption advisories for the state.
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Ms. Hannah Holsinger is an environmental scientist with the United States Environmental Protection Agency (EPA). She currently serves as the drinking water program's cyanotoxin team lead for the Office of Ground Water and Drinking Water. Prior to joining EPA in 2011, she was a public health fellow in OGWDW. Hannah has a B.S. in Biological Sciences and Food Science and Technology from Virginia Tech (2007) and a Master of Public Health, Environmental Health concentration, from the University of Kentucky (2009).
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Dr. Meredith Howard is a biological oceanographer in the Biogeochemistry Department at the Southern California Coastal Water Research Project, a research institute formed by the leading water quality agencies in California to ensure a solid scientific foundation for their management decisions. She received her B.A. in Finance from Lehigh University in 1995, B.S. in Biology from Rutgers University in 2001 and Ph.D. in Ocean Science from the University of California, Santa Cruz in 2007. Her current research falls into three areas: 1) examining the environmental factors that influence phytoplankton blooms and HABs, 2) understanding factors and processes controlling biological response to anthropogenic nutrient loading, and 3) determining the extent of cyanobacteria and toxin production in coastal waterbodies, particularly from freshwater to marine systems.
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Dr. Christopher Krembs pursued his academic career as a biological oceanographer at several universities in Germany and the US publishing in the field of marine microbial ecology and sea ice research. He received his PhD in 1999 from the Christian-Albrechts University in Kiel. From 2002-2008 he held a position at the Applied Physics Laboratory, UW where he pioneered and published on microbial processes and interactions of marine biofilms and habitat structure in sea ice leading to featured articles in the Proceeding of the National Academy of Science and Marine Environmental Progress Series. Since 2008, he has an appointment as lead Oceanographer in the Marine Monitoring Unit and reshaped and invigorated the marine waters marine monitoring program. In 2011 he received an agency award in recognition of his commitment to creative solutions and was instrumental for the agency ECOS award (Environmental Council of the State) for Eyes Over Puget Sound and Ferries for Science.
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Dr. Raphael Kudela is a Professor in the Ocean Sciences Department and Ida Benson Lynn Chair of Ocean Health at University of California Santa Cruz. He is a phytoplankton ecologist specializing in ecophysiology, bio-optics and remote sensing. Recent relevant projects include a NOAA ECOHAB Regional Project focusing on bloom initiation for the toxic diatom *Pseudo-nitzschi*a, red tide prediction using remote sensing and modeling in the Sea of Oman, and a recently started NOAA MERHAB project exploring linkages between coastal watersheds and the nearshore ocean. Kudela served as the Chair of the Global Ecology and Oceanography of Harmful Algal Blooms (GEOHAB) Programme, and is co-Chair of the US National HAB Committee.
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Dr. Kathi Lefebvre received a B.A. in Biology from Whitworth College in 1989, an M.S. in Marine Science from Moss Landing Marine Laboratories in 1995, and a Ph.D. in Biology from the University of California at Santa Cruz in 2001. She began working at the Northwest Fisheries Science Center as a NAS/NRC Post-doctoral Fellow in 2001. She is currently a Research Biologist in the Exposure Assessment and Diagnostics Group and PI on a NIH/NSF joint RO1 for developing a novel antibody-based biomarker for toxicity of chronic exposure to a common seafood toxin. Collaborators for the project include the University of Washington and the University of California, Santa Cruz. Kathi also runs the Wildlife Algaltoxins Research and Response Network (WARRN-West), a surveillance program for algal toxins in marine mammals ranging from the Arctic Ocean to Southern CA. Kathi's research focuses on the effects of naturally occurring marine seafood toxins on wildlife and human health. Her research encompasses four main topics: 1) pathways of trophic transfer of algal toxins through marine food webs, 2) assessment of acute and chronic exposure risks, 3) identification of physiological health impacts related to low level chronic exposure, and 4) development of biomarkers of chronic exposure and disease.
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Ms. Jennifer Maucher Fuquay has been a research scientist with NOAA's Marine Biotoxins Program in Charleston, SC since 2002. Jen is currently the Program Coordinator for NOAA's Phytoplankton Monitoring Network, and is responsible for outreach, training of volunteers, and most recently, led the expansion efforts of PMN into the monitoring of freshwater environments. Prior to becoming program coordinator for the PMN, she conducted laboratory research in the Marine Biotoxins Program which focused on investigation of maternal-fetal transfer of domoic acid, measuring ciguatoxins in endangered Hawaiian monk seals, and assessing the impacts of brevetoxins in naturally exposed sea turtles and birds. Additionally, since 2004, she has served as an adjunct faculty member in the biology department at Trident Technical College. Jen holds a MS in Marine Biology from the College of Charleston.
