










SCIENTIFIC PROGRAM

La Paz, Mexico Time Zone

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COLOR GUIDE FOR ACTIVITIES

	OPENING & CLOSING		SPEED TALKS		COUNCIL MEETINGS
	PLENARY TALKS		POSTER SESSION		
	ORAL SESSIONS		SPECIAL SESSIONS (ZOOM)		

PRE-CONFERENCE

DATE	TIME		ACTIVITY
DAY	START	FINISH	
9	20:00	22:00	Young investigator networking session (zoom)
DATE	TIME		ACTIVITY
DAY	START	FINISH	
10	10:00	12:00	Young investigator networking session (zoom)



DAY 1

DATE	TIME		ACTIVITY
	DAY	START	
11	08:00	08:25	Opening ceremony
11	08:30	09:00	Plenary talk 1. Beatriz Reguera <i>Spain</i> Yasumoto Lifetime Achievement Award 2018 Forty years living with <i>Dinophysis</i>: myths and realities Chairs: Marta Estrada (Spain) and Vera Trainer (USA)
			HA Ecology
			Ciguatera and benthic HABs
			Surveillance and management
			Chair: José Aké Castillo (Mexico) and Sandra Lage (Poland)
			Chairs: Mindy Richlen (United States) and Luiz Mafra Jr (Brazil)
			Chairs: Natalie Arnich (France) and Ignacio Leyva (Mexico)
			ROOM 1
			ROOM 2
			ROOM 3
11	09:05	09:17	Marc Long. <i>France.</i> E-O-1. <i>Alexandrium minutum</i> use chemical weapons against the parasite <i>Amoebophrya</i> sp. (Syndiniales)
11	09:17	09:29	Patricia Tester. <i>United States.</i> CB-O-1. Early Warning Systems for <i>Gambierdiscus</i> , a Benthic HAB
11	09:17	09:29	Marina DB Intan. <i>Australia.</i> SM-O-2. History of Harmful Algal Blooms (HABs) in Indonesia: Factors involved in outbreaks in Lampung Bay
11	09:17	09:29	Alan D. Fernández Valero. <i>Spain.</i> E-O-2. Diversity of parasitic Chytrids associated with dinoflagellate blooms on the Catalan coast
11	09:17	09:29	Greta Gaiani. <i>Spain.</i> CB-O-2. Molecular-based assays, strip tests and biosensors for the detection of <i>Gambierdiscus</i> and <i>Fukuyoa</i> genera and of the ciguatoxin-producing species <i>G. australes</i> and <i>G. excentricus</i>
11	09:17	09:29	Karla Evelyn Paz Cordón. <i>Guatemala.</i> SM-O-3. Harmful algal blooms along central Guatemala's Pacific coast



11	09:29	09:41	Esther Velasco Senovilla. <i>Spain.</i> E-O-3. Changes in distributions of phytoplankton functional groups distribution, pigment composition and the realized niche of <i>Dinophysis acuminata</i> at the onset of an upwelling event	Thomas Yon. <i>France.</i> CB-O-3. Chemodiversity and chemotaxonomy, the use of metabolomics to explore <i>Gambierdiscus</i> genus in the Atlantic Ocean	Maria G. Antoniou. <i>Cyprus.</i> SM-O-4. Mitigation of harmful cyanobacterial with metallic peroxide granules: pH effect on hydrogen peroxide release kinetics and toxicity study on invertebrates
11	09:41	09:53	Javier Paredes Mella. <i>Chile.</i> E-O-4. First culture of <i>Dinophysis acuminata</i> from southern Chile: Ecophysiology, toxin production and phylogeny	Carlos E. Junqueira de Azevedo T. <i>Brazil.</i> CB-O-4. Phylogeny-related toxin profiles in <i>Ostreopsis</i> cf. <i>ovata</i> strains from different geographic locations	Magda Vila. <i>Spain.</i> SM-O-5. Developing an <i>Ostreopsis</i> Early Warning System: the joint engagement of environmental agencies, beach users and scientists
11	09:53	10:05	Megan Ladds. <i>United States.</i> E-O-5. Use of the imaging flowcytobot to assess differential grazing by zooplanktonm during <i>Dinophysis acuminata</i> blooms on Long Island, New York	Elisa Berdalet. <i>Spain.</i> CB-O-5. Environmental, human health and socioeconomic impacts of <i>Ostreopsis</i> spp. blooms in the NW Mediterranean	Claudia Wiegand. <i>France.</i> SM-O-6. Payment for Ecosystem Services – an efficient approach to reduce eutrophication?
11	10:05	10:20	Questions and answers	Questions and answers	Questions and answers
11	10:20	10:25	5 minute break		



			HA Ecology	HAB prediction	Surveillance and management
			Chairs: Elin Lindehoff (Sweden) and Emilie Houliez (France)	Chairs: Pierre Gernez (France) and David Rivas (Mexico)	Chairs: Kathryn Coyne (United States) and Maribel Vargas (Costa Rica)
			ROOM 1	ROOM 2	ROOM 3
11	10:25	10:37	Deepak Nanjappa. <i>United States.</i> E-O-7. Resolving the physiological dynamics and drivers of brown tides (<i>Aureococcus anophagefferens</i>) using metatranscriptomics	Allison Moreno. <i>United States.</i> HP-O-2. Predicting <i>Pseudo-nitzschia</i> Harmful Algal Blooms along the California Coast in a Changing World	Christine Edwards. <i>United Kingdom.</i> SM-O-7. Mitigation of harmful algal blooms and their toxins
11	10:37	10:49	Jennifer DeBose. <i>United States.</i> E-O-8. DMSP release during dinoflagellate blooms in the northern Gulf of Mexico: Implications of a chemo-attractant	Normawaty Mohammad-Noor. <i>Malaysia.</i> HP-O-3. 'MyRedTides' a fast and easy web application for sharing Harmful Algal Bloom information in Sabah coastal waters, Malaysia	PV Ashvin Iresh Fernando. <i>United States.</i> SM-O-8. Optimization of alginate-based carrier matrices for algicide delivery
11	10:49	11:01	Sophia (So Hyun) Ahn. <i>United States.</i> E-O-10. Dynamic photo-physiological responses of dinoflagellate <i>Karenia</i> to short-term changes in temperature and nitrogen substrates	Angéline Lefrán. <i>France.</i> HP-O-5. Investigating environmental proxies to predict <i>Dinophysis</i> spp. blooms along the coasts of the English-French Channel	Javier Moreno-Andrés. <i>Spain.</i> SM-O-9. Evaluation of the effectiveness and feasibility of different oxidants for the inactivation of harmful phytoplankton and associated bacteria
11	11:01	11:13	Patricia Glibert. <i>United States.</i> E-O-10. Photosynthesis of <i>Karenia brevis</i> —and that of its competitors—in a nearshore bloom	Anna Anschutz. <i>United Kingdom.</i> HP-O-6. The temporal dynamics of <i>Dinophysis</i> blooms is linked to that of the providers of its plastids	Allan Santos. <i>Brazil.</i> SM-O-10. Effect of hydrogen peroxide on natural phytoplankton and bacterioplankton in a drinking water reservoir: Mesocosm-scale study



11	11:13	11:25	Questions and answers	Questions and answers	Questions and answers
	11:25	12:25	Poster session: HA Ecology, HAB prediction, Surveillance and management		
11			Meeting with the Poster authors		
11	14:00	16:00	ISSHA General assembly. Zoom		
			Speed talks		
			ROOM 1	ROOM 2	ROOM 3
			Chair: Mary Carmen Ruiz (Mexico)	Chair: Christine Band (Mexico)	Chair: Lorena Duran (Mexico)
11	18:30	18:35	Diner Bernal Pezoa. <i>Chile.</i> ACT-ST-1. Seasonal variability of lipophilic toxin events at a “hotspot” in the Chilean fjords	Léa Prigent. <i>France.</i> G-ST-2. Inferring phytoplankton community composition during <i>Pseudo-nitzschia</i> blooms using a metatranscriptomic approach	Rebecca Rogers. <i>United States.</i> CW-ST-3. Understanding the contribution of sediment nutrient fluxes to the proliferation of HABs formed by multiple genera of dinoflagellate
11	18:35	18:40	Marina Grossi. <i>Czech Republic.</i> ACT-ST-2. Degradation and detoxification of cylindrospermopsin: 3D HepG2 cells as perspective model for hepatotoxicity evaluation	Bryan John Subong. <i>Japan.</i> G-ST-3. Interrogating molecular differences between two <i>Alexandrium</i> species through quantitative proteomics	Malwenn Lassudrie. <i>France.</i> I-ST-1. Ichthyotoxic microalgae from the French coast: investigating links between biological toxicity, chemodiversity and genetic diversity within the genus <i>Karlodinium</i>
11	18:40	18:45	Camila Werlang Chariane. <i>Brazil.</i> ACT-ST-3. Marine toxic species from the S and SE Brazil: field studies of phytoplankton composition and phycotoxins	Pilar Rial Rodríguez. <i>Spain.</i> B-ST-1. Tolerance to temperature and salinity stress of three <i>Dinophysis</i> species in culture	Briand Enora. <i>France.</i> M-ST-1. A multi-omic approach for a better understanding of the interactions between <i>Alexandrium minutum</i> and its microbiome



