ICHA 2023

HAB Science and Human Well-being

PROGRAM BOOK

20th International Conference on Harmful Algae

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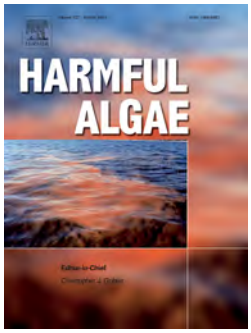

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“The International Society for the Study of Harmful Algae”
(ISSHA)

CONTENTS

WELCOME MESSAGE FROM ICHA 2023 CHAIR

As the global outbreak of the novel coronavirus (COVID -19) has finally calmed down, we are pleased to announce the hosting of ICHA 2023 in Hiroshima, bringing together more than 500 participants from 40 countries around the world for the first time in five years. The Local Organizing Committee (LOC) and the Scientific Committee (SC) of ICHA 2023 would like to express our sincere gratitude to the ISSHA executives and participants for their various forms of cooperation.

During the preparation of the ICHA 2023, the LOC has been facing some difficulties on the COVID19 pandemic and rising prices in the world. In this exceptional situation, we sincerely appreciate that ISSHA members could understand giving up online and in person hybrid meetings, that was initially announced by the LOC, and holding in-person meetings, exclusively.

The people of Japan have a long history of intimate ties with the coastal environment which is defined by the concept of "Sato-Umi" whereby biological productivity and biodiversity have been nourished through the intimate interactions of humans with their coastal ecosystems. The theme of the conference will be "HAB Science and Human Well-being". The goal is to exchange relevant scientific information towards a greater understanding of HAB mechanisms, better and timely predictions of HAB occurrences and mitigating their negative impacts.

In addition to the Opening Lecture and 9 Plenary Lectures, there will be 216 oral presentations, 199 poster presentations, and 45 ignite talks on 16 different topics (Ecology, Biology and biogeography, Community/Species interactions, Taxonomy, Microbiomes and omics, Prediction and modeling, Monitoring and mitigation, Ciguatera and benthic HABs, Ichthyotoxic HABs, Cyanobacterial HABs, Toxins, Biosynthesis and detection methods, Toxicology, Surveillance and management, HABs in a changing world, Socio-economic impacts, Emerging issues).

We ensure that the ICHA 2023 will make a significant contribution to the scientific knowledge on harmful algae, and we sincerely hope that all participants will thoroughly enjoy their experiences in the International City of Peace, Hiroshima, along with Japanese cuisines and Sake.

Finally, we extend our deep appreciation to Dr. Wayne Litaker, our ISSHA president, for the tremendous support provided over the past year in the preparation for ICHA 2023.

Ichiro Imai

Chair of ICHA 2023
Hiroshima, Japan

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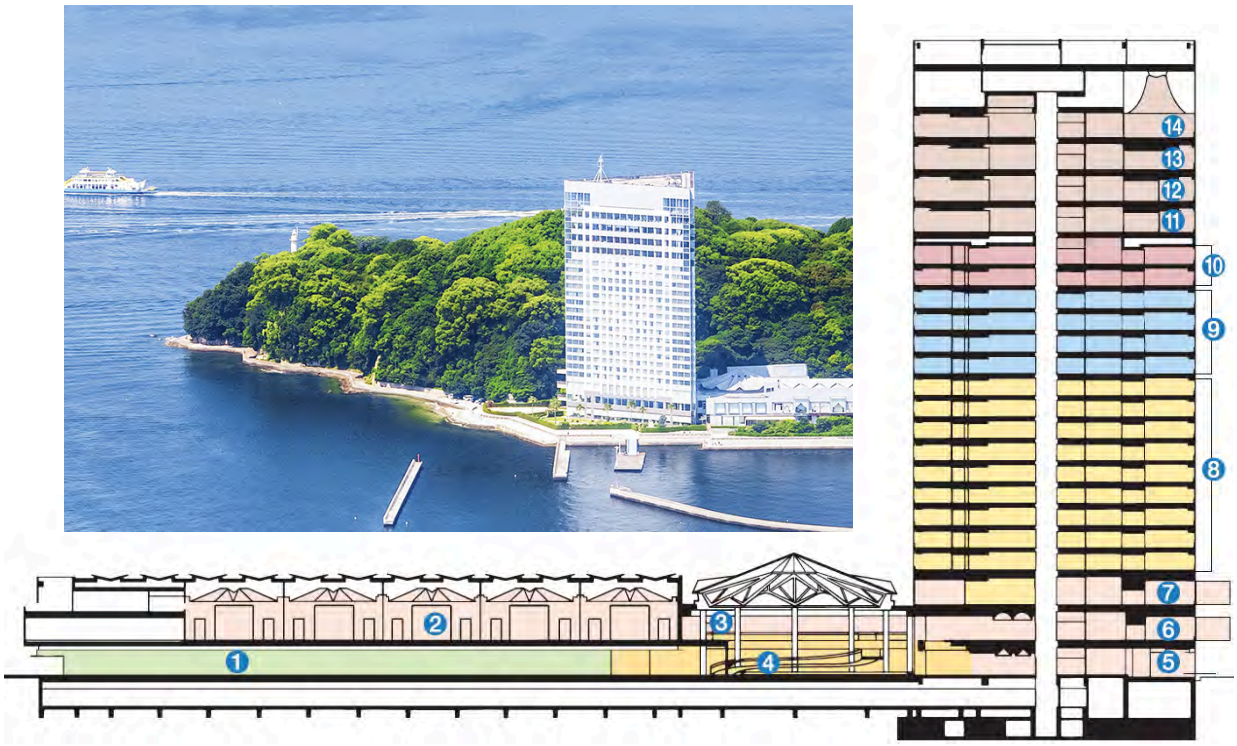
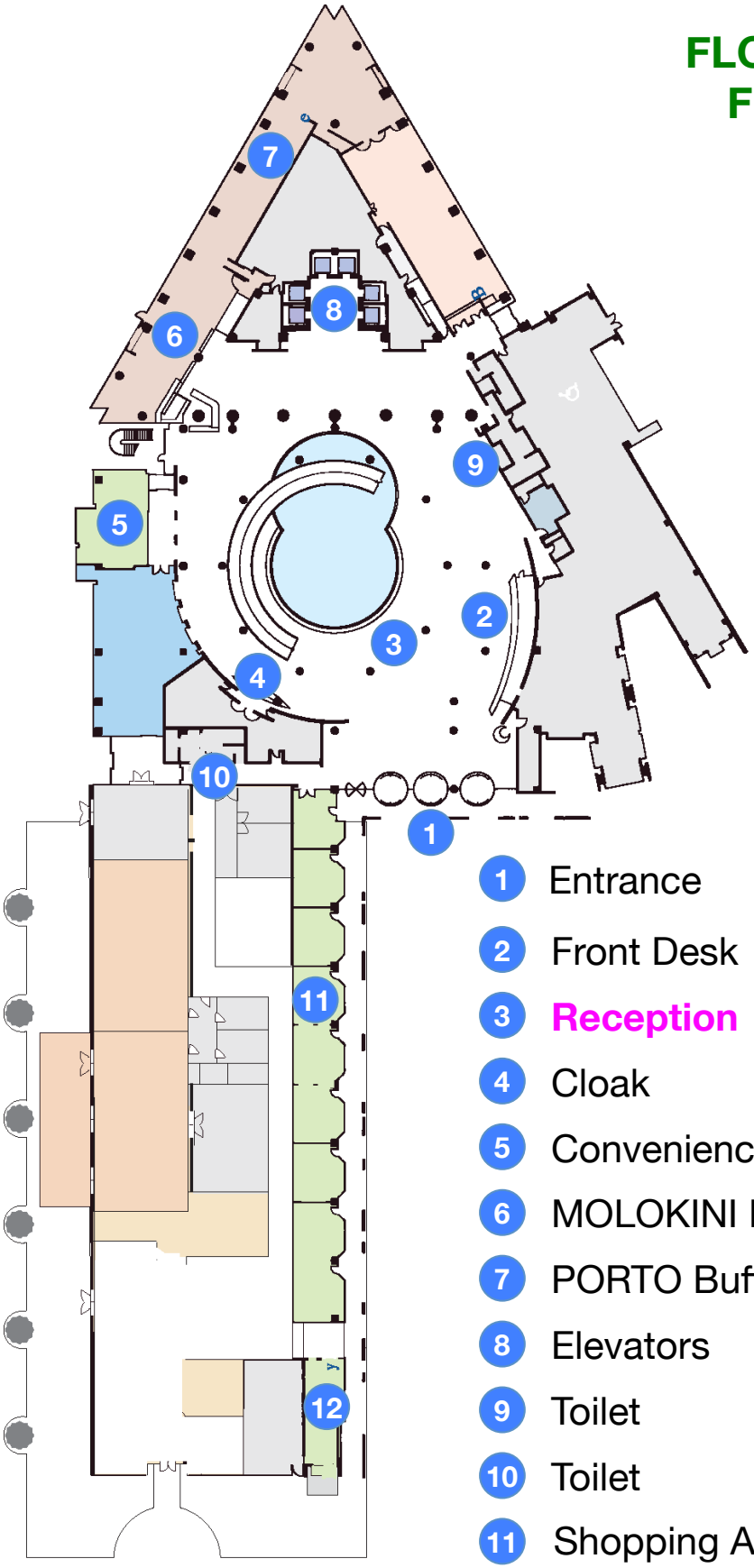
GRAND PRINCE HOTEL HIROSHIMA

FLOORPLANS Cross-sectional View



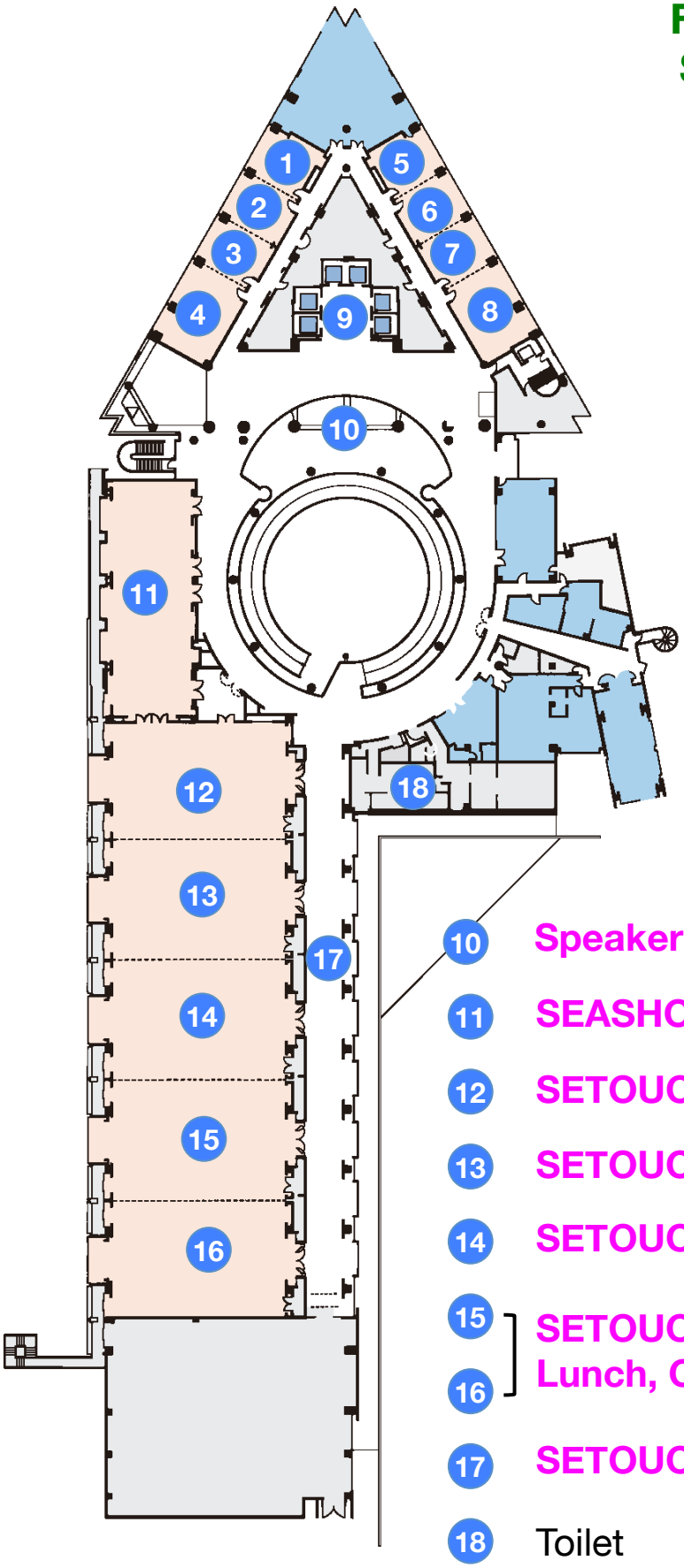
1. 1F Shopping Center
   KAKKUN 'Okonomiyaki'
   Japanese-Style Pancakes
2. 2F SETOUCHI
3. 2F SEASHORE
4. 1F Entrance Hall
   Front Desk
   Convenience Shop
5. 1F MOLOKINI Lounge
   PORTO Buffet Restaurant
6. 2F Small Banquet Rooms
7. 3F Hot-Spring SETO-NO-YU
   SPA THE BLUE PRINCE
   Fitness Gym-Studio
8. 4F-12F Guest Rooms
9. 14F-17F Guest Rooms
   PREMIUM RESORT
   FLOOR
10. 18F・19F Guest Rooms
    PRINCE CLUB FLOOR
11. 20F NADAMAN
    Japanese Restaurant
12. 21F RIHO Chinese
    Restaurant
13. 22F BOSTON
    Steak & Seafood
    Restaurant
14. 23F TOP OF HIROSHIMA
    Sky Lounge

FLOORPLANS
First Floor



1. Entrance
2. Front Desk
3. **Reception**
4. Cloak
5. Convenience Shop
6. MOLOKINI Lounge
7. PORTO Buffet Restaurant
8. Elevators
9. Toilet
10. Toilet
11. Shopping Arcade
12. Kakkun Hiroshima Style Okonomiyaki

FLOORPLANS
Second Floor



1 SHIOSAI

2 RURI

3 SANGO
(ISSHA Staff Room)

4 SHINJU
(LOC Staff Room)

5 KIUN

6 GEKKO

7 KONPEKI

8 HISHO

9 Elevators

10 Speaker Preview Desk

11 SEASHORE (Poster)

12 SETOUCHI 1 (Oral)

13 SETOUCHI 2 (Oral)

14 SETOUCHI 3 (Oral)

15, 16 SETOUCHI 4&5 (Exhibition, Lunch, Coffee Break)

17 SETOUCHI LOBBY (Poster)

18 Toilet

SCHEDULE AT A GLANCE

SESSION CODES
OL: Opening Lecture, PL: Plenary Session,
PS: Parallel Session, IT: Ignite Talk Session, W: Workshop

Sunday 5 November

14:00-15:00	Welcome of participants	
15:00 15:30 18:00 18:30	ISSHA Council Meeting SHINJU	Young Investigator Networking Session HISHO & KONPEKI
18:30-19:00	Break	
19:00-20:00	Ice Breaker SETOUCHI 4&5	

Monday 6 November			
8:00	Welcome of participants		
9:15-10:00	Opening Ceremony SETOUCHI 1&2		
10:00-10:30	OL: Yasuwo Fukuyo What conditions caused naughty algal blooms to turn into harmful ones? SETOUCHI 1&2		
10:30-11:00	Coffee Break SETOUCHI 4&5		
11:00-12:30	PS01 Taxonomy SETOUCHI 1	PS02 Community/Species interactions SETOUCHI 2	PS03 Ciguatera and Benthic HABs SETOUCHI 3
12:30-12:45 12:45 13:45 13:45-14:00	Lunch Break SETOUCHI 4&5		W01* SETOUCHI 3 W02* KIUN
14:00-15:30	PS04 Taxonomy SETOUCHI 1	PS05 Community/Species interactions SETOUCHI 2	PS06 Ciguatera and Benthic HABs SETOUCHI 3
15:30-15:45	Break		
15:45-17:00	IT1 SETOUCHI 1	IT2 SETOUCHI 2	IT3 SETOUCHI 3
17:00-17:30	Coffee Break SETOUCHI 4&5		
17:30-19:00	Poster Session 1 SEASHORE, SETOUCHI LOBBY		

19:00-20:30	**ISSHA General Assembly** **SETOUCHI 1&2**
20:30-21:00	**Presentation of the ICHA 2025 venue** **SETOUCHI 1&2**

＊Workshop 01
Microbiome Data Resources Available to the Harmful Algal Bloom Research Community through the National Microbiome Data Collaborative (NMDC)

＊Workshop 02
IOC/WESTPAC-HAB Workshop: Mitigation and Management of Harmful Algal Blooms in the Western Pacific

Tuesday 7 November

8:00	**Welcome of participants**		
9:00-9:30	**PL01 Kirsty Smith** **HABs in Aotearoa: climate change, high-tech solutions and kaitiakitanga** **SETOUCHI 1&2**		
9:30-10:00	**PL02 Po Teen Lim** **Harmful Algal Blooms (HABs) in the Tropics: What have we learned in Malaysia for the past two decades?** **SETOUCHI 1&2**		
10:00-10:30	**PL03 Masao Adachi** **Are members of the genus *Gambierdiscus* responsible for ciguatera poisoning in coastal Japan?** **SETOUCHI 1&2**		
10:30-11:00	**Coffee Break** **SETOUCHI 4&5**		
11:00-12:30	**PS07** **Biology and Biogeography** **SETOUCHI 1**	**PS08** **Ichthyotoxic HABs** **SETOUCHI 2**	**PS09** **HABs in a Changing World** **SETOUCHI 3**
12:30-12:45 12:45 13:45 13:45-14:00	**Lunch Break** **SETOUCHI 4&5**		**W03*** **SETOUCHI 3**
14:00-15:30	**PS10** **Biology and Biogeography**	**PS11** **Ichthyotoxic HABs**	**PS12** **HABs in a Changing World** **SETOUCHI 3**
	Prediction and Modeling **SETOUCHI 1**	**Toxicology** **SETOUCHI 2**	
15:30-16:00	**Coffee Break** **SETOUCHI 4&5**		

