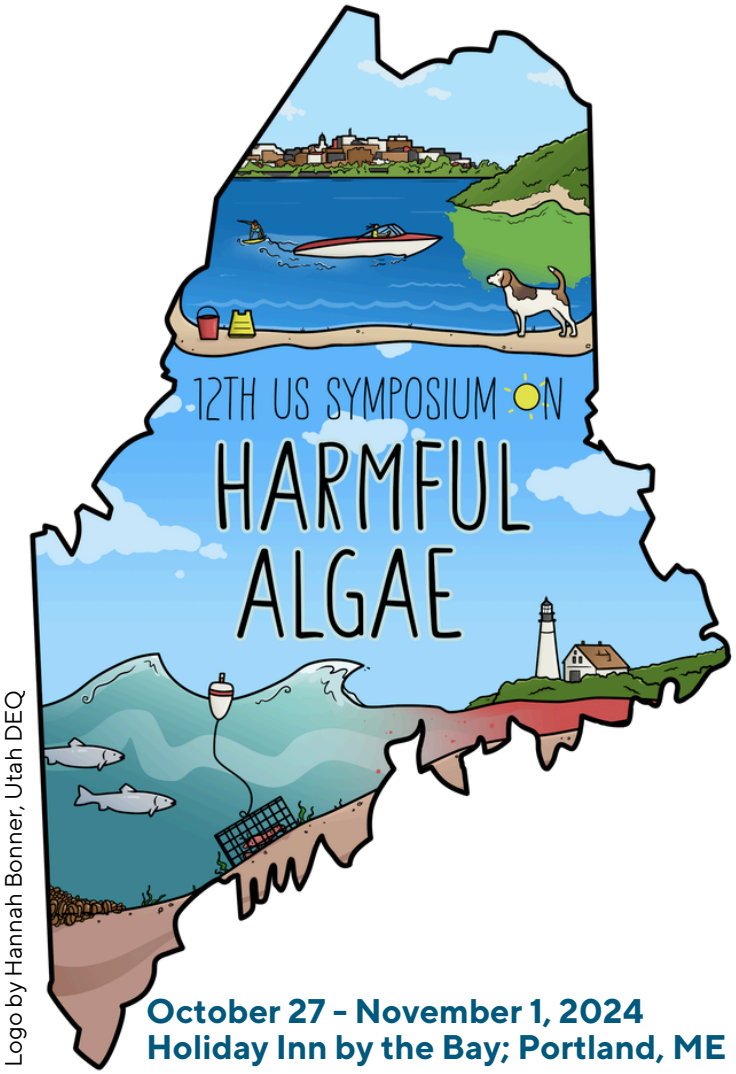
12th U.S. Symposium on Harmful Algae



Logo by Hannah Bonner, Utah DEQ

October 27 - November 1, 2024
Holiday Inn by the Bay; Portland, ME

Welcome Reception
Sunday, October 27 | 7:00-9:00pm
Welcome to the 12th U.S. Symposium on Harmful Algae! Appetizers and cash bar will be available in the Casco Bay Exhibit Hall to kick off the event.

Social Event: Bowling @ Bayside Bowl: $35
Monday, October 28 | 6:00-9:00pm
Enjoy a fun night of bowling offsite with your fellow attendees. Admission includes light appetizers, shoe rentals, lounge access, and a cash bar.

Directions

Banquet, Awards Ceremony, & Halloween Party: $55
Thursday, October 31 | 6:30-10:30pm
Join us in the Casco Bay Exhibit Hall for a fun-filled night of tricks and treats at the Holiday Inn by the Bay. Eat, Drink, and Be Scary: buffet dinner, cash bar, and dancing will be available. Halloween costumes are strongly encouraged!

Special Session | Meet the Funders: A Quick Tour of Federal Funding Programs for HAB Science and Management
Tuesday, October 29 | 7:00-9:00pm
Sarah Pease, NOAA / HAB-ER; Anika Dzierlenga, NIH/NIEHS; Mandy Michalsen, USACE; Whitney King, EPA; Jennifer Graham, USGS; Taylor Armstrong, USHCTI; Maggie Broadwater, ECOHAB; Marc Suddleson, MERHAB; Felix Martinez, PCMHAB; Brittany King, SEAHAB; Tiffany Vance, IOOS; Betty Staugler, Sea Grant

Special Session | National HAB Observing Network (NHABON) - Sharing Progress and Seeking Community Input
Wednesday, October 29 | 7:00-9:00pm
Learn about NHABON's efforts over the past five years and provide input on expanding the system to meet growing community needs.

Continental Breakfast (Monday - Friday) will be served from 7:30am-9:00am in the Casco Bay Exhibit Hall.

Lunch will be served to all attendees in the Casco Bay Exhibit Hall from 12:00 PM to 1:30 PM on Tuesday & Wednesday. For restaurant recommendations and local attractions in Portland, please visit the NEIWPCC Registration Desk.

NEIWPCC NCCOS U.S. National Office for Harmful Algal Blooms

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SUNDAY, OCTOBER 27, 2024

Session Room: Lincoln

Workshop A: 10:30am - 11:30am

Development of a Regional Poison Control Center and Medical Toxicology Guideline for Harmful Algal Bloom Sample Collection and Testing Pathways: A Pilot Study

Brett Johnson, UMass Chan School of Medicine, UMass Medical Center

Pre-Registration Required

Session Room: Kennebec

Workshop B: 10:30am - 11:30am

Data to Information: A Look at the HABs Data Housed in the Water Quality Portal and Served through How's My Waterway

Adam Griggs, US EPA

Pre-Registration Required

11:30

Break / Lunch
On Your Own

Session Room: York

Workshop C: 1:00pm - 3:00pm

Demonstrating a Novel Molecular Toolbox for Rapid, Sensitive Detection of Toxic Pseudo-nitzschia Species

Matthew Harke, GMGI; Kate Hubbard, FWC-FWRI; Pete Countway, Bigelow; Shelly Wanamaker, GMGI; Taylor Gibson, GMGI; Sydney Greenlee, Bigelow; Yida Gao, FWC-FWRI; Robin Sleith, Bigelow

Pre-Registration Required

Session Room: Kennebec

Workshop D: 1:00pm - 4:00pm

Track, Identify, Predict: An Introduction to 3 Complementary HAB Monitoring Systems

Savannah Judge, Yokogawa Fluid Imaging Technologies, Inc.; Chris Lee, AquaRealTime; Greg Ford, Phytoxigene

Pre-Registration Required

Session Room: Somerset

4:00pm - 6:15pm

NHC - IWG Meeting

6:15pm - 7:00pm
HARRNESS Meeting

7:00

Welcome Reception
Casco Bay Exhibit Hall | Downstairs

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MONDAY, OCTOBER 28, 2024

7:30	**Breakfast** *Casco Bay Exhibit Hall | Downstairs*	
	Session Room: One Bloom | Session Chairs: Maryann Dugan & Devon Case	
9:00	Welcome Words with Susan Sullivan, NEIWPCC, & Debbie Bronk, Bigelow Laboratory for Ocean Sciences	
9:15	**Blossoming Paradigms for Karenia brevis Bloom Initiation** Katherine Hubbard, Fish & Wildlife Research Institute / Florida FWCC **&** **Progression and Impacts of a 2022 HAB Event in San Francisco Bay** David Senn, San Francisco Estuary Institute	
10:00	**Break**	
	Engaging Communities & Stakeholders ***Session Room: One Bloom*** Session Chairs: Holly Bowers & Stephanie Moore	**HAB Management, Mitigation, & Control I** ***Session Room: HAB*** Session Chairs: Ellen Preece & Megan Skinner
10:30	**Harmful Algal Bloom Events: Transitioning the Bering Strait Region with Teamwork** Gay Sheffield, UAF Marine Advisory Program / Alaska Sea Grant	**In Situ Impacts of Modified Clay on Karenia brevis Cell Concentrations, Water Quality, and Microbial Communities** John Kristoffer Andres, University of Central Florida
10:45	**Interannual Variability in Alexandrium catenella Bloom Dynamics in Pacific Arctic Waters** Evangeline Fachon, Woods Hole Oceanographic Institution	**Flocculation and Sedimentation for Control of HABs using Modified Biochar** Vincent Lovko, Mote Marine Laboratory
11:00	**Speed Talks** Shannon Cellan, Sitka Tribe of Alaska Cameron Thompson, NERACOOS Savannah Mapes, Virginia Institute of Marine Science	**Harnessing Nanobubble Technology for Efficient Ozone Treatment of Harmful Algal Blooms in Aquatic Environments** Jesús Morón-López, NEWT Center / Arizona State University
11:15	**All Hands on Deck: Collaborative Solutions to Recurring Cyanobacteria Blooms on Damariscotta Lake** Robin Sleith, Bigelow Laboratory for Ocean Sciences	**Unlocking the Potential for Ozone Nanobubble Technology to Control Harmful Algal Blooms** Heather Raymond, The Ohio State University
11:30	**A Stakeholder-Driven Communication and Engagement Strategy to Facilitate the Future Transition of a Biological HAB Control Technology to End-Users** Alexandria Hounshell, NOAA NCCOS	**Speed Talks** Erin Peters, US ACE Jennifer Toyoda, Mote Marine Laboratory Lauren Gallagher, NYS Parks