11	18:45	18:50	Elliot Murphy. Ireland. ACT-ST-4. First evidence of biotransformation of AZA-38 and -39 in mussels (<i>Mytilus edulis</i>) fed with <i>Amphidoma languida</i> (Amphidomataceae)	Lucas Morais. Australia. B-ST-2. The influence of Dissolved Organic Matter on growth rate of the Cyanobacteria (<i>Chrysochloris ovalisporum</i>)	Penelope Ajani. Australia. NT-ST-1. Using qPCR and high-resolution sensor data to model a multi-species <i>Pseudo-nitzschia</i> (Bacillariophyceae) bloom in southeastern Australia
11	18:50	18:55	Taichi Ataka. Japan. CB-ST-1. Effect of adding macroalgal extracts on the growth of <i>Gambierdiscus scabrosus</i> and <i>G. silvae</i> isolated from Japan	Gema V. Villa Arce. Mexico. B-ST-3. Growth curves and identification of dinoflagellate strains of the genus <i>Prorocentrum</i> (Dinophyceae) from Bahía de La Paz, B.C.S., Mexico	Solene Giraudeau-Potel. United Kingdom. NT-ST-2. First Imaging FlowCytoBot observations of the phytoplankton community in Scotland coastal waters
11	18:55	19:00	Zannatul Farhana. Australia. CB-ST-2. Genetic markers responsible for ciguatera toxin production in <i>Gambierdiscus polynesiensis</i>	Savannah Mapes. United States. B-ST-4. Life cycle study of the toxic dinoflagellate <i>Alexandrium monilatum</i>	Xiaotian Han. China. NT-ST-10. Rapid and sensitive detection of <i>Karenia mikimotoi</i> by loop-mediated isothermal amplification combined with a lateral flow dipstick
11	19:00	19:05	Bora Lee. Republic of Korea. CB-ST-3. Morphology, distribution and genetic diversity of the benthic dinoflagellate genus <i>Ostreopsis</i> in Korea	Nora Straquadine. United States. E-ST-1. Ability of Asian clams (<i>Corbicula fluminea</i>) to feed on and differentiate between toxic bloom-forming cyanobacteria and other algae	Simone Suhnel. Brazil. SM-ST-1. Comparative accumulation and elimination of diarrhetic shellfish toxins by commercial bivalve species from Brazil
11	19:05	19:10	Silvia Nascimento. Brazil. CB-ST-4. <i>Gambierdiscus</i> species from Brazil: abundance, morphology and molecular phylogeny	Ruth Ludwinka Mendez. Mexico. S-ST-2. Spatio-temporal variability of harmful potential diatoms and its relationship with distribution of vitamin B12 (particulate and dissolved) in the northwest Mexican Pacific coast	Stefano Accoroni. Italy. SM-ST-2. Toxic marine microalgae and associated phycotoxins in shellfish- 14 years of data from the Italian coasts



11	19:10	19:15	Jimaina Lako. <i>Fiji</i> . CB-ST-5. Evaluating Fiji's CFP incidence and factors relevant to its occurrence	Peter Sylvers. <i>United States</i> . E-ST-3. Allelopathic inhibition of toxic <i>Pseudo-nitzschia</i> spp. by the kelp, <i>Saccharina latissima</i> , and other seaweeds	Sarah Bickman. <i>United States</i> . SM-ST-3. Rapid, portable, multiplexed detection of harmful algal toxins in freshwater
11	19:15	19:20	Jacob Flanzenbaum. <i>United States</i> . C-ST-1. Assessing the role of nutrient loading in promoting harmful cyanobacteria blooms in New York city's central and prospect park lakes	Timothy Wynne. <i>United States</i> . HP-ST-1. Habitat suitability model for <i>Alexandrium catenella</i> in the Gulf of Alaska	Ignacio Rivas. <i>Spain</i> . SM-ST-4. Dark post-treatment after UV irradiation as a method for increasing the efficacy of cyanobacteria inactivation
11	19:20	19:25	Jennyfer Pérez. <i>Mexico</i> . C-ST-2. Toxigenic cyanobacterial bloom in Pastoria Lagoon, Oaxaca, Mexico	Fatima Gianella. <i>United Kingdom</i> . HP-ST-2. Temporal and spatial variability of HABs affecting Scottish shellfish aquaculture in Scotland	Alejandra Llanos-Rivera. <i>Chile</i> . SM-ST-6. Zebramartox: Zebrafish-based toxicological tool for the screening of marine toxins for assessing seafood safety
11	19:25	19:30	Stephanie Keller. <i>United States</i> . C-ST-12. Tracking a novel cyanobacterium bloom in the Indian River Lagoon, Florida, U.S.A., during the Summer and Fall of 2020	Marin-Pierre Gémin. <i>France</i> . CW-ST-1. Combined effects of temperature and light intensity on growth, metabolome and ovatoxin content of one <i>Ostreopsis</i> cf. <i>ovata</i> strain from the Mediterranean Sea	Federica Cavion. <i>Italy</i> . T-ST-1. Effects of the marine toxin palytoxin on the model organism <i>Artemia franciscana</i>
11	19:30	19:35	María de los Ángeles Horta García. <i>Mexico</i> . FMB-ST-1. Presence of dissolved domoic acid in the Bay of Todos Santos, Baja California, Mexico	Halle Berger. <i>United States</i> . CW-ST-2. Harmful Algal Blooms and Ocean Acidification: defining a research agenda	Alison Turnbull. <i>Australia</i> . T-ST-2. Experimental studies on paralytic shellfish toxins in Southern Rock Lobster
11	19:35	19:40	Yolanda Pazos. <i>Spain</i> . FMB-ST-2. <i>Alexandrium minutum</i> and <i>Gymnodinium catenatum</i> bloom dynamic in the Galician Rias		
11	19:40	20:40	Poster session: HA Ecology, HAB prediction, Surveillance and management		



DAY 2

DATE	TIME		ACTIVITY									
	DAY	START		FINISH								
12	08:30	09:00	<p align="center">Plenary talk. Marie Yasmine Dechraoui <i>France</i> Ciguatera: evidence and current management options Chairs: Phillip Hess (France) and Pat Tester (United States)</p>									
			<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 33%;">HA Ecology</td> <td style="width: 33%;">Ciguatera and benthic HABs</td> <td style="width: 33%;">Surveillance and Management</td> </tr> <tr> <td>Session chairs: Patricia Glibert (United States) and Teresa Moita (Portugal)</td> <td>Chair: Wayne Litaker (United States), Pat Tester (United States)</td> <td>Chairs: Andrew Turner (UK) and Ian Jenkison (France)</td> </tr> <tr> <td>ROOM 1</td> <td>ROOM 2</td> <td>ROOM 3</td> </tr> </table>	HA Ecology	Ciguatera and benthic HABs	Surveillance and Management	Session chairs: Patricia Glibert (United States) and Teresa Moita (Portugal)	Chair: Wayne Litaker (United States), Pat Tester (United States)	Chairs: Andrew Turner (UK) and Ian Jenkison (France)	ROOM 1	ROOM 2	ROOM 3
HA Ecology	Ciguatera and benthic HABs	Surveillance and Management										
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ROOM 1	ROOM 2	ROOM 3										
12	09:05	09:17	<table border="1" style="width: 100%;"> <tr> <td style="width: 33%;"> <p>Sandra Lage. <i>Poland.</i> E-O-11. Competitive interactions as a mechanism for chemical diversity maintenance in <i>Nodularia spumigena</i></p> </td> <td style="width: 33%;"> <p>Mindy Richlen. <i>Unites States.</i> CB-O-6. <i>Gambierdiscus</i> species community structure and spatiotemporal dynamics in St. Thomas (USVI) and the Florida Keys (USA)</p> </td> <td style="width: 33%;"> <p>Keith Davidson. <i>United Kingdom.</i> SM-O-11. The economic impact of harmful algal blooms on the productivity of Scottish shellfish farms</p> </td> </tr> </table>	<p>Sandra Lage. <i>Poland.</i> E-O-11. Competitive interactions as a mechanism for chemical diversity maintenance in <i>Nodularia spumigena</i></p>	<p>Mindy Richlen. <i>Unites States.</i> CB-O-6. <i>Gambierdiscus</i> species community structure and spatiotemporal dynamics in St. Thomas (USVI) and the Florida Keys (USA)</p>	<p>Keith Davidson. <i>United Kingdom.</i> SM-O-11. The economic impact of harmful algal blooms on the productivity of Scottish shellfish farms</p>						
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12	09:29	09:41	Asilah Al Has. <i>Malaysia.</i> E-O-13. Allelopathic effects of <i>Margalefidinium polykrikoides</i> on <i>Pyrodinium bahamense</i> under different nutrients conditions	Lia Godinho. <i>Portugal.</i> CB-O-8. <i>Gambierdiscus</i> occurrence and distribution in Madeira and Selvagens Islands (NE Atlantic, Madeira, Portugal)	Sirje Sildever. <i>Estonia.</i> SM-O-13. Monitoring harmful algal bloom species and their appearance in the Tokyo Bay, Japan, based on metabarcoding and high-throughput sequencing
12	09:41	09:53	Sierra Cagle. <i>United States.</i> E-O-14. A look at two studies that investigate how allelopathy, mixotrophy, and altered nutrient regimes may influence HAB bloom formation	Christopher Loeffler. <i>Germany.</i> CB-O-9. Ciguatera poisoning in Germany: Outbreak trace-back and ciguatoxin-like compounds in Red Snapper (<i>Lutjanus bohar</i>)	Sandra Sinno-Tellier. <i>France.</i> SM-O-14. Shellfish poisoning associated with neurological disorders: cases registered by the French Poison Control Centres from January 2012 to December 2019
12	09:53	10:05	Dedmer van de Waal. <i>Netherlands.</i> E-O-15. Trait-based approaches to understand impacts of multiple global change factors on harmful algae	Questions and answers	Andrew Turner. <i>United Kingdom.</i> SM-O-15. ScillyHAB: A multi-disciplinary survey of Harmful Marine Phytoplankton and Shellfish Toxins in the Isles of Scilly, utilizing Citizen Science in a remote offshore UK territory during the COVID-19 pandemic.
12	10:05	10:20	Questions and answers		Questions and answers
12	10:20	10:25	5 minute break		



