Poster pitches
15:30 -

Chair Katri Kuuppo

FMI Syke EuroGOOS European Global Ocean Observing System FerryBox TaskTeam MINKE EUROPEAN COMMISSION FinMARI Finnish Marine Research Infrastructure

posters

Hedy	Aardema	Max Planck chemistry
Anfisa	Berezina	Norwegian Institute for Water Research NIVA
Marcel	Conrad	Bremerhaven University of Applied Sciences (IGB)
Nadezhda	Drumeva	Bulgarian AoS
Lucie	Fauvel	Université du littoral cote d'opale (ULCO)
Nicolas-Xavier	Geilfus	University of Helsinki
Jonna	Kangas	University of Turku
Georgia	Ktistaki	HCMR
Leena	Kunttu	University of Vaasa
Katri	Kuuppo	Syke
Pille	Leesmäe	TalTech
Elsa	Lescroart	IFREMER
Sabri	Mutlu	TÜBİTAK Marmara Research Center
Elizaveta	Protsenko	Norwegian Institute for Water Research NIVA
Jukka	Seppälä	Syke
Violeta	Slabakova	Institute of Oceanology - BAS
Wenche	Eikrem	Norwegian Institute for Water Research NIVA

Poster pitch

Hedy Aardema

Max Planck Institute for Chemistry

MAX PLANCK INSTITUTE
FOR CHEMISTRY

Data quality control of underway Ferrybox data from the sailing yacht *Eugen Seibold*

Hedy M. Aardema[1,2], Hans A. Slagter[1], David Walter[1], Isabella Hrabe de Angelis[1,3], Lena Heins[1], Maria Ll. Calleja[1,4], Antonis Dragoneas[1], Gerald H. Haug[1,2], Ralf Schiebel[1]

[1]Max Planck Institute for Chemistry, Mainz, Germany.
[2]Department of Earth Sciences, ETH Zürich, Switzerland.
[3]OceanX, 37 W 39th St New York, NY 10018, USA.
[4]University of the Balearic Islands (UIB), Palma de Mallorca, Spain.

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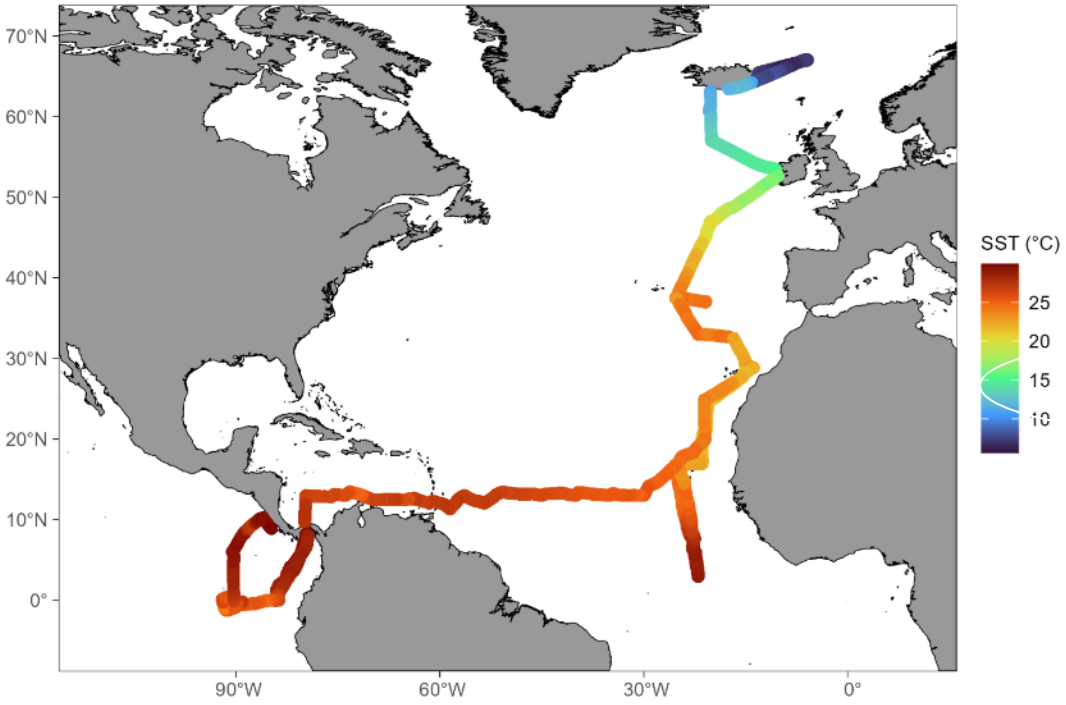


MAX PLANCK INSTITUTE
FOR CHEMISTRY

Raw data (s^{-1})

1. Exclusion zone test
2. Database test
3. Grey list test
4. Pump state test
5. Air ingress test
6. Frozen value test
7. Spike test — Minute averaging
8. Range test
9. Fouling test
10. Ocean database and remote sensing comparison

L2-level data (min^{-1})

Schiebel et al. (2024)
Overview of the S/Y Eugen Seibold

Aardema et al. (2024)
Photophysiology in the North Atlantic

Poster pitch

Anfisa Berezina

NIVA
Norges Institute for Water Research

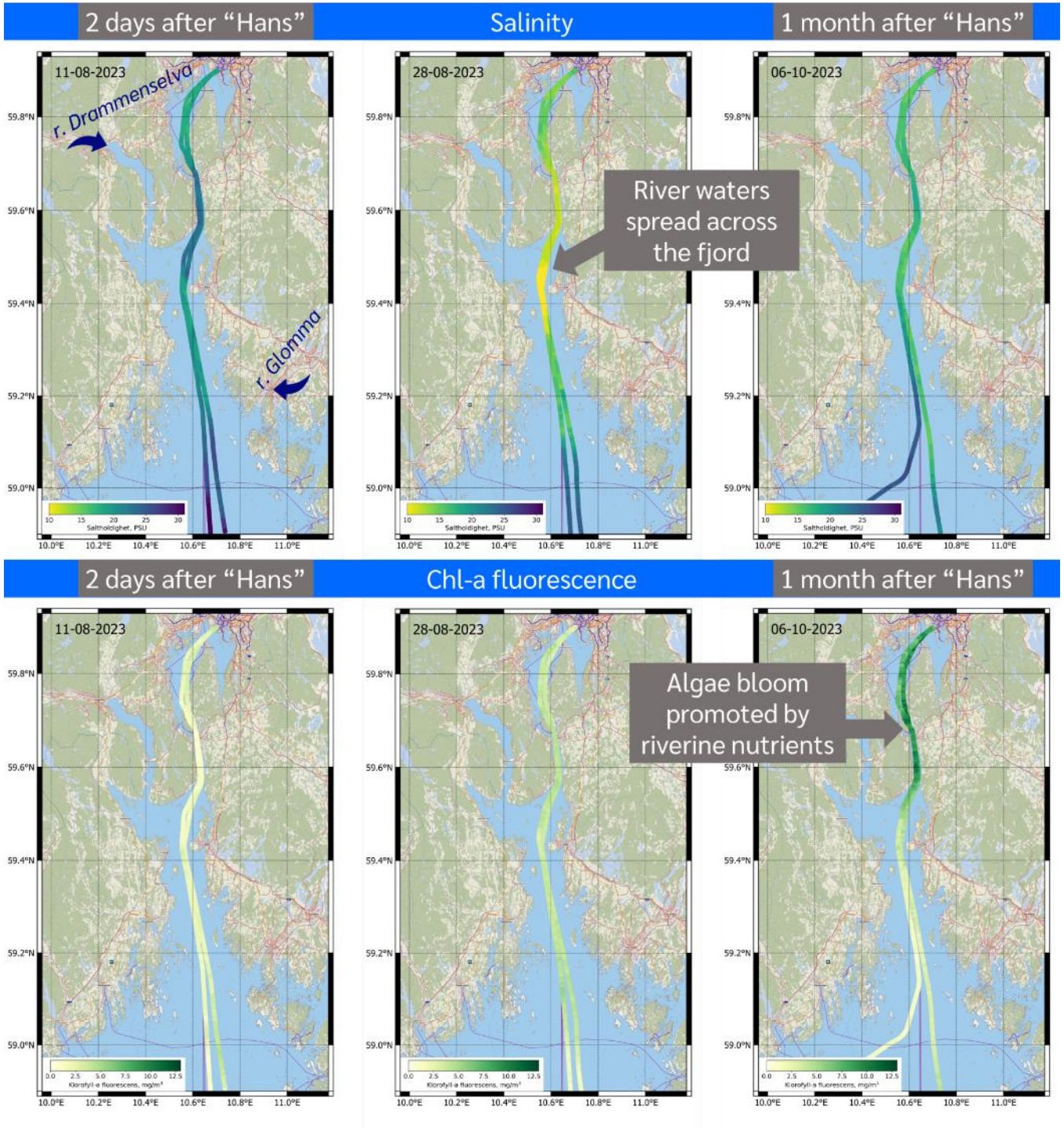
Monitoring of algal blooms and environmental changes in Oslofjord with the FerryBox in 2023