16:00-17:30	PS13 Prediction and Modeling SETOUCHI 1	PS14 Toxicology SETOUCHI 2	PS15 HABs in a Changing World SETOUCHI 3
17:30-19:00	Poster Session 2 SEASHORE, SETOUCHI LOBBY		
19:00-20:30	Welcome Party SETOUCHI 4&5		

* Workshop 03
IOC-UNESCO workshop: Toxin database workshop

Wednesday 8 November			
8:00	Welcome of participants		
9:00-9:30	PL04 Esther Garcés The significance of parasitic interactions in the ecology of harmful microalgae SETOUCHI 1&2		
9:30-10:00	PL05 Luiz L Mafra Jr Can plastic pollution amplify the spread of toxins from benthic microalgae through the food web? SETOUCHI 1&2		
10:00-10:30	PL06 Zhiming Yu Technology and progress of using modified clay to control HABs in China SETOUCHI 1&2		
10:30-11:00	Coffee Break SETOUCHI 4&5		
11:00-12:30	PS16 Ecology SETOUCHI 1	PS17 Monitoring and Mitigation SETOUCHI 2	PS18 Emerging Issues SETOUCHI 3
12:30-13:00	Break		
13:00-19:00	Half-day Excursions		

Thursday 9 November			
8:00	**Welcome of participants**		
9:00-9:30	**PL07 Mari Yamashita Chemical studies on biosynthetic and metabolic pathways of marine toxins SETOUCHI 1&2**		
9:30-10:00	**PL08 Dedmer van de Waal Global change and harmful cyanobacterial blooms: from scientific insights to societal impacts SETOUCHI 1&2**		
10:00-10:30	**PL09 Vera Trainer Lessons from *Pseudo-nitzschia* around the World SETOUCHI 1&2**		
10:30-11:00	**Coffee Break SETOUCHI 4&5**		
11:00-12:30	**PS19 Ecology SETOUCHI 1**	**PS20 Monitoring and Mitigation SETOUCHI 2**	**PS21 Toxins, Biosynthesis and Detection Methods SETOUCHI 3**
12:30-12:45 12:45 13:45 13:45-14:00	**Lunch Break SETOUCHI 4&5**		**W04* SETOUCHI 3**
14:00-15:30	**PS22 Ecology SETOUCHI 1**	**PS23 Monitoring and Mitigation SETOUCHI 2**	**PS24 Toxins, Biosynthesis and Detection Methods SETOUCHI 3**
15:30-15:45	**Break**		

15:45-17:15	PS25 Ecology SETOUCHI 1	PS26 Monitoring and Mitigation SETOUCHI 2	PS27 Toxins, Biosynthesis and Detection Methods SETOUCHI 3
17:15-17:45	Coffee Break SETOUCHI 4&5		
17:45-19:15	PS28 Ecology SETOUCHI 1	PS29 Monitoring and Mitigation SETOUCHI 2	PS30 Cyanobacterial HABs SETOUCHI 3
19:15-19:30	Break		
19:30-21:00	ISSHA Auction SETOUCHI 1&2		

∗ Workshop 04
IOC Harmful Algal Information System (HAIS) Workshop: The Power of Big Data for HAB Seafood Risk Assessment and Predicting HAB Futures

Friday 10 November			
8:00	Welcome of participants		
9:00-10:30	PS31 Microbiomes and Omics SETOUCHI 1	PS32 Surveillance and Management SETOUCHI 2	PS33 Cyanobacterial HABs SETOUCHI 3
10:30-11:00	Coffee Break SETOUCHI 4&5		
11:00-12:30	PS34 Microbiomes and Omics SETOUCHI 1	PS35 Surveillance and Management Socio-economic Impacts SETOUCHI 2	PS36 Cyanobacterial HABs SETOUCHI 3
12:30-12:45 12:45 13:45 13:45-14:00	Lunch Break SETOUCHI 4&5	W05* SETOUCHI 3	
14:00-15:00	Closing Ceremony SETOUCHI 1&2		
15:00-16:00	Free Time		
16:00-22:00	Gala Dinner		

* Workshop 05
Current and Future Cyanotoxin Toxicity Research for Public Health Risk Assessment

DETAILED SCIENTIFIC PROGRAM

Monday 6 November 2023

9:15-10:00 **Opening Ceremony** — **SETOUCHI 1&2**

10:00-10:30 **Opening Lecture** — **SETOUCHI 1&2**

OL	Chairs: Øjvind Moestrup (Denmark) Mitsunori Iwataki (Japan)
	Yasuwo Fukuyo (Japan) **What conditions caused naughty algal blooms to turn into harmful ones?**

10:30-11:00 Coffee Break — **SETOUCHI 4&5**

11:00-12:30 Parallel Sessions

Parallel Session 01: Taxonomy — **SETOUCHI 1**

Session chairs: Nina Lundholm (Denmark)
Urban Tillmann (Germany)

11:00 **O-001** Samantha Patricia C. Esteban (Philippines)

New records of three raphidophytes in Philippines: Taxonomic identification and phylogeographic insights

11:15 **O-002** Muhammad Izzat Nugraha (Japan)

Genetic differentiation between red and green types of *Noctiluca scintillans* in Jakarta Bay, Indonesia

11:30 **O-003** Jing Hu (China)

Phylogenomic analysis of the genus *Brasilonema* (Nostocales, Cyanobacteria) with the descriptions of two novel species: *B. kendallianum* sp. nov., *B. urbanum* sp. nov.

11:45 **O-004** Katherine M. Roche (United States)

Influx of toxin-producing *Pseudo-nitzschia* from the Northeast continental shelf to an east coast US estuary

12:00	**O-005** Xianyao Zheng (China) Key biosynthesis processes of proteins containing neurotoxin β-*N*-methylamino-*L*-alanine in the endoplasmic reticulum of marine diatoms
12:15	**O-006** Kaiqi Lang (China) Rapid classification of harmful algae using holographic microscopy

Parallel Session 02: Community/Species interactions	**SETOUCHI 2**
Session chairs: Alexis Fischer (United States) Albert Reñé (Spain)	
11:00	**O-007** Martin Fernando Encinas-Yanez (Mexico) Free fatty acids and reactive oxygen species as potential allelopathic substances affecting *Gymnodinium catenatum* (Gymnodiniales: Gymnodiniaceae)
11:15	**O-008** Nadia V. Herrera-Herrera (Mexico) Allelopathic effect on competition between the epibenthic dinoflagellates *Amphidinium thermaeum* and *Coolia malayensis* in laboratory conditions
11:30	**O-009** Yeongji Oh (Republic of Korea) Allelopathic interactions of *Margalefidinium polykrikoides* with coexisting species, with an emphasis on marine heatwave
11:45	**O-010** Anna J. Olesen (Denmark) Unraveling energy allocation and predator interactions in toxic diatoms: Insights into *Pseudo-nitzschia* ecological dynamics
12:00	**O-011** Ivan Vlasicek (Croatia) Cluster analysis reveals different HAB-related species assemblages in the northern Adriatic
12:15	**O-012** Yuan Huang (China) Growth and morphological responses of *Dolichospermum flos-aquae* to grazing by protists

Parallel Session 03: Ciguatera and Benthic HABs	**SETOUCHI 3**
Session chairs: Mònica Campàs (Spain) Wayne Litaker (United States)	
11:00	**O-013** J. Sam Murray (New Zealand) Discovering bioactive compounds produced by toxic *Gambierdiscus* species

11:15	**O-014** Tomohiro Nishimura (Japan) Effects of temperature, salinity, and their interactions on growth and ciguatoxin production, of the benthic dinoflagellate *Gambierdiscus polynesiensis*
11:30	**O-015** Dana K. Briscoe (New Zealand) Mapping the predicted distribution of the benthic dinoflagellate *Gambierdiscus polynesiensis* after forecasted global warming in New Zealand
11:45	**O-016** Jorge Diogène (Spain) A multi-disciplinary mid-term evaluation of the impact of climate change on the occurrence of ciguatera in the Balearic Islands Archipelago
12:00	**O-017** Alison Robertson (United States) Toxicokinetic mechanisms and food web dynamics of Caribbean ciguatoxins
12:15	**O-018** Marie-Yasmine Dechraoui Bottein (France) Benthic harmful algal blooms in the Mediterranean Sea and the tropics: drawing from similarities and differences

12:30-14:00 Lunch Break — **SETOUCHI 4&5**

12:45-13:45	**Workshop 01**	**SETOUCHI 3**
	Chair: Anders Kiledal (United States)	
	Microbiome data resources available to the harmful algal bloom research community through the national microbiome data collaborative (NMDC)	

12:45-13:45	**Workshop 02**	**KIUN**
	Chairs: Kazumi Wakita (Japan) **Lim Po Teen (Malaysia)**	
	IOC/WESTPAC-HAB workshop: Mitigation and management of harmful algal blooms in the Western Pacific	

14:00-15:30 Parallel Sessions

Parallel Session 04: Taxonomy	**SETOUCHI 1**
Session chairs: Haifeng Gu (China) Mitsunori Iwataki (Japan)	

14:00	**O-019** Ignacio Leyva-Valencia (Mexico) Morphological and molecular taxonomy of epibenthic dinoflagellates from the Gulf of California
14:15	**O-020** Kazuya Takahashi (Japan) Plastid molecular phylogeny of the unarmored dinoflagellate family Kareniaceae suggests multi-parallel haptophyte symbioses
14:30	**O-021** Masafumi Natsuike (Japan) A possible new dinoflagellates species in the family Ceratoperidiniaceae causing brick-red discoloration of the cultured yesso scallops in northern Japan
14:45	**O-022** Urban Tillmann (Germany) Morphology, biology and taxonomy of goniodomin-producing *Alexandrium* species: what we know and what we don´t
15:00	**O-023** Nagore Sampedro (Spain) Exploring the diversity of small *Heterocapsa* species (Dinophyceae) in the NW Mediterranean
15:15	**O-024** Nina Lundholm (Denmark) New toxins and toxic species - and what about their names? – News from the IOC- taxonomic reference list group

Parallel Session 05: Community/Species interactions	**SETOUCHI 2**
Session chairs: Takashi Kamiyama (Japan) An Suk Lim (Republic of Korea)	
14:00	**O-025** Zhaoyang Chai (China) Two consequential changes in eukaryotic plankton diversity pertinent to occurrence and absence of HABs
14:15	**O-026** Hao Guo (China) Characteristics and patterns of HABs in China coastal waters during the last 20 years
14:30	**O-027** Christine J. Band-Schmidt (Mexico) Allelopathy in marine dinoflagellates. What have we learned?
14:45	**O-028** Shoko Ueki (Japan) Characterization of marine bacteria that support growth of *Heterosigma akashiwo* under phosphate-limiting conditions

15:00	**O-029** Albert Reñé (Spain) The interactions among marine fungal chytrids and blooming dinoflagellates
15:15	**O-030** Shigekatsu Suzuki (Japan) Bacterial effect on red tide formation caused by *Karenia selliformis* on the coast of Hokkaido, Japan

Parallel Session 06: Ciguatera and Benthic HABs	**SETOUCHI 3**
Session chairs: Marie-Yasmine Dechraoui Bottein (France) Sam Murray (New Zealand)	
14:00	**O-031** Christopher R. Loeffler (Germany) Dereplication of *Gambierdiscus balechii* extract for toxin screening
14:15	**O-032** Elizabeth M. Mudge (Canada) Stereochemical diversity of Caribbean ciguatoxin analogues
14:30	**O-033** Mònica Campàs (Spain) Rapid and sensitive detection of ciguatoxins with a single-step immunosensing strategy
14:45	**O-034** Lisbet Diaz-Asencio (Cuba) One decade of efforts toward addressing the risk of ciguatera in the Caribbean: the Cuban experience
15:00	**O-035** Stefano Accoroni (Italy) *Ostreopsis* cf. *ovata* trend along the Conero Riviera (northern Adriatic Sea) over two decades
15:15	**O-036** Luisa Mangialajo (France) The role of habitat dynamics in the facilitation of *Ostreopsis* spp. blooms

15:30-15:45 Break **SETOUCHI 4&5**

15:45-17:00 Ignite Talk Sessions

Ignite Talks Session 1	**SETOUCHI 1**
Session chairs: Keizo Nagasaki (Japan) Goh Nishitani (Japan)	

15:45 **P-001** Evangeline Fachon (United States)

Life cycle dynamics of *Alexandrium catenella* during a large-scale Bering Strait bloom event

15:50 **P-002** Haruo Yamaguchi (Japan)

Effects of temperature and salinity on growth of *Karenia mikimotoi* and *Karenia papilionacea* cultures

15:55 **P-003** Milad Pourdanandeh (Sweden)

Copepod chemical cues induce toxin formation in two species of *Dinophysis*

16:00 **P-004** Sang Ah Park (Republic of Korea)

Effects of intrusion and retreat of deep cold waters on the red tides species in the South Sea of Korea

16:05 **P-005** Dóra Vig (Australia)

The largest recorded *Alexandrium pacificum* bloom in south-eastern Australia: toxicity and impacts

16:10 **P-006** Hyun Jun Yang (Republic of Korea)

Effect of harmful algae on the ephyrae of the moon jellyfish *Aurelia aurita*

16:15 **P-054** Ye Seul Jeong (Republic of Korea)

Development, phylogeny, and host range of a novel *Phagomyxa*-like parasitoid infecting marine dinoflagellates

16:20 **P-055** Sara Harðardóttir (Iceland)

Taxonomy and phylogeny of *Pseudo-nitzschia* in Iceland

16:25 **P-056** Kimverly T. Leseguis (Philippines)

First report of *Coolia* sp., an epibenthic dinoflagellate from Cancabato Bay, Tacloban City Philippines

16:30 **P-057** Xiaotian Han (China)

Classification and morphology of nano-flagellates collected from Jiaozhou Bay

16:35 **P-127** Toshiaki Yokozeki (Japan)

Evaluation of differences in acid stability of ciguatoxin congeners from the Pacific by LC-MS/MS

16:40 **P-128** Jens Wira (United States)

Shedding light on *Gambierdiscus*: Diel patterns and their interspecies variability

16:45	**P-129** Goshi Araki (Japan) Accumulation of ciguatoxins in herbivorous fish and their diet in Japan
16:50	**P-130** Laura Pezzolesi (Italy) Depth distribution of benthic harmful dinoflagellate assemblages in Madeira Island: implication in view of climate changes

Ignite Talks Session 2	**SETOUCHI 2**
Session chairs: Hiroshi Shimada (Japan) Masafumi Natsuike (Japan)	
15:45	**P-032** Kazumasa Yamada (Japan) Effects of silicate on growth, morphology and life-cycle switching in silicoflagellates
15:50	**P-069** Juri Nazareth Mapa Ochotorena (Philippines) Temporal diversity and co-occurrence of dominant viruses and their potential phytoplankton hosts in coastal waters in western Philippines
15:55	**P-071** Bryan Plankenhorn (United States) Exploring global gene expression & metabolite production in Narragansett Bay *Pseudo-nitzschia* isolates under nutrient limiting conditions
16:00	**P-072** E. Anders Kiledal (United States) *Microcystis* strain dynamics throughout seven years of Lake Erie harmful algal blooms
16:05	**P-073** Hyun-Jung Kim (Republic of Korea) Ecological diversity of harmful algae-attached bacteria in the southern coastal ecosystem, South Korea
16:10	**P-094** Amparo Alfonso (Spain) New strategies for marine and freshwater toxins mitigation
16:15	**P-095** Denise Ching Yi Yu (Singapore) Harmful hitchhikers on marine plastics in Singapore
16:20	**P-096** Emily Jolly (United States) Life without Chargaff's rules: Thymine dioxygenase as a proposed enzyme for the synthesis of 5-hydroxymethyl uracil in dinoflagellates
16:25	**P-097** Hannah McGrath (United States) Long-term harmful algae bloom (HAB) monitoring in Monterey Bay, California, USA

16:30	**P-098** Jennifer H. Toyoda (United States)
	Modified clays remove *Karenia brevis* cells and decrease brevetoxin concentrations throughout the water column
16:35	**P-153** Savannah Sarkis (Netherlands)
	Combined effects of CO_2 and nitrogen on the ecophysiology of a toxic cyanobacterium
16:40	**P-154** Masaki Fujita (Japan)
	Taxonomy, function, and molecular mechanisms of the algicidal bacterium, *Pseudomonas* sp. Go58, derived from water-plant biofilm
16:45	**P-155** Kunihiro Okano (Japan)
	Survival and chronological changes of blue-green algae in the sediment core from Lake Hachiro, Japan
16:50	**P-156** D. Y. Huang (Canada)
	The occurrence of cyanobacterial toxins in Alberta recreational waters