			HA Ecology	Ciguatera and benthic HABs	Surveillance and Management
			Chairs: Carlos Rodríguez (Mexico) and Marc Long (France)	Chair: Aramis Olivos (Mexico)	Chairs: Keith Davidson (UK) and Jonathan Deeds (United States)
			ROOM 1	ROOM 2	ROOM 3
12	10:25	10:37	Emilie Houliez. <i>France.</i> E-O-16. Conditions promoting <i>Pseudo-nitzschia</i> spp. blooms in the eastern English Channel and southern North Sea: lessons from the realized ecological niches	Sam Murray. <i>New Zealand.</i> CB-O-11. Sulphated cyclic polyethers produced by toxic <i>Gambierdiscus</i> species	Sarah Swan. <i>United Kingdom.</i> SM-O-16. <i>Pseudo-nitzschia</i> blooms associated with amnesic shellfish toxins in Scottish coastal waters: a case study from the Shetland Islands
12	10:37	10:49	Anna Junker Olesen. <i>Denmark.</i> E-O-17. Copepods and <i>Pseudo-nitzschia</i> , the mystery of domoic acid unraveled	Luiz Mafra Jr. <i>Brazil.</i> CB-O-12. Variations in toxin content and metabolomic profile of two genetically similar populations of <i>Gambierdiscus excentricus</i> from Brazil	Margot Deléglise. <i>France.</i> SM-O-17. Scallop contamination by domoic acid: is surface water monitoring for <i>Pseudo-nitzschia</i> sufficient?
12	10:49	11:01	Kathryn Coyne. <i>United States.</i> E-O-18. Effects of nitrate and ammonium on uptake and assimilation of nitric oxide by <i>Heterosigma akashiwo</i>	Giorgio Honsell. <i>Italy.</i> CB-O-13. Cell immunolocalization of ciguatoxins in the benthic dinoflagellate <i>Gambierdiscus australes</i>	Timotej Turk Dermastia. <i>Slovenia.</i> SM-O-18. Microplate genoassay for the detection of <i>Pseudo-nitzschia</i> in environmental samples
12	11:01	11:13	Mary Carmen Ruiz-de la Torre. <i>Mexico.</i> E-O-19. Microbial community metabolic balance during a harmful algal bloom of <i>Lingulodinium polyedra</i> and <i>Noctiluca scintillans</i> bloom, implications on the mixotrophic state of the southern coast of the California	Maria Rambla-Alegre. <i>Spain.</i> CB-O-14. Matrix effect evaluation on the detection of CTXs by Neuro-2a assay in shark samples and two other fish species from La Reunión	Margarita Fernández-Tejedor. <i>Spain.</i> SM-O-19. An outbreak of paralytic shellfish poisoning (PSP) in Southern Oman linked to a bloom of <i>Gymnodinium cf. catenatum</i>



12	11:13	11:25	Cynthia Heil. <i>United States.</i> E-O-20. Examination of the factors driving <i>Karenia brevis</i> bloom expansion and termination: The ECOHAB: life and death of <i>K. brevis</i> blooms program	Clay Bennett. <i>United States.</i> CB-O-15. Distribution of Caribbean ciguatoxins in pinfish (<i>Lagodon rhomboides</i>) during uptake and depuration: implications for trophic transfer	Questions and answers
12	11:25	11:40	Questions and answers	Questions and answers	
12	11:40	12:40	Poster session: Ciguatera and benthic HABs, FW and M biogeography, Cyanobacterial blooms		
12			Meeting with the Poster authors		
12	14:00	16:00	Special Session: Impacts of HABs on fish farms: Addressing industry and global insurance needs		
12	16:10	16:40	Plenary talk. Michelle Burford <i>Australia</i> A hotter, more uncertain future: Can HAB research meet the environmental challenges and deliver meaningful outcomes? Chairs: Dedmer van de Waal (Netherlands) Christine Band (Mexico)		
			Cyanobacterial blooms	Freshwater and marine HAB biogeography	Surveillance and Management
			Chair: Dedmer van der Waal (Netherlands), Oscar Hernández (Mexico)	Chairs: Ismael Gárate Lizárraga (Mexico) and Christine Band (Mexico)	Chairs: Po Teen Lim (Malaysia) and Javiera de La Paz (Chile)
			ROOM 1	ROOM 2	ROOM 3
12	17:00	17:12	Christopher Gobler. <i>United States.</i> C-O-1. Nitrogen and <i>Microcystis</i> blooms: considering the importance of exogenous vs endogenous supplies	Linda Armbrrecht. <i>Australia.</i> FMB-0-1. Ancient DNA and microfossils reveal dynamics of three harmful dinoflagellate species off Eastern Tasmania, Australia, over the last 9,000 years	Steve Kibler. <i>United States.</i> SM-O-20. Paralytic Shellfish Toxins in fish and invertebrates of Southcentral and Southwest Alaska



12	17:12	17:24	Leonardo Cerasino. <i>Italy.</i> C-O-2. Cyanotoxins in pelagic and benthic zones of lakes in the Italian perialpine region	Steffaney Wood. <i>United States.</i> FMB-O-2. Cyanobacterial Akinete Distribution, Viability, and Toxin Records in Sediment Archives from the Northern Baltic Sea	Hernan Henriquez. <i>Australia.</i> SM-O-21. Mapping the development of <i>Dinophysis</i> spp. HABs using a novel molecular qPCR assay
12	17:24	17:36	Jef Huisman. <i>Netherlands.</i> C-O-3. Interspecific protection against oxidative stress: how the Black Queen interferes with hydrogen peroxide treatments of cyanobacterial blooms	Aini Hannani Naqiah Abdul Manaff. <i>Malaysia.</i> FMB-O-4. Environmental factors promoting the recurrent <i>Alexandrium minutum</i> blooms in a semi-enclosed tropical lagoon of Malaysia	Indira Menezes. <i>United Kingdom.</i> SM-O-22. Control of six different <i>Microcystis aeruginosa</i> strains and their toxic metabolites by phycocyanin-enhanced UV-A irradiation
12	17:36	17:48	Génesis Guadalupe Ochoa Zamora. <i>Mexico.</i> C-O-4. Cyanobacterial blooms interannual variations in a Mexican tropical crater lake	Jennifer Medina Elizalde. <i>Mexico.</i> FMB-O-5. Effects of recurrent Harmful Algae Blooms in the Northern Gulf of California, Mexico	Tomas del Carmen Cuellar Martinez. <i>Peru.</i> SM-O-23. Potentially toxic phytoplankton in coastal bays along Peruvian coast
12	17:48	18:00	Els Faassen. <i>Netherlands.</i> C-O-5. Accumulation of cyanobacterial toxins in shellfish and irrigated crops	Kirsty Smith. FMB-O-3. New Zealand. Dynamics of historical dinoflagellate communities from regions experiencing novel blooms of <i>Alexandrium pacificum</i>	Questions and answers
12	18:00	18:15	Questions and answers	Questions and answers	
12	18:15	18:20	5 minute break		