Flood-affected water at the mouth of the Glomma River in Fredrikstad in August 2023

Anfisa Berezina, Wenche Eikrem, Louise Valestrand, Marit Norli, Helene Frigstad, Therese Harvey, Pipatthra Saesin, Kai Sorensen, Andrew King

«Hans» storm 07 – 09.08.2023

- Significant spring bloom of diatoms in the central part of the inner Oslo Fjord in March and a substantial diatom bloom in October in the wake of the extreme weather event “Hans”



Poster pitch

Marcel Conrad

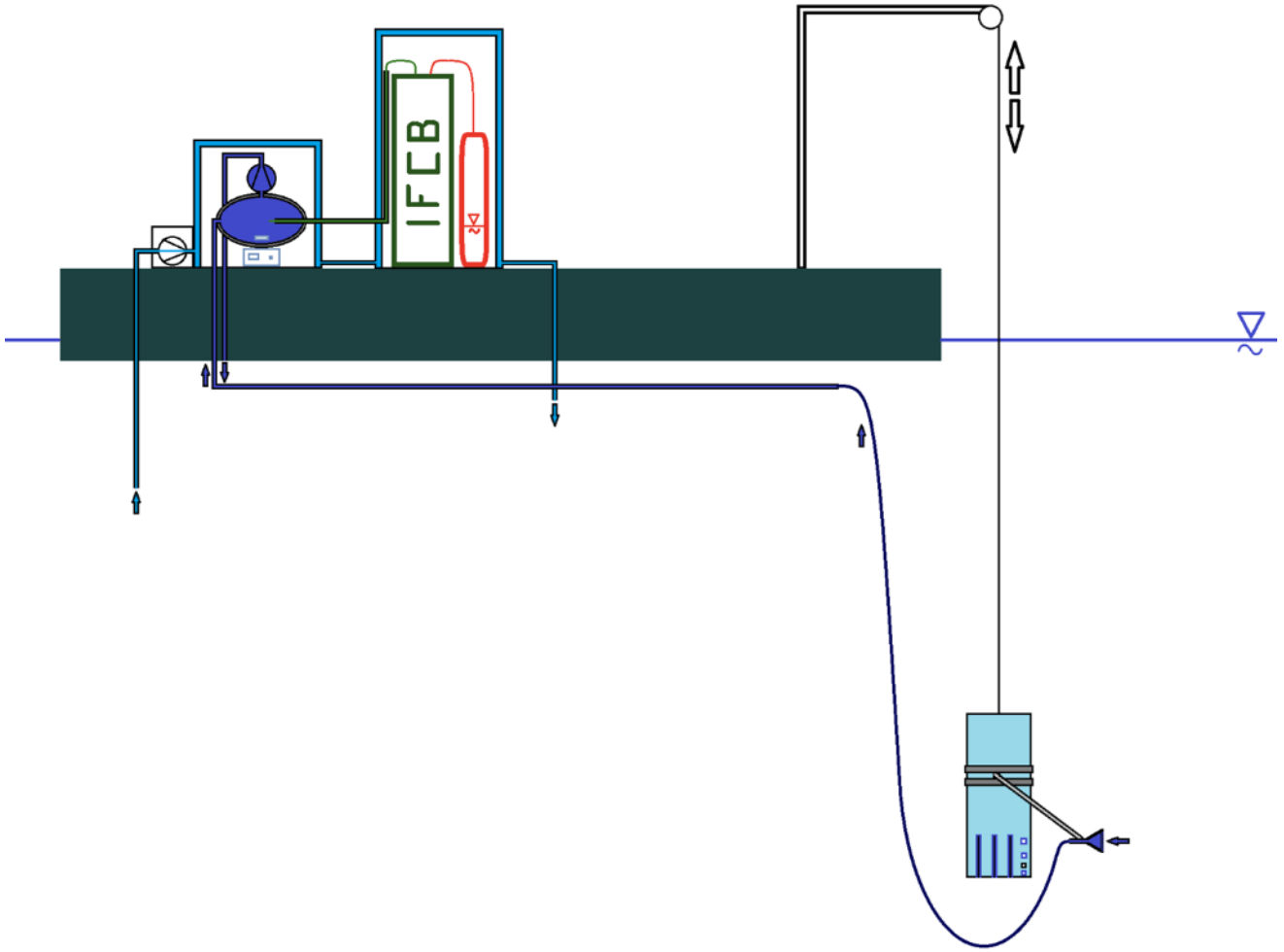
Bremerhaven University of Applied Sciences (IGB)

Construction of a profiling hose sampling system for an IFCB

IGB
Leibniz Institute of Freshwater Ecology and Inland Fisheries

Christian Dilewski, Amin Penske,
Stella Berger, Jens Nejstgaard, Marcel Conrad

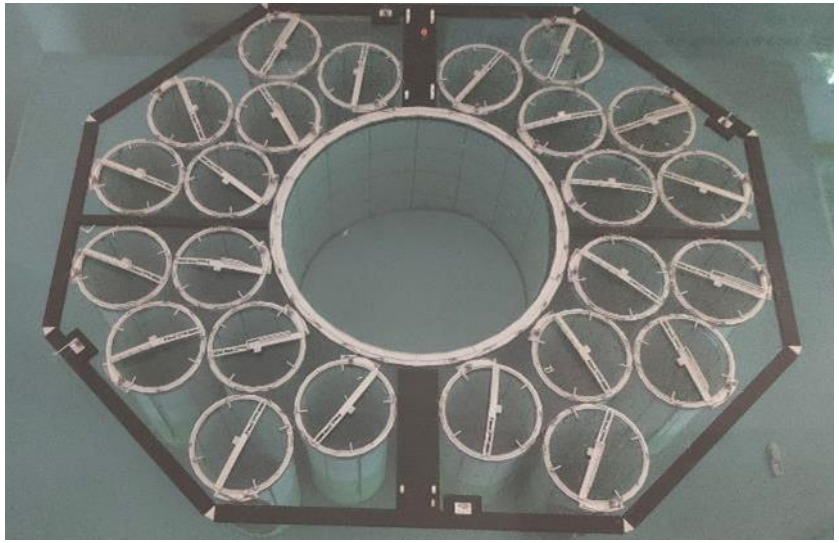
The project goal is to obtain a vertically and temporally high resolution, long-term data series of phytoplankton organisms in Lake Stechlin.



Construction of a profiling hose sampling system for an IFCB

IGB
Leibniz Institute of Freshwater Ecology and Inland Fisheries

Picture 1&2: IGB LakeLab, in Lake Stechlin, Neuglobsow, 1. Profiler with probe sonde 2. Mesocosm - Photo: Marcel Conrad



Picture 3: Model of the LakeLab - IGB-Berlin

Research question for the Profiling System:

How does the vertical distribution of species change?
Depending on:

- Water depth
- The data from the probe sonde (O2, pH, etc.)
- The current weather

Technical challenges arising by pumping the IFCB:

According:

- Bubbles in the sample
  (Outgassing of water due to pressure drop and temperature difference)
- Accuracy of vertical fractions, regarding the pumped volume
- Constructing a vacuum-resistant retention and sampling chamber with a subsequent self-priming pump

Poster pitch

Nadezha Drumeva

Bulgarian Academy of Sciences

First FerryBox observation at the Western Black Sea (Bulgarian) coast: drivers of oxygen dynamics in nearshore waters

Nadezhda Drumeva[1], Vlad Macovei[2], Natalia Slabakova[1], Yoana G. Voynova[2], Todor Naumov[1], Valentina Doncheva[2], Tatyana Nikolova[1], Aleksandar Ivanov[1], Martina Gehrung[2], Hendrik Rust[2]

[1] Institute of Oceanology "Prof. Fridtjof Nansen" - Bulgarian Academy of Sciences