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	Engaging Communities & Stakeholders *(continued)* ***Session Room: One Bloom*** Session Chairs: Holly Bowers & Stephanie Moore	**HAB Management, Mitigation, & Control I** *(continued)* ***Session Room: HAB*** Session Chairs: Ellen Preece & Megan Skinner
11:45	**Speed Talks** Margaret Mulholland, Old Dominion University Barbara Kirkpatrick, NOAA GCOOS / TAMU Meiyin Wu, Montclair State University	**Speed Talks** Kelley Breeden, Mote Marine Laboratory Victoria Devillier, Mote Marine Laboratory Ernest Neafsey, LG Sonic US
12:00	**Lunch** *On Your Own*	
	Emerging Toxins & Species ***Session Room: One Bloom*** Session Chairs: Jonathan Deeds & Pearse McCarron	**Shellfish** ***Session Room: HAB*** Session Chairs: Sarah Pease & Courtney Hart
1:30	**Saxitoxins in Lake Erie** Justin Chaffin, The Ohio State University	**Environmental Drivers of Cyanotoxin Accumulation in Louisiana Estuaries and Oysters** Jennifer Raabe, University of Louisiana
1:45	**The Chemical Biology and Biosynthesis of Highly Potent Microcystins Containing Homologated Amino Acid Residues** Matthew Bertin, Case Western Reserve University	**Shellfish as Sentinel Organisms for Monitoring Microcystins across the Freshwater to Marine Continuum** Ellen Preece, California Department of Water Resources
2:00	**Degradation of Emerging Phycotoxins in Response to Environmental Variables and Implications for Management** Joshua Garber, Virginia Institute of Marine Science	**Microcystin and Domoic Acid Presence in Crassostrea virginica in North Carolina Coastal Waters** Astrid Schnetzer, North Carolina State University
2:15	**Speed Talks** Leah Anne Gibala-Smith, Old Dominion University Jingrang Lu, US EPA Abby Webster, SUNY ESF	**Speed Talks** Marcella Kretz Wallace, Stony Brook University Julia Sweet, University of Louisiana
2:30	**Break**	

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	Bloom Dynamics & Drivers I ***Session Room: One Bloom*** Session Chairs: Ellen Preece & Karen Odkins	Applications of Emerging Technologies I ***Session Room: HAB*** Session Chairs: Don Anderson & Thomas Farrugia
3:00	**Alleviation of Phytoplankton Light Limitation by Salinity Intrusion in a CDOM Rich, Oligohaline Estuary** Mingying Chuo, University of North Carolina	**Advancement of Un-Crewed Systems to Improve our Understanding of Cyanobacteria HABs: Development of the Surface Harmful Algae Research Craft (SHARC)** Benjamin Downing, NOAA
3:15	**Intensification and Spread of Inshore Alexandrium catenella Blooms in Cape Cod, Massachusetts** Michael Brosnahan, Woods Hole Oceanographic Institution	**Underway Detection of Particulate Microcystins in Lake Erie by Surface Plasmon Resonance Sensor Onboard an Uncrewed Surface Vehicle** Greg Doucette, NOAA NOS / NCCOS
3:30	**New Insights into the Nature of Karenia brevis Blooms: Periodicity in Cell Concentration and How Red Tides are Different from Ordinary Blooms** James Culter, Mote Marine Laboratory	**Retrievable 3D Printed Structures for Advanced Photocatalysis to Degrade Microcystins** Alan Kennedy, US ACE
3:45	**Phased Mating and Division Dynamics of Dinophysis acuminata in Culture and in Salt Pond, MA** Serena Sung-Clarke, Massachusetts Institute of Technology, Woods Hole Oceanographic Institution	**Application of Solid Phase Adsorption Toxin Tracking (SPATT) for Tracking Karenia brevis-Derived Brevetoxins in Southwest Florida** Kelsey Marvin, Fish & Wildlife Research Institute / Florida FWCC
4:00	**Seasonal Persistence of Low Levels of Pseudo-nitzschia australis on the Coast of Maine Eight Years After its First Appearance** Sydney Greenlee, Bigelow Laboratory / University of Maine	**Speed Talks** Madison Bennett, Florida Atlantic University Gregory Boyer, SUNY ESF Peter Countway, Bigelow Laboratory for Ocean Sciences
4:15	**Speed Talks** James Larson, USGS Shounak Banerjee, Los Alamos National Laboratory Yizhen Li, NOAA NCCOS	**Speed Talks** William Sanderson, Los Alamos National Laboratory Aim`ee Henderson, US EPA Rebecca Gorney ,USGS
4:30	**Break**	
6:00 - 9:00	**Social Event: Bowling @ Bayside Bowl** *Pre-Registration Required*	

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TUESDAY, OCTOBER 29, 2024

7:30	**Breakfast** *Casco Bay Exhibit Hall | Downstairs*	
	Session Room: One Bloom	
9:00	**HAB Town Hall**	
10:30	**Break**	
	Predictive Modeling - Freshwater ***Session Room: One Bloom*** Session Chairs: Keith Bouma-Gregson & Andrea Jaegge	**Remote Sensing** ***Session Room: HAB*** Session Chairs: Jayme Smith & Shelly Tomlinson
11:00	**Applying Paradigms to Paradoxes: Phytoplankton Community Analysis to Improve Prediction of Cyanobacterial Dynamics** Michael J. Paul, US EPA	**Using a Coupled Satellite Image-Numerical Model Framework to Simulate Margalefidinum polykrikoides in the York River Estuary** Xin Yu, ORISE / NOAA
11:15	**National Forecasting of Cyanobacterial Harmful Algal Bloom Events: a Bayesian Spatiotemporal Model Evaluation** Kate Meyers, US EPA ORISE Fellow	**A 20-year perspective of Lake Okeechobee (Florida, USA) using Combined Satellite and Historical Data to Identify Critical Factors of CyanoHABs** David Berthold, University of Florida
11:30	**Speed Talks** Ronaldo Lopez, Virginia Commonwealth University Jennifer Murphy, USGS Caroline Owens, CSS Inc.	**Hyperspectral Discrimination of Cyanobacteria: Moving Towards Relevant Field Scales** Kaytee Pokrzwinski, NOAA / NCCOS
11:45	**Speed Talks** Joel Allen, US EPA Keith Loftin, USGS Emily Summers, US ACE	**25 Years of Continuous Cyanobacteria Bloom Time Series for Great Lakes Region through Multi-Sensor Data Fusion and Machine Learning** Sachidanada Mishra, CSS Inc.
12:00	**Lunch** *Casco Bay Exhibit Hall | Downstairs*	

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TUESDAY, OCTOBER 29, 2024

	Microbial Interactions ***Session Room: One Bloom*** Session Chairs: Michael Paul & Katelyn McKindles	HAB Management, Mitigation, & Control II ***Session Room: HAB*** Session Chairs: Dail Laughinghouse & David Berthold
1:30	**The Effects of Long-Term Laboratory Cultivation on Cyanobacteria and their Associated Phycosphere** Katelyn McKindles, Baylor University	**Investigating Solar-Powered Humic Acid Dispersion Equipment (SHADE) for Prevention and Mitigation of Harmful aAgal Blooms** Andy Krieter, US ACE CERL
1:45	**Karenia brevis and its Interaction with Viruses, Bacteria and Other Phytoplankton at Different Temperatures: Finding the Sweet Spot for Growth in Challenging Environments** Pat Glibert, University of Maryland	**Algal Separation using Recoverable Magnetic Particles under a Tunable Magnetic Field** Lili Li, New Jersey Institute of Technology
2:00	**A Metagenomic Search for Marine Viruses that Influence the Harmful Bloom Former Karenia brevis** Anne Booker, Bigelow Laboratory	**Speed Talks** Mary Kate Rinderle, University of North Carolina Yihan Zhang, New Jersey Institute of Technology Victoria Vossler, Mote Marine Laboratory
2:15	**Speed Talks** Kasey Benesh, US EPA ORISE Fellow Forrest Lefler, University of Florida Lilly Blume, Virginia Institute of Marine Science	
2:30	**Break**	
	Predictive Modeling - Marine ***Session Room: One Bloom*** Session Chairs: Michael Brosnahan & TBD	**Bloom Dynamics & Drivers II** ***Session Room: HAB*** Session Chairs: Dail Laughinghouse & David Berthold
3:00	**Controls on Alexandrium catenella variability in the Gulf of Maine from a 25-year hindcast** David Ralston, Woods Hole Oceanographic Institute	**Making the Watershed Connection: the Influence of Cyanobacteria, Sediment, and Nutrient Loading and Hydrology on Cyanobacterial Bloom Initiation in the Nearshore Environment** Carrie Givens, USGS
3:15	**The Value of Harmful Algal Bloom Forecasts in the Pacific Northwest** Di Jin, Woods Hole Oceanographic Institute	**Dynamics and Drivers of Two Cyanotoxin-Producing Blooms in the Largest Drinking Water Reservoir in Southern California** Margaret Spoo-Chupka, Metropolitan Water District of Southern California