Ignite Talks Session 3	**SETOUCHI 3**
Session chairs: Ryoji Matsushima (Japan) Ryuichi Watanabe (Japan)	
15:45	**P-040** Shotaro Midorikawa (Japan)
	Development of a long-term preservation method for the parasitic dinoflagellate *Amoebophrya* sp. by infecting the genus *Alexandrium*
15:50	**P-041** Steven Jing-Liang Xu (Hong Kong, China)
	Inhibition mechanism and dose effect of mangrove leaves on harmful algae in coastal South China
15:55	**P-085** Edson Silva (Norway)
	Probabilistic models for harmful algae detection: Application to the Norwegian coast
16:00	**P-141** Mathias Fon (Norway)
	Using high-throughput techniques to understand the growth of the fish-killing haptophyte *Chrysochromulina leadbeateri* in northern Norway
16:05	**P-142** Alexander Brevis-Valdebenito (Chile)
	Analytical strategy based on extraction, bioassay and untargeted LC-MS analysis for the determination of neurotoxins in Raphidophyceae *Heterosigma akashiwo*

16:10 **P-168** Jennifer Cordoza (United States)

Mechanistic insights into a divergent PLP-dependent arginine cyclase from a toxic cyanobacterium

16:15 **P-192** Yongmeng Yang (China)

Effects of lipophilic phycotoxin okadaic acid on the early development and transcriptional expression of marine medaka *Oryzias melastigma*

16:20 **P-193** Nour Ayache (United States)

Crassostrea virginica early life stage survival and toxin accumulation after exposure to different *Dinophysis* species

16:25 **P-194** Loïc Plessis (France)

Portimine from *Vulcanodinium rugosum* induces severe pyroptosis in primary skin cells through ribotoxic stress response (RSR)

16:30 **P-195** M. Carmen Louzao (Spain)

Toxicity and depuration of okadaic acid in mice exposed by voluntary feeding

16:35 **P-203** Keigo Yamamoto (Japan)

Annual changes in the occurrence of vegetative cells and abundance of cysts of *Alexandrium catenella* and *A. pacificum* in Osaka Bay, Japan

16:40 **P-204** Giorgia Zoffoli (Italy)

Biotoxins profile in mussels of the Northern-Central Adriatic Sea in the last decade (2012-2022): major contamination events and correlation with toxic phytoplankton

16:45 **P-216** Suzanne de Zwaan (Netherlands)

Adding a paleo-perspective to harmful algal blooms (HABs) along the West Florida Coast: Assessing the influence of anthropogenic factors

16:50 **P-217** Hiroshi Funaki (Japan)

Vertical distribution of HAB cysts in the sediment of Uranouchi Inlet using metabarcoding

16:55 **P-218** Sara T. Costa (Portugal)

Plastics as a new vector for marine toxins

17:00-17:30 Coffee Break **SETOUCHI 4&5**

17:30-19:00 **Poster Session-1** **SEASHORE & SETOUCHI LOBBY**

19:00-20:30 **ISSHA General Assembly** — **SETOUCHI 1&2**

20:30-21:00 **Presentation of the ICHA 2025 venue** — **SETOUCHI 1&2**

Tuesday 7 November 2023

9:00-10:30 **Plenary Session** — **SETOUCHI 1&2**

9:00		Chairs: Shauna Murray (Australia) Sam Murray (New Zealand)
	PL01	**Kirsty Smith (New Zealand)** **HABs in Aotearoa: climate change, high-tech solutions and kaitiakitanga**
9:30		Chairs: Wayne Litaker (United States) Haifeng Gu (China)
	PL02	**Po Teen Lim (Malaysia)** **Harmful algal blooms (HABs) in the tropics: What have we learned in Malaysia for the past two decades?**
10:00		Chair: Vera L. Trainer (United States) Tomohiro Nishimura (Japan)
	PL03	**Masao Adachi (Japan)** **Are members of the genus *Gambierdiscus* responsible for ciguatera poisoning in coastal Japan?**

10:30-11:00 Coffee Break — **SETOUCHI 4&5**

11:00-12:30 Parallel Sessions

Parallel Session 07: Biology and Biogeography	**SETOUCHI 1**
Session chairs: Christine Band-Schmidt (Mexico) Satoshi Nagai (Japan)	

11:00	**O-037** Jorge Gerardo Pichardo-Velarde (Mexico) A review of *Alexandrium* genus around the Mexican Pacific coasts with an approach to its molecular taxonomy and toxicology in Mazatlán Bay, Sinaloa
11:15	**O-038** Shauna A. Murray (Australia) Speciation and evolution of cryptic species of *Alexandrium, Centrodinium* and PST production
11:30	**O-039** Haifeng Gu (China) Metabarcoding revealed a high diversity of Amphidomataceae (Dinophyceae) and the seasonal distribution of their toxigenic species in the Taiwan Strait
11:45	**O-040** Shota Higo (Japan) The effect of light intensity for the growth, vertical distribution and photosynthesis of *Karenia mikimotoi*
12:00	**O-041** Aitor Laza-Martinez (Spain) On the morphological and phylogenetic diversity of cryptophytes of the *Teleaulax-Plagioselmis-Geminigera* clade and the species identity of kleptoplastids from *Dinophysis*
12:15	**O-042** Ying Zhong Tang (China) Discover novel resting cyst-producers in dinoflagellates with multiple approaches

Parallel Session 08: Ichthyotoxic HABs	**SETOUCHI 2**
Session chairs: Leonardo Guzmán (Chile) Sing Tung Teng (Malaysia)	
11:00	**O-043** Gustaaf M. Hallegraeff (Australia) Global socio-economic impacts from fish-killing algal blooms: A roadmap towards more effective management and mitigation
11:15	**O-044** Young Kyun Lim (Republic of Korea) The dual-face impact of marine heatwaves on the blooms of harmful dinoflagellate *Margalefidinium* (=*Cochlodinium*) *polykrikoides* in Korean coastal waters
11:30	**O-045** Fred Wang-Fat Lee (Hong Kong, China) Interplay between ichthyotoxic dinoflagellate *Karenia mikimotoi* and marine bacteria isolated from blooming water and cultivable phycoshere

11:45	**O-046** Joo-Hwan Kim (Republic of Korea) Comprehensive understanding of the life history of *Heterosigma akashiwo* (Raphidophyceae): Integrating *in situ* and *in vitro* observations
12:00	**O-047** Mengmeng Tong (China) Regulation of photosynthetic and hemolytic activity of *Phaeocystis globosa* under different light spectra
12:15	**O-048** Elisabeth Varga (Austria) Massive fish killing in the River Oder in Poland/Germany in summer 2022 – deciphering the disaster and insights into toxicity

Parallel Session 09: HABs in a Changing World	SETOUCHI 3
Session chairs: Marc Suddleson (United States) Mark Wells (United States)	
11:00	**O-049** Bradley Paine (Australia) Long term *Alexandrium* cyst and *sed*aDNA record in a 9000-year sediment core from east coast Tasmania, Australia
11:15	**O-050** So Hyun (Sophia) Ahn (United States) Photo-physiology and mixotrophic grazing by dinoflagellate *Karenia brevis* on *Synechococcus* with different quality
11:30	**O-051** Adam Lewis (United Kingdom) Evaluating the potential future impacts of *Ostreopsis* cf. *ovata* via controlled experimental exposure of naïve shellfish from Great Britain
11:45	**O-052** Julia Baer (United States) Investigating the molecular and physiological responses of temperature-adapted toxic *Pseudo-nitzschia* to ocean warming
12:00	**O-053** Ma. Eugenia Zamudio Reseniz (Mexico) Study of bloom-causing species in Acapulco Bay over a 20-year period (2000-2023)
12:15	**O-054** Sinuhé Hernández-Márquez (Mexico) Analysis of harmful algal blooms in the Mexican Tropical Pacific: A remote sensing approach

12:30-14:00 Lunch Break SETOUCHI 4&5

12:45-13:45 **Workshop 03** — **SETOUCHI 3**

Chairs: John Ramsdell (United States)
Philipp Hess (France)
Christopher Miles (Canada)

IOC-UNESCO Workshop: Toxin Database Workshop

14:00-15:30 Parallel Sessions

Parallel Session 10: Biology and Biogeography/ Prediction and Modeling — **SETOUCHI 1**

Session chairs: Wai Mun Lum (Japan)
Yoichi Miyake (Japan)

14:00 **O-055** Bengt Karlson (Sweden)

Light microscopy and metabarcoding of 16S and 18S reveals the distribution of harmful algae in a salinity gradient from the Baltic Sea to the Kattegat-Skagerrak, NE Atlantic

14:15 **O-056** Kazuhiro Yoshida (Japan)

Species-specific seasonal distribution of *Skeletonema* resting cells in coastal sediments

14:30 **O-057** Satoshi Nagai (Japan)

Comparative genome and transcriptome analyses in the cosmopolitan diatom genus *Skeletonema*

14:45 **O-058** Tim M. Szewczyk (United Kingdom)

Probabilistic weekly risk forecasts for harmful algal blooms and associated biotoxins using ensembles of machine learning and multi-level Bayesian models

15:00 **O-059** David Ralston (United States)

Projecting climate change influences on *Alexandrium catenella* in the Gulf of Maine

15:15 **O-060** Goh Onitsuka (Japan)

Accumulations of flagellates caused by interactions between vertical swimming and physical processes in the upper ocean

Parallel Session 11: Ichthyotoxic HABs/Toxicology — **SETOUCHI 2**

Session chairs: Luis Botana (Spain)
Shauna Murray (Australia)

14:00	**O-062** Kristof Möller (Germany)
	Ichthyotoxicity of the harmful dinoflagellate *Alexandrium pseudogonyaulax* and predator-prey interactions with the copepod *Acartia tonsa*
14:15	**O-063** Sing Tung Teng (Malaysia)
	Morphology, molecular phylogeny, and ichthyotoxicity of naked dinophytes *Karlodinium* species from Malaysia
14:30	**O-064** Hongyan Xu (China)
	Allelopathy of *Skeletonema costatum* on *Karenia mikimotoi* in laboratory cultures: Physiological parameters and transcriptome profiling analysis
14:45	**O-065** Leila Basti (Japan, UAE)
	Toxicity of *Dinophysis* spp.: Conventional toxin productions and negative impacts on bivalves from monoclonal cultures and feeding experiments
15:00	**O-066** Hélène-Christine Prause (Austria)
	Investigating the *in-vitro* toxicity mechanisms of prymnesins from *Prymnesium parvum*

Parallel Session 12: HABs in a Changing World	**SETOUCHI 3**
Session chairs: Haruo Yamaguchi (Japan) Rencheng Yu (China)	
14:00	**O-067** Francisco Rodríguez (Spain)
	A spring toxic red tide of *Alexandrium minutum* in the Rías Baixas (NW Iberian Peninsula, Spain): is this the new normal?
14:15	**O-068** Donald M. Anderson (United States)
	Toxic blooms of *Alexandrium catenella* in the warming Alaskan Arctic: a synthesis
14:30	**O-069** John R. Harley (United States)
	Predicting future shellfish toxin dynamics in the rapidly changing climate of southeast Alaska
14:45	**O-070** Raphael M. Kudela (United States)
	Domoic acid in a warmer California Current: Emergence of *Pseudo-nitzschia* multiseries as a climate "winner"
15:00	**O-071** William P. Cochlan (United States)
	Effects of ocean acidification on the growth and domoic acid production of the diatom *Pseudo-nitzschia* multiseries from the California Current System

15:15	**O-072** Jane Moore (United Kingdom) Biologically enhanced biochar - A sustainable and natural method to eliminate cyanotoxin from drinking water

15:30-16:00 Coffee Break — **SETOUCHI 4&5**

16:00-17:30 Parallel Sessions

Parallel Session 13: Prediction and Modeling	**SETOUCHI 1**
Session chairs: Ian Jenkinson (France) Goh Onitsuka (Japan)	
16:00	**O-073** Daniel Ørnes Halvorsen (Norway) Detection and monitoring of harmful algal blooms in operational fjord systems
16:15	**O-074** Patrick Charapata (United States) Predicting exposure of saxitoxins to Pacific walruses using toxin trophic-transfer models
16:30	**O-075** Paul Samuel Ignacio (Philippines) Machine and deep learning approaches to automated classification of Philippine HABs species
16:45	**O-076** Teruaki Yoshida (Malaysia) Development of a forecast model for harmful algal bloom (HAB) over the long term in Sabah's coastal waters
17:00	**O-077** Margarita Fernández-Tejedor (Spain) Forecasting harmful algal blooms for the aquaculture industry in Mediterranean coastal waters
17:15	**O-078** Marta B. Lopes (Portugal) Understanding shellfish biotoxin contamination and predicting DSP events: The Portuguese case study

Parallel Session 14: Toxicology	**SETOUCHI 2**
Session chairs: Philipp Hess (France) Aifeng Li (China)	
16:00	**O-079** Luis M. Botana (Spain) An update on the need to review toxicological data for marine toxins

16:15	**O-080** Jordi Molgó (France) Brevetoxins emergent toxins in France: Evaluation of BTX-3 mouse acute toxicity by oral gavage
16:30	**O-081** Jiangbing Qiu (China) Effects of dinophysistoxin-1 on the growth, photosynthesis, antioxidant responses, and cell cycle of *Isochrysis galbana*
16:45	**O-082** Kathi Lefebvre (United States) Algal toxin exposure risks to Pacific walruses and bowhead whales in the Alaskan Arctic during the anomalously warm ocean conditions of 2019
17:00	**O-083** Mirta Smodlaka Tankovic (Croatia) Characterisation and toxicological activity of three different *Pseudo-nitzschia* species from the northern Adriatic Sea (Croatia)
17:15	**O-084** Kai Lyu (China) Effect of Microcystis on *Daphnia* telomere length is dependent on clonal variation

Parallel Session 15: HABs in a Changing World	**SETOUCHI 3**
Session chairs: William P. Cochlan (United States) Raphael M. Kudela (United States)	
16:00	**O-085** Wonho Yih (Republic of Korea) Sharp contrast in the host preference of two epiphytic dinoflagellate genera (*Gambierdiscus* and *Ostreopsis*) in Jeju coasts, Korea
16:15	**O-086** Yoichi Miyake (Japan) Multi-decadal trends in *Karenia mikimotoi* blooms in Japan
16:30	**O-087** Tomonori Isada (Japan) The impact of marine heatwaves on phytoplankton community changes in the subarctic coastal region of southeastern Hokkaido, Japan
16:45	**O-088** Rencheng Yu (China) Evolution of harmful algal blooms in the coastal waters of the Bohai Sea and the Yellow Sea, China
17:00	**O-089** Patricia M. Glibert (United States) Summer *Karenia brevis* blooms in eastern Gulf of Mexico: Climate change, importance of mixotrophy and relation to increasing hypoxia events

17:15	**O-090** Sabrina Heiser (United States)	
	The effect of hurricane disturbance on benthic microalgal communities in the northern Gulf of Mexico	

17:30-19:00 **Poster Session-2** — **SEASHORE & SETOUCHI LOBBY**

19:00-20:30 **Welcome Party** — **SETOUCHI 4&5**

Wednesday 8 November 2023

9:00-10:30 **Plenary Session** — **SETOUCHI 1&2**

9:00		Chairs: Marta Estrada (Spain) Anke Kremp (Germany)
	PL04	**Esther Garcés (Spain)** **The significance of parasitic interactions in the ecology of harmful microalgae**
9:30		Chairs: Philipp Hess (France) Toshiyuki Suzuki (Japan)
	PL05	**Luiz L. Mafra Jr (Brazil)** **Can plastic pollution amplify the spread of toxins from benthic microalgae through the food web?**
10:00		Chairs: Ichiro Imai (Japan) Kazuhiko Koike (Japan)
	PL06	**Zhiming Yu (China)** **Technology and progress of using modified clay to control HABs in China**

10:30-11:00 Coffee Break — **SETOUCHI 4&5**

11:00-12:30 Parallel Sessions

Parallel Session 16: Ecology	**SETOUCHI 1**
Session chairs: Toshiya Katano (Japan) Po Teen Lim (Malaysia)	
11:00	**O-091** Laura Schweibold (France) Objectif Plancton: a citizen science program to assess small-scale phytoplankton variability in a macrotidal environment (Bay of Brest, France)
11:15	**O-092** Surya Eldo Virma Roza (Germany) Time series analysis of the cyst production of toxic dinoflagellates in the Cape Blanc upwelling region, NW Africa between 2003 and 2020
11:30	**O-093** Serena Sung-Clarke (United States) Biophysical trapping and phased mating during a *Dinophysis acuminata* bloom in Nauset Marsh
11:45	**O-094** Megan Ladds (United States) Interactions between *Dinophysis acuminata* and zooplankton grazers during harmful algal blooms
12:00	**O-095** Cynthia Medwed (Germany) Looking into the past: Photophysiological performance in ´revived´ 50 year old toxic *Nodularia spumigena* from Baltic Sea sediment suggest adaptation to climate warming
12:15	**O-096** Monica Thukral (United States) High resolution biological and physical profiling of the demise of domoic acid during the relaxation of upwelling

Parallel Session 17: Monitoring and Mitigation	**SETOUCHI 2**
Session chairs: Clarissa Anderson (United States) Misty B. Peacock (United States)	
11:00	**O-097** Robert George Hatfield (United Kingdom) RPA and nanopore sequencing for rapid field deployable identification of *Alexandrium*
11:15	**O-098** Gonzalo Fuenzalida (Chile) Exploring omics technologies for effective HABs monitoring in southern Chile

11:30	**O-099** Taro Arimoto (Japan) Prediction of *Chattonella* proliferation based on photosynthetic activity evaluation with a pulse amplitude-modulation fluorometry
11:45	**O-100** Mitsuo Yoshida (Japan) Development of a novel fluorometer to detect harmful algal bloom species and applications to a HABs monitoring
12:00	**O-101** Michael Brosnahan (United States) PhytO-ARM, an open source/open design toolkit for deployment of adaptive HAB monitoring systems
12:15	**O-102** Matias Haugum (Norway) *In-situ* segmentation and post-processing of phytoplankton image data captured onboard an autonomous surface vehicle