[2] Institute of Coastal Research, Helmholtz-Zentrum Hereon, Geesthacht, Germany

SEA ReCap
North Sea - Black Sea

IO-BAS

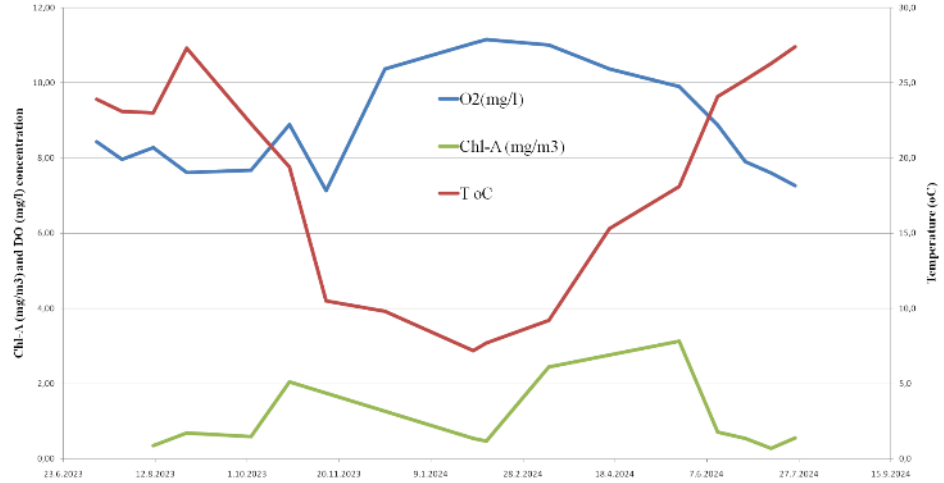
Helmholtz-Zentrum hereon

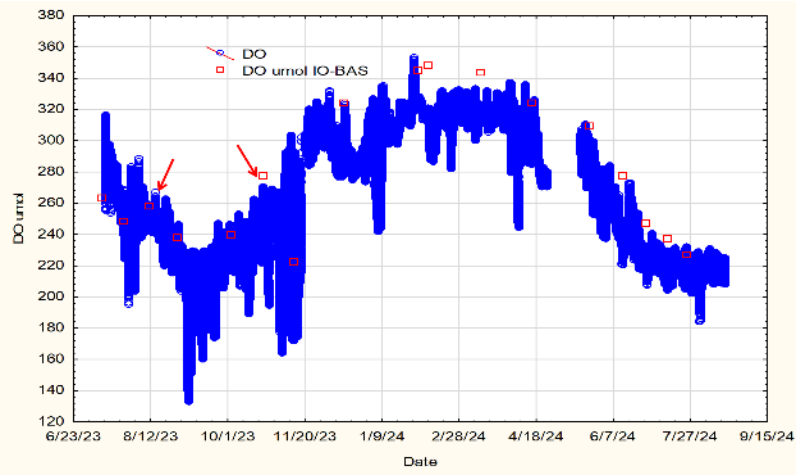
First FerryBox observation at the Western Black Sea (Bulgarian) coast: drivers of oxygen dynamics in nearshore waters

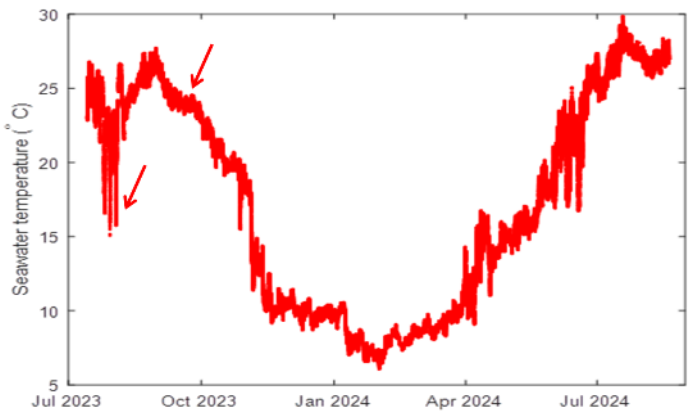
Two different datasets for one full year
(14 June 2023 – 25 June 2024):

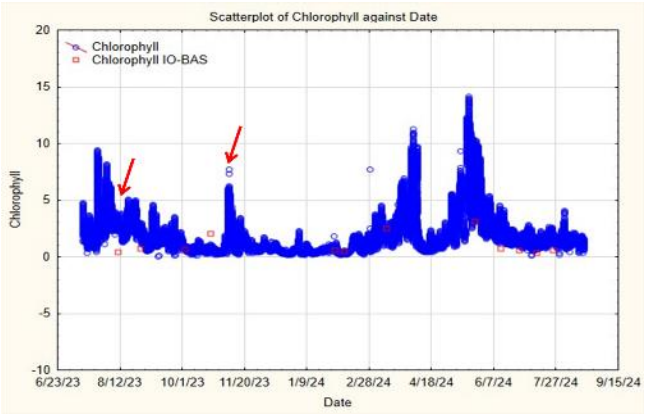
- Continuous Real-time FerryBox Data Sets from Aanderaa Oxygen Optode and TrioS Fluorometer;

- Every 14-15 days in-situ data sets from FerryBox outflow for dissolved oxygen (Winkler titration) and Chl-a.









Acknowledgements: This work was funded by the SEA-ReCap project - Helmholtz Association Program for Advanced Challenges and European Partnership and by National Geoinformation Center for monitoring, evaluation and forecasting of natural and anthropogenic risks and disasters - National Roadmap for Scientific Infrastructure, (Д01-164/28.07.2022г; ДО1-321/30.11.2023)

Poster pitch

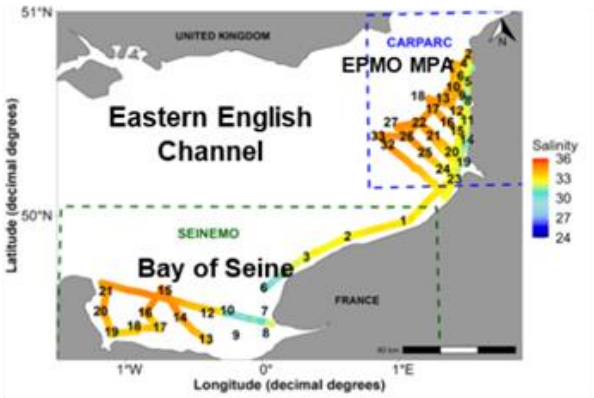
Lucie Fauvel

Université du littoral cote d'opale (ULCO)

Phytoplankton dynamics and distribution at high spatial resolution by an integrated approach combining continuous and discrete automated analysis in the English Channel and North Sea

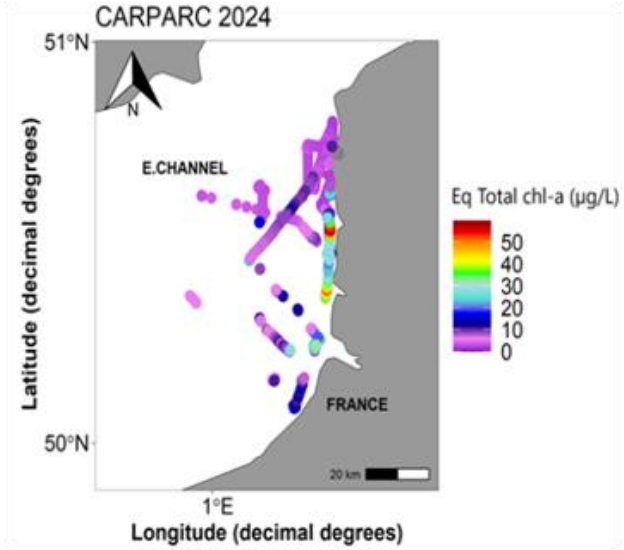
Lucie Fauvel[*1], Luis Chomienne[1], Aurélie Libeau[1], Violette Malsot-Wimmer[1], Maialen Palazot[1], Orane Levoy[1], Ina Schmidt[1], Alain Lefebvre[2], Maxime Navon[3], Pascal Claquin[4], Kaisa Kraft[5], **Luis Felipe Artigas** [* 1]

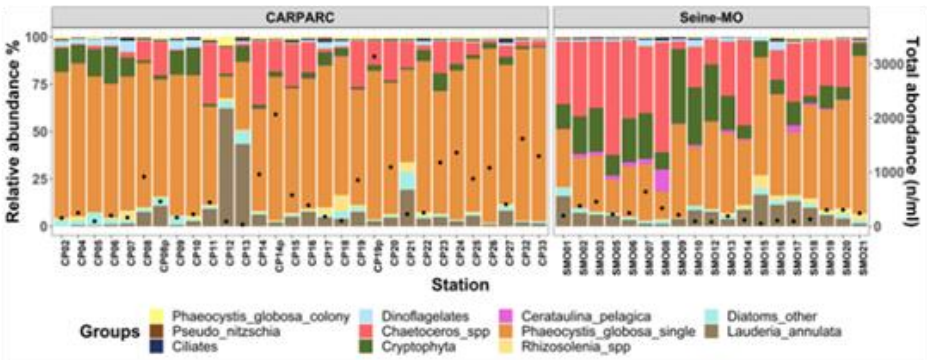
Phytoplankton dynamics and distribution at high spatial resolution by an integrated approach combining continuous and discrete automated analysis in the English Channel and North Sea