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	Predictive Modeling - Marine *(continued)* ***Session Room: One Bloom*** Session Chairs: Michael Brosnahan & TBD	**Bloom Dynamics & Drivers II** *(continued)* ***Session Room: HAB*** Session Chairs: Dail Laughinghouse & David Berthold
3:30	**Short-Term Forecast of Karenia brevis Trajectory on the West Florida Shelf** Yonggang Liu, University of South Florida	**Effects of Nutrient Manipulations on Lake Erie Microbial Community Composition and Cyanobacterial Toxigenicity** Riley Ralph, Bowling Green State University
3:45	**Spatial and Temporal Analysis of Algal Bloom Occurrence in the Chesapeake and Delaware Bays using Historical Remote Sensing Data** Natalie Hall, USGS	**Nitrogen Fixation within Microcystis Colonies Supports Harmful Cyanobacterial Blooms in North American Lakes** Christopher Gobler, Stony Brook University
4:00	**Evolution of Sargassum Forecasting Products for Puerto Rico and the Virgin Islands: From Regional Tracking to High-Resolution Modeling** Haibo Xu, University of South Florida	**Exploration of Short-Term, High-Intensity Disturbances on Cyanobacteria HABs in Lake Erie** Reagan Errera, NOAA GLERL
4:15	**Speed Talks** Kari St. Laurent, NOAA / NOS / NCCOS Marco Sandoval Belmar, UCLA	**Uncovering Environmental Drivers that Influence the Colony Size of the Cyanobacteria, Microcystis** Ronojoy Hem, Stony Brook University
4:30	**Poster Session** *Casco Bay Exhibit Hall | Downstairs*	
7:00 - 9:00	**Special Session: Meet the Funders: A Quick Tour of Federal Funding Programs for HAB Science and Management** *Session Room: HAB*	

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7:30	**Breakfast** *Casco Bay Exhibit Hall | Downstairs*	
	Session Room: One Bloom | Session Chairs: Maryann Dugan & Richard Friesner	
9:00	**Tracking of Heterotrophic Feeding by the Dinoflagellate, Dinophysis, Reveals the Role of Differing Mesodinium Populations in Shaping Harmful Algal Bloom Dynamics.** Megan Ladds, Stony Brook University **&** **Increasing Harmful Algal Bloom Toxin Presence in a Warming Arctic: A Synthesis of Five Years (2019-2023) of Sampling** Kathi Lefebvre, NOAA / Northwest Fisheries Science Center	
10:00	**Break**	
	Public Health ***Session Room: One Bloom*** Session Chairs: Matt Gribble & Taylor Armstrong	**Benthic HABs** ***Session Room: HAB*** Session Chairs: Mindy Richlen & Keith Loftin
10:30	**Companion Animal Mortality from Oral Exposure to Palytoxin with First Confirmation of Exposure in Clinical Samples** Jonathan Deeds, US FDA	**Investigation of Benthic Cyanobacterial Accumulations In a Stormwater Pond Network** Courtney Kapczynski, University of North Carolina Wilmington
10:45	**Exploring Connections Between Social Context and Ciguatera Fish Poisoning in Kiribati** Christopher Knight, Stanford University	**Microcoleus as Toxic Benthic Mats on Different Bottom Substrates: Ecophysiology and Distribution** Abeer Sohrab, The University of Utah
11:00	**Speed Talks** Christopher Loeffler, German Federal Insitute for Risk Assessment Lauren Cortez French, University of Washington Megan Fleming, Mississippi Department of Marine Resources	**An Intensive Monitoring Program to Understand and Forecast Toxigenic Cyanobacterial Blooms and Non-Toxigenic, Nuisance Algal Blooms in the Upper Shenandoah River Basin, Virginia...** Gordon Selckmann, River Basin Commission
11:15	**Cyanotoxins in Upper Klamath Lake, OR** Megan Skinner, US FWS	**Identification of Toxigenic Benthic Cyanobacteria in the California Sierra Nevada Mountains** Keith Bouma-Gregson, USGS
11:30	**The Measurement and Quantification of CHAB Toxins in Lake Spray Aerosols** Jacob Flanzenbaum, Stony Brook University	**The Effect of Hurricane Disturbance on Benthic Microalgal Communities in the Northern Gulf of Mexico** Sabrina Heiser, University of Texas

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	Public Health (*continued*) ***Session Room: One Bloom*** Session Chairs: Matt Gribble & Taylor Armstrong	**Benthic HABs** (*continued*) ***Session Room: HAB*** Session Chairs: Mindy Richlen & Keith Loftin
11:45	**Speed Talks** Daniela Maizel, University of Miami Laila Abdullah, Roskamp Institute Robyn Espinosa, CDC	**Speed Talks** David Beaudoin, Woods Hole Oceanographic Institute Clayton Bennett, University of South Alabama Lydia Davis, University of North Carolina
12:00	**Lunch** *Casco Bay Exhibit Hall | Downstairs*	
	Bloom Dynamics & Drivers III ***Session Room: One Bloom*** Session Chairs: Jennifer Graham & Brett Johnston	**Biotoxins & Impacts on Organisms I** ***Session Room: HAB*** Session Chairs: Maggie Broadwater & Erica Ombres
1:30	**Implementing Imaging FlowCytobots Within Florida's Harmful Algal Bloom Observation Network to Evaluate Karenia brevis Bloom Dynamics and Estimate In Situ Growth Rates in Highly Dynamic Nearshore Environments** Eric Muhlbach, Florida FWCC	**Comparison of Two Invertebrates Sensitivity to Algaecide and Cyanotoxin at Elevated Surface Water Temperatures** Sarah Goodrich, University of Cincinnati
1:45	**Dissolved Metabolite Biomarkers as Predictors of Harmful Algal Bloom Initiation** Gabriella Chebli, Georgia Institute of Technology	**The Effects of Harmful Algae and Ocean Acidification on Larval Bivalve Survival** Adrienne Tracy, Stony Brook University
2:00	**Investigating Phytoplankton Community Dynamics During the August 2022 Heterosigma akashiwo Bloom in San Francisco Bay, California** Schuyler Nardelli, USGS	**Uncovering Patterns and Mechanisms of Paralytic Shellfish Toxicity in Alaska's Geoduck Clam Fishery** Courtney Hart, Port Gamble S'Klallam Tribe
2:15	**Speed Talks** Tessa Rock, University of Louisiana Stephanie Anderson, US EPA Kasia Kenitz, Scripps Institution of Oceanography / University of California	**Speed Talks** Chelsea Kovalcsik, University of Alaska Patrick Charapata, NOAA Northwest Fisheries Science Center
2:30	**Break**	

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	Method Validation & Reference Materials ***Session Room: One Bloom*** moderator: Heather Raymond & Heath Mash	Biotoxins & Impacts on Organisms II ***Session Room: HAB*** moderator: Maggie Broadwater & Erica Ombres
3:00	**Combining Nanopore Sequencing with qPCR for Accurate and Site-Specific Monitoring of Harmful Cyanobacterial Genera in Freshwater Field Samples** Ping Gong, US ACE ERDC	**Targeted Toxin Analysis in Recreational Water Sources... The More you Look, the More you May Find** Stuart Oehrle, Northern Kentucky University
3:15	**Beyond Microcystins:Development of Analytical Standards for Major Classes of Bioactive Cyanobacterial Peptides using Quantitative NMR, 15N Labeling, and LC-UV- MS/MS** Wendy Strangman, University of North Carolina	**Speed Talks** Juliette Smith, Virginia Institute of Marine Science Nour Ayache, Virginia Institute of Marine Science Ami Krasner, Florida Institute of Technology
3:30	**What Nucleic Acid Molecules Does a Sandwich Hybridization Assay Measure in Cyanobacterial Cell Homogenates?** Anna Antrim, US ACE ERDC	**Biomarker Discovery in Red Tide (Karenia brevis) exposed Florida Manatees (Trichechus manatus latirostris) for definitive diagnoses by Bottom Up, Quantitative, MS Based Proteomics** Kelly Rein, Florida Gulf Coast University
3:45	**Regional and Seasonal Analysis of Alexandrium catenella rDNA Copy Number Content for qPCR Assay Quantification of Cysts** Steve Kibler, NOAA	**The Potential Role of Dissolved Domoic Acid in Chronic Toxicity of Bivalves: Implications for Human and Wildlife Health** Raphael Kudela, University of California
4:00	**Anti-Biofouling Strategies for Solid Phase Adsorption Toxin Tracking (SPATT)** Andrea Jaegge, USGS	**Drivers of Small Scale Variability in Paralytic Shellfish Toxin Concentrations in Butter Clams (Saxidomus gigantea) in Southeast Alaska** John Harley, University of Alaska
4:15	**Speed Talks** Christina Mikulski, NOAA / NOS / NCCOS Jingping Xie, Beacon Analytical Systems Inc.	**HABs and Ocean Acidification in Long Island Waters: Determining the Relationship and Impact** Mairead Farrell, Stony Brook University
4:30	**Poster Session** *Casco Bay Exhibit Hall | Downstairs*	
7:00 - 9:00	**Special Session: National HAB Observing Network (NHABON) - Sharing Progress and Seeking Community Input** *Session Room: HAB*	