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Dr. Stephanie Moore is a Project Scientist with the University Corporation for Atmospheric Research and NOAA's Northwest Fisheries Science Center in Seattle, Washington. Stephanie obtained her PhD from the University of New South Wales, Australia, in 2005. Her primary research focus is on the creation of new frameworks for investigating the linkages of climate and weather to variations in the timing and magnitude of toxic HABs in the U.S. Pacific Northwest. Specifically, she uses high resolution climate and weather information as well as novel biosensors (such as the Environmental Sample Processor) to a gain a predictive and mechanistic understanding of HABs and their interaction with the marine environment. Stephanie is an Environmental Health Fellow with the Harvard T.H. Chan School of Public Health, and is a co-author of the chapter on Water-related Illness in the forthcoming Interagency Assessment of The Impacts of Climate Change on Human Health in the United States. She is a member of the National Harmful Algal Bloom Committee and the NOAA Ecological Forecasting Roadmap Harmful Algal Bloom Technical Team.
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Dr. Ellen Preece received her B.S. from University of New Hampshire. She attended graduate school at Washington State University, where you received her M.S. and Ph.D. in Limnology. Her Ph.D. research focused on the harmful algal toxin, microcystin. She is interested in further research on the connection between microcystin contaminated seafood and risks to human health. Currently, she is working as an environmental consultant (limnologist) with Robertson-Bryan Inc. in Sacramento, CA.
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Dr. Virginia Roberts is an Epidemiologist in the Waterborne Disease Prevention Branch, within the National Center for Emerging and Zoonotic Infectious Diseases at the CDC. She manages the waterborne disease outbreak component of the National Outbreak Reporting System (NORS) and coordinates a CDC Great Lakes Restoration Initiative project that focuses on building waterborne disease prevention capacity in Great Lakes states.
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Dr. Barry Rosen is first and foremost, a phycologist. He has worked on algae for over four decades, with emphasis on cyanobacteria. His title is Biologist with U.S. Geological Survey Southeast Regional Director's Office and is based on the campus of University of Central Florida, Orlando, Florida. He is also the Southeast Regional Tribal Liaison for the USGS. He is involved in several research projects involving cyanobacterial taxonomy and cyanotoxins throughout the U.S. and is collaborating with scientists around the world. He recently authored the *Field and Laboratory Guide to Freshwater Cyanobacteria Harmful Algal Blooms for Native American and Alaska Native Communities* report.
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Dr. Blake Schaeffer earned his PhD in Marine, Earth and Atmospheric Science from North Carolina State University studying harmful algal bloom ecology. Blake is currently with the U.S. Environmental Protection Agency, located in Research Triangle Park, North Carolina. His research focus is on the applied use of satellite remote sensing technology to monitor water quality in coasts, estuaries, lakes, and reservoirs. His previous work developed a satellite based method for deriving numeric nutrient criteria. Current research includes a collaborative effort between the EPA, NASA, NOAA, and USGS to detect cyanobacteria blooms from satellite.
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Dr. Mario R. Sengco is a Physical Scientist in the U.S. EPA's Office of Water, Office of Science and Technology in Washington, D.C. He received his Ph.D. from the Joint Program in Oceanography at the Woods Hole Oceanographic Institution and Massachusetts Institute of Technology, and his B.S. from Long Island University. Prior to his work at EPA, he conducted research at Woods Hole and the Smithsonian Environmental Research Center on marine harmful algal blooms (HABs) focusing on bloom ecology and dynamics, including strategies for controlling and mitigating HABs. Currently, he works in the water quality standards program and focuses on issues related to nutrient pollution.
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Ms. Kimberly Stryker manages the Alaska's Food Safety & Sanitation program. In addition to being Alaska's molluscan shellfish authority, this program is responsible for overseeing food safety and sanitation at food services, retail food operations, and food processors (primarily seafood processors). Other regulated facilities under the program's oversight include pools/spas and body art shops. Kim has served Alaskans as a state employee for over 20 years, the last 16 with the Food Safety & Sanitation program. She is currently the president of the Western Association of Food and Drug Officials and is an active member of several other professional organizations.