			Cyanobacterial blooms	Ciguatera and benthic HABs	Surveillance and Management
			Chair: Oscar U. Hernández Almeida (Mexico)	Chair: Andres Seger (Australia)	Chairs: Gustaff Hallegraeff (Australia) and Benjamín Suárez (Chile)
			ROOM 1	ROOM 2	ROOM 3
12	18:20	18:32	Molly Miller. <i>United States.</i> C-O-6. Cyanobacterial harmful algal bloom dynamics in the northern Gulf of Mexico: Implications for coastal risk management	Shauna Murray. <i>Australia.</i> CB-O-16. <i>Gambierdiscus</i> species and ciguatoxins in eastern Australia in an era of ocean climate change	Benjamín A. Suarez-Isla. <i>Chile.</i> SM-O-25. A multi-year study on the detection and distribution of domoic acid contamination of shellfish in production areas from Los Lagos Region, Chile (2000-2021)
12	18:32	18:44	Forrest Lefler. <i>United States.</i> C-O-7. Tropical cyanobacterial diversity along a trophic gradient in the New River, Belize	Tomohiro Nishimura. <i>New Zealand.</i> CB-O-17. The benthic dinoflagellate genus <i>Prorocentrum</i> in Aotearoa/New Zealand coastal waters: genetic diversity, distribution, and diarrhetic shellfish toxin production	Anne-Sophie Pavaux. <i>France.</i> SM-O-27. Vertical distributions of <i>Ostreopsis</i> cf. <i>ovata</i> in NW Mediterranean Sea: impact on monitoring strategy
12	18:44	18:56	Ariel Kaminski. <i>Poland.</i> C-O-8. Phytoremediation of ANTX-a, CYN and MC-LR by the <i>Lemna trisulca</i> macrophyte	Hiroshi Funaki. <i>New Zealand.</i> CB-O-18. Using 18S rDNA metabarcoding to determine the vertical and horizontal distribution and diversity of <i>Gambierdiscus</i> spp. (Gonyaulacales) in Japan	Maximiliano Vergara-Jara. <i>Chile.</i> SM-O-28. Extraordinary <i>Heterosigma akashiwo</i> (Raphidophyte) 2021 bloom in Chile: large-scale farmed salmon mortality associated to unusual environmental conditions
12	18:56	19:08	Eleni Keliri. <i>Cyprus.</i> C-O-9. Occurrence of a single-species cyanobacterial bloom in a lake in Cyprus: monitoring and treatment with hydrogen peroxide releasing granules	Andreas Seger. <i>Australia.</i> CB-O-19. Overview of the Australian ciguatera poisoning research strategy and status update on implementation	Kyoko Yarimizu. <i>Japan.</i> SM-O-29. Harmful Algae Monitoring on San Jorge Bay in Antofagasta, Chile
12	19:08	19:20	Laura Biessy. <i>New Zealand.</i> C-O-10. Exploring the origin of tetrodotoxin (TTX) in New Zealand bivalves: could cyanobacteria be responsible?	Mireille Chinain. <i>French Polynesia.</i> CB-O-20. Global occurrences and trends of Ciguatera Poisoning (CP)	Po Teen Lim. <i>Malaysia.</i> SM-O-30. Monitoring of toxic dinoflagellate <i>Pyrodinium bahamense</i> and shellfish toxicity in Sabah



12	19:20	19:32	Malcolm Barnard. <i>United States.</i> C-O-11. Macronutrient and B vitamin dynamics of Chowan River (North Carolina, USA) CyanoHABs	Questions and answers	Natsuko Nakayama. Japan. SM-O-26. Evaluation of a virus-based control method reducing the damages by the harmful dinoflagellate <i>Heterocapsa circularisquama</i>
12	19:32	19:50	Questions and answers		Questions and answers
12	19:50	20:50	Poster session: Ciguatera and benthic HABs, FW and M biogeography, Cyanobacterial blooms		
			Meeting with the Poster authors		



DAY 3

DATE		TIME		ACTIVITY		
DAY	START	FINISH				
13	08:30	09:00	<p>Plenary talk. Christopher Whitehead <i>United States</i> Creating large multi-regional community partnerships to monitor Harmful Algal Blooms and shellfish toxins in Alaska Chairs: Beatriz Reguera (Spain) and Leonardo Guzmán (Chile)</p>			
				<p>HABs in a changing world</p> <p>Chair: Kathi Lefebvre (United States) and Allan Cembella (Germany)</p> <p>ROOM 1</p>	<p>Freshwater and marine HAB biogeography</p> <p>Chairs: Rafael Salas Gallardo (Ireland) and Ana Amorin (Portugal)</p> <p>ROOM 2</p>	<p>HAB prediction</p> <p>Chairs: Evangelos Spyarakos (Greece) Ernesto Mendoza (Mexico)</p> <p>ROOM 3</p>
13	09:05	09:17	<p>Raffaele Siano. <i>France</i>. CW-O-1. Single-cell microfluidics analyses on revived dinoflagellates reveal common adaptative strategies to decreasing phosphorus concentrations</p>	<p>Urban Tillmann. <i>Germany</i>. FMB-O-6. Distribution, abundance and toxin variability of azaspiracid producing Amphidomataceae in North Atlantic and North Sea waters</p>	<p>Martin Jacques-Coper. <i>Chile</i>. HP-O-7. Synoptic-to-intraseasonal modulation of phytoplankton abundance in the Inner Sea of Chiloé, northwestern Patagonia (42.5°-43.5°S)</p>	
13	09:17	09:29	<p>Karen Brandenburg. <i>Netherlands</i>. CW-O-2. Long-term impacts of combined global change drivers on harmful algal blooms in the North Sea</p>	<p>Vanessa M. Lopes. <i>Portugal</i>. FMB-O-7. Global biogeography of harmful algal bloom events</p>	<p>Kaytee Pokrzywinski. <i>United States</i>. HP-O-8. A mesoscale temporal assessment of a <i>Microcystis</i> sp. bloom using unmanned aircraft system (UAS) hyperspectral imagery and satellite-derived algorithms</p>	
13	09:29	09:41	<p>Silvia Casabianca. <i>Italy</i>. CW-O-3. Plastic-associated harmful phytoplankton assemblages in coastal and off-shore habitats of the Mediterranean Sea</p>	<p>Delfina Aguiar Juárez. <i>Argentina</i>. FMB-O-8. Diversity of HAB species in Samborombón Bay (Río de la Plata estuarine front, Buenos Aires, Argentina): first records and morphological description of ichthyotoxic species</p>	<p>Paul Dees. <i>United Kingdom</i>. HP-O-9. Pathways of harmful algae towards the Scottish Shetland Islands – An unexpected journey?</p>	

Special Session:
Control of
Cyanobacterial



13	09:41	09:53	Camilla Capelli. <i>Switzerland.</i> CW-O-5. Effects of thirty years of phosphorus reduction and climate change on <i>Planktothrix rubescens</i> (Cyanobacteria) in a deep lake south of the Alps (Lake Lugano, CH-IT)	Yelda Aktan Turan. <i>Turkey.</i> FMB-O-9. Does <i>Chrysothrix taylorii</i> Lewis & Bryan represent a threat for coastal ecosystems of Eastern Mediterranean?	Gemita Pizarro. <i>Chile.</i> HP-O-10. PST events and density of <i>Alexandrium catenella</i> at the Beagle Channel (55° S), a singular ecosystem
13	09:53	10:05	Deborah Knapp. <i>Switzerland.</i> CW-O-9. <i>Planktothrix rubescens</i> blooms triggered by stratification dynamics and irradiance	Bengt Karlson. <i>Sweden.</i> FMB-O-10. Biogeography and seasonal distribution of harmful algae in the Baltic Sea and the Kattegat-Skagerrak investigated using metabarcoding and microscopy	Questions and answers
13	10:05	10:20	Questions and answers	Questions and answers	
13	10:20	10:25	5 minute break		
			HABs in a changing world	Ichthyotoxic HABs	HAB prediction
			Chairs: Raffaele Siano (France) and Camila Capelli (Switzerland)	Chair: Ernesto Garcia (Mexico)	Chairs: Martín Jacques Coper (Chile)
			ROOM 1	ROOM 2	ROOM 3
13	10:25	10:37	Philipp Hess. <i>France.</i> CW-O-6. A decadal distribution of <i>Dinophysis</i> species and associated shellfish toxins in the Regional Seas of Europe (NE Atlantic, Mediterranean, North and Baltic Seas)	Elisabeth Varga. <i>Austria.</i> I-O-1. Insights into the toxicity of prymnesins, toxic metabolites of the microalgae <i>Prymnesium parvum</i>	Callum Whyte. <i>United Kingdom.</i> HP-O-11. HABreports.org: Operational Early warning system (EWS) for harmful algal blooms in Scotland



13	10:37	10:49	Francisco Rodríguez. <i>Spain.</i> CW-O-7. Bloom dynamics of an exceptional red tide of the toxigenic dinoflagellate <i>Alexandrium minutum</i> in a coastal upwelling system (Galician Rías, NW Spain)	Justine Castrec. <i>France.</i> I-O-2. Strain-specific effects of the toxic dinoflagellate <i>Alexandrium minutum</i> on Pacific oyster at various life stages: implication of bioactive extracellular compounds	Dave Clarke. <i>Ireland.</i> HP-O-12. Ireland's harmful algal bloom bulletin – short term predictive forecasting of HAB events and development of an Early Warning System
13	10:49	11:01	Kevin Drouet. <i>France.</i> CW-O-8. Biogeography and phenology variations of <i>Ostreopsis</i> spp. in temperate areas facing ocean warming	Bente Edvardsen. <i>Norway.</i> I-O-2. A study of the fish-killing <i>Chrysochromulina leabeateri</i> bloom in northern Norway, May-June 2019	James Fiorendino. <i>United States.</i> HP-O-13. Predicting <i>Dinophysis</i> Blooms in the Gulf of Mexico
13	11:01	11:13	Caroline Weber. <i>Denmark.</i> CW-O-19. Intraspecific variation in <i>Pseudo-nitzschia seriata</i> : Temperature effecting growth and toxicity	Zhuoyun Xu. <i>China.</i> I-O-4. ChHemolytic activity in relation to the photosynthetic system in <i>Chattonella marina</i>	Patricia Neira del Rio. <i>Ireland.</i> HP-O-14. PRIMROSE – Predicting Risk and Impact of Harmful Algal Events on the Aquaculture Sector
13	11:13	11:25	Javier Helenes. <i>Mexico.</i> CW-O-13. Response of dinoflagellate assemblages to climatic factors at the southern end of the California Current	Ana Flores. <i>Chile.</i> I-O-5. Phylogeny, lipid composition, pigment signature, ichthyotoxicity and growth of the fish-killer <i>Heterosigma akashiwo</i> from Chilean Patagonia	Victor Martinez Vicente. <i>United Kingdom.</i> HP-O-15. Sensitivity of a satellite algorithm for harmful algal bloom discrimination to the use of laboratory bio-optical data for training
	11:25	11:40	Questions and answers	Questions and answers	Questions and answers
13	11:40	12:40	Poster session: HABs in a changing world, Novel HAB Technologies, Taxonomy and Systematics, Ichthyotoxic HABs, HA biology		
13			Meeting with the Poster authors		
13	14:00	16:00	Special Session: NHABON-NE, a prototype node for a national HAB sensor network in the United States		