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7:30	**Breakfast** *Casco Bay Exhibit Hall | Downstairs*	
	Session Room: One Bloom | Session Chairs: Devon Case & Richard Friesner	
9:00	**U.S. EPA Applied Research on Methods for Harmful Benthic Cyanobacteria Risk Assessment** _____ _____,_____/_____	**&** **Benthic Macroinvetebrate Community Composition Within and Surrounding Benthic Anatoxin-Producing Cyanobacterial (Microcoelus) Mats in a Northern California River, USA** _____,_____ _____
10:00	**Break**	
	Ecophysiology & Biogeochemistry ***Session Room: One Bloom*** Session Chairs: Richard Friesner & Devon Case	**HAB Management, Mitigation, & Control III** ***Session Room: HAB*** Session Chairs: Marc Suddleson & Mindy Richlen
10:30	**CO2 Deprivation Delayed the Production of Cyanophages and Lysis of Infected Cyanobacteria** _ _____,_____ .	**A Synthetic and Transparent Clay Removes Microcystis aeruginosa Efficiently** _____,_____ _____
10:45	**Are we Missing the Airborne Toxic Fraction of Coastal Dinoflagellate Blooms in California?** _____,____ _ _____ __ __ .	**Targeted and Controlled Release of Algaecide to Harmful Algal Blooms** __ _ _____,_____ .
11:00	**A Dinoflagellate Exploits Toxins to Accumulate Guanine** _____,_____ _____	**CyanoHAB Remediation of Two New Hampshire Lakes using Aluminum Compounds** _____,_____ _____ _____ _____
11:15	**Karenia brevis and Pyrodinium bahamense Utilization of Dissolved Organic Matter in Urban Stormwater Runoff and Rainfall Entering Tampa Bay, Florida** _____ __,_____ _____	**The Monitoring and Management of Cyanobacteria Over the Winter and Early Spring Seasons** _____,_____ _____
11:30	**Nutrient and Carbonate Chemistry Patterns Associated with Karenia brevis Blooms in Three West Florida Estuaries 2020-2023** _____,_____ .	**HAB Management and Control in Dredged Material Containment Facilities and Beneficial Use ecosystem restoration sites in the Chesapeake Bay Region** _____ & _____ .,____ _____

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	Ecophysiology & Biogeochemistry *(continued)* ***Session Room: One Bloom*** Session Chairs: Richard Friesner & Devon Case	**HAB Management, Mitigation, & Control III** *(continued)* ***Session Room: HAB*** Session Chairs: Marc Suddleson & Mindy Richlen
11:45	**Growth-Limiting Ammonium Concentrations in Productive North Carolina USA Estuaries: Implications for HAB Ecology** Wayne Litaker, CSS Inc.	**A Novel Immobilized Algicide for Controlling Red Tide: Transitioning Research to the Field** Lynn Wilking, CSS Inc.
12:00	**Lunch** *On Your Own*	
	Cellular & Molecular Technology ***Session Room: One Bloom*** Session Chairs: Sabina Gifford & Rebecca Gorney	**Socioeconomic Impacts** ***Session Room: HAB*** Session Chairs: Mindy Richlen & Marc Suddleson
1:30	**Genetic Community Composition and Cyanotoxin Analysis in Coastal Lakes of New Jersey** Diederik Boonman Morales, Monmouth University	**Mapping HAB Exposure Risk in Recreational and Source Waters in Communities with EJ Concerns at a National Scale** Brenna Friday, US EPA
1:45	**Single Nuclei RNA-Sequencing Reveals Microcystin-LR Induces Liver Cell Type-Specific Effects in Healthy Versus Metabolic Dysfunction-Associated Steatotic Liver Disease Mice** John Clarke, Washington State University	**Composite Red Tide Vulnerability Index (CRTVI): Assessing and Communicating Vulnerability of Coastal Communities to Red Tide in Florida** Roberto Koeneke, University of Florida
2:00	**Genetic Diagnostics for Rapid Detection of Domoic Acid-Producing Pseudo-nitzschia Species** Taylor Gibson, Gloucester Marine Genomics Institute	**Estimating Economic Damages of Water Quality Warnings in the Great Lakes** Frank Lupi, Michigan State University
2:15	**The Development and Challenges of Developing a qPCR Assay for the Detection of Anatoxin and Guanitoxin Producing Cyanobacteria in Environmental Samples** Mark Van Asten, Phytoxigene, Inc.	**Economics of Mitigation Strategies for Harmful Algal Blooms in the U.S. West Coast Dungeness Crab Fishery** David Kling, Oregon State University
2:30	**Break**	

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THURSDAY, OCTOBER 31, 2024

	Bloom Dynamics & Drivers IV ***Session Room: One Bloom*** Session Chairs: Nour Ayache	**Agency Program Applications** ***Session Room: HAB*** Session Chairs: Jayme Smith
3:00	**Winter Inflow of Toxigenic Pseudo-nitzschia Species from Continental Shelf Waters to an Estuary in the Northeast U.S.** Bethany Jenkins, University of Rhode Island	**National Assessment of Freshwater Harmful Algal Blooms** Brenna Friday, US EPA
3:15	**The Complex Ecology and Omnipresence of Dinophysis spp. in Puget Sound, WA** Alexis Fischer, University Corporation for Atmospheric Research	**Incorporating Harmful Cyanobacteria Blooms (HCBs) and Cyanotoxins into Clean Water Act Programs: a National Review of Criteria and Assessment Methods** Micah Bennett, US EPA
3:30	**ENDS-Multiple Perspectives in One Shot to Understand HAB Drivers** Senjie Lin, University of Connecticut	**Cyanobacteria Nutrient Stressor-Response Relationships in Agricultural Watersheds of the U.S.** Richard Lizotte, USDA-ARS
3:45	**Toxicity and Underlying Transcriptional Dynamics Among Populations of the Bioluminescent HAB species Pyrodinium bahamense from the Indian River Lagoon, FL** Kathleen Cusick, University of Maryland	**Interagency Working Group on HABs and Hypoxia: Addressing Regional Blooms with a National HAB and Hypoxia Strategy** Josie Galloway, NOAA / NCCOS
4:00	**Break**	
6:30 - 10:30	**Banquet, Awards Ceremony, & Halloween Party** *Pre-Registration Required* *Casco Bay Exhibit Hall | Downstairs*	

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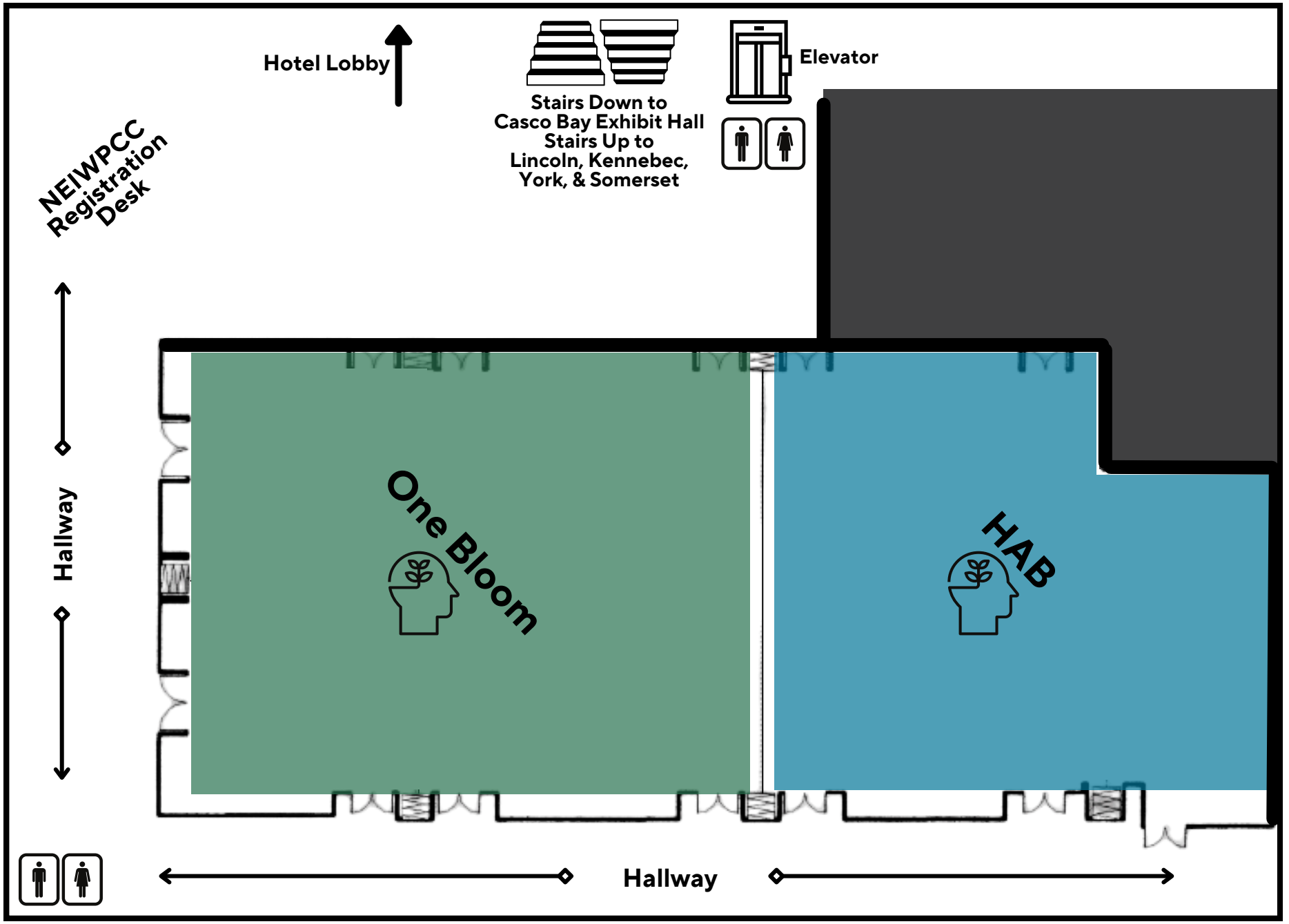
FRIDAY, NOVEMBER 1, 2024