Parallel Session 18: Emerging Issues	**SETOUCHI 3**
Session chairs: Keith Davidson (United Kingdom) Marta Estrada (Spain)	
11:00	**O-103** José Luis García-Corona (France) The amnesic shellfish poisoning toxin, domoic acid: the tattoo of the king scallop *Pecten maximus*?
11:15	**O-104** Diana S. Moura (United Kingdom) Enhanced adsorption of highly toxic microcystin analogues onto virgin and aged six microplastic types
11:30	**O-105** Jiyoung Lee (United States) Microcystin inhalation can trigger immune responses in lung and gut microbiome dysbiosis via gut-lung axis: An acute mouse model study
11:45	**O-106** Laura Biessy (New Zealand) Accumulation of ciguatoxins in the New Zealand greenshell mussel and changes in their transcriptomes
12:00	**O-107** Anette Engesmo (Norway) How to integrate the qPCR method into HABs monitoring? First results of an international workshop promoted by GlobalHAB
12:15	**O-108** Philipp Hess (France) Severe acute dermatitis in Senegalese fishermen associated with *Vulcanodinium rugosum* and its cytotoxic metabolite portimine A

12:30-13:00 Break

13:00-19:00 **Half-day Excursions**

Thursday 9 November 2023

9:00-10:30 **Plenary Session** — **SETOUCHI 1&2**

9:00		Chairs: Toshiyuki Suzuki (Japan) Shigeru Sato (Japan)
	PL07	**Mari Yamashita (Japan)** **Chemical studies on biosynthetic and metabolic pathways of marine toxins**
9:30		Chairs: Ernani Pinto (Brazil) Uwe John (Germany)
	PL08	**Dedmer van de Waal (Netherlands)** **Global change and harmful cyanobacterial blooms: from scientific insights to societal impacts**
10:00		Chair: Donald M. Anderson (United States) Nina Lundholm (Denmark)
	PL09	**Vera L. Trainer (United States)** **Lessons from *Pseudo-nitzschia* around the World**

10:30-11:00 Coffee Break — **SETOUCHI 4&5**

11:00-12:30 Parallel Sessions

Parallel Session 19: Ecology	**SETOUCHI 1**
Session chairs: Esther Garcés (Spain) Ying Zhong Tang (China)	
11:00	**O-109** Keizo Nagasaki (Japan) Are *Heterosigma akashiwo* and its virus HaV fashionistas? -Clonal but variable-

11:15	**O-110** Walker Smith (China)
	Phaeocystis: A global enigma
11:30	**O-111** Valeria Guinder (Argentina)
	Long-lasting extraordinary spring bloom of Amphidomataceae (Dinophyceae) and AZA-2 in the Argentine Sea
11:45	**O-112** Tae Gyu Park (Republic of Korea)
	Temperature effects on cell abundances of four *Alexandrium* species revealed by long-term monitoring using qPCR
12:00	**O-113** Simon Tulatz (Germany)
	Effects of abiotic parameters on growth and toxin production of three strains of *Alexandrium pseudogonyaulax* (Dinophyceae) from the Danish Limfjord
12:15	**O-114** Raffaele Siano (France)
	Insights into the green seawater discoloration of *Lepidodinium chlorophorum*: from cellular ecophysiology to bloom development and ecosystem impact

Parallel Session 20: Monitoring and Mitigation	**SETOUCHI 2**
Session chairs: Michael L. Brosnahan (United States) Ichiro Imai (Japan)	
11:00	**O-115** Luis Felipe Artigas (France)
	Automated optical approaches for *in vivo* multiscale monitoring of phytoplankton communities and HABs in the English Channel and North Sea
11:15	**O-116** Clarissa R. Anderson (United States)
	The California HAB early warning system: a prototype system for a national HAB observing system in the U.S.
11:30	**O-117** Kasia M. Kenitz (United States)
	The California Imaging FlowCytobot Network: automated image classification and data integration for state-wide HAB monitoring
11:45	**O-118** Misty B. Peacock (United States)
	Yessotoxin, a shellfish-killing toxin, impact the health and harvestability of many shellfish species in the Salish Sea, Washington, USA
12:00	**O-119** A. E. Rossignoli (Spain)
	Screening of lipophilic toxins in marine invertebrates from NW Iberian Peninsula (Spain). Are mussels good toxicity indicators?

12:15	**O-120** Verónica Rey (Spain) Screening of paralytic shellfish toxins in non-traditional vectors in NW Iberian Peninsula (Spain)

Parallel Session 21: Toxins, Biosynthesis and Detection Methods	**SETOUCHI 3**
Session chairs: Shigeru Sato (Japan) Paulo Vale (Portugal)	
11:00	**O-121** Yuko Cho (Japan) Colchicine induced dynamic changes in saxitoxin biosynthesis and metabolism in the dinoflagellate *Alexandrium pacificum* (Group IV)
11:15	**O-122** Mirjam D. Klijnstra (Netherlands) Targeted analysis of phycotoxins in combination with Neuro2A bioassay screening as a comprehensive approach for toxin monitoring of shellfish
11:30	**O-123** Bernd Krock (Germany) Distribution of phycotoxins and associated harmful algae in the fjords and channels of the Tierra del Fuego Archipelago, South America
11:45	**O-124** Denis Servent (France) Acute and chronic *in vivo* effect of pinnatoxins in rodent. An attempt to decipher how this emergent class of marine toxins crosses the blood-brain and placental barriers
12:00	**O-125** Marina Arregui (Germany, Spain) Challenges in phycotoxin analysis in marine mammal biological matrices
12:15	**O-126** Christopher O. Miles (Canada) Highly variable toxin profiles in *Dinophysis norvegica* strains from different geographical locations

12:30-14:00	Lunch Break	**SETOUCHI 4&5**

12:45-13:45	**Workshop 04**	**SETOUCHI 3**
	Chairs: Gustaaf Hallegraeff (Australia) Dave Clarke (Ireland) Eileen Bresnan (United Kingdom)	
	IOC harmful algal information system (HAIS) workshop: The power of big data for HAB seafood risk assessment and predicting HAB futures	

14:00-15:30 Parallel Sessions

Parallel Session 22: Ecology	**SETOUCHI 1**
Session chairs: Kazumi Matsuoka (Japan) Raffaele Siano (France)	
14:00	**O-127** Holly A. Bowers (United States) HAB response to agriculturally derived nutrient loading
14:15	**O-128** Sébastien Halary (France) Intra-specific genomic and metabolic diversity of bloom-forming cyanobacteria at different spatial scales
14:30	**O-129** Christopher J. Gobler (United States) The differential ability of wastewater- and fertilizer-derived nutrients to alter the intensity, diversity, and toxicity of harmful cyanobacterial blooms in north American lakes
14:45	**O-130** Sirje Sildever (Estonia) Eight years of weekly eDNA monitoring in the north-western Pacific: an overview of the HAB species detected
15:00	**O-131** Máximo Frangopulos (Chile) Understanding the factors influencing harmful algal blooms in Patagonian fjords and channel system: insights from historical data and recent studies
15:15	**O-132** Victoria Alfaro-Ahumada (Chile) Toxic ecological relationships: Evaluation of toxic compounds exuded from *Karenia selliformis* on marine microalgae

Parallel Session 23: Monitoring and Mitigation	**SETOUCHI 2**
Session chairs: Donald M. Anderson (United States) Chui Pin Leaw (Malaysia)	
14:00	**O-133** Aubrey Trapp (United States) Investigating the accumulation of dissolved domoic acid in mussels from Monterey Bay, California
14:15	**O-134** Gary Groves (United Kingdom) Real-time HAB alerts using *in-situ* sampling and AI image classification

14:30	**O-135** Nicolè Caputo (Ireland) Investigation of limit of detection and quantification for digital PCR assays: the case study of *Azadinium spinosum* (Dinophyceae) in Irish waters
14:45	**O-136** Laine Sylvers (United States) The mitigation potential of harmful algal blooms (*Alexandrium catenella, Pseudo-nitzschia* spp., *Dinophysis acuminata*, *Margalefidinium polykrikoides*) by cultivable seaweeds
15:00	**O-137** Indira Menezes (United Kingdom) A tale of caution: the effect of media nutrients on light-driven cyanobacteria removal studies
15:15	**O-138** Emily J. Summers (United States) A modified stratification index method to assess reservoir water quality trends

Parallel Session 24: Toxins, Biosynthesis and Detection Methods	**SETOUCHI 3**
Session chairs: Bernd Krock (Germany) Thomas Ostenfeld Larsen (Denmark)	
14:00	**O-139** Steffaney M. Wood (United States) Environmental detection of *Pseudo-nitzschia* spp. and domoic acid biosynthesis in the Santa Barbara Channel, 2019-2022
14:15	**O-140** Jonathan R. Deeds (United States) Assessing the risks for the novel azaspiracid shellfish toxin AZA-59 in the Pacific Northwest Region of the United States
14:30	**O-141** María del Carmen Osorio-Ramírez (Mexico) Evaluation of the cytotoxic activity of methanolic extracts from the dinoflagellate *Amphidinium* against human breast and lung cancer cell lines
14:45	**O-142** Pearse McCarron (Canada) Non-target analysis of marine algal toxins using passive samplers with liquid chromatography-high-resolution mass spectrometry
15:00	**O-143** Mariana Raposo (Portugal) Paralytic shellfish toxin screening using bioelectronic tongue
15:15	**O-144** Vincent Hort (France) Exploration of *Vulcanodinium rugosum* toxins and their metabolism products in mussels from the Ingril Lagoon hotspot in France

15:30-15:45 Break

15:45-17:15 Parallel Sessions

Parallel Session 25: Ecology	**SETOUCHI 1**
Session chairs: Christopher J. Gobler (United States) Sandric Chee Yew Leong (Singapore)	
15:45	**O-145** Alexis Fischer (United States) Patterns and drivers of toxic *Pseudo-nitzschia* spp. abundance identified with an Imaging FlowCytobot in the Northern California Current System
16:00	**O-146** Boo Seong Jeon (Republic of Korea) The occurrence pattern of the generalist parasitoid *Parvilucifera* (Alveolata, Perkinsozoa) of dinoflagellates revealed by a high-frequency time series data
16:15	**O-147** Bora Lee (Republic of Korea) Diversity and niche differentiation of the *Amoebophrya* species complex infecting harmful dinoflagellates in Korean coastal waters
16:30	**O-148** Daniela Marić Pfannkuchen (Croatia) Genus *Pseudo-nitzschia*: The physiology of success in a highly structures and dynamic phytoplankton ecosystem
16:45	**O-149** Deo Florence L. Onda (Philippines) Dangerous hitchhikers: attachment, transport, and survival of HABs-causing species in floating plastics debris
17:00	**O-150** Kathleen Cusick (United States) Saxitoxin dynamics underlying bloom development and persistence in the bioluminescent HAB species *Pyrodinium bahamense*

Parallel Session 26: Monitoring and Mitigation	**SETOUCHI 2**
Session chairs: Mengmeng Tong (China) Keigo Yamamoto (Japan)	
15:45	**O-151** Shigeru Itakura (Japan) Possibility of suppressing harmful algal blooms (HABs) using artificial reefs (water stirring blocks) installed on the coastal seabed

16:00	**O-152** Ichiro Imai (Japan) A review on environmentally friendly strategies against harmful algal blooms
16:15	**O-153** Maria G. Antoniou (Cyprus) Is peroxymonosulfate (PMS) a better alternative to hydrogen peroxide treatment for the *in situ* mitigation of cyanobacteria harmful blooms (cyano-HABs)?
16:30	**O-154** Jazmine Davalos (United States) CyanoSTUNTM (Cyanobacteria Suppression Through Ultraviolet-C Neutralization): Results from field trials with a UV-enabled boat for mobile suppression of CyanoHABs
16:45	**O-155** Jabulani R. Gumbo (South Africa) *Diospyros mespiliformis*, a bioflocculant agent, removal and lysis of cyanobacteria cells: Characterization, adsorption, thermodynamics, and kinetic study
17:00	**O-156** Carlos J. Pestana (United Kingdom) Shifting the paradigm: In-reservoir UV-LED TiO_2 photocatalysis for the selective removal of cyanobacteria – a mesocosm study

Parallel Session 27: Toxins, Biosynthesis and Detection Methods	**SETOUCHI 3**
Session chairs: Pearse McCarron (Canada) Chris Miles (Canada)	
15:45	**O-157** Rómulo Aráoz (Mexico, Germany) Structural and functional characterization of a novel cyclic imine toxin
16:00	**O-158** Andreas Seger (Australia) Field validation of the qualitative neogen lateral flow immunoassay for paralytic shellfish toxin monitoring in southern rock lobster hepatopancreas tissues
16:15	**O-159** Lorena M. Durán-Riveroll (Mexico, Germany) The genus *Amphidinium* in Mexico: Morphological and molecular characterization, amphidinol identification, and new analogs
16:30	**O-160** Elisa Berdalet (Spain) Experimental studies of the aerosolization of toxins produced by *Ostreopsis* cf. *ovata*

16:45	**O-161** Allen R. Place (United States)	
	The magical mystery tour that is dinoflagellate sterolysin biosynthesis some assembly (correction) required	
17:00	**O-162** Thomas O. Larsen (Denmark)	
	Insights into the chemistry of microalgal toxins involved in recent Northern European fish killing events	

17:15-17:45 Coffee Break **SETOUCHI 4&5**

17:45-19:15 Parallel Sessions

Parallel Session 28: Ecology	**SETOUCHI 1**
Session chairs: Christopher Bolch (Australia) Hyeon Ho Shin (Republic of Korea)	
17:45	**O-163** Shuya Liu (China)
	Composition and spatial-temporal dynamics of phytoplankton community shaped by environmental selection and interactions in the Jiaozhou Bay
18:00	**O-165** Ken-Ichiro Ishii (Japan)
	Spatial distribution of benthic cysts of *Heterosigma akashiwo* (Raphidophyceae) in sediments of Puget Sound, Washington, USA
18:15	**O-166** Xinfeng Dai (China)
	Distribution and diversity of dinoflagellate cysts in surface sediments from the Meishan Bay, Zhejiang
18:30	**O-167** Yunyan Deng (China)
	Probing “active” and “inactive” genes of particular significance in the resting cysts of dinoflagellates
18:45	**O-168** Kazumi Matsuoka (Japan)
	Nutrient level changes in coastal areas of Japan from a view point of aquatic palynomorph assemblage analysis

Parallel Session 29: Monitoring and Mitigation	**SETOUCHI 2**
Session chairs: Gustaaf Hallegraeff (Australia) Yuji Tomaru (Japan)	
17:45	**O-169** Alan Wilson (United States)
	Most treatments to control algal blooms are not effective: meta-analysis of field experiments

18:00	**O-170** Sang Mok Jung (Republic of Korea) Application of lake restoration: an ecofriendly approach using photocatalyst technology for improvement of biodiversity in recreational lake
18:15	**O-171** Yanfei Wang (United States) A novel immobilized algicidal bacteria (DinoSHIELD) for controlling harmful dinoflagellates: A mesocosm study in the Broadkill River, DE, USA
18:30	**O-172** Kaytee Pokrzywinski (United States) A novel immobilized algicidal bacteria (DinoSHIELD) for controlling harmful dinoflagellates: Transitioning research to the field
18:45	**O-173** Vincent Lovko (United States) Control of *Karenia brevis* blooms through various flocculation and sedimentation methods
19:00	**O-174** Iwona Jasser (Poland) Mitigation of *Prymnesium parvum* blooms in experimental conditions and its consequences

Parallel Session 30: Cyanobacterial HABs	**SETOUCHI 3**
Session chairs: Chi-Yong Ahn (Republic of Korea) Dedmer van de Waal (Netherlands)	
17:45	**O-175** Yin Sing Ong (Malaysia) Morphology and molecular characterization of bloom-forming *Microcystis aeruginosa* and the diversity of cyanobacteria in Sarawak, Malaysia Borneo
18:00	**O-176** Kaisa Kraft (Finland) Detection of filamentous cyanobacteria blooms using imaging and pulse shape flow cytometry, and optical sensors
18:15	**O-177** Lucas Morais (Australia) How different dissolved organic matter (DOM) can influence phytoplankton community structure
18:30	**O-178** Rodrigo V. Dejeto (Philippines) Mitigating cyanobacterial blooms (cHABs): An introduction of powdered-diatomaceous earth (pDE) in contaminated freshwater set-ups
18:45	**O-179** Jingrang Lu (United States) Cyanotoxin-encoding genes as markers to predict cyanobacterial harmful algal blooms and cyanotoxin production

19:00	**O-180** Emily Curren (Singapore) Comparative genomics of novel cyanobacteria *Sphaerothrix gracilis* Isolated from microplastics reveal insights to plastic utilization and bloom potential

19:15-19:30 Break

19:30-21:00 **ISSHA Auction** — **SETOUCHI 1&2**

Friday 10 November 2023

9:00-10:30 Parallel Sessions

Parallel Session 31: Microbiomes and Omics — **SETOUCHI 1**

Session chairs: Nansheng Chen (China)
Kirsty Smith (New Zealand)

9:00	**O-181** Shikder Saiful Islam (Australia) Microbiomes of Australian *Gambierdiscus* species and comparative genomics of bacterial associates
9:15	**O-182** Ann Marie E. Famularo (United States) Exploration of the *Microcystis phycosphere*: comparative analyses of nitrogen assimilation and bacterial communities in North American lakes
9:30	**O-183** Lisa Campbell (United States) Diversity of HABs from the Texas coast (Gulf of Mexico) with a focus on extreme events: a full length 18S rDNA metabarcoding approach
9:45	**O-184** Benjamin Marie (France) Different strains induce different threatens - How *Microcystis* genotype distinctions may influence the ecotoxiciological effects of blooms on fish
10:00	**O-185** Uwe John (Germany) High-resolution multi-omics analyses provide insights into a toxic algal bloom and cellular processes of the ichtyotoxic and mixotroph *Chrysochromulina leadbeateri*
10:15	**O-186** Shinya Sato (Japan) Biology and ecology of the invasive diatom *Cymbella janischii* – what's happening in the mat?