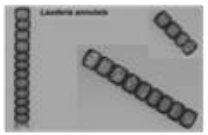


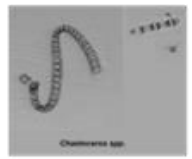
IFCB

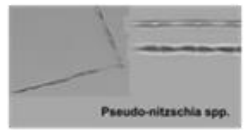
AOA

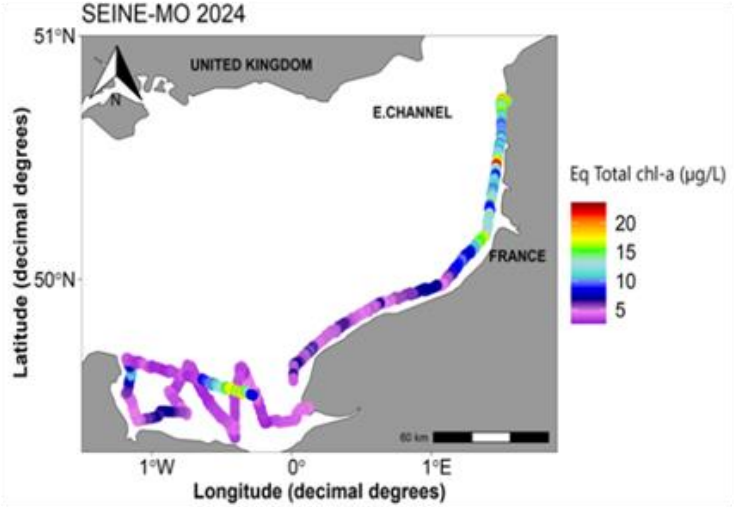












Poster pitch

Nicolas-Xavier Geilfus

University of Helsinki

Spatial variability of GHG dynamics in coastal environment during summer

Geilfus N.-X., Spence K., Norkko J., Norkko A.

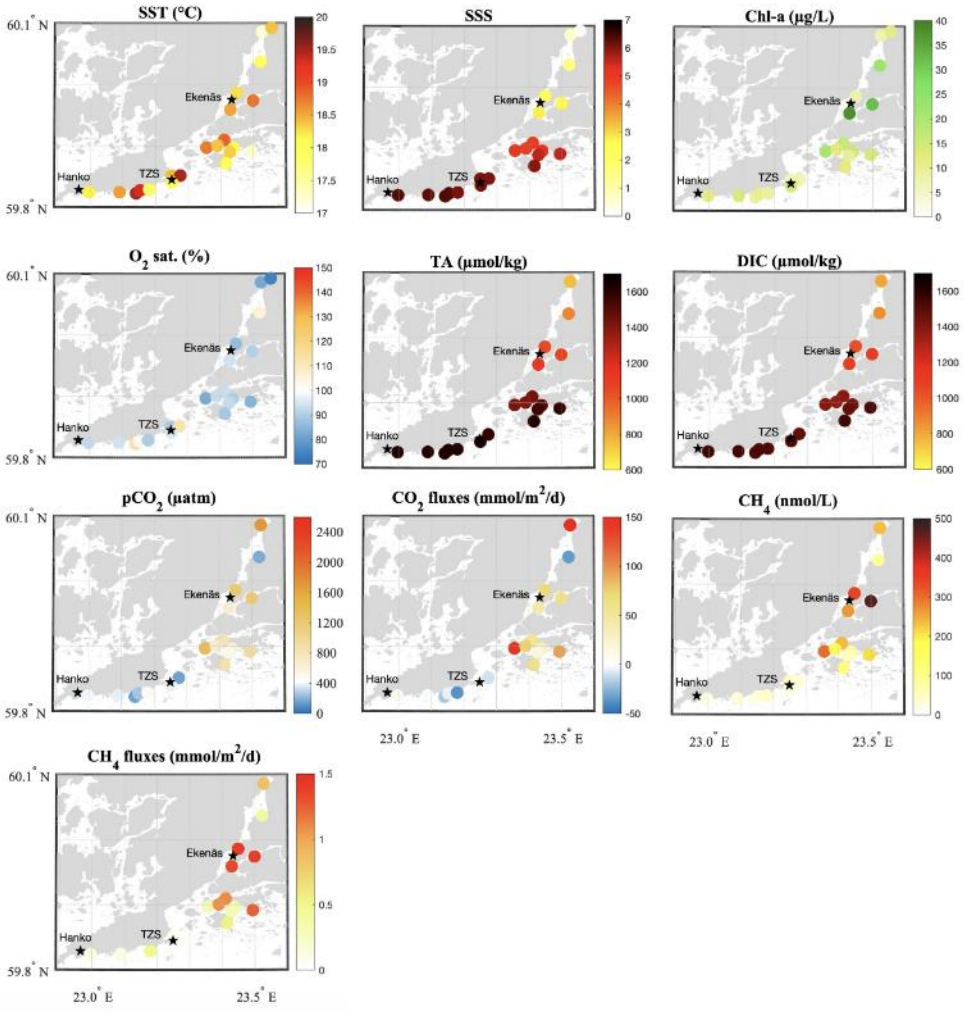
Fin MARI
Finnish Marine Research Infrastructure

Coast Clim
Coastal Ecosystem and Climate Research

UNIVERSITY OF HELSINKI

TVÄRMINNE ELÄINT. ASEMA ZOOLOG. STATION

Spatial variability of GHG dynamics in coastal environment during summer



The research area acted both as sink and source for atmospheric CO2, but as a net source of CH4 to the atmosphere. Local biodiversity could be responsible for the large spatial variability in both CO2 and CH4 concentrations but this remains a work in progress.

Poster pitch

Jonna Kangas

University of Turku

Studying fungal parasites associated with seasonal phytoplankton blooms along a Baltic Sea salinity gradient using Alg@line infrastrucure and imaging flow cytometry

Jonna Kangas, Simon Bilik, Lumi Haraguchi, Kaisa Kraft, Maliheh Mehrshad, Conny Sjökvist, Silke Van den Wyngaert

Research Council of Finland

UNIVERSITY OF TURKU

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

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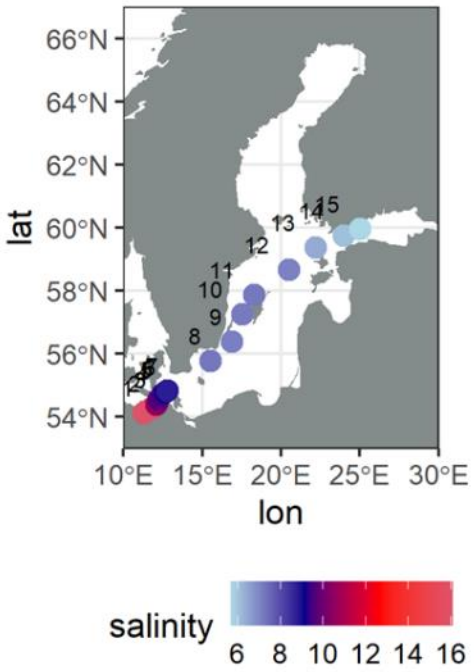
Finnish Marine Research Infrastructure

Studying fungal parasites associated with seasonal phytoplankton blooms along a Baltic Sea salinity gradient using Alg@line infrastrucure and imaging flow cytometry

What drives fungal parasites and their phytoplankton hosts along a Baltic Sea salinity gradient?

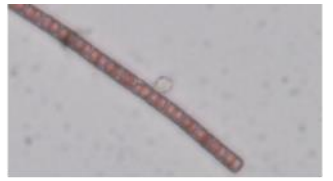


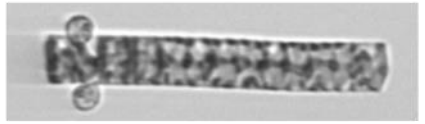
eDNA metabarcoding → **Who is there?**

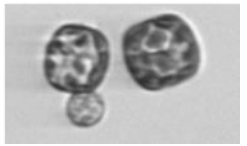
Single cell isolation and sequencing → **Who is with whom ?**

Imaging flow cytometry → **What is the impact?**

Environmental variables → **What are the drivers?**







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Finnish Environment Institute

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Poster pitch

Georgia Ktistaki

Institute of Oceanography, Hellenic Centre for Marine Research, Greece

Hellenic Centre for Marine Research

First FerryBox based CO_2 measurements in the Eastern Mediterranean

Frangoulis C. , Stamataki N., Ktistaki G., Pettas M., Michelinakis S., Petihakis G.