7:30	**Breakfast** *Casco Bay Exhibit Hall | Downstairs*	
	Applications of Emerging Technologies II ***Session Room: One Bloom*** Session Chairs: Rebecca Gorney & Sabina Gifford	**Climate Change** ***Session Room: HAB*** Session Chairs: Michael Paul
9:00	**The Harmful Algal Bloom Data Assembly Center: A National Cyberinfrastructure Framework for Plankton Imagery** Clarissa Anderson, Scripps Institution of Oceanography	**Impacts of a Warming Gulf of Mexico on Karenia brevis Blooms** Cynthia Heil, Mote Marine Laboratory
9:15	**Validating the Aqusens Imaging Platform to Expand Networked Cell Detection Capabilities** Holly Bowers, Moss Landing Marine Labs	**Marine Mammal Stranding Events Caused by Domoic Acid: the Role of Bloom Timing, Longevity, and Geographic Extent on Ecosystem Impacts in Southern California** Jayme Smith, Southern California Coastal Water Research Project
9:30	**Enhancing HABscope's AI Capabilities through Interdisciplinary Collaboration** Robert Currier, GCOOS / TAMU	**Developing an Imaging FlowCytoBot Monitoring Program for HABs in Alaska** Thomas Farrugia, Alaska Ocean Observing System
9:45	**CyanoSCOPE: An Open-Source, Deep-Learning Approach to Automate Cyanobacteria Identification and Enumeration from Microscopy Imaging** Tyler Harman, CSS Inc.	**Changes in Western Lake Erie Cyanobacterial Bloom Phenology Over the Past Two Decades** Richard Stumpf, NOAA
10:00	**Break**	
	Session Room: One Bloom | Session Chairs: Maryann Dugan & Devon Case	
10:30	**Mystery in the Florida Keys - the 2023/2024 Abnormal Fish Behavior Event** Jan Landsberg, Florida Fish & Wildlife Conservation Commission **&** **Detection of Benthic Algal Toxins in Water, Algae, and Fish Associated with Unusual Fish Behavioral Anomalies in the Florida Keys** Alison Robertson, University of South Alabama / Dauphin Island Sea Lab **&** **A "Benthic Bloom" of Gambierdiscus: Potential Causes and Possible Consequences** Michael Parsons, Florida Gulf Coast University	
11:30	**Closing Remarks**	

Updated 10.27.2024

HOLIDAY IN BY THE BAY



POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A1: Meghan Abbott (FWC, Fish and Wildlife Research Institute)
Florida's Harmful Algal Bloom Task Force: Part of a Framework to Address Algal Blooms

A2: Anjana Adhikari (University of Wisconsin-Milwaukee)
Nutrient Disturbances and Harmful Algal Blooms in the North American Great Lakes – Lake Superior, Lake Michigan, and Lake Erie

A3: Taylor Armstrong (University of Maryland Center for Environmental Science - Institute of Marine and Environmental Technology)
US HAB-CTI - A National Program to Accelerate the Development and Application of HAB Control Technologies

A4: Elizabeth Bolton (Argonne National Laboratory)
A Comparison of Riverine Harmful Cyanobacterial Algal Bloom Drivers

A5: Emily Bores (University of South Carolina)
Cyanobacteria Bloom Dynamics in a South Carolina Reservoir

A6: Holly Bowers (Moss Landing Marine Labs)
International Guidance on the Integration of qPCR into HAB Monitoring

A7: Kate Brown (BGSU)
Metagenomics of Saxitoxin-Producing Phytoplankton Communities

A8: Devin Burris (FGCU; Mote Marine Laboratory)
Determining the Viability and Recovery of Rounded Karenia brevis Cells After Exposure to Natural and Artificial Stressors

A9: Ibrahim Busari (Clemson University)
Improving Harmful Algal Blooms Monitoring through Enhanced Chlorophyll-a Predictions with Data Assimilation Technique

A10: Celina Ceballos (FGCU)
Plasma Proteomics of Loggerhead Sea Turtles (Caretta caretta) and Kemp's Ridley Sea Turtles (Lepidochelys kempii) Stranded During Red Tide Events for Identification of Diagnostic Biomarkers

A11: Victoria Christensen (USGS)
A Common Toolkit for Harmful Algal Bloom Monitoring and Management in National Parks

A12: Seung Ho Chung (USACE ERDC)
Species-Specific & Eco-Friendly Gene Silencing for Mitigation of Harmful Cyanobacterial Blooms

A13: Kathrine Collins (CSS-Inc., under contract to NOAA National Centers for Coastal Ocean Science)
Model Logic Validation of Respiratory Irritation Forecast (RIF) in Southwest Florida from 2006-2023

A14: Erin Conlon (Monmouth University)
Using Community Science to Monitor Harmful Algal Blooms in Monmouth County, NJ

POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A15: Corey Conville (USEPA Region 1)
USEPA Region 1 Cyanobacteria Monitoring and Analysis in New England and Beyond

A16: Denise Devotta (Moleaer)
Managing Water Quality in an Urban Lake: Evaluation of the Largest Nanobubble Technology Deployment in the U.S. at Lake Elsinore, CA

A17: Chelsea Donovan (James Madison University)
Determining the Impact of Bloom Stages on the Circadian Rhythm of Natural Populations of Microcystis aeruginosa in Lake Erie

A18: Aliyah Downing (Old Dominion University)
Nutrient and Environmental Controls on Cyanobacteria Community Composition and Toxin Production in Lake Anna, Virginia

A19: Molly Finster (Argonne National Laboratory)
Examining Harmful Cyanobacterial Algal Blooms in Des Moines, Iowa: Regional Resiliency Assessment Program (RRAP) Project

A20: Synne Thorbjørnsen Frøstrup (The German Federal Institute for Risk Assessment (BfR))
Simplifying Data Analysis for Marine Biotoxins using R: Advancing the Neuro-2a Cell-Based Assay

A21: Leslie Gains-Germain (Neptune and Company, Inc.)
A Growth Limiting Approach for Predicting Cyanobacteria Growth on William H. Harsha Lake

A22: Andrea Garcia Jimenez (University of Nevada-Reno)
Spatial and Temporal Variation in Benthic Cyanobacterial Anatoxin Production within the Scott River Network, CA, USA

A23: Susana Gonzalez (Harte Research Institute, TAMUCC)
Defining the Likely Location and Seasonal Timing of Select Harmful Algal Bloom-Forming Species in Coastal Texas using Habitat Suitability Modeling

A24: Sarah Goodrich (University of Cincinnati)
Recreator Perspectives on Harmful Algal Blooms in Ohio

A25: Dianne Greenfield (City University of New York)
Characterizing HAB Species within New York City's Superfund-Designated Waterways

A26: Cheryl Greengrove (University of Washington Tacoma)
Application of a Quantitative Molecular Method to Characterize Abundance and Distribution of Alexandrium Cysts in Three Regions: Gulf of Maine, Puget Sound and Kodiak, Alaska

A27: Olivia Hernandez (VIMS)
Development of Analytical Methods for Co-Occuring Phycotoxins in Fish Matrices

A28: Jonathan Higgins (Higgins Environmental Associates, Inc.)
Passive Harvesting BMP and Targeted Removal of Microcystis, Dolichospermum and External Nutrient Loading by Tree Pollen from an Impaired Water Body

POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A29: Dante Horemans (VIMS)
Unraveling Environmental Factors Controlling Harmful Algal Blooms in the Chesapeake Bay using Generalized Linear Models

A30: David Hsu (New Jersey Center for Water Science and Technology at Montclair State University)
Assessing Cyanobacterial Community Dynamics in New Jersey Waterbodies of Drinking Water Significance using Environmental DNA Approaches

A31: Brett Johnston (USGS)
Evaluation of Sensors for Continuous Monitoring of Harmful Algal Blooms in the Finger Lakes Region, New York, 2019 and 2020

A32: Shayna Keller (University of Maryland Center for Environmental Science)
Investigating the Complex Microbial Communities Associated with Nitrogen Fixing Cyanobacterial Mats on the Susquehanna Flats of the Chesapeake Bay

