GlobalHAB symposium on automated in situ observations of plankton

Aims and background

Harmful Algal Blooms (HABs) are affecting aquatic ecosystems and human societies. Biotoxin-producing HABs species and species causing fish mortalities are problems for aquaculture, fisheries and also for tourism. HABs have caused mortality of marine mammals and pose a threat to human health. Ecosystem-disruptive HABs and high-biomass HABs may cause anoxia in deep water and some HABs result in a decrease in coastal water quality and fouling of beaches. High-frequency *in situ* observations of HABs and predators of HAB species are needed to be able to understand HAB dynamics, to develop predictive models of HABs and to produce well-founded warnings for HABs. In recent years, novel *in situ* instrumentation have been developed for automated high-frequency HAB detection in near-real time. In addition, instruments for observing grazers, i.e. microzooplankton and multicellular zooplankton have been developed. These instruments are now being adopted in research and piloted in monitoring programmes. Some of the instruments are becoming available commercially. The aim of the symposium is to bring together experts on, and users of, automated *in situ* imaging systems to present methods, recent results and to share experiences. Another aim is to carry out a comparison of results when analysing plankton communities quantitatively. Young scientists are particularly encouraged to attend the symposium and a special follow-on workshop for young scientists on data processing and report/article writing.

A hybrid symposium

Part of the symposium will be available on line. An evening session is planned for presentations made by participants not on-site. Presentations from the morning sessions will be recorded and published at an IOC web site, link to be communicated later. Training sessions in the afternoons will not be recorded, but instruction videos will be published on line.

Dates

Symposium: 22-26 August 2022

Small group of participants processing generated data: 29-30 August 2022

Deadline for registration

15 March 2022

Pre symposium video conference

Virtual meeting Monday 30 May 2022 1600-1900 CET. All on site participants will be invited. Planning of hands-on training, intercomparison experiment etc.

Number of participants

On site max ~30 persons including lecturers

On line participation to the hybrid parts of the symposium max ~100 persons

Venue

Kristineberg Marine Research Station, Fiskebäckskil, Sweden

This is well-equipped field station is located at the mouth of the Gullmar fjord on the Swedish west coast, adjacent to the North Sea. More information is available at https://www.gu.se/en/kristineberg

More information: https://www.gu.se/en/kristineberg

Instruments

Imaging in flow instruments will be the main focus of the symposium. Instruments will include the Imaging FlowCytobot, the FlowCam and the CytoSense/Sub.

Symposium fee

The fee for on-site participation in the symposium includes costs for accommodation, food and bench fee. Cost per participant is 9000 SEK (approximately USD 1000 and €900). Registration requires no payment. Payment can be made using credit card upon acceptance.

Financial support for participants

Funds are available for our sponsors to support a limited number of participants. Early career scientists can apply for support for travel costs and symposium fee when registering. The workshop coordinators will contact applicants to discuss potential funding prior to finalization of the participants.

Co-conveners

Bengt Karlson, SMHI, Sweden

Keith Davidson, SAMS, Oban, United Kingdom

Raphael Kudela, University of California, Santa Cruz, USA

Marina Montresor, Stazione Zoologica Anton Dohrn, Italy

Peter Tiselius, University of Gothenburg, Sweden

Lars Naustvoll, Institute of Marine Research, Norway

Elisa Berdalet, Institute of Marine Sciences (ICM-CSIC), Spain

Dates and deadlines

Deadline for registration 15 March 2022
Decision about participants early April 2022

Registration

Register through web forms at the SCOR web site:
http://events.constantcontact.com/register/event?llr=nmzjwjyab&oeidk=a07eiy3gqzn569a6844

Information needed when registering include:

Name
Affiliation
Gender
Year of birth
Nationality
Address
Position
I plan to bring instrument xxxx
I would like to participate on-site
I am only interested in participating on-line (no symposium fee)
I have funding for travel and symposium fee secured
I am an early career scientist and apply for travel support and waived symposium fee
I am a scientist and apply for travel support and waived symposium fee

Relevant ongoing research and experience and (max 500 words)

Preliminary agenda

Monday 22 August

Arrival and set up of instruments
1800 Dinner

Tuesday 23 August

0900-1200 Presentations - focus on HAB observations
1200-1300 Lunch
1300-1700 Hands on training (split into ~ five groups)
1800 Dinner
1930-2100 Evening session – discussions. Invited presentations by persons that are not on site may be included.

Wednesday 24 August

0900-1000 Intercomparison start - description of experimental design etc.
1030-1200 Distribution of samples for intercomparison (field samples + mixed cultures)
1200-1300 Lunch
1300-1700 Analysis of samples for intercomparison
1800 Dinner
1930-2100 Evening session – discussions. Invited presentations by persons that are not on site may be included.

Thursday 25 August

0900-1200 Presentations - focus on grazers, i.e. microzooplankton and multicellular zooplankton–
1200-1300 Lunch
1300-1700 Hands on training (split into ~ five groups)
1800 Dinner
1930-2100 Presentations on using imaging systems in observational programs etc. Invited presentations by persons that are not on site.

Friday 26 August

0900-1200 Presentations – focus on AI for automated identification of plankton
1200-1300 Lunch
1300-1500 Processing of data from intercomparison, packing of instruments
1530-1800 Presentation of preliminary results from intercomparison
1900-2100 Symposium dinner

Saturday 27 August

Departure for most of the participants

JERICO-S3 workshop

Monday 29 August

A few symposium participants work on further processing of data and analysis of samples

Tuesday 30 August

A few symposium participants work on further processing of data and analysis of samples

The symposium is supported by:

GlobalHAB (SCOR and the IOC)

IOC - HAB program
ICES - Working Group on Harmful Algal Bloom Dynamics
JERICO-S3 (European Union, Horizon 2020)
NOAA – NCCOS Competitive Research Program
The Swedish Meteorological and Hydrological Institute
The University of Gothenburg