13	16:10	16:40	Plenary talk. Ernesto García Mendoza Mexico Socializing HABs knowledge, the Mexican Case Chairs: Aramis Olivos (Mexico) and David Rivas (Mexico)		
			HABs in a changing world	HA Ecology	HAB prediction
			Chairs: Gustaff Hallegraeff (Australia) and Hii Kieng Soon (Malaysia)	Chair: José Ake (Mexico) and Po Teen Lim (Malaysia)	Chairs: Timothy Wynne (United States) and Dave Clarke (Ireland)
			ROOM 1	ROOM 2	ROOM 3
13	17:00	17:12	Donald Anderson. United States. CW-O-11. Evidence for massive and recurrent toxic blooms of <i>Alexandrium catenella</i> in the Alaskan Arctic	Vishal Patil. China. E-O-21. Allelopathic inhibitory effect of the macroalga <i>Pyropia haitanensis</i> (Rhodophyta) on harmful bloom-forming <i>Pseudo-nitzschia</i> species	Evangelos Spyarakos. United Kingdom. HP-O-16. Optical properties and satellite detection of <i>Pseudo-nitzschia</i> spp. and <i>Alexandrium minutum</i>
13	17:12	17:24	Hii Kieng Soon. Malaysia. CW-O-12. Environmental effect on the harmful microalgae community assemblages in Johor Strait	José Antolín Aké-Castillo. Mexico. E-O-22. What have we learned about the <i>Peridinium quadridentatum</i> 's blooms in Veracruz, Mexico?	Pierre Gernez. France. HP-O-18. Remote sensing of ciliate cell number in red tides as pre-alert indicator of <i>Dinophysis</i> harmful algal blooms
13	17:24	17:36	Gustaaf Hallegraeff. Australia. CW-O-14. Are harmful marine microalgal blooms and their societal impacts increasing? A 30 year global data analysis	Maria Teresa Moita. Portugal. E-O-23. <i>Protoceratium reticulatum</i> bloom in NW Iberia mid-shelf waters	Richard Stumpf. United States. HP-O-4. Improving forecasts for <i>Karenia brevis</i> in the Gulf of Mexico.
13	17:36	17:48	Kathi Lefebvre. United States. CW-O-21. Paralytic Shellfish Toxins in Arctic food webs	Carlos Rodríguez. Mexico. E-O-24. Harmful phytoplankton species in coastal and deep waters around Cozumel, Mexican Caribbean	Cheryl Greengrove. United States. HP-O-20. Application of a quantitative molecular methods to characterize abundance and distribution of <i>Alexandrium</i> cysts for NOAA's HAB Forecasting
13	17:48	18:00	Questions and answers	Questions and answers	Questions and answers



13	18:00	18:05	5 minute break		
			HABs in a changing world	Ichthyotoxic HABs	Ciguatera and benthic HABs
			Chairs: Donald Anderson (United States) and José L. Peña (Mexico)	Chair: Ernesto García (Mexico)	Chair: Pat Tester (United States), Wyane Litaker (United States)
			ROOM 1	ROOM 2	ROOM 3
13	18:05	18:17	Shizuka Ohara. <i>Japan.</i> CW-O-16. Difference of the sensibility for anthropogenic chemicals, herbicides and antibiotics, between diatoms and harmful phytoflagellates	Rima L Beesoo. <i>France.</i> I-O-6. Ichthyotoxicity and underlying mechanisms of French <i>Karlodinium veneficum</i> strains using <i>in vitro</i> fish gill cell-based bioassays	Masao Adachi. <i>Japan.</i> CB-O-21. Determination of optimal culture conditions for toxin production by a <i>Prorocentrum lima</i> complex strain with a high yield of diarrhetic shellfish toxins
13	18:17	18:29	Patricio Díaz. <i>Chile.</i> CW-O-17. What factors control <i>Dinophysis acuta</i> population dynamics in the Chilean Fjords?	Allisson Astuya Villalón. <i>Chile.</i> I-O-7. <i>In vitro</i> evaluation of allelochemical compounds produced by two bloom-forming ichthyotoxic microalgae	Angel Ramón Moreira González. <i>Brazil.</i> CB-O-22. Morphology, growth, toxin production, and toxicity of cultured marine benthic dinoflagellates from Brazil and Cuba
13	18:29	18:41	Benjamin Kramer. <i>United States.</i> CW-O-18. Elevated pCO ₂ and temperature significantly enhance cyanobacterial N ₂ -fixation in eutrophic freshwater ecosystems	Arjun Verma. <i>Australia.</i> I-O-8. Phylogenetic characterization and inter-strain variability in toxicity of <i>Heterocapsa</i> spp. (Peridinales, Dinophyceae) from temperate south coast of Australia	Aramis Olivos-Ortiz. <i>Mexico.</i> CB-O-23. Perception of risk of ciguatera among coastal communities, naval military and biomedical personnel of Colima (Mexican Tropical Pacific)
13	18:41	18:53	Zhen Fei Lim. <i>Malaysia.</i> CW-O-15. DNA metabarcoding assessment on phytoplankton community and diversity from East Coast of Peninsular Malaysia	Sheryl Uncha. <i>Malaysia.</i> I-O-10. Morphology and molecular characterization of <i>Karlodinium australe</i> in Southern part of Malaysia water	Jose Ernesto Mancera Pineda. <i>Colombia.</i> CB-O-24. Influence of resources and regulators on potentially toxic benthic dinoflagellates abundance: evidence from different coastal system of Colombian Caribbean



13	18:53	19:05	Leonardo Guzmán. <i>Chile.</i> CW-O-20. Harmful Algal Blooms in a changing environment: <i>Alexandrium catenella</i> and Paralytic Shellfish Toxin for the past 50 years in Chile	Questions and answers	Lorena María Durán-Riveroll. <i>Mexico.</i> CB-O-25. Biodiversity, biogeography and chemical ecology of toxigenic benthic marine dinoflagellates from Mexican coastal waters
13	19:05	19:20	Questions and answers		Questions and answers
13	19:20	20:20	Poster session: HABs in a changing world, Novel HAB Technologies, Taxonomy and Systematics, Ichthyotoxic HABs, HA biology		
			Meeting with the Poster authors		