First FerryBox based CO_2 measurements in the Eastern Mediterranean

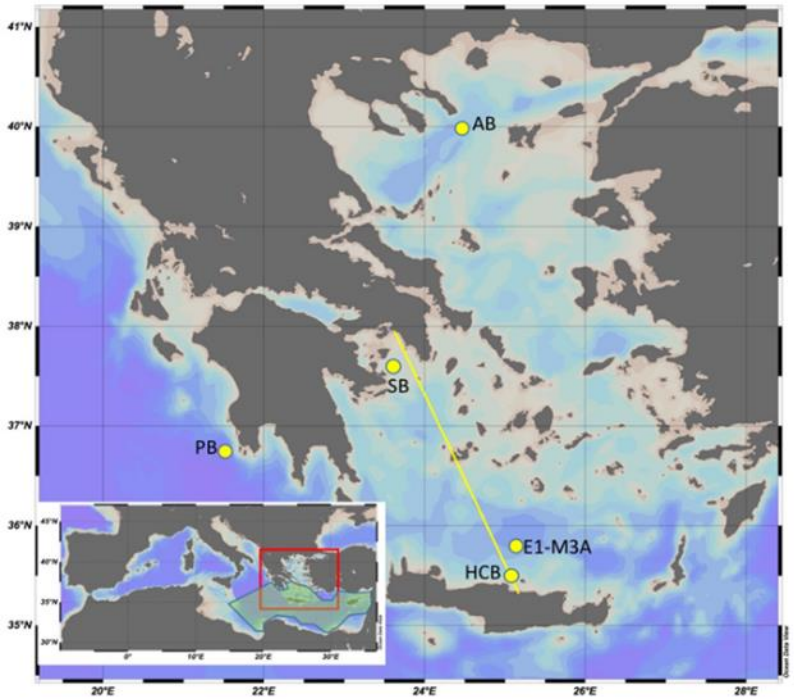


Figure 3: Map showing the FB route

Ferrybox system (4H- JENA engineering GmbH)

Sensors:

- **Temperature-Conductivity** (SBE45)
- **Fluorescence-Turbidity** (Scufa II Turner Design)
- **CO_2 sensor** (OceanXpert-Lab/ SubCtech)
- **Temperature sensor at start of water circuit** (SBE 38)
- **Dissolved Oxygen** (Aanderaa optode)
- **Water Sampler** (Teledyne)

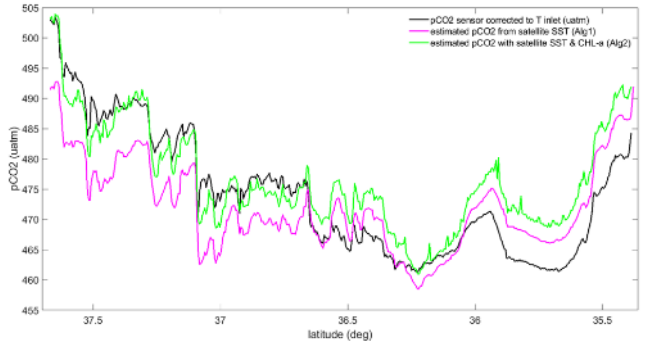


Figure 4a: Measured pCO2 (black line) from FB (30-31/08/23), and estimated pCO2 from FB T data (purple line) and from FB T & Chl-a data (green line). Estimation algorithms from Frangoulis et al. (2024).

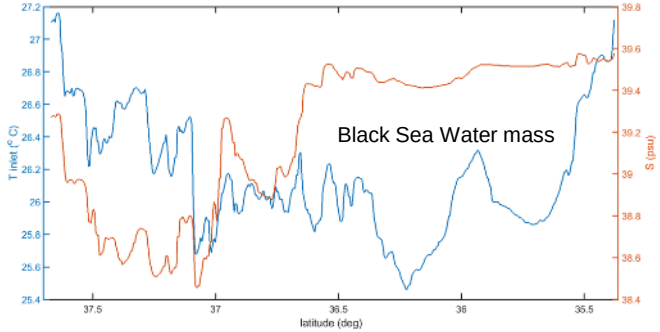


Figure 4b: Measured T and S from FB (30-31/8/23).

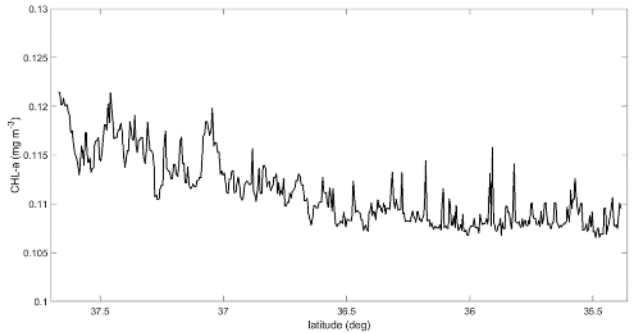


Figure 4c: Measured Chl-a fluorescence from FB (30-31/8/23).

- SST & Chl-a algorithm is generally <7 ppm accurate

→ except for lower Chl-a values where further tuning is needed.

- Visible entrance of modified Black Sea Water mass appears in the north

Poster pitch

Leena Kunttu

University of Vaasa

Vaasan yliopisto
UNIVERSITY OF VAASA

Co-funded by
the European Union

KvarkenData - Utilization of Environmental Data in Kvarken Area

Authors:
Leena Kunttu, Heidi Kuusniemi, Jyri Nieminen, Terhi Mäki-Turja, Elina Huculak, Cem Özcan, Tuomas Huikkola, Marko Kohtamäki

University of Vaasa
Finland

ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Suomen ympäristökeskus
Finlands miljöcentral
Finnish Environment Institute

Aalto University

KvarkenData - Utilization of Environmental Data in Kvarken Area

Co-funded by the European Union

- In KvarkenData project, we study the **data collected by Wasaline Aurora Botnia** that operates between Vaasa and Umeå
- Also other open data sources (like weather and satellite data) are being investigated.
- The project is developing **a data portal** for utilizing Kvarken data. The portal can be used, for example, in monitoring the ship's energy efficiency, the environment or ship traffic.

Poster pitch

Katri Kuuppo

Finnish Environment Institute

Finnish Marine Research Infrastructure FINMARI

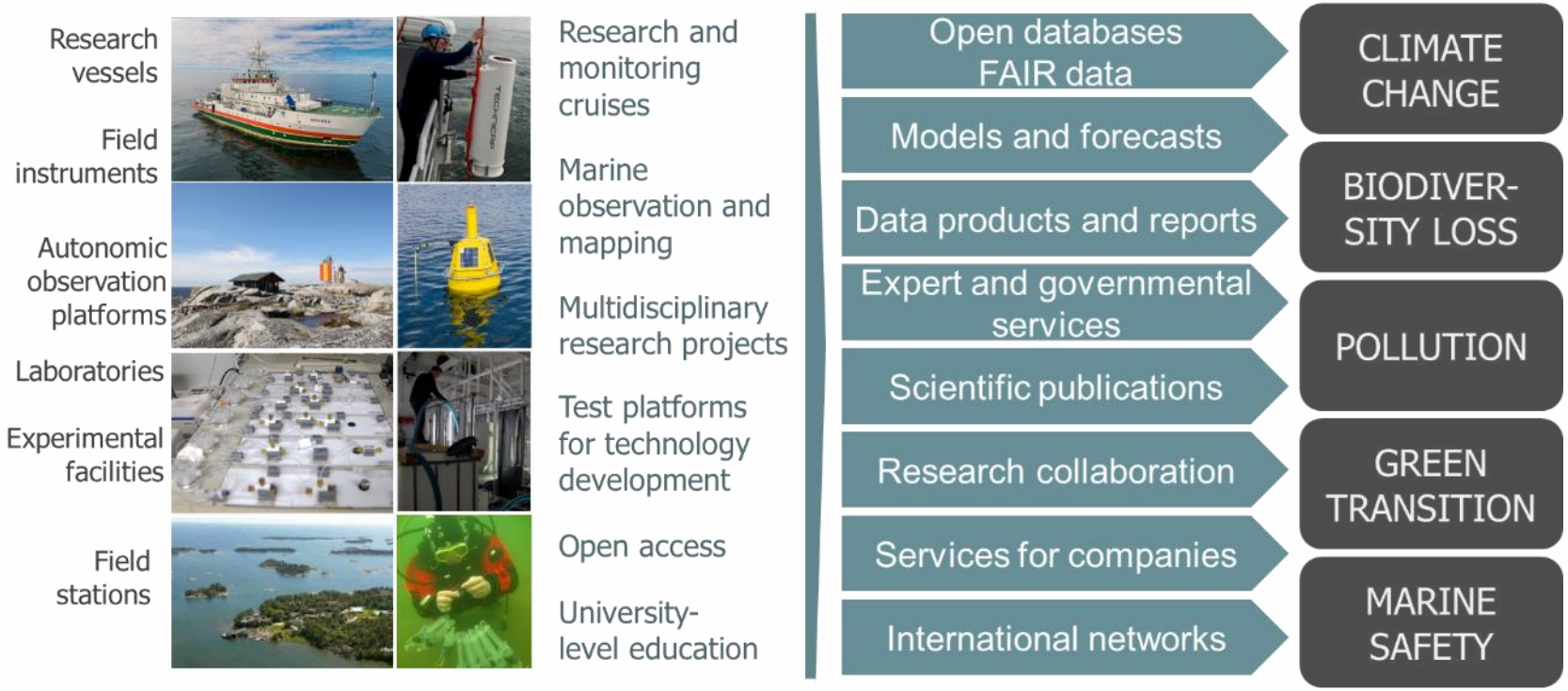
Jukka Seppälä (Syke), Joanna Norkko (UHel), Laura Tuomi (FMI), Aarno Kotilainen (GTK), Laura Uusitalo (Luke), Jari Hänninen (UTU), Martin Snickars (ÅAU), Katri Kuuppo (Syke)