Parallel Session 32: Surveillance and Management	SETOUCHI 2
Session chairs: Seung Ho Baek (Republic of Korea) Henrik Enevoldsen (Denmark)	
9:00	**O-187** I-Shuo Huang (United States) Development of an LC-MS/MS method for the detection of microcystins in marine and estuarine shellfish
9:15	**O-188** Francesca Cucchi (Ireland) Performance of high-throughput microfluidic real-time qPCR technology for the simultaneous detection of six *Alexandrium* species in environmental samples
9:30	**O-189** William C. Holland (United States) A novel immobilized algicidal bacteria (DinoSHIELD) for controlling harmful dinoflagellates: Establishing application rates
9:45	**O-190** Thomas Farrugia (United States) It takes a village: Meeting the complex challenges presented by HABs in Alaska through the Alaska harmful algal bloom network
10:00	**O-191** Hannah Bonner (United States) Dogs, drones, and genes: Developing a holistic monitoring framework for HABs

Parallel Session 33: Cyanobacterial HABs	SETOUCHI 3
Session chairs: David Berthold (United States) Ingunn Samdal (Norway)	
9:00	**O-193** Mikolaj Kokociński (Poland) Expansive alien cyanobacteria in Central-East Europe - Do they pose a serious threat to aquatic ecosystems?
9:15	**O-194** Maura Manganelli (Italy) Susceptibility and toxicity of cyanobacteria exposed to environmental antibiotics concentrations
9:30	**O-195** Ve Van Le (Republic of Korea) Multiyear analysis of bacterial community dynamics reveals key bacterial players in the regulation of *Microcystis* blooms in Daechung Reservoir
9:45	**O-196** Hae-Kyung Park (Republic of Korea) Threshold for flow management to mitigate harmful cyanobacterial blooms in the large river with consecutive dam-scale weirs

10:00	**O-197** Hae-Jin Lee (Republic of Korea) Effects of water level management on algal blooms in the large river system
10:15	**O-198** Joanna Mankiewicz-Boczek (Poland) Cyanosphere interactions as an important elements in controlling harmful algal blooms

10:30-11:00 Coffee Break — **SETOUCHI 4&5**

11:00-12:30 Parallel Sessions

Parallel Session 34: Microbiomes and Omics	**SETOUCHI 1**
Session chairs: Uwe John (Germany) Shinya Sato (Japan)	
11:00	**O-199** Nicolaus G. Adams (United States) Detecting harmful algal taxa on the West Coast of the United States and Canada using DNA metabarcoding
11:15	**O-200** Chui Pin Leaw (Malaysia) Exploring the diversity and community assemblages of benthic harmful dinophytes by eDNA metabarcoding coupled with the artificial substrate sampling method
11:30	**O-201** Forrest Lefler (United States) Characterizing cyanobacterial HABs microbiomes: Beyond *Microcystis*
11:45	**O-202** Christopher Bolch (Australia) *In-situ* assessment of bloom microbiomes associated with the HAB dinoflagellates *Gymnodinium catenatum* and *Tripos furca*
12:00	**O-203** Marilou P. Sison-Mangus (United States) Comparative gene expressions of *Pseudo-nitzschia pungens* co-cultured with different bacterial phylotypes
12:15	**O-204** Ian R. Jenkinson (France) Genomics and eco-active organic matter in oceans: the roles of harmful and other algae, with emphasis on physical effects

Parallel Session 35: Surveillance and Management/ Socio-economic Impacts	**SETOUCHI 2**

Session chairs: Garry Benico (Philippines)
Elisa Berdalet (Spain)

11:00 **O-205** Greta Gaiani (Australia)

Development of rapid techniques for the *in-situ* detection of sxtA4 and sxtG involved in saxitoxin biosynthesis

11:15 **O-206** Oscar Espinoza-González (Chile)

Harmful algal blooms dynamics and toxic outbreaks in coastal waters of Central-Southern Pacific Ocean Chile (36° - 44°S)

11:30 **O-207** Fernando Real (Spain)

Official control protocol in the Canary Islands (Spain) for detecting CTXs in commercial fish from first sale points

11:45 **O-208** Kazumi Wakita (Japan)

Transition of social perception on shellfish toxin and poisoning: Through a text analysis of newspapers in Japan

12:00 **O-209** Mark Leonard S. Silaras (Philippines)

Social drivers of knowledge, beliefs and practices on harmful algal blooms: Lessons from fishing communities in Biliran and Leyte regularly exposed to HABs

12:15 **O-210** Leni G. Yap-Dejeto (Philippines)

Warning and Technology to Combat Hazards of Harmful Algal Blooms in Region VIII (WATCH HAB R8) and other efforts on HAB mitigation in E. Visayas, Philippines

Parallel Session 36: Cyanobacterial HABs — SETOUCHI 3

Session chairs: Mikolaj Kokociński (Poland)
Maura Manganelli (Italy)

11:00 **O-211** Akihiro Tuji (Japan)

Taxonomy and phylogeny of geosmin-producing *Dolichospermum* species

11:15 **O-212** Ingunn A. Samdal (Norway)

Microcystins and metabolites in European noble crayfish *Astacus astacus* in Lake Steinsfjorden, Norway

11:30 **O-213** David Erwin Berthold (United States)

Spatiotemporal diversity of marine benthic CyanoHABs and their potential as reservoirs for harmful eukaryotic algae

11:45	**O-214** S. K. Sim (Republic of Korea)	
	Detoxification and recycling of the harvested microalgae with organic food waste using salt-tolerant mushroom strains	
12:00	**O-215** Farshid Sorheili (Republic of Korea)	
	Use of a novel photocatalyst to mitigate freshwater and marine eutrophication and forestalling the generation of harmful algal blooms (HABs)	
12:15	**O-216** Ernani Pinto (Brazil)	
	Assessing the impact of cyanotoxins and water quality on aquatic life in reservoirs	

12:30-14:00 Lunch Break **SETOUCHI 4&5**

12:45-13:45	**Workshop 05**	**SETOUCHI 3**
	Chair: Jingrang Lu (United States)	
	Current and future cyanotoxin toxicity research for public health risk assessment	

14:00-15:00 **Closing Ceremony** **SETOUCHI 1&2**

16:00-22:00 **Gala Dinner**

POSTERS

POSTER PRESENTATION GUIDELINES

Date, venue, mounting, display, presentation and removal time

244 posters have been successfully accepted. Date and venue of the poster session, and mounting, display, presentation and removal times are as follows.

Poster session	1	2
Date	Monday 6 November	Tuesday 7 November
Postre number	even numbers	odd numbers
Venue/Room	SEASHORE/SETOUCHI LOBBY	
Mounting	16:00-20:00 Sunday 5 November 08:30-10:30 Monday 6 November 08:30-10:30 Tuesday 7 November	
Display	10:30-17:30	
Presentation	17:30-19:00	
Removal	by 13:00 Wednesday 8 November	

Poster Exhibition

Poster panel (Height 210 cm Width: 100 cm) will accommodate A0 size portrait posters: height 1,189 mm (46.8 inches), width 841 mm (33.1 inches).

A poster number (20 cm x 20 cm) will be prepared by the conference secretariat and is affixed on the upper left end of the poster board.

You will put your poster next to this number and affixing to the board with push pins which will be available at the poster panel in the venue. Tape, Velcro, or spray adhesive must not be applied to poster panels.

Conference staff will be present to assist you for finding your board and mounting your poster (during mounting hours).

Poster Discussion

Posters will be presented depending upon the poster session to which you are assigned. Presenting authors are kindly requested to stand by in front of his/her poster during presentation times.

In addition, participants will also have the possibility to view posters during the breaks and lunches, therefore authors are encouraged to be present at their posters during those times as well.

Poster removal

Remove your own poster in the designated removal time.

All posters remaining after the removal time will be discarded by the conference secretariat. The conference secretariat will not be held liable for any theft, loss or damage of posters.

LIST OF POSTERS

Assigning of posters in Poster Sessions:
Poster Session 1 (even numbers): Monday 6 November 2023, 17:30 – 19:00
Poster Session 2 (odd numbers): Tuesday 7 November 2023, 17:30 – 19:00
IT: The poster will also be presented during an Ignite Talk Session (Monday 6 November 2023, 15:45-17:00)

Ecology	
P-001 IT	Evangeline Fachon (United States)
	Life cycle dynamics of *Alexandrium catenella* during a large-scale Bering Strait bloom event
P-002 IT	Haruo Yamaguchi (Japan)
	Effects of temperature and salinity on growth of *Karenia mikimotoi* and *Karenia papilionacea* cultures
P-003 IT	Milad Pourdanandeh (Sweden)
	Copepod chemical cues induce toxin formation in two species of *Dinophysis*
P-004 IT	Sang Ah Park (Republic of Korea)
	Effects of intrusion and retreat of deep cold waters on the red tides species in the South Sea of Korea
P-005 IT	Dóra Vig (Australia)
	The largest recorded *Alexandrium pacificum* bloom in south-eastern Australia: toxicity and impacts
P-006 IT	Hyun Jun Yang (Republic of Korea)
	Effect of harmful algae on the ephyrae of the moon jellyfish *Aurelia aurita*
P-008	Hyeon Ho Shin (Republic of Korea)
	Bloom development of toxic dinoflagellate *Alexandrium catenella* (Group I) in Jinhae-Masan Bay, Korea: Germination strategy of resting cysts in relation to temperature and salinity
P-009	Yuji Tomaru (Japan)
	Diatom viruses isolated from coastal waters and sediments in western Japan

P-010 Mutsuo Ichinomiya (Japan)

Bloom formation of colony-forming harmful diatom *Thalassiosira diporocyclus* in the Kagoshima Bay and its significance as prey for some copepods

P-011 Wai Mun Lum (Japan)

Different ecological niche adaptation of four harmful raphidophytes in Southeast Asia

P-012 Na Yun Park (Republic of Korea)

Interaction between a harmful alga *Microcystis* and marine phytoplankton

P-013 Chisato Nakaji (Japan)

Distribution and genetic diversity of *Pseudo-nitzschia* around Obama Bay, Japan

P-014 Akira Kuwata (Japan)

Mechanism of massive spring diatom bloom in the Oyashio region

P-015 Akira Ishikawa (Japan)

A new sampling device to measure resuspension flux of dinoflagellate cysts from bottom sediments in coastal waters

P-016 Shizuka Ohara (Japan)

Seasonal and horizontal distribution of harmful dinoflagellate *Karenia digitata* in the Seto Inland Sea, Japan

P-017 Asilah Al-Has (Malaysia)

Allelopathy effect of *Margalefidinium polykrikoides* on toxin production of *Pyrodinium bahamense*

P-018 Xin Xu (China)

Salinity effects on growth, oxidative stress, and compatible solutes in *Alexandrium minutum*: Insights into osmoregulation mechanisms

P-019 Chui Pin Leaw (Malaysia)

Mapping harmful microalgal species by eDNA monitoring: a large-scale survey across the southwestern South China Sea

P-020 Bruna Sobrinho (United States)

Measurements of primary production and light-dependent respiration in harmful algae blooms

P-021 Se Hee Eom (Republic of Korea)

Interactions between the red-tide dinoflagellate *Tripos furca* and common heterotrophic protists

P-022 Qingchun Zhang (China)

Dynamics of *Alexandrium catenella* bloom and the influence on paralytic shellfish toxins in shellfish in the coastal waters of Qinhuangdao, China

P-023 Trisha B. Sumalinog (Philippines)

Detecting possible harmful algal bloom-causing species in Dawahon Reef, Bato, Leyte, Philippines

P-024 Ma. Eugenia Zamudio-Reséndiz (Mexico)

First HAB of the dinoflagellate *Pyrodinium bahamense* var. *bahamense* in the lagoon of Terminos, Campeche, Mexico

P-025 Cristal Dawn P. Lengwa (Philippines)

Presence of harmful algae in Bangon River estuary in Salvacion Palo, Leyte, Philippines

P-026 Laura Arin (Spain)

Diversity and temporal dynamics of the marine diatom genus *Chaetoceros* in two coastal areas of the NW Mediterranean Sea

P-027 Ryoko Yano (Japan)

Comparison of photoprotective mechanisms between a raphidophyte *Chattonella marina* var. *antiqua* and a diatom *Skeletonema costatum*

P-028 Ji Seung Han (Republic of Korea)

Effect of light emitting diode on the growth and biochemical composition of *Chlorella vulgaris*

P-029 Gu Yu (China)

Generation and release of reactive oxygen species by symbiotic zooxanthellae under copper stress

P-030 Martin Pfannkuchen (Croatia)

The ecology of *Ostreopsis ovata* spreading along the rocky coast of the eastern Adriatic

P-031 Silvia Casabianca (Italy)

Harmful phytoplanktonic resting stage assemblages in the central Mediterranean Sea

Biology and Biogeography

P-032 IT Kazumasa Yamada (Japan)

Effects of silicate on growth, morphology and life-cycle switching in silicoflagellates

P-033 Yuka Onishi (Japan)

Quorum sensing mediated activities of growth-inhibiting bacteria against the toxic dinoflagellate *Alexandrium catenella* (Group I)

P-034 Setsuko Sakamoto (Japan)

Potential distribution of the genus *Alexandrium* in the Seto Inland Sea

P-035 Hiroshi Shimada (Japan)

Expansion of HAB species in Hokkaido, northern Japan, after 2010s

P-036 Bum Soo Park (Republic of Korea)

Potential impact of the sxtA4 gene diversity on the paralytic shellfish toxin production in the toxic dinoflagellate *Alexandrium pacificum*

P-037 Pengbin Wang (China)

Mapping of four main harmful algal species in the East China Sea (Yangtze River estuary) and their possible respondence to main ecological status via a global vision

P-038 Kanako Naito (Japan)

Availability of iron to harmful algal species

P-039 Savannah Mapes (United States)

Cultured dinoflagellates of different ages display varying characteristics

Community/Species Interactions

P-040 IT Shotaro Midorikawa (Japan)

Development of a long-term preservation method for the parasitic dinoflagellate *Amoebophrya* sp. by infecting the genus *Alexandrium*

P-041 IT Steven Jing-Liang Xu (Hong Kong, China)

Inhibition mechanism and dose effect of mangrove leaves on harmful algae in coastal South China

P-042 Sarah Garric (France)

Photoacclimation of *Dinophysis acuminata*: touching the limits of kleptoplastidy?

P-043 Dae Geun Kim (Republic of Korea)

A study on the changes of dominant microalgae in Geum River near *Haematococcus pluvialis* culture facility

P-044 Yasuhiro Yamasaki (Japan)

Allelopathic effects of diatoms on the growth of *Chattonella marina* var. *antiqua*

P-045 Hyun Soo Choi (Republic of Korea)

Interactions between *Microcystis*, the cause of harmful algal blooms, and marine heterotrophic protozoa

P-046 Yoonja Kang (Republic of Korea)

Harmful algal bloom proliferation promoted by allelopathically-induced trophic transfer of nitrogen

P-047 Genese Divine B. Cayabo (Philippines)

Microbial community coexisting with *Pyrodinium bahamense* cyst

P-048 Goh Nishitani (Japan)

First report of *Amoebophrya* sp. infecting the harmful dinoflagellate *Karenia* species

P-049 Qiaoli Jiang (Japan)

DNA metabarcoding analysis of phytoplankton community composition in Tokyo Bay, Japan

P-050 Brian Yu-Keung Wong (Hong Kong, China)

Microalgal species isolation and the establishment of monoclonal culture from samples collected from mangrove water and pneumatophores

P-051 Hirotaka Kitaguchi (Japan)

Comparison of wild and mutant strains of an algicidal bacterium *Pseudoalteromonas* sp. strain A25

P-052 Edgar P. Paalan (Philippines)

Effects of monsoons and locations to the phytoplankton communities from HAB-affected coastal areas in Palawan Island, Philippines

P-053 Tiantian Chen (China)

Distribution, diversity and infection of the parasitic dinoflagellate *Amoebophrya* in the coastal waters of China

Taxonomy

P-054 IT Ye Seul Jeong (Republic of Korea)

Development, phylogeny, and host range of a novel *Phagomyxa*-like parasitoid infecting marine dinoflagellates

P-055 IT Sara Harðardóttir (Iceland)

Taxonomy and phylogeny of *Pseudo-nitzschia* in Iceland

P-056 IT Kimverly T. Leseguis (Philippines)

First report of *Coolia* sp., an epibenthic dinoflagellate from Cancabato Bay, Tacloban City Philippines

P-057 IT Xiaotian Han (China)

Classification and morphology of nano-flagellates collected from Jiaozhou Bay

P-058 Sang Uk Kang (Republic of Korea)

Classification and eco-physiological study of new species of *Picochlorum* from Korean coastal waters

P-059 Sing Tung Teng (Malaysia)

Morphology and cytotoxicity potential of the marine thecate dinophyte *Heterocapsa* (Dinophyceae) from Malaysia

P-060 Elizabeth Fensin (United States)

Take our (almost) 25 year phytoplankton dataset

P-061 Koyo Kuwata (Japan)

Taxonomy and phylogeny of unarmored dinoflagellates of the family Kareniaceae isolated from Hokkaido, Japan

P-062 Koyo Kuwata (Japan)