DAY 4

DATE	TIME		ACTIVITY									
	DAY	START		FINISH								
14	08:30	09:00	Plenary talk. Uwe John. <i>Germany</i> . From genes to ecosystems and back Chairs: Don Anderson (United States) and Satoshi Nagai (Japan)									
			<table border="1"> <thead> <tr> <th>Genomics</th> <th>Taxonomy and systematics</th> <th>Algal and cyanobacterial toxins</th> </tr> </thead> <tbody> <tr> <td>Chairs: Marina Montresor (Italy) and Armando Mendoza (Mexico)</td> <td>Chair: Nina Lundholm (Denmarck) and Urban Tillmann (Germany)</td> <td>Chair: Lorena Durán (Mexico) and Miguel A Martínez (Mexico)</td> </tr> <tr> <td>ROOM 1</td> <td>ROOM 2</td> <td>ROOM 3</td> </tr> </tbody> </table>	Genomics	Taxonomy and systematics	Algal and cyanobacterial toxins	Chairs: Marina Montresor (Italy) and Armando Mendoza (Mexico)	Chair: Nina Lundholm (Denmarck) and Urban Tillmann (Germany)	Chair: Lorena Durán (Mexico) and Miguel A Martínez (Mexico)	ROOM 1	ROOM 2	ROOM 3
Genomics	Taxonomy and systematics	Algal and cyanobacterial toxins										
Chairs: Marina Montresor (Italy) and Armando Mendoza (Mexico)	Chair: Nina Lundholm (Denmarck) and Urban Tillmann (Germany)	Chair: Lorena Durán (Mexico) and Miguel A Martínez (Mexico)										
ROOM 1	ROOM 2	ROOM 3										
14	09:05	09:17	<table border="1"> <tbody> <tr> <td> Wendy Wee. Malaysia. G-O-1. Assessment of Harmful Microalgal Assemblage in the Semerak Lagoon, Kelantan, Malaysia by 18S rDNA metabarcoding </td> <td> Nina Lundholm. Denmark. TA-O-1. Toxic diatoms in Antarctic waters? – diversity and toxicity </td> <td> Joana F. Leal. Portugal. ACT-O-6. Paralytic Shellfish Toxins: a complex group in constant (bio)transformation </td> </tr> <tr> <td> Cecilio Valadez-Cano. Canada. G-O-2. Coexistence of <i>Microcoleus</i> sp. genotypes with and without anatoxin-production potential in benthic mats from the Wolastoq (Saint John River, Canada) </td> <td> Sing Tung Teng. Malaysia. TA-O-2. Taxonomic investigation of <i>Pseudo-nitzschia pungens</i> varieties and proposal of a new species </td> <td> Mirjam Klijnstra. Netherlands. ACT-O-2. The occurrence of emerging marine toxins in shellfish from The Netherlands </td> </tr> <tr> <td> Lou Mary. France. G-O-3. Molecular mechanisms underlying the diversity of PST production in <i>A. minutum</i>: A genetic approach </td> <td> Sonia Quijano-Scheggia. Mexico. TA-O-3. Bloom of <i>Pseudo-nitzschia pungens</i> with the possible description of a new variety associated with a massive mortality event of fish and invertebrates </td> <td> Karl Dean. United Kingdom. ACT-O-3. Novel benthic vectors of paralytic shellfish toxins </td> </tr> </tbody> </table>	Wendy Wee. Malaysia. G-O-1. Assessment of Harmful Microalgal Assemblage in the Semerak Lagoon, Kelantan, Malaysia by 18S rDNA metabarcoding	Nina Lundholm. Denmark. TA-O-1. Toxic diatoms in Antarctic waters? – diversity and toxicity	Joana F. Leal. Portugal. ACT-O-6. Paralytic Shellfish Toxins: a complex group in constant (bio)transformation	Cecilio Valadez-Cano. Canada. G-O-2. Coexistence of <i>Microcoleus</i> sp. genotypes with and without anatoxin-production potential in benthic mats from the Wolastoq (Saint John River, Canada)	Sing Tung Teng. Malaysia. TA-O-2. Taxonomic investigation of <i>Pseudo-nitzschia pungens</i> varieties and proposal of a new species	Mirjam Klijnstra. Netherlands. ACT-O-2. The occurrence of emerging marine toxins in shellfish from The Netherlands	Lou Mary. France. G-O-3. Molecular mechanisms underlying the diversity of PST production in <i>A. minutum</i> : A genetic approach	Sonia Quijano-Scheggia. Mexico. TA-O-3. Bloom of <i>Pseudo-nitzschia pungens</i> with the possible description of a new variety associated with a massive mortality event of fish and invertebrates	Karl Dean. United Kingdom. ACT-O-3. Novel benthic vectors of paralytic shellfish toxins
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14	09:41	09:53	Emma Johansson. <i>Sweden.</i> G-O-4. Analysis of mcy genes in a <i>Microcystis</i> population reveals a systematic pattern of gene loss in non microcystin-producing strains	Percopo Isabella. <i>Italy.</i> TA-O-4. Phenological segregation suggests speciation by time in the cryptic marine diatom <i>Pseudo-nitzschia allochroa</i> sp. nov.	Romulo Araoz. <i>France.</i> ACT-O-4. Bioaccumulation and mode of action of 28-O-palmitoyl ester of pinnatoxin-G and portimine-A on nicotinic acetylcholine receptors
14	09:53	10:05	Charles Tilney. <i>United States.</i> G-O-5. Functional and phylogenetic comparisons of the chloroplast transcriptomes in <i>Karenia</i> and <i>Takayama</i> from the Gulf of Mexico	Questions and answers	Nathalie Arnich. <i>France.</i> ACT-O-5. Guidance value for brevetoxins in French shellfish
14	10:05	10:20	Questions and answers		Questions and answers
14	10:20	10:25	5 minute break		
			Genomics	Taxonomy and systematics	Algal and cyanobacterial toxins
			Chairs: Karen Rengefors (Sweden) and Armando Mendoza (Mexico)	Chairs: Yuri Okoldkov (Mexico) and Sonia Quijano (Mexico)	Chairs: Bernd Krock (Germany) and Stefano Accoroni (Italy)
			ROOM 1	ROOM 2	ROOM 3
14	10:25	10:37	Katelyn McKindles. <i>United States.</i> G-O-6. Metagenomic comparison of <i>Planktothrix agardhii</i> isolates from a Lake Erie embayment	Wayne Litaker. <i>United States.</i> TA-O-5. Using molecular criteria when describing dinoflagellate species	Bernd Krock. <i>Germany.</i> ACT-O-16. Chasing a moving target: The intriguing diversity of goniodomins
14	10:37	10:49	Amandine Caruana. <i>France.</i> G-O-7. Is sxtA4 gene discriminative for toxic <i>Alexandrium</i> species? What can we learn from its variability in copy number, expression and transcript isoform associated with toxin content?	Luciano Felicio Fernandes. <i>Brazil.</i> TA-O-6. Diversity and production of diarrhetic shellfish toxins by benthic <i>Prorocentrum</i> species from Brazil	Gorenka Bojadzija Savic. <i>France.</i> ACT-O-11. Naturally released metabolites of <i>Microcystis aeruginosa</i> impact on <i>Daphnia magna</i>



14	10:49	11:01	Mariella Ferrante. Italy. G-O-8. Life cycle controls in the planktonic diatom <i>Pseudo-nitzschia multistriata</i>	Rafael Gallardo Salas. Ireland. T-O-7. Diversity and distribution of non-toxicogenic species of <i>Azadinium</i>	Luciana Tartaglione. Italy. ACT-O-19. A new un-targeted data dependent acquisition-based approach for the identification of unknown fast-acting toxins and their metabolites in Mediterranean shellfish
14	11:01	11:13	Anusuya Willis. Australia. G-O-9. Long-term stability of genome structure of <i>Dolichospermum</i> spp. in Lake Stechlin, Germany	Veronique Sechet. France. TA-O-8. Characterization of toxin-producing strains of the <i>Dinophysis acuminata</i> -complex, <i>D. acuta</i> , <i>D. caudata</i> and <i>D. tripos</i> isolated from French coastal waters	Maria João Botelho. Portugal. ACT-O-19. Biochemical performance of cockles, mussels and razor shells contaminated by paralytic shellfish toxins
14	11:13	11:25	Satoshi Nagai. Japan. G-O-10. Genetic analysis revealed large genetic breaks among Pacific Rim populations in <i>Alexandrium catenella</i>	Questions and answers	Questions and answers
14	11:25	11:40	Questions and answers		
14	11:40	12:40	Poster session: Toxicology, Microbiomes, Algal and cyanobacterial toxins, Genomics		
14			Meeting with the Poster authors		
14	14:00	16:00	Special Session: HAB Early Warning Systems		
14	16:10	16:40	Plenary talk. Mitsunori Iwataki Japan Taxonomy and phylogeny of unarmored dinoflagellates in the Kareniaceae found from Asian Pacific Chairs: Wayne Litaker (United States) and Chui Pin Leaw (Malaysia)		



			Toxicology	Taxonomy and systematics	Algal and cyanobacterial toxins
			Chairs: Ernesto García (Mexico) and Jose Bustillos (Mexico)	Chairs: Sing Tung Teng (Malaysia) and Satoshi Nagai (Japan)	Chairs: Aifeng Li (China) and Mathias Schramm (Brazil)
			ROOM 1	ROOM 2	ROOM 3
14	17:00	17:12	Riju Roy Chowdhury. <i>Czech Republic.</i> T-O-1. Exploring the possibility of the steatogenic potential of cyanotoxins using 3D <i>in vitro</i> liver model	Christopher Bolch. <i>Australia.</i> TA-O-9. New potentially toxic epiphytic dinoflagellates from the Great Barrier Reef, Australia	Beach Daniel. <i>Canada.</i> ACT-O-13. High-throughput analysis of anatoxins in benthic cyanobacterial mat field samples by direct analysis in real time-high resolution tandem mass spectrometry (DART-HRMS/MS)
14	17:12	17:24	Vicki Richardson. <i>United States.</i> T-O-2. Characterization of Microcystin-Induced Toxicity on Primary Human Hepatocytes	Shihan Shan. <i>China.</i> TA-O-10. A rapid fluorescence approach on differentiation of typical dinoflagellate of East China Sea	Stuart Oehrle. <i>United States.</i> ACT-O-26. UPLC/MS/MS detection for the analysis of cyanobacterial toxins in recreational waters...expanded toxins
14	17:24	17:36	Denis Servent. <i>France.</i> T-O-4. Pinnatoxins, an emergent class of marine toxins interacting with nAChRs. Pharmacological characterization, biodistribution and musculo-skeletal effect of these neurotoxic agents	Liz Evelyn Romero Guardamino. <i>Peru.</i> TA-O-11. Harmful algal bloom of dinoflagellate <i>Blixaea quinquecornis</i> (Abé) Gottschling in bays of North-Central Peru	Mari Yotsu-Yamashita. <i>Japan.</i> ACT-O-10. Hemiaminal type saxitoxin analogues found in the scallop, <i>Patinopecten yessoensis</i>
14	17:36	17:48	Arturo Picones. <i>Mexico.</i> T-O-5. Cytotoxicity of dinoflagellates from the Mexican Pacific Ocean: Inhibition of hNav1.7 by Saxitoxin, a therapeutically relevant sodium ion channel	Ignacio Leyva Valencia. <i>Mexico.</i> TA-O-12. Molecular identification of <i>Alexandrium pseudogonyaulax</i> from Bahía de La Paz, Mexico	Estela Pires. <i>Brazil.</i> ACT-O-17. Oxidative stress in marine annelids (<i>Laeonereis acuta</i>) induced by short-term exposure to <i>Prorocentrum</i> cf. <i>lima</i>