A33: Laura Krueger (Kansas State University)
Integrated Modeling and Monitoring to Understand Cyanobacterial Harmful Algal Blooms (HABs) in a Eutrophic Reservoir System

A34: Mary LePere (Old Dominion University)
Using Planet Satellite Imagery to Map and Quantify HABs in Lower Chesapeake Bay Tributaries

A35: Meng Lin (University of Florida)
Biodegradation of Microcystin by Isolated Bacterial Strains

A36: Travis Linscome-Hatfield (Neptune and Company Inc)
Building a Better HAB Model Performance Metric

A37: Reilly Maguire (Mote Marine Laboratory and Aquarium)
Advancements in the Programmable Hyperspectral Seawater Scanner Measurement Technology for Enhanced Detection of Harmful Algal Blooms

A38: Hannah McGrath (San Jose State University)
Thermal Niche Dynamics of Pseudo-nitzschia Species in Monterey Bay: Implications for Harmful Algal Bloom Management in a Warming Ocean

A39: Christopher McLimans (University of Oklahoma)
Design and Validation of Marker Genes for a Robust Genome-based Microcystis Taxonomy

A40: Mandy Michalsen (US ACE ERDC)
US Army Corps of Engineers Freshwater HAB Research & Development Initiative

A41: Igor Mrdjen (BloomOptix, LLC)
Comparison of AI-Powered Digital Microscopy and Lab Techniques in HAB Monitoring - Lessons Learned in Citizen Science and Screening

POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A42: Eduardo Perez Vega (Old Dominion University Ocean and Earth Sciences Department)
The Effect of Temperature and Salinity on Margalefidium polykrikoides Group III VA, USA Strain Growth

A43: Kimberly Popendorf (University of Miami Rosenstiel School of Marine, Atmospheric & Earth Science)
Participant Recruitment and Engagement in the DISPEL to HABs Study: a Florida Cyanobacterial HAB Health Impacts Study

A44: Joshua Rosen (USGS)
Opportunities and Challenges in using Solid Phase Adsorption Toxin Tracking (SPATT) Samplers for Monitoring Cyanotoxins in Freshwater and Estuarine Environments

A45: Barry Rosen (Florida Gulf Coast University)
Extracellular Polymeric Substances: A Physiological Response to a Variety of Stress

A46: Ben Schelling (Old Dominion University)
The Effects of Tidal Flooding on HABs in the Lafayette River

A47: Bridget Seegers (NASA GSFC Ocean Ecology Lab)
PACE Satellite Products for HAB and Water Quality Monitoring

A48: Jaclyn Smith (USDA-ARS Environmental Microbial Food Safety Laboratory)
The Spatiotemporal Variability of Microcystin Concentrations and Cyanobacteria Community Composition in Two Agricultural Ponds in Georgia, USA

A49: Michael Staiger (Woods Hole Oceanographic)
New Applications for Phyto-Arm, a ROS-Based Toolkit for Integration of IFCB with Other Oceanographic Sensors and Observing Platforms

A50: Luanne Steffy (Susquehanna River Basin Commission)
Using Multiple Monitoring Techniques to Understand Harmful Algal Bloom Potential in a Small Public Water Supply Reservoir in Southeast Pennsylvania, USA.

A51: Jiyeon Sung (Stony Brook University)
Intragenetic Diversity in the Core Gene of Saxitoxin Synthesis from the Toxic Dinoflagellate Alexandrium pacificum and a Potential Impact on Toxin Production

A52: Mayra Tabares (Florida International University)
Synthesis of Mercaptan-Based Brevetoxin Scavengers and Evaluation of their Ability to Interfere with Binding to Voltage-Gated Sodium Channel and Reduce Cytotoxicity.

A53: Autumn Taylor (University of Florida)
Laboratory-Scale Evaluation of Algal Biomass Persistence and Microcystin Dynamics Following Treatment with Six USEPA-Registered Algaecides at Different Temperatures and Application Rates

POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A54: John Thraen (Stony Brook University)
Macronutrient Control of Saxitoxin Production in the HAB-Forming Cyanobacterium, Dolichospermum circinale

A55: Lake Willett (Middlebury College)
Genomic Coding of Potential Anabaenopeptin-Producing Dolichospermum Blooms

A56: Tori Wolters (ORISE fellow working at US EPA)
Processing of Sentinel 2 Remote Sensing Imagery for Detecting HABs in Coastal Systems

A57: Elliott Wright (National Research Council of Canada)
Non-Target Analysis of Marine Algal Toxins in Puget Sound using Passive Samplers with Liquid Chromatography–High-Resolution Mass Spectrometry

A58: Timothy Wynne (NOAA)
Incorporating PACE Hyperspectral Satellite Data into an Existing Multiple Satellite-Based Time Series

A59: Evan Yeargan (Virginia Department of Health: Division of Shellfish Safety and Waterborne Hazards)
Collaborative Efforts to Monitor Marine Biotoxins in Virginia's Shellfish Growing Areas

A60: Jordan Zabrecky (University of Nevada, Reno)
Assessing the Synchronicity of Anatoxin-Producing Benthic Cyanobacteria and River Ecosystem Productivity

A61: Wenguang Zhang (Woods Hole Oceanographic Institution)
Gambierdiscus sanyainus sp. nov. (Dinophyceae) in Coastal Sanya, South China Sea: Morphology, Taxonomy, and Toxicity

POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A62: Joel Allen (US EPA)
Use of Bayesian Networks for Short-term cHABs Prediction

A63: Kasey Benesh (US EPA ORISE Fellow)
Secrets Hidden in Fish Slime: Evidence of Microbial Response to Algal Blooms in Fish Mucus

A64: Madison Bennett (Florida Atlantic University)
Rapid Detection and Enumeration of Cyanobacterial Blooms in Diverse Freshwater Systems using Digital Holography

A65: Lilly Blume (Virginia Institute of Marine Science)
Impacts of Harmful Algal Blooms on Microbial Stratification in a Micro-Tidal Estuary

A66: Gregory Boyer (SUNY ESF)
An Evaluation of Planar Waveguide Biosensor for Detection of Cyanotoxins in Three Difference Freshwater Systems

A67: Shannon Cellan (Sitka Tribe of Alaska)
Toxins of Concern in Southeast Alaska: A Sovereign Approach to Safety and Data Collection

A68: Peter Countway (Bigelow Laboratory for Ocean Sciences)
Expanded Genetic Resources for Harmful Algal Bloom Research

A69: Leah Anne Gibala-Smith (Old Dominion University)
Karenia in Virginia Waters: An Emerging Issue

A70: Rebecca Gorney (USGS)
Central Park Takes Center Stage

A71: Aim`ee Henderson (US EPA)
Method Development of Onsite Harmful Cyanobacterial Detection using Portable qPCR Device

A72: Barbara Kirkpatrick (NOAA GCOOS / TAMU)
HABscope 2.0- Improving the Ease of Use, Accuracy, and Processing Capability of an AI generated 'Cell Count'

A73: Marcella Kretz Wallace (Stony Brook University)
Microcystin Contamination of Shellfish Along the Freshwater-to-Marine Continuum within US Northeast Estuaries

POSTERS ON THIS PAGE ARE ASSOCIATED WITH A SPEED TALK

POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A74: Forrest Lefler (University of Florida)
Characterizing Cyanobacterial HABs Microbiomes

A75: Keith_Loftin (USGS)
Ground to Space Verification of CyAN in Suspended Sediment-laden Kansas Reservoirs

A76: Ronaldo Lopez (Virginia Commonwealth University)
Modelling Cyanobacterial Reflectance to Estimate Benthic Cyanobacterial Biomass: Preliminary Results

A77: Jingrang Lu (US EPA)
Anatoxin-Producer Dominated Cyanobacterial Community Structure, Succession and qPCR-Based Indication of Cyanotoxin Production

A78: Savannah Mapes (Virginia Institute of Marine Science)
Integrating Traditional Polynesian Voyaging and Modern Science: VIMS and PVS Collaboration Utilizing PlanktoScope Technology

A79: Sachidananda Mishra (CSS Inc.)
25 years of Continuous Cyanobacteria Bloom Time Series for Great Lakes Region through Multi-Sensor Data Fusion and Machine Learning

A80: Jackie Motyka (NERACOOS)
Monitoring the 2023 Tripos Bloom in the Gulf of Maine: A Collaborative Response

A81: Margaret Mulholland (Old Dominion University)
Integrated Surveillance across Multiple Scales to Improve HAB Monitoring and Detection: Toward an Early Warning System for HABs in the Lower Chesapeake Bay

A82: Jennifer Murphy (USGS)
Predictive Modeling of River Harmful Algal Blooms; A Systematic Literature Review

A83: Caroline Owens (CSS Inc.)
Lake Okeechobee CyanoHAB Forecast Model and Evaluation

A84: Mary Kate Rinderle (University of North Carolina)
Assessing the Impact of Cyanobacterial Community Composition and Sediment Concentration on the Efficacy of a Peroxide-Based Algaecide

A85: William Sanderson (Los Alamos National Laboratory)
Linking Spatiotemporal Biological Data to Predict Harmful Algal Blooms

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POSTER PRESENTATIONS | TUESDAY, OCTOBER 29, 2024 | CASCO BAY EXHIBIT HALL

A86: Marco Sandoval Belmar (UCLA)
Factors Driving Domoic Acid Production in the Southern California Bight: Insights from a 3D Ocean Biogeochemical Model

A87: Kari St.Laurent (NOAA / NOS / NCCOS)
Harmful Algal Bloom Forecasting at NOAA's National Centers for Coastal Ocean Science: A Research to Operations to Research (R2O2R) Approach

A88: Emily Summers (US ACE)
Current Capabilities and Opportunities for Numerical Water Quality Modeling of Harmful Algae Blooms (HABs)

A89: Julia Sweet (University of Louisiana)
Effects of the Cyanobacteria Microcystis aeruginosa on Eastern Oyster Feeding

A90: Victoria Vossler (Mote Marine Laboratory)
The Use of EPA Approved Biologically Derived Substances (BDSs) to Mitigate Harmful Algal Cells and Toxins: A Natural Products Review

A91: Abby Webster (SUNY ESF)
From New York to New South Wales: Investigating Novel Toxin Production by Nostochopsis spp.