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Dr. Richard Stumpf, a coastal oceanographer in NOAA, has focused on making satellite data useful in solving coastal problems, including water quality, wetlands, eutrophication, and harmful algal blooms. He has worked on red tide for 25 years, and helped NOAA develop CoastWatch, the first real-time ocean satellite monitoring program. Currently, he leads NOAA's harmful algal bloom forecasting effort, which has established operational forecasts in the Gulf of Mexico, and a demonstration in Lake Erie, as well as working with researchers in the Gulf of Maine and California on new models, and he is developing a national monitoring program for cyanobacteria with EPA and USGS.
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Ms. Rebecca Thompson recently began working in the ID DEQ State Office Surface Water Program. She has a B.S. in botany and a M.S. in wildlife ecology. The majority of her professional experience has been in the private sector working on National Environmental Policy Act compliance documents and analyzing impacts of land management on terrestrial and aquatic wildlife and plants and their habitats. Her aquatic experience includes characterization of headwater stream habitat and aquatic biota, collection of macroinvertebrate data, riparian habitat mapping, and wetland delineation and permitting. She is new to HABs and looking forward to taking an active role in their management in Idaho.
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Dr. Vera Trainer has a B.S. in Biology from Indiana University of Pennsylvania, a M.S. in Biological Oceanography and PhD in Biochemistry and Molecular Biology from the University of Miami. Vera is a Research Oceanographer and Program Manager of the Marine Biotoxin Program at the NOAA Fisheries, Northwest Fisheries Science Center. She is currently the president of the International Society for the Study of Harmful Algae and co-chair of the North Pacific Marine Science Organization Section on HABs.
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Dr. Judy Westrick earned her PhD in Chemistry from University of Colorado, Boulder and spent six year as a certified drinking water operator at Cincinnati Water Works. Her current research focuses on performing cyanotoxin occurrence studies, determining cyanotoxin susceptibility to drinking water treatment processes, developing cyanotoxin analytical methodologies, validating commercial analytical products and designing a "flexible" qPCR probe to determine the risk of cyanotoxin production. She has developed a rapid chromatographic method for the CCL priority cyanotoxins that has been adapted to photodiode array, mass spectrometer, and tandem mass spectrometer detection systems. She has organized and served on expert panels, reviewed grants, written reviews, and edited a special edition of *Toxicon* in the area of cyanotoxins.
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Mr. Christopher Whitehead is the Environmental Program Manager for the Sitka Tribe of Alaska's Resource Protection Department. Chris manages all environmental projects including a HAB monitoring program, designing and implementing a regulatory biotoxin lab, subsistence foods monitoring for heavy metals and mercury, and other climate change related work. He received his degree from the University of Hawaii in 2001 and worked as a researcher developing recirculating aquaculture systems to rear shrimp. In 2005, Chris moved to Washington and worked as a shellfish biologist managing commercial crab and geoduck fisheries as well as developing oyster, clam, and geoduck aquaculture farms for the Jamestown S'Klallam Tribe and the Skokomish Tribe.
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Mr. James Williams is an Environmental Protection Specialist with the U.S. EPA, Office of Ground Water and Drinking Water. He assists with geospatial analysis and outreach in a number of projects to protect sources of drinking water. Prior to joining the EPA, Williams worked on watershed restoration and planning projects with the California Department of Fish & Wildlife and San Francisco Recreation & Park, and as an environmental educator and advocate with watershed organizations in Michigan and the Potomac River watershed. Bo has an M.S. in Environmental Planning from the University of Michigan and a B.A. in History from Kenyon College in Gambier, OH.
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Dr. Alan Wilson received his Ph.D. in Applied Biology from the Georgia Institute of Technology in 2006. After spending a year as a research investigator at the Cooperative Institute for Limnology and Ecosystems Research jointly housed at the University of Michigan and NOAA's Great Lakes Environmental Research Laboratory, Alan joined the faculty in the School of Fisheries at Auburn University in 2007 where he is an Associate Professor. In addition to his academic life, Alan is currently near the end of a two-year detail at the NSF where he helps manage the Population and Community Ecology program in the Division of Environmental BiologyAlan has also developed a large-scale project with collaborators throughout much of the southeastern US to help develop models to forecast cyanobacterial blooms in this region.
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