FINMARI is a distributed, multi-disciplinary marine research infrastructure

FINMARI brings together the marine research capabilities and the most important players in Finland

It supports monitoring, research and innovation related to the global challenges of the Baltic Sea

FINMARI offers a wide selection of services to the research community and the society at large



Poster pitch

Pille Leesmäe

Department of Marine Systems, TalTech

Phytoplankton communities in the Gulf of Finland based on environmental DNA and RNA compared with microscopy

Pille Leesmäe[1], Villu Kikas[1], Nelli Rünk[1], Maria Cecilia Sarmiento Guerin[2], Lenne Nigul[2], Urmas Lips[1], Sirje Sildever[1]

[1]Department of Marine systems, Tallinn University of Technology

[2]Department of Chemistry and Biotechnology, Tallinn University of Technology

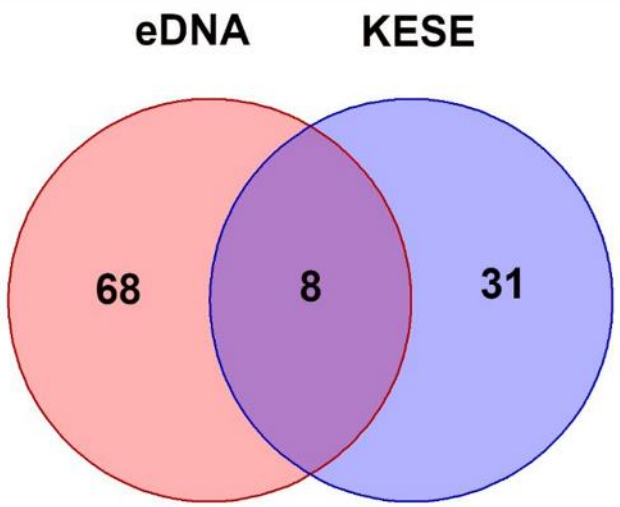
Estonian Research Council

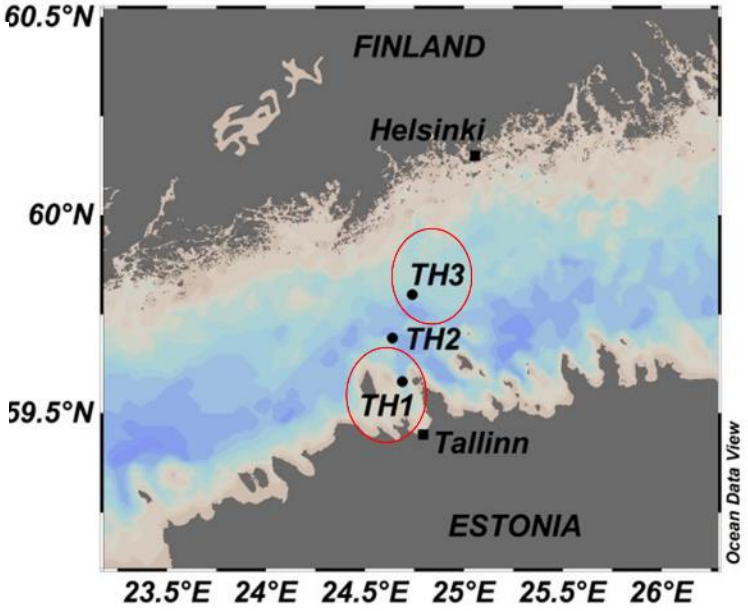
Phytoplankton communities in the Gulf of Finland based on environmental DNA and RNA compared with microscopy

- The main goal of this project is to investigate phytoplankton communities in the Gulf of Finland using environmental DNA and RNA as well as traditional microscopy-based identification.

- All samples were collected using the FerryBox flow-through system onboard a ferry traversing between Tallinn and Helsinki in 2020 - 2023.

- Results from 2020 and 2021 have shown that more species were detected using eDNA analysis compared to traditional microscopy-based methods.





Poster pitch

Elsa Lescroart

IFREMER

Spatial and temporal dynamics of spring phytoplankton functional traits in Baltic sea

Elsa Lescroart (Ifremer), Jukka Seppälä (Syke), Lumi Haraguchi (Syke)

Ifremer

Syke

JERICO S3
SCIENCE - SERVICES - SUSTAINABILITY

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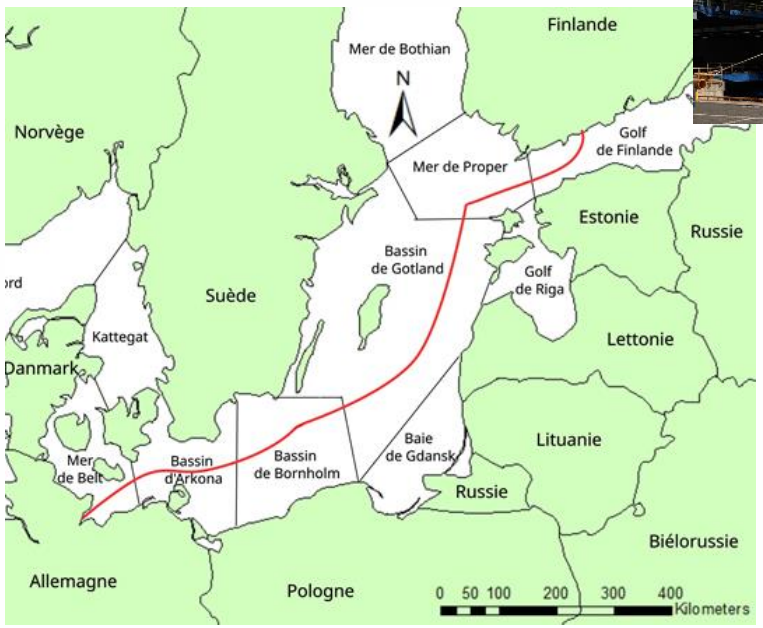
Finnish Marine Research Infrastructure

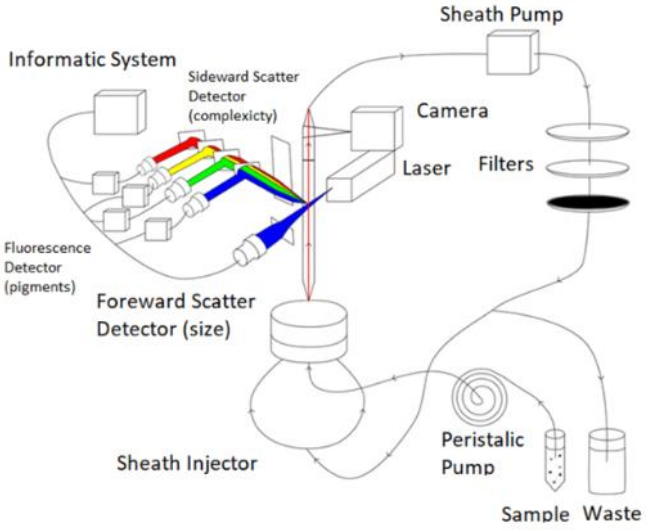
Spatial and temporal dynamics of spring phytoplankton functional traits in Baltic sea



What are the traits based communities of phytoplankton in the Baltic sea ?

What are their dynamics through the spring ?