A92: Meiyin Wu (Montclair State University)
Traveling HAB Lab: Empowering Citizen Scientists to Protect Water Resources

A93: Yihan Zhang (New Jersey Institute of Technology)
Nanobubble-Based Foam Fractionation Removal of Algogenic Odorous Compounds

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POSTER PRESENTATIONS | WEDNESDAY, OCTOBER 30, 2024 | CASCO BAY EXHIBIT HALL

B1: Raimot Akanmu (Lagos State University, Ojo Lagos Nigeria)
Assessing the Effect of Global Warming at a Fish Cage Culture in Epe Lagoon Nigeria.

B2: Kristin Anderson (NOAA NCCOS)
Advancing a National Framework for Harmful Algal Bloom Monitoring and Forecasting

B3: David Berthold (University of Florida)
Diversity and Toxicity of Benthic Marine Cyanobacteria from Florida (USA) and the Caribbean

B4: Hannah Bonner (Utah Division of Water Quality)
What Does a Typical Recreator Know about HABs? Improving Communication through a Public Perception Survey

B5: Emily Bowers (NOAA Northwest Fisheries Science Center)
Evidence of Pacific Walrus Exposure to HAB Toxins in the Alaskan Arctic

B6: Ibrahim Busari (Clemson University)
Development of Deep Learning Models for Harmful Algal Blooms Monitoring in a North-Eastern Reservoir, USA.

B7: Lucas Chen (Stony Brook University)
Understanding the Affects of Ammonium and Prey on a Novel Bloom Of Dinophysis acuminata using its Isolates

B8: Robert Dusek (U.S. Geological Survey, National Wildlife Health Center)
Oral Exposure to Microcystin-LR Induced Sublethal Responses in Mallard Ducks, Anas platyrhynchos.

B9: Molly Finster (Argonne National Laboratory)
Assessing the Source of Microcystin in the Des Moines River

B10: Lora Fleming (European Centre for Environment and Human Health, University of Exeter Medical School)
Mapping the Landscape of Data Sources for Harmful Algal Bloom-Related Diseases in Southeast Asia: A Scoping Review on the Philippines, Indonesia and Malaysia

B11: Sylvain Gaillard (Woods Hole Oceanographic Institution)
Genetic Diversity of Alexandrium catenella in Coastal Embayments in Cape Cod, MA

B12: Yida Gao (Florida Fish & Wildlife Research Institute)
Spatiotemporal Variations and Drivers in Phytoplankton Composition During Karenia Brevis Blooms in Southwest Florida Revealed by Automated Imaging Flow Cytometry

B13: Jessie Garrett (USGS)
Evaluating Multispectral Image Data for Markers Associated with Harmful Algal Blooms

POSTER PRESENTATIONS | WEDNESDAY, OCTOBER 30, 2024 | CASCO BAY EXHIBIT HALL

B14: Sabina Gifford (U.S. Geological Survey)
Cyanobacterial Harmful Algal Blooms in Low-Nutrient New York Lakes: Combined Approaches to Examine the History of an Ephemeral Phenomenon

B16: Julie Hambrook & Sophia Feuerhake (Association to Preserve Cape Cod
Cape Cod's Cyanobacteria Pond Monitoring Program 2017-2024

B17: Sabrina Heiser (University of Texas at Austin Marine Science Institute)
Using Novel Long-Read Metabarcoding to Assess Intraspecific Diversity of Toxin-Producing Gambierdiscus spp.

B18: Elizabeth Hilborn (US EPA)
What are we Really Breathing? Investigating Cyanobacteria-Associated Aerosols

B19: David Hsu (New Jersey Center for Water Science and Technology at Montclair State University)
An Investigation of Cyanobacteria, Cyanotoxins and Environmental Variables in Selected Drinking Water Treatment Plants in New Jersey

B20: Sebin John (University of South Florida)
A Coupled Physical-Biological Model of Karenia brevis on the West Florida Shelf: An Application to the 2018 Bloom Event

B21: Steve Kibler (NOAA National Ocean Service, Beaufort Laboratory)
Mapping Alexandrium Resting Cyst Distribution in Southcentral Alaska to Inform Alexandrium catenella Bloom Forecasting.

B22: Daniel Killam (San Francisco Estuary Institute)
Relating Phytoplankton Molecular Percent Abundances to Chlorophyll-A and Mussel Toxin Concentration in San Francisco Bay

B23: Benjamin Kramer (University of Minnesota Duluth)
Synergistic Impact of Climate Change - Induced Acidification, Temperature, and Nitrogen on Bloom-Forming Cyanobacteria from Lake Erie

B24: Forrest Lefler (University of Florida)
Genomic Insights into Bloom-Forming Cyanobacterial Strains from Temperate to Tropical Environments

B25: Nancy Leland (Lim-Tex)
Trophic Cascades in the Mill Ponds Complex, Brewster, MA: Juvenile River Herring (Alosa pseudoharengus) and Cyanobacterial Populations Form a Unique Relationship

B26: Carly Maas (U.S. Geological Survey)
Extensive and Intensive Monitoring Approaches to Investigate the Drivers of HABs in Lake Anna, VA

B27: Jasmine Mancuso (Cooperative Institute for Great Lakes Research)
Assessing Bloom Conditions Along a North-South Transect in Western Lake Erie During 2021-2023

POSTER PRESENTATIONS | WEDNESDAY, OCTOBER 30, 2024 | CASCO BAY EXHIBIT HALL

B28: Emily Marquis (Connecticut Department of Agriculture, Bureau of Aquaculture)
First Statewide Analysis of Connecticut Shellfish for a Suite of Marine and Freshwater Biotoxins

B29: Heath Mash (US EPA)
The Dynamic Influence of a Reservoir on the Downstream Distribution of Algal Toxins in a Perennial Headwater Stream

B30: Sarah May (US Food and Drug Administration)
Comparison of Solid Phase Extraction Methods for the Isolation of Caribbean Ciguatoxin-1 across Fish Species Commonly Implicated in Ciguatera Poisoning

B31: Pearse McCarron (National Research Council of Canada)
Research and Development of Reference Materials for Cyanobacterial Toxins at NRCC

B32: Morgan McNeely (US EPA)
Monitoring Planktothrix and Microcystis Migration from an Upstream Harmful Algal Bloom Source into Downstream Waterways via Automated Flow Cytometry

B33: Julio Morell (CARICOOS)
Towards a Pan-Regional Sargassum Inundation Forecast Program

B34: Jessica Moretto (University of Florida)
Spatiotemporal Diversity of Toxic Bloom-Forming Cyanobacteria within the Kissimmee Chain of Lakes (Florida, USA)

B35: Elizabeth Mudge (National Research Council Canada)
Deciphering the Chemical Behaviour of Prymnesins to Improve Isolation Yields from Prymnesium parvum

B36: Elizabeth Murphy (Stokes School of Marine & Environmental Sciences, University of South Alabama and the Dauphin Island Sea Lab)
Spatiotemporal Distribution of Ciguatoxins from Long-Term Monitoring in the Florida Keys Marine Sanctuary

B37: Jordan Murray (Wisconsin Department of Health Services)
Cyanobacterial Blooms: A Public Health Issue in Wisconsin's Waters

B38: Patricia Nease (Midcoast Conservancy)
The Cyanotoxin Knowledge Gap: Addressing an Emerging Threat to Maine Public Health through Monitoring and Messaging

B39: Christopher Nietch (U.S. EPA/ORD)
Benthic Cyanobacteria Stream Mesocosm Study

B40: Chase Novello (Vermont Department of Environmental Conservation - Drinking Water and Groundwater Protection Division)
Assessing Cyanotoxin Vulnerability in Vermont Public Drinking Water Systems

POSTER PRESENTATIONS | WEDNESDAY, OCTOBER 30, 2024 | CASCO BAY EXHIBIT HALL

B41: Hayley Olds (U.S. Geological Survey)
Cyanotoxin Mixtures and Phytoplankton Community Interactions in Rivers, Lakes, and Reservoirs across the Upper Midwest