Morpho-molecular characterization of a new non-toxigenic *Amphidoma* species from the Asian Pacific

P-063 Garry Benico (Philippines)

Species diversity of kareniacean dinoflagellates in the Philippines, including the detection of an undescribed *Karlodinium* species

P-064 TG Bonjuana de la Peña Cañal (Philippines)

Molecular phylogeny and morphological characterization of *Pyrodinium bahamense* from Dumanquillas Bay in southern Philippines

P-065 Samantha Patricia C. Esteban (Philippines)

Morphology and phylogeny of a novel *Scrippsiella* species from Central Luzon, Philippines

P-068 Katerina Aligizaki (Greece)

Characterization of *Alexandrium* and *Protoceratium* strains isolated from Greek coastal waters (NE Mediterranean Sea) and the use of LAMP method for their detection

Microbiomes and Omics

P-069 IT Juri Nazareth Mapa Ochotorena (Philippines)

Temporal diversity and co-occurrence of dominant viruses and their potential phytoplankton hosts in coastal waters in western Philippines

P-071 IT Bryan Plankenhorn (United States)

Exploring global gene expression & metabolite production in Narragansett Bay *Pseudo-nitzschia* isolates under nutrient limiting conditions

P-072 IT E. Anders Kiledal (United States)

Microcystis strain dynamics throughout seven years of Lake Erie harmful algal blooms

P-073 IT Hyun-Jung Kim (Republic of Korea)

Ecological diversity of harmful algae-attached bacteria in the southern coastal ecosystem, South Korea

P-074 Hyun-Jung Kim (Republic of Korea)

Co-variance between free-living bacteria and *Cochlodinium polykrikoides* (Dinophyta) harmful algal blooms, South Korea

P-075 Yu Jin Kim (Republic of Korea)

Annual succession of dinoflagellate community on temperate coast zone (the southern coast of South Korea)

P-076 Takeshi Hano (Japan)

Metabolome responses associated with chronological aging in the harmful dinoflagellate, *Karenia mikimotoi*, can predict future bloom demise

P-077 Ian R. Jenkinson (France)

Genomics and eco-active organic matter: the roles of harmful and other algae, with emphasis on physical effect

P-078 Margot Deléglise (France)

Domoic acid depuration after a *Pseudo-nitzschia* bloom: can bacteria be used as a tool to accelerate the king scallop's depuration

P-079 Bum Soo Park (Republic of Korea)

High host-specificity of the *Roseobacter* clade to harmful dinoflagellate *Margalefidinium polykrikoides* blooms in fields

P-080 Miranda Judd (United States)

Translational costs and regulation in *Amphidinium carterae*: Insights from synchronized cultures and novel quantification methods

P-081 Mark Leonard S. Silaras (Philippines)

Metabarcoding of dinoflagellates from red tide waters in eastern Visayas, Philippines reveals presence of potential HABs species previously overlooked

P-082 Kaze King-Yip Lai (Hong Kong, China)

Functions of epiphytic microbiota on pneumatophores of *Avicennia marina* and possible host-microbe interactions through preliminary proteomic analysis

P-083 Recca E. Sajorne (Philippines)

Bacterial community associated with the toxic dinoflagellate *Akashiwo sanguinea* and potential HAB-causing diatom *Coscinodiscus* spp. in Puerto Princesa Bay, Philippines

P-084 Arvin U. Pacoma (Philippines)

Morphological and molecular characterization of *Akashiwo sanguinea* in Cancabato Bay: Insights into population genetic diversity and potential regional variations

Prediction and Modeling

P-085 IT Edson Silva (Norway)

Probabilistic models for harmful algae detection: Application to the Norwegian coast

P-086 Jose Capelo-Neto (Brazil)

Evaluation of the effects of in reservoir UV-LED/TiO_2 photocatalysis on cyanobacterial and green algae cell integrity using a novel statistical approach

P-087 Leonardo Guzmán (Chile)

Modeling the distribution and abundance of *Alexandrium catenella* in Chilean fjords

P-088 R. Wayne Litaker (United States)

Factors driving cyanobacterial blooms in Lake Okeechobee (FL, USA) and development of predictive bloom duration and intensity models

P-089 Cheryl Greengrove (United States)

Application of a quantitative molecular method to characterize abundance and distribution of *Alexandrium* cysts for NOAA's HAB Forecasting

P-090 Cristina Nordi (Brazil)

Comparative analysis of the applicability of prediction programs for the evaluation of microcystin toxicity

P-091 Jin Hwi Kim (Republic of Korea)

Environmental variable selection and synthetic sampling methods for improving the accuracy of algal alert level prediction model

P-092 Seohyun Byeon (Republic of Korea)

Prediction of harmful algal blooms for early warning using deep learning and machine learning models

P-093 Michelle C. Tomlinson (United States)

The present and future of HAB monitoring and forecasting in Chesapeake Bay to support shellfish management

Monitoring and Mitigation

P-094 IT Amparo Alfonso (Spain)

New strategies for marine and freshwater toxins mitigation

P-095 IT Denise Ching Yi Yu (Singapore)

Harmful hitchhikers on marine plastics in Singapore

P-096 IT Emily Jolly (United States)

Life without Chargaff's Rules: Thymine dioxygenase as a proposed enzyme for the synthesis of 5-hydroxymethyl uracil in dinoflagellates

P-097 IT Hannah McGrath (United States)

Long-term harmful algae bloom (HAB) monitoring in Monterey Bay, California, USA

P-098 IT Jennifer H. Toyoda (United States)

Modified clays remove *Karenia brevis* cells and decrease brevetoxin concentrations throughout the water column

P-099 Audrey Ern Lee (Singapore)

First report of *Noctiluca scintillans* blooms in Singapore waters

P-100 Sandric Chee Yew Leong (Singapore)

Fish kill and harmful algal bloom events in Singapore waters

P-101 Paulo Vale (Portugal)

Trends of diarrhetic shellfish toxins in Portuguese bivalves and environmental variables 2001-2022: impacts from drought and wildfires

P-102 Wei Li (China)

Application of imaging FlowCytobot in East China Sea -- Approaching of fast *in situ* growth and feeding behavior by *Mesodinium rubrum*

P-103 Vera L. Trainer (United States)

The value of the SoundToxins partnership: an early warning system for HABs in Puget Sound, USA

P-104 Natsuko Nakayama (Japan)

Efficacy of a virus-based biological control method against the early stages of the harmful dinoflagellate *Heterocapsa circularisquama* bloom

P-105 Kathryn J. Coyne (United States)

Dynamics in natural microbial communities treated with algicidal amines targeting *Karenia brevis*

P-106 Jing Li (China)

Morphological plasticity bestows ciliate *Euplotes charon* W413 mitigation capacity upon *Karenia mikimotoi*

P-107 Gemore Bacsal (Philippines)

HAB-causing phytoplankton species and the water quality in Jibatang River Estuary, Calbayog City

P-108 Antonija Bulić (Croatia)

Screening of cycle imine toxins in *Mytilus galloprovincialis* in Neretva River and Bay of Mali Ston

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Reduction of the impact of exposure to harmful marine microalgal species via the use of a UV-LED g-C3N4-photocatalytic curtain

P-110 Aitor Laza-Martinez (Spain)

Yessotoxins in an aquaculture area off the Basque coast: their occurrence in mussels and in its potential producers

P-111 Tadashi Nakano (Japan)

Labour-saving HAB monitoring surveys using an automated water sampling microscopy system: Validation of performance on cell density estimation in laboratory experiments

P-112 Gian Carlo S. Gaetos (Philippines)

Biomarker development for *Pseudo-nitzschia* spp. and its implications to effective HABs surveillance in the Philippines

P-113 Minji Lee (Republic of Korea)

Characteristics of phytoplankton assemblages by seasonal short-time scale monitoring using HPLC pigment analysis in semi-enclosed harbor

P-114 Yoichi Miyake (Japan)

Toward field installation of a low-cost plankton imaging system for continuous monitoring and data acquisition of harmful algal blooms

P-115 Kendra Hayashi (United States)

Using particle size distribution (PSD) to automate imaging flow cytobot (IFCB) data quality in coastal California, USA

P-116 Mungi Kim (Republic of Korea)

Occurrence, causative microalgae, and bioaccumulation of lipophilic marine biotoxins (LMTs) in the South Sea coast of Korea

P-117 Floredel Dangan-Galon (Philippines)

Seasonal variability on phytoplankton diversity and abundance in Puerto Princesa Bay, Palawan, Philippines

P-118 Uwe John (Germany)

Species-specific detection and quantification of harmful blooms of *Chrysochromulina leadbeateri* (Haptophyta) using quantitative PCR

P-119 Bengt Karlson (Sweden)

High resolution underway observations of harmful algal bloom dynamics in the Baltic Sea and the Kattegat-Skagerrak using AI assisted automated imaging in-flow

P-120 Jhonamie A. Mabuhay-Omar (Philippines)

Baselining phytoplankton communities and potential HABs species in major ports of Palawan, Philippines

P-121 Yutaka Okumura (Japan)

Phytoplankton assemblages in surface sediments collected from Onagawa Bay and Matsushima Bay

P-122 Catarina Moreirinha (Portugal)

Near infrared hyperspectral imaging: a powerful tool for toxin-producing microalgae detection in seawater

P-123 Maria Beverly Sambajon (Philippines)

Assessment of current practices to disseminate alerts and information for the effective communication of HABs warnings and events in selected sites in the Philippines

P-124 Silvia Casabianca (Italy)

Different molecular approaches for identification and quantification of HAB species

P-125 Margarita Fernández-Tejedor (Spain)

Decrease in the frequency of diarrhetic shellfish poisoning (DSP) events associated to shifts in phytoplankton populations and changes in analytical methods for biotoxin analysis

P-126 Antonella Penna (Italy)

The sxt gene and paralytic shellfish poisoning toxins as markers for the monitoring of HAB dinoflagellate blooms

Ciguatera and Benthic HABs

P-127 IT Toshiaki Yokozeki (Japan)

Evaluation of differences in acid stability of ciguatoxin congeners from the Pacific by LC-MS/MS

P-128 IT Jens Wira (United States)

Shedding light on *Gambierdiscus*: Diel patterns and their interspecies variability

P-129 IT Goshi Araki (Japan)

Accumulation of ciguatoxins in herbivorous fish and their diet in Japan

P-130 IT Laura Pezzolesi (Italy)

Depth distribution of benthic harmful dinoflagellate assemblages in Madeira Island: implication in view of climate changes

P-131 Nantapak Potisarn (Thailand)

The first occurrence of massive blooms, benthic dinoflagellate (*Ostreopsis* sp.) in seagrass areas of eastern Gulf of Thailand

P-132 Seung Ho Baek (Republic of Korea)

The potential role of marine plastic debris as a dispersal vector for harmful epiphytic dinoflagellate *Fukuyoa koreansis*

P-133 Shauna A. Murray (Australia)

Marine benthic dinoflagellates – their relevance for science and society

P-134 Luiz L. Mafra Jr. (Argentina)

Benthic harmful microalgae and their impacts in South America

P-135 Greta Gaiani (Australia)

Development of genetic markers related to ciguatoxin (CTX) production in *Gambierdiscus* species responsible for ciguatera poisoning

P-136 Alison Robertson (United States)

Spatiotemporal distribution of ciguatoxins from long-term monitoring in the Florida Keys marine sanctuary

P-137 Jin Ho Kim (Republic of Korea)

Benthic sand-dwelling dinoflagellates community in Pyoseon Beach of Jeju Island, Korea during spring and summer 2022

P-138 Jorge Diogène (Spain)

Toxicity screening and toxin profile of *Gambierdiscus* spp. and fish from La Réunion Island (Indian Ocean)

P-139 Lucia Beatrice C. Cal (Philippines)

First record of a *Coolia* sp. in the tropical waters of the Philippines

P-140 Fernando Real Valcárcel (Spain)

Evaluation of ciguatoxin-like toxicity in the trophic web in Sardina del Norte and Risco Verde, two hotspots of *Gambierdiscus* spp. in Gran Canaria Island

Ichthyotoxic HABs

P-141 IT Mathias Fon (Norway)

Using high-throughput techniques to understand the growth of the fish-killing haptophyte *Chrysochromulina leadbeateri* in northern Norway

P-142 IT Alexander Brevis-Valdebenito (Chile)

Analytical strategy based on extraction, bioassay and untargeted LC-MS analysis for the determination of neurotoxins in Raphidophyceae *Heterosigma akashiwo*

P-143 Abrianna Elke Chairil (Japan)

mRNA-seq analysis on *Karenia brevis*-exposed larval stage java medaka *Oryzias javanicus*

P-144 Lixia Shang (China)

Understanding fish-killing mechanisms of HABs from different aspects based on the observations of multiple species of dinoflagellates

P-145 Elizabeth M. Mudge (Canada)

Influence of biotic and abiotic factors on prymnesin profiles in three strains of *Prymnesium parvum*

P-146 Thomas Chun-Hung Lee (Hong Kong, China)

Toxicity effect of the algicidal supernatant from bacterium P4 and the *Karenia mikimotoi* cells after exposed to algicidal supernatant on fish gill cell line

P-147 Ingunn A. Samdal (Norway)

Toxic microalgae in Norwegian waters (ToxANoWa) - Uncovering fish-killing mechanisms of phytoplankton from Scandinavian waters

P-148 Winnie Lam (Hong Kong, China)

Responses of medaka fish experimentally exposed to ichthyotoxic dinoflagellate *Karenia mikimotoi*

P-149 Vincent Lovko (United States)

Effects of *Karenia brevis* on behavior, mortality and reproductive success of the Florida stone crab, *Menippe mercenaria*

P-150 Joo-Hwan Kim (Republic of Korea)

Life cycle stage transitions as the cause of the abrupt disappearance and reoccurrence of a *Heterosigma akashiwo* (Raphidophyceae) bloom in the surface layer

P-151 Marta Cegłowska (Poland)

Characteristics of *Prymnesium parvum* from the first harmful bloom in the Polish river

P-152 Robert Jay N. Ramos (Philippines)

Hemolytic toxicity of fish-killing dinoflagellates isolated from HABs-affected bays in Luzon, Philippines

Cyanobacterial HABs

P-153 IT Savannah Sarkis (Netherlands)

Combined effects of CO_2 and nitrogen on the ecophysiology of a toxic cyanobacterium

P-154 IT Masaki Fujita (Japan)

Taxonomy, function, and molecular mechanisms of the algicidal bacterium, *Pseudomonas* sp. Go58, derived from water-plant biofilm

P-155 IT Kunihiro Okano (Japan)

Survival and chronological changes of blue-green algae in the sediment core from Lake Hachiro, Japan

P-156 IT D. Y. Huang (Canada)

The occurrence of cyanobacterial toxins in Alberta recreational waters

P-157 Stuart Oehrle (United States)

Expanded monitoring of cyanobacterial toxins in various water sources using a targeted LC/MS/MS analysis….more toxins…more information!

P-158 Wonjae Kim (Republic of Korea)

The beta-lactamase activity at the community level confers beta-lactam resistance to bloom-forming *Microcystis aeruginosa* cells

P-159 Chi-Yong Ahn (Republic of Korea)

Particle-attached and free-living bacterial communities in response to *Microcystis* blooms

P-160 Yerim Park (Republic of Korea)

Alleviation of H_2O_2 toxicity by extracellular catalases in phycosphere of *Microcystis aeruginosa*

P-161 Andrew M. Kim (United States)

Unraveling the bacterial community composition and chemical space during a freshwater cyanobacterial harmful algal bloom using a multi-omics approach

P-162 Jessica A. Moretto (Brazil)

Spatiotemporal diversity of bloom-forming cyanobacteria throughout the Kissimmee Chain of lakes (Florida, USA)

P-163 Cristina Nordi (Brazil)

Characterization of cyanobacteria and microcystins at recreational activity points in the Billings Reservoir (São Paulo-Brazil)

P-164 Ronojoy Hem (United States)

The influence of environmental conditions on *Microcystis* abundance and colony size during blooms across North America quantified using a novel imaging technique

P-165 Kazunori Shizuka (Japan)

Interspecific relationships between 2-MIB-producing and non-producing cyanobacteria in a brackish lake

P-166 Taisuke Ohtsuka (Japan)

Cyanobacterial water blooms in Lake Biwa -revisiting 40 years of history

P-167 Robert Konkel (Poland)

Blooms and the diversity of the toxic Baltic cyanobacterium *Nodulatia spumigena* – from the past to the present

Toxins, Biosynthesis and Detection Methods

P-168 IT Jennifer Cordoza (United States)

Mechanistic insights into a divergent PLP-dependent arginine cyclase from a toxic cyanobacterium

P-169 Ryuichi Watanabe (Japan)

Development of nontoxic saxitoxin enantiomers as reference materials

P-170 Mayu Ozawa (Japan)

New azaspiracid analogues produced by *Azadinium spinosum* isolated from Japanese coastal waters

P-171 Ziru Lian (China)

Dual-emission ratiometric fluorescent sensor based molecularly imprinted nanoparticles for visual detection of okadaic acid in seawater and sediment

P-172 Elisabeth J. Faassen (Netherlands)

Broad screening of food and feed supplements for marine and cyanobacterial toxins

P-173 Hajime Uchida (Japan)

Toxin analysis of Kareniaceae cultures isolated from the northern coastal waters in Japan

P-174 Hiroshi Nagai (Japan)

Aplysiatoxin derivatives from an Okinawan toxic cyanobacterium *Okeania hirsuta*

P-175 Ying Ji (China)

Prevalence and distribution of phycotoxins in bivalves and phytoplankton from Beibu Gulf, South China Sea

P-176 Jung-Rae Rho (Republic of Korea)