14	17:48	18:00	Leila Basti. <i>Japan</i> . T-O-16. Ichthyotoxicity of mixed blooms of <i>Dinophysis</i> , <i>Alexandrium</i> and <i>Cochlodinium</i>	Kazuya Takahashi. <i>Japan</i> . TA-O-13. Morphology, pigment composition and phylogeny of an unarmored dinoflagellate <i>Gertia</i> sp., a peridinin-containing species in the Kareniaceae	Questions and answers
14	18:00	18:15	Questions and answers	Questions and answers	
14	18:15	18:20	5 minute break		
			HAB prediction	Taxonomy and systematics	Algal and cyanobacterial toxins
			Chair: Clarissa Anderson (United States)	Chairs: Christopher Bolch (Australia) and Sonia Quijano (Mexico)	Chairs: Shauna Murray (Australia) and Estela Pires (Brazil)
			ROOM 1	ROOM 2	ROOM 3
14	18:20	18:32	Rafaela C. Cruz. <i>Portugal</i> . HP-O-21. Forecasting biotoxin contamination in mussels via artificial neural network modelling	Afiqah Hamilton Hanifah. <i>Malaysia</i> . TA-O-14. Morphology and molecular characterization of <i>Heterocapsa</i> (Dinophyceae) from Malaysian water, with the description of three novel species	Aifeng Li. <i>China</i> . ACT-O-1. Spatial distribution and tracing source of phycotoxins in the South China Sea, China
14	18:32	18:44	Bruna Sobrinho. <i>United States</i> . HP-O-22. Time series analysis of the <i>Karenia brevis</i> blooms in western Florida and its correlated parameters	Wai Mun Lum. <i>Japan</i> . TA-O-15. Morphology and phylogeny of an undescribed suessiacean dinoflagellate from a tidal pool in Japan	Zabrina Bernice Malto. <i>Philippines</i> . ACT-O-18. UPLC-MS/MS-based metabolomics and molecular networking reveal the chemical arsenal of three <i>Gambierdiscus</i> strains from the Philippines
14	18:44	18:56	Jose Maria Giron Sierra. <i>Spain</i> . HP-O-23. Intelligent ASVs to explore water bodies and support HABs detection, prediction and early warning	Amanda Goulart. <i>Brazil</i> . TA-O-16. Genetic characterization of <i>Prorocentrum lima</i> species complex strains from coastal and oceanic areas in Brazil	Alescia Cullen. <i>Australia</i> . ACT-O-16. The regulation and expression of cylindrospermopsin by the cyanobacteria <i>Raphidiopsis raciborskii</i> AWT205



14	18:56	19:08	Marta Konik. <i>Poland.</i> HP-O-25. Recent advances in the long-term satellite monitoring of the cyanobacteria blooms in the Baltic Sea	Alexis Escarcega. <i>Mexico.</i> TA-O-17. Morphological and molecular diversity of athecate dinoflagellates from Bahia Todos Santos, Baja California, Mexico	Yuko Cho. <i>Japan.</i> ACT-O-17. Localization of the saxitoxin biosynthetic enzyme, SxtA, in the <i>Alexandrium</i> chloroplasts, and its mutations in mRNA 3'UTR might lead toxicity reduction in a non-toxic mutant
14	19:08	19:20	Questions and answers	Nursyahida Abdullah. <i>Malaysia.</i> TA-O-18. Morphology and molecular characterization of <i>Alexandrium pseudogonyaulax</i> from Malaysian Borneo, with descriptions of two new species	Jiangbing Qiu. <i>China.</i> ACT-O-20. Response of fatty acids and lipid metabolism enzymes during accumulation, depuration and esterification of diarrhetic shellfish toxins in mussels (<i>Mytilus galloprovincialis</i>)
14	19:20	19:35		Questions and answers	Questions and answers
14	19:35	20:35	Poster session: Toxicology, Microbiomes, Algal and cyanobacterial toxins, Genomics		
			Meeting with the Poster authors		



Day 5

DATE	TIME		ACTIVITY									
	DAY	START		FINISH								
15	08:30	09:00	Plenary talk. Alexandra Worden. <i>Germany/United States</i> . Cell-to-Cell interactions in the Sea Chairs: John Uwe (Germany) and Nina Lundholm (Denmarck)									
			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">HA Biology</th> <th style="width: 33%;">HA Microbiomes</th> <th style="width: 33%;">Toxicology</th> </tr> </thead> <tbody> <tr> <td>Chairs: Beatriz Reguera (Spain) and Christine Band (Mexico)</td> <td>Chair: Lorena Durán (Mexico)</td> <td>Chairs: Jordi Molgo (France) and Jose Bustillos (Mexico)</td> </tr> <tr> <td>ROOM 1</td> <td>ROOM 2</td> <td>ROOM 3</td> </tr> </tbody> </table>	HA Biology	HA Microbiomes	Toxicology	Chairs: Beatriz Reguera (Spain) and Christine Band (Mexico)	Chair: Lorena Durán (Mexico)	Chairs: Jordi Molgo (France) and Jose Bustillos (Mexico)	ROOM 1	ROOM 2	ROOM 3
HA Biology	HA Microbiomes	Toxicology										
Chairs: Beatriz Reguera (Spain) and Christine Band (Mexico)	Chair: Lorena Durán (Mexico)	Chairs: Jordi Molgo (France) and Jose Bustillos (Mexico)										
ROOM 1	ROOM 2	ROOM 3										
15	09:05	09:17	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 33%; vertical-align: top;"> <p>Michael Brosnahan. <i>United States</i>. B-O-1. Cyst dormancy cycling controls <i>Alexandrium catenella</i> bloom termination in the Nauset Marsh estuary</p> </td> <td style="width: 33%; vertical-align: top;"> <p>Michèle Gourmelon. <i>France</i>. M-O-1. History of a couple: <i>Alexandrium minutum</i> and its associated bacterium in both natural and cultivated populations</p> </td> <td style="width: 33%; vertical-align: top;"> <p>Marco Pelin. <i>Italy</i>. T-O-6. Gene expression of the Na⁺/K⁺-ATPase β2 subunit isoform correlates with cells sensitivity to palytoxin: an <i>in vitro</i> toxicogenetic study</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>Alexis Fischer. <i>United States</i>. B-O-2. Degree day-based cyst germination rates and in situ germling production of <i>Alexandrium catenella</i></p> </td> <td style="vertical-align: top;"> <p>Ávila Andrés. <i>Chile</i>. M-O-2. Long-term composition of 16S-based bacterial communities associated with algal bloom events in northern Chile</p> </td> <td style="vertical-align: top;"> <p>Lenka Šindlerová. <i>Czech Republic</i>. T-O-7. Environmental samples of LPS isolated from fresh water HABs as well as LPS from axenic cyanobacterial cultures activate proinflammatory effects in keratinocytes and immune cells</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>Paulo Vale. <i>Portugal</i>. B-O-3. Physical factors and production of saxitoxin analogues in <i>Gymnodinium catenatum</i> and <i>Alexandrium pacificum</i> cultures</p> </td> <td style="vertical-align: top;"> <p>Miguel Martinez-Mercado. <i>Mexico</i>. M-O-3. Comparison of bacterial communities, core microbiota and metabolic potential among geographically distinct populations of the benthic dinoflagellate <i>Prorocentrum lima</i></p> </td> <td style="vertical-align: top;"> <p>Valerie Fessard. <i>France</i>. T-O-8. Toxicity of palytoxin, ovatoxin-a, ovatoxin-d and extracts of <i>Ostreopsis cf. ovata</i> on a panel of cell cultures</p> </td> </tr> </tbody> </table>	<p>Michael Brosnahan. <i>United States</i>. B-O-1. Cyst dormancy cycling controls <i>Alexandrium catenella</i> bloom termination in the Nauset Marsh estuary</p>	<p>Michèle Gourmelon. <i>France</i>. M-O-1. History of a couple: <i>Alexandrium minutum</i> and its associated bacterium in both natural and cultivated populations</p>	<p>Marco Pelin. <i>Italy</i>. T-O-6. Gene expression of the Na⁺/K⁺-ATPase β2 subunit isoform correlates with cells sensitivity to palytoxin: an <i>in vitro</i> toxicogenetic study</p>	<p>Alexis Fischer. <i>United States</i>. B-O-2. Degree day-based cyst germination rates and in situ germling production of <i>Alexandrium catenella</i></p>	<p>Ávila Andrés. <i>Chile</i>. M-O-2. Long-term composition of 16S-based bacterial communities associated with algal bloom events in northern Chile</p>	<p>Lenka Šindlerová. <i>Czech Republic</i>. T-O-7. Environmental samples of LPS isolated from fresh water HABs as well as LPS from axenic cyanobacterial cultures activate proinflammatory effects in keratinocytes and immune cells</p>	<p>Paulo Vale. <i>Portugal</i>. B-O-3. Physical factors and production of saxitoxin analogues in <i>Gymnodinium catenatum</i> and <i>Alexandrium pacificum</i> cultures</p>	<p>Miguel Martinez-Mercado. <i>Mexico</i>. M-O-3. Comparison of bacterial communities, core microbiota and metabolic potential among geographically distinct populations of the benthic dinoflagellate <i>Prorocentrum lima</i></p>	<p>Valerie Fessard. <i>France</i>. T-O-8. Toxicity of palytoxin, ovatoxin-a, ovatoxin-d and extracts of <i>Ostreopsis cf. ovata</i> on a panel of cell cultures</p>
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15	09:41	09:53	Pamela Carbonell. <i>Chile.</i> B-O-4. Physiological, genetic and toxicological variabilities in <i>Alexandrium catenella</i> strains from southern Chile (41°– 55°S)	Cong Fei. <i>United States.</i> M-O-4. Microbial population dynamics and diversity during a toxic <i>Karenia</i> bloom	Carmen Osorio. <i>Mexico.</i> T-O-9. Molecular interactions of yessotoxin in the voltage-gated sodium channel Nav1.5: an <i>in silico</i> biomedical approach
15	09:53	10:05	Francesco Cipolletta. <i>Italy.</i> B-O-5. Potentially toxic microalgae and their toxins in the Gulf of Naples (Mediterranean Sea)	Keizo Nagasaki. <i>Japan.</i> M-O-5. Harmful algae are fished by virus with baits?	Francesco Misurale. <i>Italy.</i> T-O-10. Investigating human and environmental risk of <i>Ostreopsis ovata</i> and <i>Prorocentrum lima</i> by an integrated <i>in vitro</i> approach
15	10:05	10:20	Questions and answers	Questions and answers	Questions and answers
15	10:20	10:25	5 minute break		
			Novel HAB technologies	HA Microbiomes	Toxicology
			Chairs: Lisa Campbell (United States) and Deane Erdner (Unites States)	Chairs: Andrés Ávila (Chile) and Miguel Angel Martinez (Mexico)	Chairs: Paulo Vale (Portugal) and Jose Bustillos (Mexico)
			ROOM 1	ROOM 2	ROOM 3
15	10:25	10:37	Gregory Doucette. <i>United States.</i> NT-O-1. Co-deployed, advanced sensor technologies yield unprecedented insight into <i>Pseudo-nitzschia</i> toxicity and growth dynamics in Gulf of Maine, U.S.A.	Adam Antosiak. <i>Poland.</i> M-O-7. The potential of cyanophages to modulate photosynthesis in bloom-forming cyanobacteria	Ophélie Pierre. <i>France.</i> T-O-11. Sensitization of receptors and ion channels, mediating pain and pruritus in sensory neurons, by the Pacific-ciguatoxin-2 and the Brevetoxin-1
15	10:37	10:49	Linda Medlin. <i>United Kingdom.</i> NT-O-2. Advances in the detection of toxic algae using electrochemical biosensors	Sebastien Halary. <i>France.</i> M-O-8. Micro-scale genomic diversity of the bloom-forming cyanobacterium <i>Aphanizomenon gracile</i> in a drop of water	Javiera De la Paz. <i>Chile.</i> T-O-12. Negative impacts of lipophilic toxins on zebrafish development, immune system and tissue regeneration