B42: Gihong Park (University of Connecticut)
PST vs. Bioluminescence: Skewed Expression of Multiple Defense Strategies Against Grazers in Alexandrium catenella

B43: Mrunmayee Pathare (WHOI)
Nutrient Uptake and Encystment by the Toxic Dinoflagellate Alexandrium catenella in Nauset Marsh Estuary

B44: Kimberly Popendorf (University of Miami)
Atmospheric Oxidation of Microcystin Revealed During Ambient High Volume Aerosol Sampling

B45: Leah Ruth (Gold Standard Diagnostics Horsham)
Immunoaffinity Magnetic Beads for Microcystins Capture and Concentration in Biological Samples

B46: Alessia Saul (The Ohio State University Stone Lab)
Monitoring Microcystin Toxin Production in Lake Erie

B47: William Scott (Mote Marine Laboratory & Aquarium)
Toxicity of Newly Manufactured vs. Weathered Synthetic Rubbers on the Health and Survival of Karenia brevis

B48: Jayme Smith (Southern California Coastal Water Research Project)
A OneHealth Regional Response Plan for Wildlife Stranding Events Associated with Harmful Algal Blooms: A California Pilot

B49: Zacharias J Smith (USDA Agricultural Research Service)
The Application of a Novel Nitrogen Tracer, Metolachlor-ESA, to Lake Erie and Several Associated Tributaries

B50: Abeer Sohrab (The University of Utah)
Toxic Cyanobacterial Benthic Mats Grow in the Virgin River in Zion's National Park under Low Nutrients Conditions

B51: Nathaniel Spada (Woods Hole Oceanographic Insitution)
Chilling Dependent Induction of Quiescence in Newly Formed Alexandrium catenella Cysts

B53: Ian Struewing (United States EPA)
Harmful Benthic Cyanobacteria and their Associated Community Structures across the United States

B54: Kathleen Sway (Mote Marine Laboratory)
Quantifying the Effects of Sargassum Blooms on Acropora cervicornis: An Emerging Threat to Restoration Corals in Acidifying Seas

POSTER PRESENTATIONS | WEDNESDAY, OCTOBER 30, 2024 | CASCO BAY EXHIBIT HALL

B55: Anjana Talapatra (Los Alamos National Laboratory)
Prediction of CyanoHABs via Machine Learning using Comprehensive Datasets

B56: Marcie Tidd (US EPA)
Microcystin Production Trends in Urban Lakes as a Function of Community Composition – a Multi-Analysis Approach

B57: Martina Tingley (U.S. Geological Survey)
Evaluating Climatic and Anthropogenic Change as Drivers of Harmful Algal Blooms: A Paleo Perspective Integrating Analysis of Pollen, Non-Pollen Palynomorphs, Pigments, and Toxins

B58: Michelle Tomlinson (NOAA/NCCOS)
The Future of Ocean Color Remote Sensing and its Potential for HAB Monitoring and Forecasting in a Changing Climate

B59: Sara Turner (Mote Marine Laboratory & Aquarium)
The Comparative Impacts of Hurricanes Charley and Ian on Southwest Florida Coastal Waters and Potential Nutrient Links with Subsequent Karenia brevis Blooms

B60: Christopher Ward (Bowling Green State University)
Mining a Riverine Metagenomics Database to Reveal Distribution Patterns of Freshwater Cyanobacterial Toxin Genes

B61: Cathy Wazniak (MD Department of Natural Resources)
Detection of Freshwater Saxitoxins in Epipelic Cyanobacteria Mats in Maryland

B62: Chloe Weinstock (Monterey Bay Aquarium Research Institute)
A Newly Developed Digital PCR Assay for the DabA Gene Involved in Domoic Acid Biosynthesis

B63: Lynn Wilking (CSS Inc. under contract to NOAA)
Assessing Alexandrium catenella Bloom Distribution in Kodiak, AK in Support of Toxicity Monitoring and Bloom Forecasting

POSTER PRESENTATIONS | WEDNESDAY, OCTOBER 30, 2024 | CASCO BAY EXHIBIT HALL

B64: Laila Abdullah (Roskamp Institute)
Neurological Effects of Aerosolized Red Tide Neurotoxins

B65: Stephanie Anderson (US EPA)
Discerning the Thermal Traits of Marine Harmful Algal Species from Bloom Events

B66: Nour Ayache (Virginia Institute of Marine Science (VIMS))
Impact of Harmful Algal Toxins Yessotoxins, Pectenotoxins, and Azaspiracids on Larval Bivalves: Effects on Mortality,Growth, and Metamorphosis Rates

B67: Shounak Banerjee (Los Alamos National Laboratory)
Harmful Algal Blooms as a Big Data Problem

B68: David Beaudoin (Woods Hole Oceanographic Institution)
Development of a Quantitative PCR Assay for the Detection of Amoebophyra Parasites in Alexandrium catenella Resting Cysts

B69: Clayton Bennett (University of South Alabama)
Ecological and Spatial Influences on Caribbean Ciguatoxin Distribution in Fish from St. Thomas, U.S. Virgin Islands

B70: Kelley Breeden (Mote Marine Laboratory)
Lake Guard Dew Efficacy Towards Nutrient and Harmful Algal Bloom Reduction

B71: Patrick Charapata (NOAA Northwest Fisheries Science Center)
Walruses are Exposed to Paralytic Shellfish Toxin Levels that May Impact their Health During Summer Alexandrium Blooms in the Alaskan Arctic

B72: Lauren Cortez French (University of Washington)
Geographic Variability and Seasonal Patterns of Paralytic and Diarrhetic Shellfish Toxin Co-Occurrence in the Puget Sound Region

B73: Lydia Davis (University of North Carolina)
Evaluating an Estuarine Mat-Forming Cyanobacterium for Secondary Metabolite Production using Genomic and Chemoinformatic Analyses

B74: Victoria Devillier (Mote Marine Laboratory)
Between the Bench and the Bay: Methods and Considerations for Conducting Large-Scale Mesocosm Experiments for HAB Mitigation Permitting Purposes

B75: Robyn Espinosa (CDC)
Understanding Public Knowledge and Information Preferences Regarding Water Quality and Harmful Algal Blooms – Porter Novelli View 360+ Survey, 2021

B76: Megan Fleming (Mississippi Department of Marine Resources)
Cyanotoxin Testing of Mississippi's Seafood During a Cyanobacteria Bloom

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POSTER PRESENTATIONS | WEDNESDAY, OCTOBER 30, 2024 | CASCO BAY EXHIBIT HALL

B77: Lauren Gallagher (NYS Parks)
Lake Welch HAB Mitigation Efforts

B78: Kasia Kenitz (Scripps Institution of Oceanography, University of California)
Ecological Insights into the Unprecedented Bloom of Lingulodinium polyedra in 2020 in Southern California.

B79: Chelsea Kovalcsik (University of Alaska)
Saxitoxin and Domoic Acid Exposure Risks to Northern Fur Seals on St. Paul Island, Alaska

B80: Ami Krasner (Florida Institute of Technology)
Microcystin Exposure and Liver Lesions in Estuarine Sentinels in the Indian River Lagoon, Florida

B81: James Larson (USGS)
Water Level Fluctuations Could Influence Bloom Toxicity via Effects on Nearshore Sediment Biogeochemistry

B82: Yizhen Li (NOAA NCCOS)
Ocean Weather in the Coastal Gulf of Maine and its Influence on Harmful Algal Blooms

B83: Christopher Loeffler (German Federal Insitute for Risk Assessment)
Transatlantic Impacts of Ciguatera Poisoning (CP) from Lutjanus bohar: a Traditional CP Paradigm Shift

B84: Daniela Maizel (University of Miami)
Environmental and Human Biomonitoring of Microcystin Toxin Exposure in a Florida Cohort: A Citizen Science Approach in the Framework of the DISPEL Project

B85: Christina Mikulski (NOAA / NOS / NCCOS)
Single Laboratory Validation of a Field-Portable Duplex Assay for PSP and ASP Toxins in Shellfish

B86: Ernest Neafsey (LG Sonic US)
Harmful Algae Monitoring, Prediction, and Control - Methodologies and Operator Perspectives

B87: Erin Peters (USACE ERDC)
Isolation and Characterization of Cyanophages from Freshwater Environmental Samples for Mitigation of Harmful Cyanobacterial Blooms

POSTERS ON THIS PAGE ARE ASSOCIATED WITH A SPEED TALK

B88: Tessa Rock (University of Louisiana)
Drivers of Toxin-Producing Marine HAB Species across Estuarine Gradients in Louisiana Oyster-growing Habitats

B89: Juliette Smith (Virginia Institute of Marine Science)
Oxylipins, Bioactive Byproducts of Phytoplankton are an Emerging Concern for the Shellfish Aquaculture Industry.

B90: Jennifer Toyoda (Mote Marine Laboratory)
Ultradilute TAML®/Peroxide Utilizes Biomimicry to Safely Control Florida Red Tide

B91: Jingping Xie (Beacon Analytical Systems Inc.)
Improved Saxitoxin ELISA Plate Kit for Shellfish