Isolation of GC toxins from dinoflagellate *Gymnodinium catenatum* cultured in the laboratory

P-177 Gabriel L. Rojas-Abrahantes (Cuba)

Seasonal changes in cell density of the genus *Amphidinium* (Dinophyceae) in the Mexican Pacific Transition Zone

P-178 Christopher R. Loeffler (Germany)

Neuroblastoma (cell-based) cytotoxicity assay: differential protein expression in cells lines based on sensitivity to ouabain and veratridine

P-179 Ambbar Aballay-González (Chile)

Neurotoxic characterization of an extract obtained from the exudate of *Karenia selliformis* (CREAN_KS02)

P-180 Noemí Inmaculada Medina-Pérez (Spain)

Nutrient availability may not directly modulate toxin production by *Ostreopsis* cf. *ovata*

P-181 María del Carmen Osorio-Ramírez (Mexico)

Isolation, purification, and identification of secondary metabolites of *Coolia malayensis* with cytotoxic activity on human cancer cells

P-182 Paulo Vale (Portugal)

Branched-chain fatty acids in 7-O-acyl okadaite esters from bivalves

P-183 Akitoshi Goto (Japan)

Suspect screening of bioaccumulative halogenated natural products in Japanese seabass by GC×GC/HRToFMS

P-184 Mònica Campàs (Spain)

Evaluation of toxicity equivalency and cross-reactivity factors of tetrodotoxin analogues and applicability in the analysis of puffer fish

P-185 Rómulo Aráoz (France)

Receptor-binding assays for cyclic imine toxins detection on shellfish extracts, an interlaboratory study

P-186 Philipp Hess (France)

A new IOC-UNESCO database on toxins, their chemical and bioactivity characteristics and links to the causative organisms

P-187 Jan Tebben (Germany)

Glyco-azaspiracids, novel toxins produced by *Azadinium poporum*

P-188 Pearse McCarron (Canada)

Development of a cyanobacterial matrix certified reference material for multiple classes of cyanotoxins

P-189 Brian William D. Hingpit (Philippines)

Differential and co-expression analysis of toxic and non-toxic strains of the marine dinoflagellate *Alexandrium minutum*

P-190 Yun Liu (China)

Variation in the growth and toxin production of *Gymnodinium catenatum* under different laboratory conditions

P-191 Lou Mary (France)

Metabolomic and transcriptomic characterization of the ability to produce PST in *Alexandrium minutum* using recombinant progeny

Toxicology

P-192 IT Yongmeng Yang (China)

Effects of lipophilic phycotoxin okadaic acid on the early development and transcriptional expression of marine medaka *Oryzias melastigma*

P-193 IT Nour Ayache (United States)

Crassostrea virginica early life stage survival and toxin accumulation after exposure to different *Dinophysis* species

P-194 IT Loïc Plessis (France)

Portimine from *Vulcanodinium rugosum* induces severe pyroptosis in primary skin cells through ribotoxic stress response (RSR)

P-195 IT M. Carmen Louzao (Spain)

Toxicity and depuration of okadaic acid in mice exposed by voluntary feeding

P-196 M. Carmen Louzao (Spain)

14 day-neurotoxicity evaluation of brevetoxin 3

P-197 Emilie Lance (France)

Toxicological investigations of emerging cyanotoxins and cyanopeptides on fish cell lines

P-198 Guixiang Wang (China)

Apoptosis and oxidative stress of mouse breast carcinoma 4T1 and human intestinal epithelial Caco-2 cell lines caused by gymnodimine-A

P-199 Veronica T.T. Lam (Hong Kong, China)

Effects of pharmaceutical antibiotic macrolide clarithromycin on cosmopolitan benthic dinoflagellate *Amphidinium carterae* (Genotype 2)

P-200 Ivana Ujevic (Croatia)

Long-term study of domoic acid in the population of warty venus from a semi-enclosed bay in the middle Adriatic Sea

P-201 Peijin Li (Republic of Korea)

Change in the profile of paralytic shellfish toxins (PSTs) in zooplankton during toxic dinoflagellate *Alexandrium* emergence during spring season

P-202 Yuet Tung Tse (Hong Kong, China)

Different effects on growth of *Scenedesmus quadricauda, Scenedesmus dimorphus*, and *Scenedesmus obliquus* under microplastics stress

Surveillance and Management

P-203 IT Keigo Yamamoto (Japan)

Annual changes in the occurrence of vegetative cells and abundance of cysts of *Alexandrium catenella* and *A. pacificum* in Osaka Bay, Japan

P-204 IT Giorgia Zoffoli (Italy)

Biotoxins profile in mussels of the northern-central Adriatic Sea in the last decade (2012-2022): major contamination events and correlation with toxic phytoplankton

P-205 Maria G. Antoniou (Cyprus)

CYANOTECH: A sustainable and innovative management system for toxic cyanobacteria blooming of surface waters with combined energy production, sustainable agriculture, and food safety

P-206 Gabriel L. Rojas Abrahantes (Cuba)

Integrated system for the surveillance and management of harmful algal blooms in coastal areas of Cienfuegos province, Cuba

P-207 Sarah Swan (United Kingdom)

Pseudo-nitzschia blooms associated with rapid onset of amnesic shellfish toxin contamination in mussels from Scottish coastal waters

P-208 Keith Davidson (United Kingdom)

HABreports & My-HABs online early warning of HAB events for the aquaculture industry in Scotland and Malaysia

P-209 Henrik Oksfeldt Enevoldsen (Denmark)

Joint FAO-IOC-IAEA technical guidance for the implementation of early warning systems for harmful algal blooms

P-210 Magda Vila (Spain)

Citizen science participation increases the coverage and speediness in harmful microalgae blooms detection

P-211 Toshiya Katano (Japan)

Citizen science of red tide monitoring using smartphone

P-212 Sang Yoo Lee (Republic of Korea)

Occurrence and risk assessment of saxitoxin group toxins in South Korean seafood

P-213 Su Been Park (Republic of Korea)

Occurrence and risk assessment of okadaic acid, dynophysistoxin-1, dynophysistoxin-2, and dynophysistoxin-3 in South Korean seafood

P-214 Anette Engesmo (Norway)

Seasonal dynamics of *Alexandrium pseudogonyaulax* in Oslofjorden, Norway estimated by qPCR and light microscopy cell counts

P-215 Antonella Penna (Italy)

Toxic *Dinophysis* species in aquaculture areas of north western Adriatic Sea: dynamic and a molecular qPCR approach

HABs in a Changing World

P-216 IT Suzanne de Zwaan (Netherlands)

Adding a paleo-perspective to harmful algal blooms (HABs) along the West Florida Coast: Assessing the influence of anthropogenic factors

P-217 IT Hiroshi Funaki (Japan)

Vertical distribution of HAB cysts in the sediment of Uranouchi Inlet using metabarcoding

P-218 IT Sara T. Costa (Portugal)

Plastics as a new vector for marine toxins

P-219 Hannah Greenhough (New Zealand)

Interaction between toxic *Alexandrium pacificum* exposure and increased water temperature in *Perna canaliculus* spat

P-220 Kin-Ka Chan (Hong Kong, China)

Nutrient recycling through microalgae cultivation in food waste treatment

P-221 Drajad Seto (United States)

Prolonged periods of nutrient limitation as a driving factor for *Pseudo-nitzschia* blooms

P-222 Jin-Xiu Wang (China)

Biological features of *Phaeocystis globosa* in Beibu Gulf and implications on the bloom dynamics

P-223 Tian Yan (China)

Investigation and database of harmful algae and algal toxins in coastal China: HAATC Project

P-224 Shotaro Naruse (Japan)

Anthropogenic chemicals may promote a shift from diatoms to harmful phytoflagellates

P-225 Wonho Yih (Republic of Korea)

Researches on the opportunistic red tide ciliate, *Mesodinium rubrum*, in Korea - Unique klepto-organelle chains and sustainable communities -

P-226 Carolin Peter (Sweden)

Effects of predicted increasing temperatures and decreasing salinities on *Nodularia spumigena*

P-227 Chao Liu (China)

Intense blooms of *Phaeocystis globosa* in the coastal waters of China are caused by a unique ecotype

P-228 Moira Jude Romina O. Yu (Philippines)

Establishing baseline data and insights on harmful algal blooms in Calbayog City, Samar, Philippines

P-229 Stephanie Faith Ravelo (Philippines)

Exploring the influence of dinocyst densities in the periodic outbreak of *Pyrodinium* bloom in the waters of eastern Visayas, Philippines

P-230 Lyka C. Superable (Philippines)

A baseline study on HAB-causing phytoplankton and water quality assessment in an estuary in Carigara, Leyte

P-231 Bryan Bianito T. Fiel (Philippines)

Assessment of physicochemical characteristics and phytoplankton composition in the Paraiso Mangrove Eco Learning Park, San Jose

P-232 Adrian Wayne A. Ongbit (Philippines)

Phytoplankton composition and monitoring of HABs in the marine waters of Cancabato Bay in Leyte, Philippines

P-233 Fanzhou Kong (China)

Harmful algal blooms variations in response to annual and inter-annual environment changes in the eutrophic Haizhou Bay, Yellow Sea, China

P-234 Hazel Alvarez (Philippines)

Morphological plasticity of *Alexandrium minutum* investigated using Imaging Flow Cytobot

P-235 Mark L. Wells (United States)

The global success of toxigenic *Pseudo-nitzschia* species; What does it mean for future ocean ecosystems?

Socio-economic Impacts	
P-236	Rosalba Alonso-Rodríguez (Mexico)
	Socio-environmental impacts of harmful algal blooms in Mexico
P-237	Máximo Frangopulos (Chile)
	Perceptions and preparedness of local coastal communities towards harmful algal blooms in Chilean Patagonia: A survey-based study
P-238	Cheuk-Yee Chan (Hong Kong, China)
	Enhancement of lipid production by microalgal isolates from mangrove through environmental stresses
P-239	Stephanie K. Moore (United States)
	Exploring the human dimensions of harmful algal blooms through a well-being framework to advance ecosystem assessment and management in a changing world

Emerging Issues	
P-240	Olivia Pawlyk (United States)
	Impacts of agricultural microplastics on the growth of marine phytoplankton in Monterey Bay, California (USA)
P-241	Leni G. Yap-Dejeto (Philippines)
	Harmful algae in the waters of four mangrove ecosystems of eastern Visayas, Philippines
P-242	Lorena M. Durán-Riveroll (Mexico)
	Nanoparticle-assisted photosynthesis stimulation in dinoflagellates
P-243	Anke Kremp (Germany)
	Detection and quantification of invasive *Alexandrium pseudogonyaulax* in the Baltic Sea using ddPCR
P-244	Sidney Man-Ngai Chan (Hong Kong, China)
	Exploring the bioremediation potential by microalgae

WORKSHOP

W01	SETOUCHI 3
Microbiome data resources available to the harmful algal bloom research community through the national microbiome data collaborative (NMDC)	
Monday 6 November lunchtime (12:45 – 13:45)	
Chair: Anders Kiledal (United States)	
DETAILED PROGRAM: Attendees will learn about the importance of microbiome data stewardship, the many benefits good data stewardship provides to the research community, and resources available from the National Microbiome Data Collaborative (NMDC), an initiative of the US Department of Energy. The workshop will particularly focus on the NMDC data portal which facilitates discovery of and access to multi-omics microbiome data and is connected to additional tools for data submission and metadata curation, and standardized bioinformatics workflows.	

W02	KIUN
IOC/WESTPAC-HAB workshop: Mitigation and management of harmful algal blooms in the Western Pacific	
Monday 6 November lunchtime (12:45 – 13:45)	
Chairs: Kazumi Wakita (Japan), Lim Po Teen (Malaysia)	
DETAILED PROGRAM: Presentation of "*Karenia selliformis* and other kareniaceans in an intensive cold-water algal bloom in eastern Hokkaido, Japan in 2021" Mitsunori Iwataki (The Univ. of Tokyo, Japan) Open discussion on mitigation and management of HABs in the Western Pacific.	

W03	SETOUCHI 3

IOC-UNESCO workshop: Toxin database workshop

Tuesday 7 November lunchtime (12:45 – 13:45)

Chairs: John Ramsdell (USA), Philipp Hess (France) and Christopher Miles (Canada)
Task Team on Toxin Detection, Management and Regulation of the IOC UNESCO's Intergovernmental Panel on Harmful Algal Blooms

DETAILED PROGRAM:

Since 2020, a new database has been developed as part of the Harmful Algal Information System suite of the IOC UNESCO. The database captures toxins known to date to be produced by microalgae and cyanobacteria relevant to the aquatic environment, and their metabolites. Each toxin is affiliated to a chemically closely related group and the database record contains sections on chemical characteristics and structures, methods of analysis and regulatory status, producing organisms and potential vector organisms, as well as the bioactivity of the toxin. The database links to the World Register of Marine Species, Taxonomic Reference List of Harmful Microalgae and Harmful Algal Bloom Database and is designed to meet the needs of multiple user groups.

W04	SETOUCHI 3

IOC harmful algal information system (HAIS) workshop: The power of big data for HAB seafood risk assessment and predicting HAB futures

Thursday 9 November lunchtime (12:45 – 13:45)

Chairs: Gustaaf Hallegraeff (Australia), Dave Clarke (Ireland) and Eileen Bresnan (United Kingdom)
IPHAB Task Team for HAIS and GHSR

DETAILED PROGRAM:

This workshop will:
- Introduce the HAEDAT (IOC-ICES-PICES Harmful Algal Event Database) and OBIS (HAB species diversity and distribution) databases,
- Guidance on consistent collation of data for entry and interpretation,
- Review the status of available global data, and their applications in the 1st IOC Global HAB Status report,
- Open discussion. We specifically encourage input from Japanese and Chinese colleagues.

W05	SETOUCHI 3

Current and future cyanotoxin toxicity research for public health risk assessment

Friday 10 November lunchtime (12:45 – 13:45)

Chair: Jingrang Lu (United States)

DETAILED PROGRAM:

Cyanobacteria can produce dangerous toxins such as microcystins, anatoxins, saxitoxins and cylindrospermopsins, etc. These toxins can cause a variety of adverse health effects and pose a serious health risk to both humans and livestock.

Session objectives and topics to be discussed

1. Review public health risk of cyanotoxins
2. Discuss the need for international collaboration of research and public data sharing, and common barriers to collaboration and ways to overcome them
3. Examine status of current research on cyanotoxins and generate priority areas for future research
4. Review state-of-the-art experimental and computing methodologies including omics and multi-omics integration methods for toxicological assessment
5. Recommend published work and scientific data on human and animals for making regulatory policy or decisions
6. Deliberate augmentation of current health risk assessment using multiple layers of biological data including toxicological, pharmacological, and physiological data

Young Investigator Networking Session

Sunday 5 November 2023, 15:00–18:00
Room HISHO & KONPEKI

Calling students, postdocs and early career scientists!

Come attend this session to meet your peers and get comfortable talking with established scientists and young scientists in government, academia or industry.

The session will have interactive activities designed to build networks among young scientists.

Snacks and beverages will be provided.

- Online registration is required by 15 October 2023. Please visit Amarys and log in to your account for the registration (https://amarys-jtb.jp/icha2023/).
- Space is limited to 100 participants.

INFORMATION FOR CHAIRS

GUIDELINES FOR CHAIRPERSONS

1) Locate your session room in due time.

2) In Setouchi 1,2,3, which are the main presentation rooms, a chairperson table is installed at the front of the room.

3) All presentations, discussions and questions must be in English.

4) Your main role is to introduce the session, the speakers and to conclude the session.

5) Please be sure to keep to the allocated presentation time as follows.

Sessions	Total	Presentation + Q&A
Opening Lecture	30 min	25 min ＋ 5 min
Plenary Session		
Parallel Session	15 min	12 min ＋ 3 min

6) Except for the Ignite Talks Session, the timekeeper from LOC staff will use bell sounds to signal the remaining time. The bell will ring as follows:

Once	Two more minutes left for the presentation
Twice	End of the presentation and start of Q&A
Three	End of Q&A

GUIDELINES FOR CHAIRPERSONS FOR IGNITE TALKS

1) Verify that all speakers are arranged in the order shown in the **DETAILED SCIENTIFIC PROGRAM**.

2) Your main role is to introduce the session. Before a session starts, in one minute, please summarize and introduce the topics of presentations which individual presenters will talk on.

3) Please maintain the allocated time for the session and for each speaker. **Each speaker has 4 minutes and 8 slides (30 seconds each)**. The slide changer will be automatically timed to change at 30 second each and it will cease at total 4 minutes. One minute after the presentation, next speaker will start the talk.

INFORMATION FOR SPEAKERS

ORAL PRESENTATION GUIDELINES

Preview and upload your presentation file

Please come to the "**Speaker Preview Desk**".

Only USB flash memories are accepted. Your media should contain only the presentation data for the conference. **Please make sure to check the files with an anti-virus software before your submission**.

Your presentation file should be named as follows;

For OL and PL speakers; "Session Code_Number_Name.pptx",
e.g. OL_01_FUKUYO.pptx

For PS speakers; "Session Code_Number_Name.pptx",
e.g. PS01_001_IMAI.pptx

Your data file must be uploaded to a PC at the "Speaker Preview Desk" as much as in advance as possible and **TWO HOURS BEFORE THE BEGINNING OF THE SESSION AT THE LATEST** (presentations for morning sessions should be handed over the evening before, presentations for afternoon sessions should be handed over before lunch). Presentations received afterward cannot be guaranteed audiovisual support.

The Secretariat is responsible for destroying all copies of any data after the session.

"Speaker Preview Desk" will be open during the following hours.