15	10:49	11:01	Nicolaus Adams. <i>United States.</i> NT-O-3. Near real-time surveillance of harmful algae and their toxins in dynamic coastal shelf environments using the environmental sample processor	Ingrid Sassenhagen. <i>Sweden.</i> M-O-9. Parasites impacting community composition in diatom spring blooms	Joanna Kershaw. <i>United Kingdom.</i> T-O-13. Temporal and spatial exposure of fish from Scottish coastal waters to domoic acid and paralytic shellfish toxins
15	11:01	11:13	Mònica Campàs. <i>Spain.</i> NT-O-4. Smart biosensors for the detection of ciguatoxins	Boo Seong Jeon. <i>Korea.</i> M-O-10. Biology of four Perkinsozoan parasitoids infecting marine dinoflagellates: an indispensable prerequisite for use as a biological control agent	Sarah Finch. <i>New Zealand.</i> T-O-14. Sub-chronic feeding study of saxitoxin using mice
15	11:13	11:25	Robert Hatfield. <i>United Kingdom.</i> NT-O-5. The application of Nanopore sequencing to the study of phytoplankton. All the thrills with smaller bills.	Questions and answers	José Bustillos Guzmán. <i>Mexico.</i> T-O-15. Effect of dissolved metabolites of <i>Gymnodinium catenatum</i> (Graham, 1943) on the shrimp <i>Litopenaeus vannamei</i> (Boone, 1931): A histological study
15	11:25	11:40	Questions and answers		Questions and answers
15	11:40	12:40	Poster session: all topics		
15	13:00:00	13:30:00	Plenary talk. Jorge Mardones Chile Chile: causes, impact and management of a "hot spot" for toxic algal blooms Chairs: Iwataki Mitsunori (Japan) and Luis Mafra Jr (Brazil)		



			HA Biology	Algal and cyanobacterial toxins
			Chairs: Pamela Carbonell (Chile) and Alexis Fischer (United States)	Chairs: Pearce McCarron (Canada) and José Bustillos (Mexico)
			ROOM 1	ROOM 2
15	13:35	13:47	Armando Mendoza Flores. <i>Mexico.</i> B-O-6. The effects of the light intensity on the growth of <i>Amphidinium</i> sp. (Dinophyceae)	Vasconcelos Vitor. <i>Portugal.</i> ACT-O-12. Biodiversity, toxicity and biotechnological potential of cyanobacteria from Cabo Verde islands
15	13:47	13:59	Xue Yang. <i>China.</i> B-O-7. Interaction between the green macroalga <i>Ulva prolifera</i> and three microalgae and effects of decaying <i>Ulva prolifera</i> on the photosynthesis and antioxidant system of microalgae	Kathleen Rein. <i>United States.</i> ACT-O-18. Contrasting high and low toxin strains of the Florida red tide dinoflagellate <i>Karenia brevis</i> by redox proteomics reveals differences in protein expression and global disparities in cysteine oxidation
15	13:59	14:11	Joseph Kihika. <i>New Zealand.</i> B-O-8. Cryopreservation of three morphologically different marine dinoflagellates: <i>Vulcanodinium rugosum</i> , <i>Alexandrium pacificum</i> and <i>Durusdinium trenchii</i>	Manoëlla Sibat. <i>France.</i> ACT-O-19. Molecular networking as a novel approach to investigate the toxin diversity of harmful microalgal species of the genera <i>Dinophysis</i> and <i>Azadinium</i>
15	14:11	14:23	Caitlin Romanis. <i>Australia.</i> B-O-9. Strategies for <i>in vitro</i> <i>Microcystis</i> bloom propagation and community analysis	Jessica Gwinn. <i>United States.</i> ACT-O-20. <i>In vitro</i> glucuronidation of Caribbean ciguatoxins (C-CTX-1/-2) in reef fish: First identification of conjugated CTX metabolites by UPHLC-HRMS(/MS)
15	14:23	14:35	Ryoko Yano. <i>Japan.</i> B-O-10. The combination of oligotrophication and strong light leads to fading diatoms and blooms of <i>Chattonella marina</i> var. <i>antiqua</i>	Emilie Lance. <i>France.</i> T-O-3. Response of the metabolome of <i>Dreissena polymorpha</i> exposed to four strains of the cyanobacteria <i>Microcystis aeruginosa</i> producing microcystins together or not emerging cyanopeptides
15	14:35	14:50	Questions and answers	Questions and answers
15			5 minute break	



			Wellness of aquatic communities	Emerging issues
			Chair: Mary Carmen Ruiz (Mexico)	Chair: David Rivas (Mexico) and Christine Band (Mexico)
			ROOM 1	ROOM 2
15	14:55	15:07	Vera Trainer. <i>United States.</i> W-O-1. Inclusive partnerships for forecasting and managing HAB risk in coastal communities	Ian Jenkinson. <i>France.</i> EI-O-1. Harmful or beneficial algae? How organic matter secreted by plankton and neuston algae, including that in the surface microlayer and in sea foam, may be participating in climate regulation
15	15:07	15:19	Harianne Gasmen. <i>Philippines.</i> W-O-2. Towards a participatory science: Collaborative risk assessment for people-centered HABS early warning system in Philippines	Diana Souza Moura. <i>Scotland.</i> EI-O-2. Potentially toxic plastic particles: Microplastics as a vector of microcystins
15	15:19	15:31	Sergio Alvarez. <i>United States.</i> W-O-3. From Bloom to Bust: The footprint of economic and social turbulence due to Florida Red Tide (<i>Karenia brevis</i>)	Mathias Schramm. <i>Brazil.</i> EI-O-3. First evidence for the implication of palytoxin-like compounds in a Haff disease outbreak
15	15:31	15:43	Kazumi Wakita. <i>Japan.</i> W-O-4. Shiohigari and paralytic shellfish toxin: Backgrounds and realities of mitigation measures taken at recreational clam picking parks in Osaka prefecture	José Luis García-Corona. <i>France.</i> EI-O-4. <i>In situ</i> detection of the phycotoxin domoic acid in bivalve tissues: deciphering the subcellular mechanisms involved in its retention in the king scallop <i>Pecten maximus</i>
15	15:43	15:55	Silvia Ramírez. <i>Mexico.</i> W-O-5. A ten-year experience co-creating sustainable development in the fishing community “El Manglito” in La Paz, B.C.S., Mexico	Ichiro Imai. <i>Japan.</i> EI-O-5. Anoxic water masses in small ports and inner bays are the possible incubator of harmful algal blooms
15	15:55	16:10	Questions and answers	Questions and answers
15	16:10		Closing ceremony	

