



## GLOBALHAB symposium on automated in situ observations of plankton

### Aims and background

Harmful Algal Blooms are affecting society in many ways. Biotxin-producing HAB species and species causing fish mortalities are problems for aquaculture, fisheries and also for tourism. HABs have caused mortality of marine mammals. Ecosystem-disruptive HABs and high-biomass HABs may cause anoxia in deep water and some HABs result in fouling of beaches. High-frequency *in situ* observations of HABs and predators of HAB species are needed to be able to produce well-founded warnings for HABs, to develop predictive models of HABs and to understand HAB dynamics. In recent years, novel *in situ* instrumentation have been developed for automated high-frequency HAB detection in near-real time. Instruments for observing grazers, for example, microzooplankton and multicellular zooplankton, are becoming available commercially. These instruments are now being adopted in research and also in monitoring programmes. The aim of the mini-symposium is to bring together experts on, and users of, automated in situ imaging systems, novel sampling equipment, etc. to present methods, recent results and to share experiences. Another aim is to carry out a comparison of results when analyzing plankton communities quantitatively. Early career scientists is one target group of the symposium.

## Dates

1-6 June 2020

## Venue

### **Kristineberg Marine Research Station**

*Kristineberg 566*

*SE-451 78 Fiskebäckskil,*

*Sweden*

This 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://mi.gu.se/kristineberg-marina-forskningsstation> (select English in menu)



## Co-conveners

Bengt Karlson, SMHI, Sweden

Keith Davidson, SAMS, Oban, United Kingdom

Raphael Kudela, University of California, Santa Cruz, USA

Marina Montessor, Stazione Anton Dorn, Naples, Italy

Peter Tiselius, University of Gothenburg, Sweden

Lars Naustvoll, Institute of Marine Research, Norway

Elisa Berdalet, Institut de Ciències del Mar, Barcelona, Spain

## Invited lecturers

Michael Brosnahan, Woods Hole Oceanographic Institution

Felipe Artigas, Laboratoire d'Océanologie et Géosciences MREN - Université du Littoral, Wimereux, France

## Instruments

Instruments will be provided by symposium participants, e.g. by SMHI, Sweden, Université du Littoral, and Institute of Marine Research, Norway. The instruments include:

Microscopes

The Imaging FlowCytobot (<http://mclanelabs.com>)

The FlowCam ([www.fluidimaging.com](http://www.fluidimaging.com))

The FlowCam Macro ([www.fluidimaging.com](http://www.fluidimaging.com))

The CytoSense (<https://www.cytobuoy.com>)

## Number of participants

Total max 30 persons

## Fees

Participation fees include lodging and bench fee at Kristineberg (some participants will need to share rooms) and food (only breakfast on Saturday June 6<sup>th</sup>).

Early career scientists (PhD students, post docs and young staff) – no fee for a limited number

Other participants USD 900

Early career scientists are encouraged to apply for support and travel grants through the 2020 EuroMarine fellowship programme. Link to the 2019 call:

<http://www.euromarinenetwork.eu/calls/euromarine-2019-call-fellowship-applications>

## Expression of interest

Deadline for expression of interest in participation is February 25<sup>th</sup> 2020. Decision about selection of participants will be distributed in March 2020

Please register at:

<http://events.r20.constantcontact.com/register/event?oeidk=a07egw1xk86d581504b&llr=nmzjwiyab>

## The symposium is supported by

GlobalHAB (SCOR and the IOC - HAB program)

ICES - Working Group on Harmful Algal Bloom Dynamics

University of Gothenburg

Swedish Meteorological and Hydrological Institute



## Preliminary agenda

The morning sessions 2-3 June will be webinars. The University of Gothenburg provides a technical system for this.

### Monday 1 June

Arrival and set up of instruments

### Tuesday 2 June

0900-1200 Presentations - focus on HAB observations

1200-1300 Lunch

1300-1700 Hands on training (split into smaller groups)

1900-2100 Evening session - discussions

### Wednesday 3 June

0900-1200 Presentations - focus on grazers, i.e. microzooplankton and multicellular zooplankton

1200-1300 Lunch

1300-1700 Hands on training (split into smaller groups)

1900-2100 Evening session - start of a grazing experiment?

### Thursday 4 June

0900-1000 Intercalibration start description of experimental design etc.

1030-1200 Distribution of samples for intercalibration

1200-1300 Lunch

1300-1700 Analysis of samples for intercalibration

1900-2100 Symposium dinner

### Friday 5 June

0900-1200 Processing of data from intercalibration

1200-1300 Lunch

1300-1500 Presentation of preliminary results from intercalibration

1900-2100 Evening session - discussions

### Saturday 6 June

Departure after breakfast.