- Transect Helsinki - Travemünde
- Flow cytometry data



Poster pitch

Sabri Mutlu

TÜBİTAK Marmara Research Center

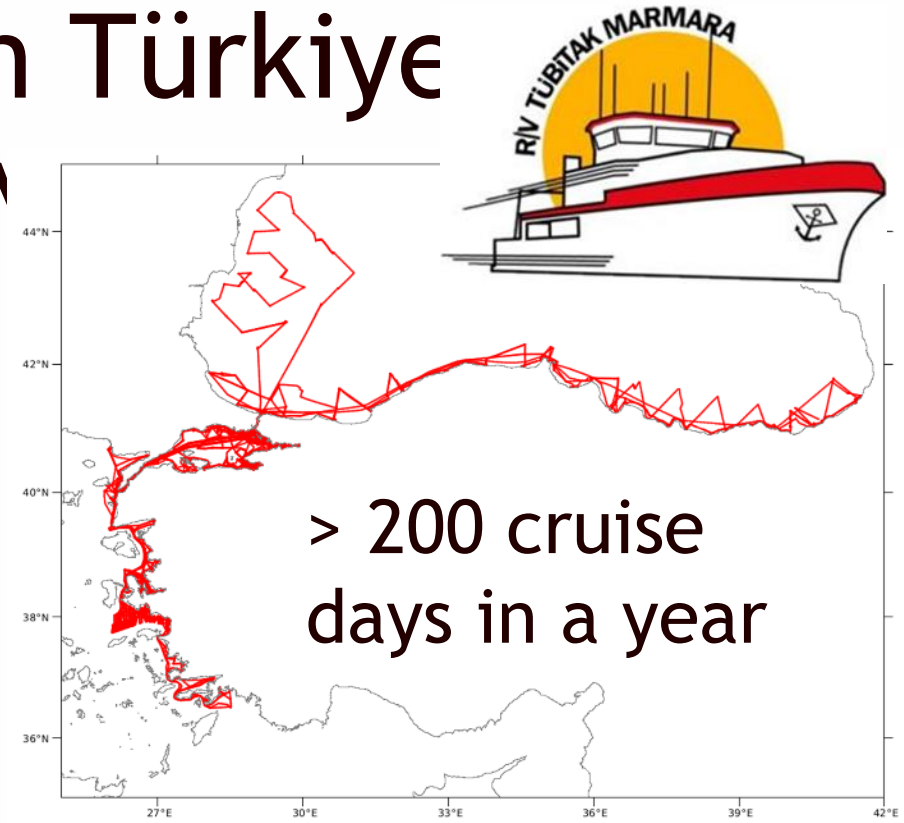
First Ferrybox Installation in Türkiye & TÜBİTAK's Future Perspectives

Sabri MUTLU, Dr. Eren ÖZSU, Assoc. Prof. Dr. İbrahim TAN

TÜBİTAK Marmara Research Center
The Vice Presidency of Climate Change and Sustainability
Marine Studies and Technologies Research Group

First Ferrybox Installation in Türkiye TÜBİTAK's Future Perspecti

- TUBIBOX:
  - With the financial support of the Strategy and Budget Directorate of Türkiye, the first FB system has been ordered from 4H-Jena and will be installed by the end of this year.
- BLACKBOX:
  - A project proposal has been submitted to Interreg NEXT Black Sea Basin Programme.
  - A mobile FB between İstanbul and Poti. (Weekly) (First time in the Black Sea)
  - Four fixed stations (Constanta, Varna, İstanbul & Poti)



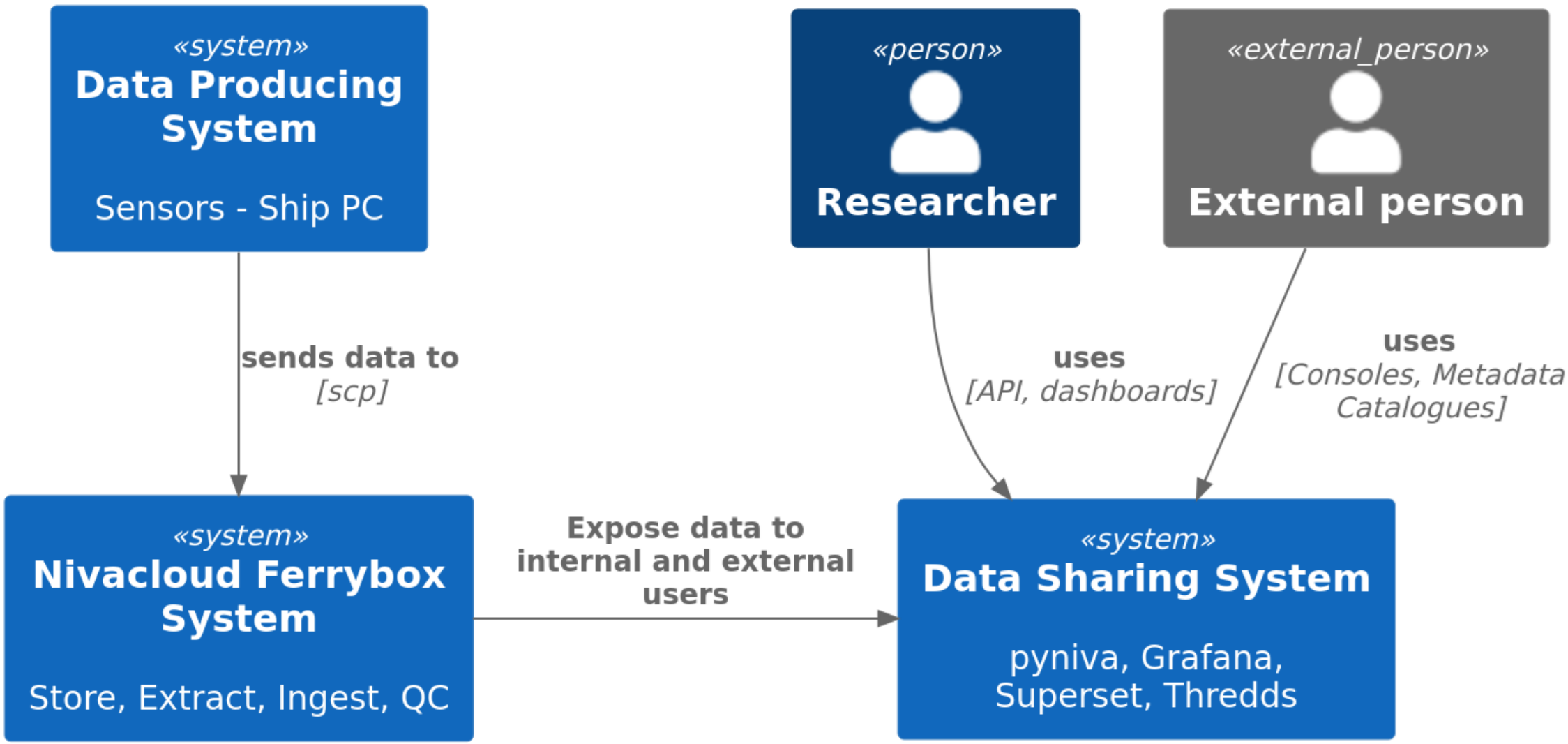
Poster pitch

Elizaveta Protsenko

Norwegian Institute for Water Research NIVA

The NIVAcloud-FerryBox Platform
Digital Infrastructure for FerryBox Platforms

Protsenko E., Rudjord Z., Leirvik K., Merlina A., King A.
NIVA


«system»
Data Producing System
Sensors - Ship PC
«person»
Researcher
«external_person»
External person
sends data to
[scp]
uses
[API, dashboards]
uses
[Consoles, Metadata Catalogues]
«system»
Nivacloud Ferrybox System
Store, Extract, Ingest, QC
Expose data to internal and external users
«system»
Data Sharing System
pyniva, Grafana, Superset, Thredds

Poster pitch

Jukka Seppälä

Finnish Environment Institute
Syke

AQUARIUS Transnational Access calls

Seppälä J, Hänninen P, Finnish Environment Institute
Closset I, Tikka K, Laakso L, Finnish meteorological institute
King A, Norwegian Institute for Water Research
Petihakis G, Frangoulis C, Ntoumas M, Hellenic Center for Marine Research

Posters showcasing

- General AQUARIUS Infographic
- Alg@line (Syke)
- Baltic Gliders (FMI)
- Meso&Cal (Syke)
- NorSOOP (NIVA)
- Poseidon (HCMR)
- RV Aranda (Syke)
- Utö (FMI)