Date	Time
Sunday 5 November	from 15:00 to 20:00
Monday 6 November	from 9:00 to 20:00
Tuesday 7 November	from 9:00 to 20:00
Wednesday 8 November	from 9:00 to 13:00
Thursday 9 November	from 9:00 to 20:00
Friday 10 November	from 9:00 to 12:00

Presentation Time

Please arrive at your session room at least 15 minutes before the session begins.

Please be seated at the speaker's standby seat placed at the front of the room when the speaker ahead of you begins the presentation.

Please use the remote presentation system (display, keyboard and mouse) in the session room, on which each presenter's presentation files are uploaded in advance. Presenter View of PowerPoint is not available. **Presentations from own personal laptops are NOT allowed to ensure smooth running of the conference.**

The operator will display only the first page of your presentation. Please use the mouse or the keyboard on the podium to advance to subsequent slides as you proceed with your presentation.

Please be sure to keep to the allocated presentation time as follows in consideration of next presenter.

Sessions	Total	Presentation + Q&A
Opening Lecture	30 min	25 min ＋ 5 min
Plenary Session		
Parallel Session	15 min	12 min ＋ 3 min

The time allocated for each presentation will be strictly observed. The timekeeper will use bell sounds to signal the remaining time. The bell will ring as follows:

Once	Two more minutes left for the presentation
Twice	End of the presentation and start of Q&A
Three	End of Q&A

The Secretariat is responsible for destroying all copies of any data after the session.

IGNITE TALK GUIDELINES

Ignite-style talks follow a standard format that encourages short, engaging presentations that focus on the key points of the research.
Each talk consists of 8 slides that auto-advance every 30 seconds, for a total of four minutes.

Presentation File Format

You can create your presentation in PowerPoint or Keynote. However, we'd like you to export your slideshow to a **1920×1080（16:9）Adobe Acrobat PDF**.

Your presentation file should be named as follows;

" Poster number_Name.pdf"
e.g. P001_IMAI.pdf

On your first slide you will need to introduce yourself, your topic and your poster presentation number (see **DETAILED SCIENTIFIC PROGRAM**). There will be 1 minute between presentations but there will be no time for questions and discussion.

The Secretariat is responsible for destroying all copies of any data after the session.

Date, venue, and presentation time

Ignite Talk Session	1	2	3
Date and Time	Monday 6 November 15:45-17:00		
Venue/Room	SETOUCHI 1	SETOUCHI 2	SETOUCHI 3
Presentation time	4 min		

Please arrive at your session room at least 15 minutes before the session begins.

Please be seated at the speaker's standby seat placed at the front of the room when the speaker ahead of you begins the presentation.

Please use the remote presentation system (display, keyboard and mouse only) in the session room, on which each presenter's presentation files are uploaded in advance.

You will have **exactly 4 minutes and 8 slides (30 seconds each)** for your presentation. The slide changer will be automatically timed to change at 30 second each and it will cease at total 4 minutes not to go over time. The skill in this type of presentation is to get your message across with few words and with clear, interesting and striking images. In 30 seconds there is only enough time for about 3 short sentences.

Be sure to practice your talk to ensure that you stay within the time limit and can manage the slide transitions.

In terms of poster presentation, please view the **POSTER PRESENTATION GUIDELINES**.

SOCIAL PROGRAM

Ice-Breaker*	SETOUCHI 4&5
Sunday 5 November 2023: From 19:00 to 20:00	
Welcome Party*	**SETOUCHI 4&5**
Tuesday 7 November 2023: From 19:00 to 20:30	
ISSHA Auction*	**SETOUCHI 1&2**
Thursday 9 November 2023: From 19:30 to 21:00	
The ISSHA auction is always a highlight of the meeting and we are encouraging everyone to donate items and participate in the event. Payment by cash and credit card accepted.	

- **No registration needed. Free and open to all registered participants.**

*** PLEASE MAKE SURE YOU BRING YOUR NAME BADGE**

GALA DINNER	Hiroshima Castle & Hotel Granvia Hiroshima
Friday 10 November 2023: From 16:00 to 22:00	
Upon registration (JPY 12,000 per participant)	
*Please see the **Gala dinner Application Procedures** for more details. https://icha2023.org/gala-dinner/	

Gala Dinner Overview

After gathering at the Grand Prince Hotel, the venue of the conference, we will have a pre-party at the "**Hiroshima Gokoku Shrine**", located near **Hiroshima Castle**. Here, light refreshments and welcome drinks will be served, and participants will enjoy a **samurai performance** and **ken-dama**.

We will then move to "**Hotel Granvia Hiroshima**", the main venue for the dinner near JR Hiroshima Station, where we will enjoy a seated buffet-style dinner and enjoy "**Kagura**", a traditional performing art of Hiroshima.

That is all for the dinner, but for those who wish, we will also prepare for a drinking session in "**Nagarekawa**", the famous downtown area of Hiroshima City (optional).

Hiroshima Castle
(Hiroshima Tourism Association)

Kagura

Ken-dama

A wooden toy made up of a ball tied to handle by a cord.

Gala Dinner Schedule	
Time	**Associated Activity**
15:40	Meeting at **Grand Prince Hotel Hiroshima**
16:00	Leaving from Grand Prince Hotel
	Moving by BUS
16:30 -18:00	Garden Pre-Party at the **Hiroshima Gokoku Shrine in Hiroshima Castle**
	Moving by BUS
19:00 -22:00	Gala Dinner at **Hotel Granvia Hiroshima**
21:30	**Optional Course **** (see below)
22:00	End*

*For those who return directly to the Prince Hotel, we will pick you up and drop you off by bus. We will depart when the bus is full.

The last departure time is scheduled at 21:50.
After that time, please arrange your own travel.

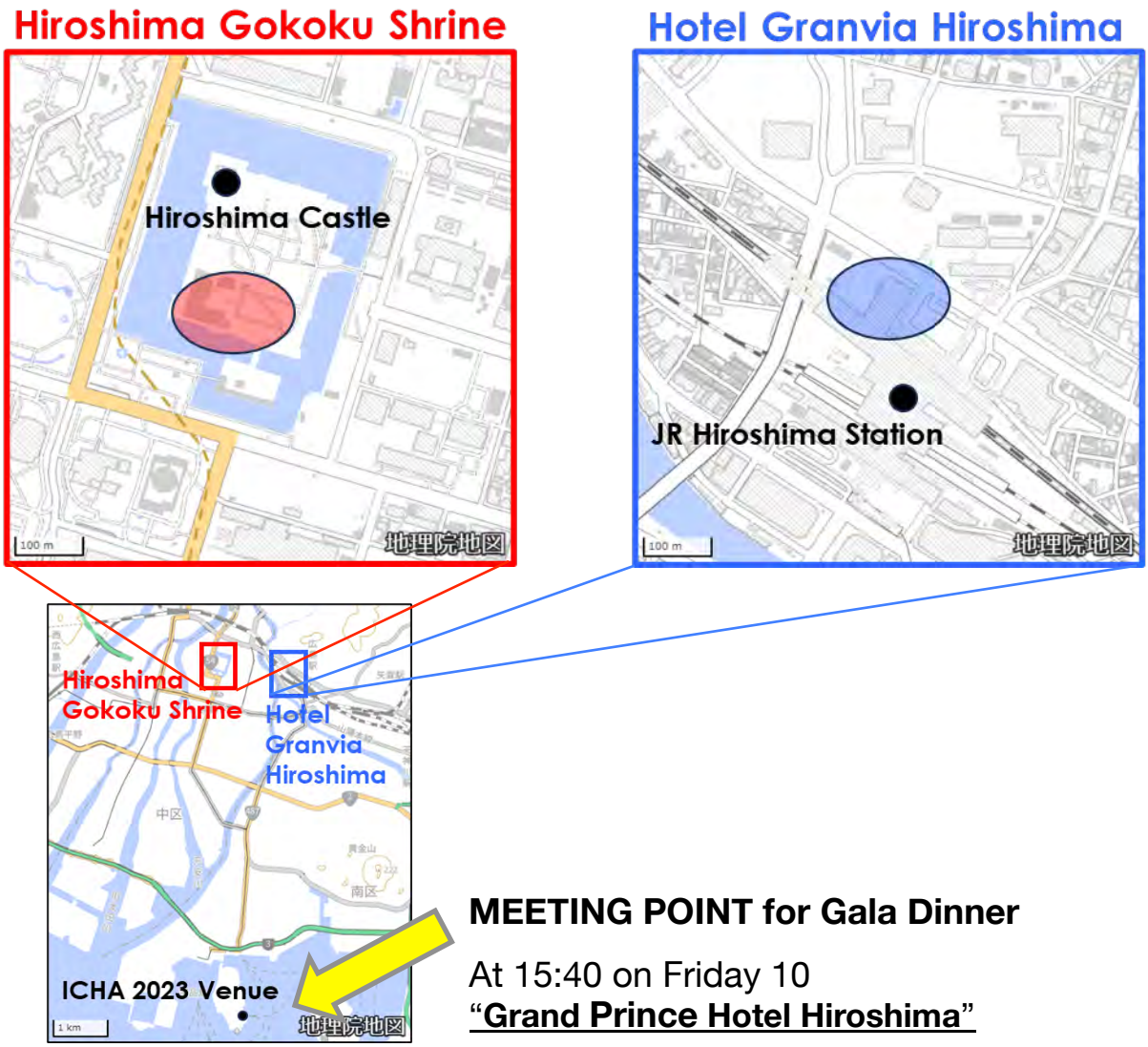
**Optional Course (drinking session in “Nagarekawa”)	
Free of charge (first 100 attendees)	
Time	**Associated Activity**
21:30	We will transfer to the bus stop and head for **Nagarekawa**. You will receive a **ticket** for admission when you board the bus.
	Moving by BUS
21:50	Arrive at Nagarekawa area. You will be guided to the "**Hashigo-zake" (bar hopping)** venues. We will collect your ticket when you enter.
22:00	Start of the after-party at the bar hopping venue. Light snacks and beverages will be served.
22:50	End of after-party.

*Even if the dance time after the Gala dinner is extended, this tour will depart for Nagarekawa on time. Please follow the instructions of the tour staff.

Please note that you will be responsible for making your own way home.

PLEASE MAKE SURE YOU BRING YOUR ADMISSION TICKET

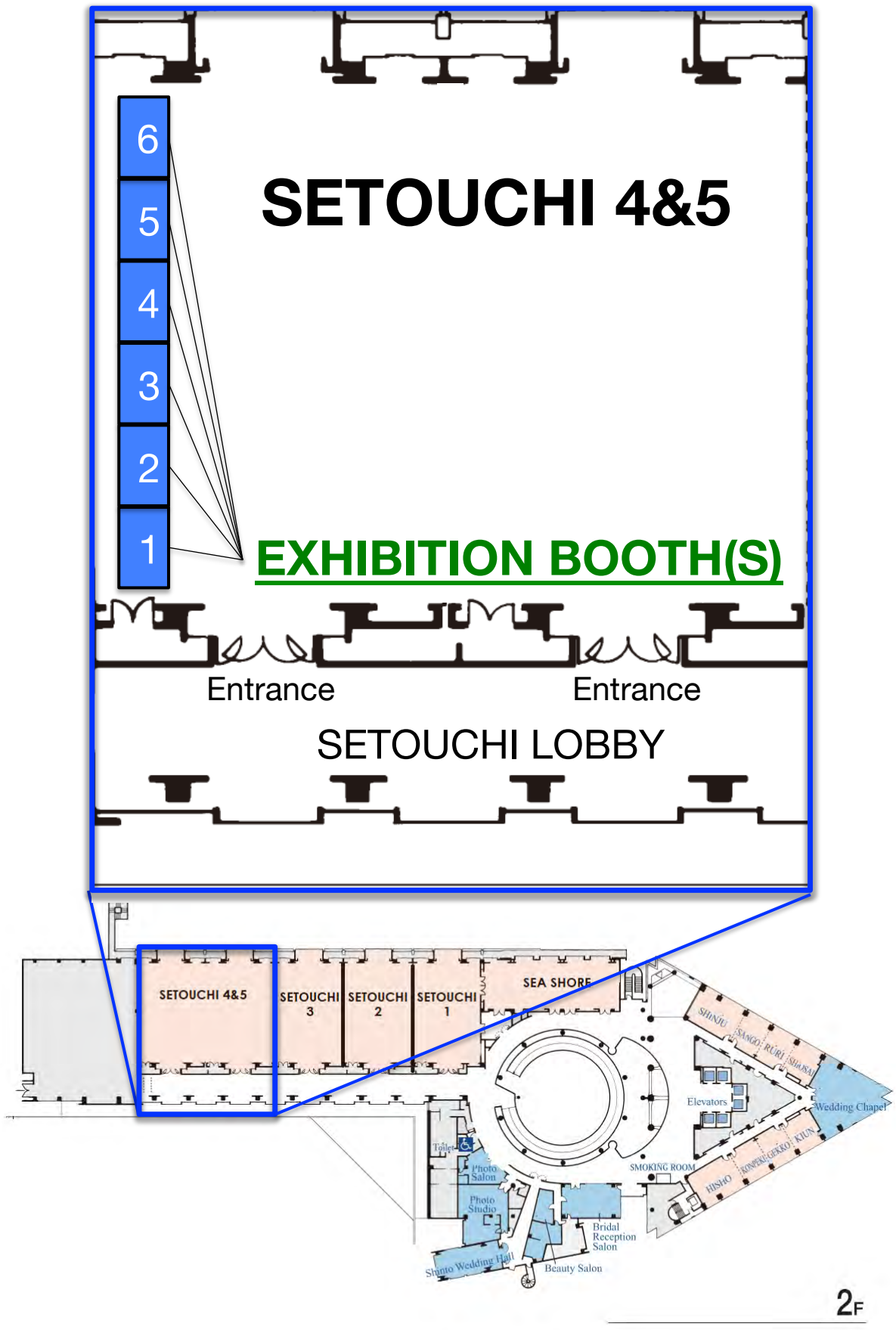
Location of Hiroshima Gokoku Shrine and Hotel Granvia Hiroshima



MEETING POINT for Gala Dinner

At 15:40 on Friday 10
“Grand Prince Hotel Hiroshima”

EXHIBITION FLOORPLAN



EXHIBITORS LIST (BY BOOTH NUMBER)	BOOTH (S)
Restar Communications Corporation	1
Environmental System Inc.	2
JFE Advantech Co., Ltd.	3
NAMOTO Co., Ltd.	4
Yokogawa Electric Corporation	5
NISHIMURASYOKAI Co., LTD.	6

LIST OF EXHIBITORS / PROFILES

Restar Communications Corporation	BOOTH Nº 1

Contact Person: Kazuki Hagiya
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Website: https://www.restarcc.com/solution/lifesci.html

In the Life Sciences business of Rester Communications, we offer cutting-edge solutions in the fields of life science and medical technology. Our offerings range from spatial omics analysis equipment to gene analysis devices such as digital PCR, as well as cell analysis devices like flow cytometers. Additionally, we handle sales of reagents and consumables. Through these advanced solutions, we are contributing to the evolution of life sciences."

Environmental System Inc.	BOOTH Nº 2

Contact Person: Kazuyasu Ayukawa
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Phone:+81 6-6657-5130
E-mail: kaz-a@venus.dti.ne.jp
Website: http://hydrolab.co.jp/

1cm per depth measurement - Automatic vertical profile water quality monitor system for harmful plankton

JFE Advantech Co., Ltd. | BOOTH Nº 3

Contact Person: Hua Li (gen. mgr., oceanographic research laboratory JFE Advantech Co., Ltd.)
Adress: 3-48, Takahata-cho, Nishinomiya, Hyogo, 663-8202, Japan;
Phone：+81-798-24-2465; FAX +81-798-66-1654;
E-mail: ocean@jfe-advantech.co.jp
Website: https://www.jfe-advantech.co.jp/eng/

JFE Advantech is a global oceanographic instruments manufacturer located in Japan. We produce sensors measuring CTD, chlorophyll, turbidity, dissolved oxygen, water current, wave height, and more. Further than our existing Multi-Exciter which may measure the abundance of species group, a recently developed HAI sensor (Harmful Plankton Detection Sensor) uses sophisticated technology enabling it to determine presence of harmful algae at special species level. (*K. mikimotoi*, *C. antiqua*, etc.)

NAMOTO Co., Ltd. | BOOTH Nº 4

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Website: http://www.namoto.com

We are an exclusive importer and distributor of natural environment measuring instruments made by overseas manufacturers. We offer a full range of services from sales to after-sales maintenance. We are honored to exhibit several PAM systems from Heinz Walz, Germany at ICHA2023. One of them, the WATER-PAM-II is a portable cuvette system for analyzing the photosynthetic activity of a wide variety of phytoplankton samples. The lightweight instrument can be used in plenty of applications thanks to its large sensitivity spectrum, the ability to easily switch between red and blue light mode (measuring light and actinic light) and a variety of accessories such as a flow-through cuvette.

Yokogawa Electric Corporation | BOOTH Nº 5

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Since its inception in 1997 at Bigelow Laboratory for Ocean Sciences, FlowCam has provided a fast and accurate addition to labs who research and monitor harmful algae. Combining the function of both flow cytometer and microscope into a single research instrument, FlowCam is used worldwide for the study of marine and freshwater microorganisms. FlowCam can image, measure and enumerate harmful genera and differentiate freshwater cyanobacteria HAB taxa from diatoms and other organisms.

NISHIMURA SYOKAI Co., LTD. | BOOTH Nº 6

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Website : http://www.n-syokai.co.jp/

Nishimura Syokai is a Japanese general trading company founded in 1966. We undertake marine research and develop and sell marine environmental monitoring equipment.
Recently, we offered the IoT device "seaMS" which is useful against red tide.