AQUARIUS

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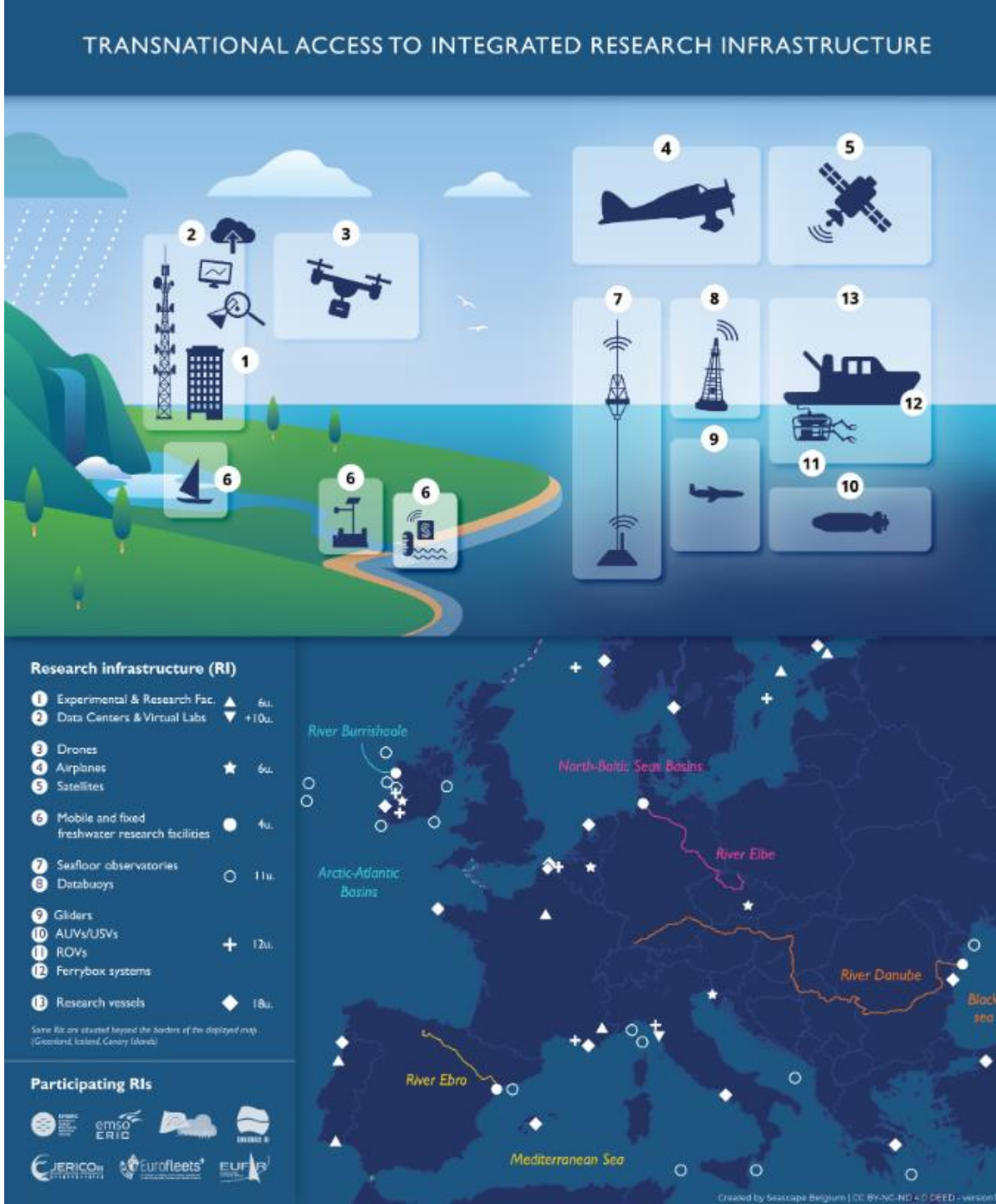
AQUARIUS Transnational Access calls

EU-project AQUARIUS will provide access to a comprehensive and diverse suite of integrated research infrastructures and will launch two robust and transparent Transnational Access (TA) funding calls, inviting research and innovation project proposals.

TA Call 1 – Open:
11 November 2024 – 20 January 2025
TA Call 2 – Open:
2 September 2025 – 28 October 2025



Poster pitch

Violeta Slabakova

Institute of Oceanology -BAS

Use of Ferrybox chlorophyll fluorescence for validation of Sentinel 3 ocean colour products in the Northwestern Black Sea

Violeta Slabakova[1], Vlad Macovei [2], Yoana G. Voynova[2], Martina Gehrung[2], Hendrik Rust[2], Nataliya Slabakova[1], Ivelin Petkov[1], Nadezhda Drumeva[1] and Kremena Stefanova[1]

[1]*Institute of oceanology, Bulgarian Academy of Sciences, Varna, Bulgaria*
[2]*Helmholtz-Zentrum Hereon, Germany, Geesthacht*

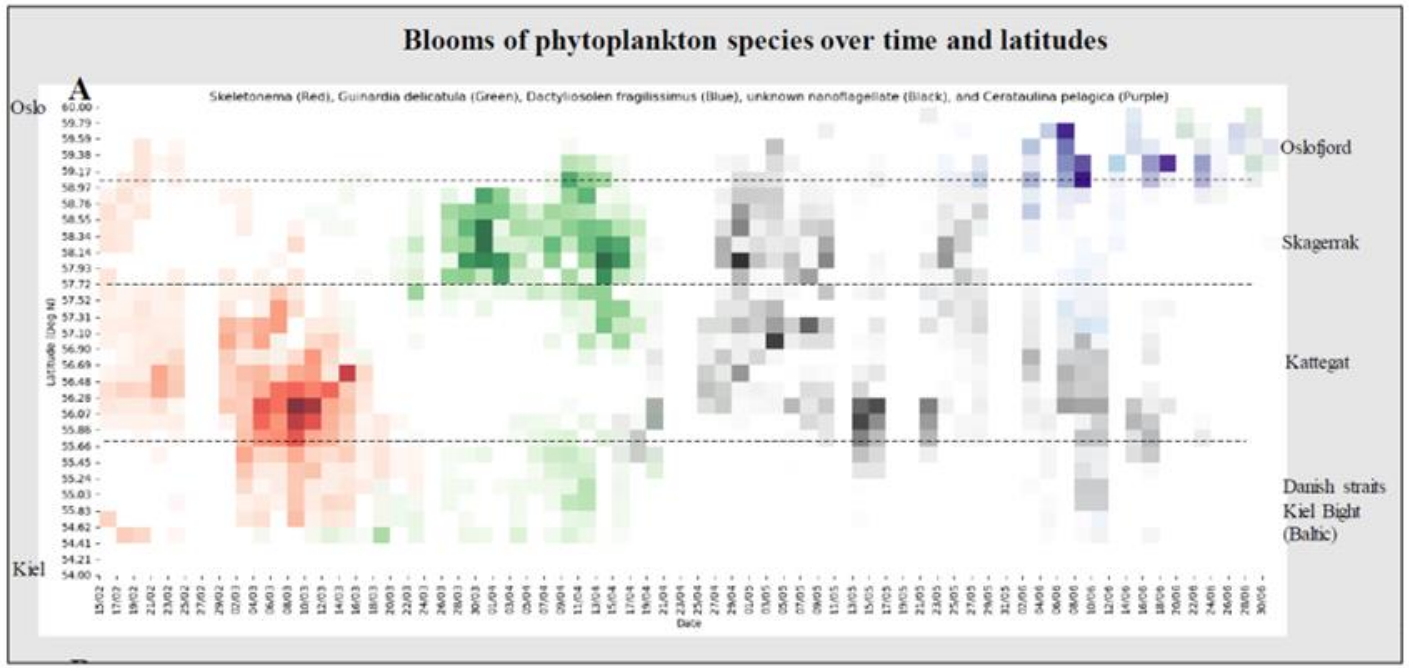
Poster pitch

Wenche Eikrem

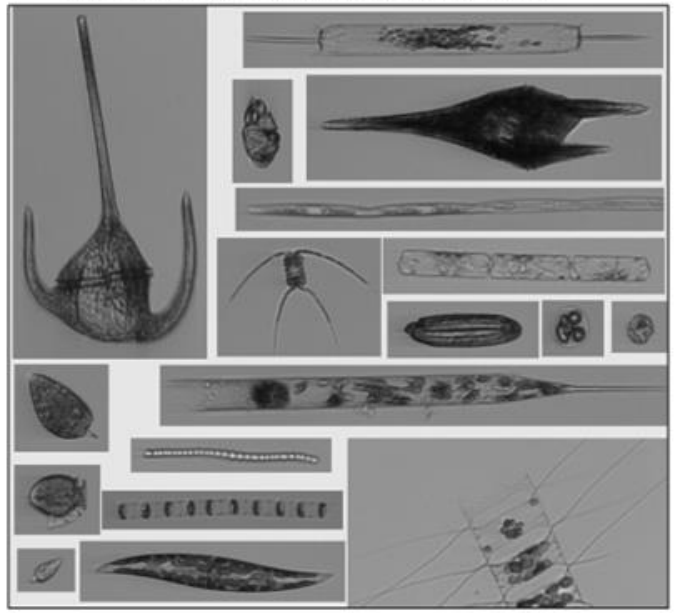
NIVA
Norwegian Institute for Water Research

MAPPING PHYTOPLANKTON BLOOMS USING AN IMAGING FLOW CYTOBOT ON A SHIP OF OPPORTUNITY (SOOP)

Marit Norli, Wenche Eikrem, Pierre Jaccard, Peter Stig Hansen, Debhasish Bhakta, Andrew L. King
Norwegian Institute for Water Research (NIVA), OSLO, Norway
Contact: marit.norli@niva.no Website: www.niva.no



Examples of taxa in classifier



Poster gallery
&
coffee

FMI Syke EuroGOOS European Global Ocean Observing System FerryBox TaskTeam MINKE EUROPEAN COMMISSION FinMARI Finnish Marine Research Infrastructure