Useful Arctic Knowledge: Training, Collaboration, and Innovation in Ocean Observing (UAK)

Presentation by Stein Sandven, senior scientist, NERSC

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OCEAN SCIENCES MEETING | GLASGOW SCOTLAND 22-27 FEBRUARY 2026

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#OSM26

Overall objective

The overall objective is to strengthen the quality within education, research and innovation in ocean observing technology through partnership between institutions in Norway, USA and Canada

UAK is a 5-year project funded by the INTPART programme in Norway

UAK is a contribution to the Ocean Decade

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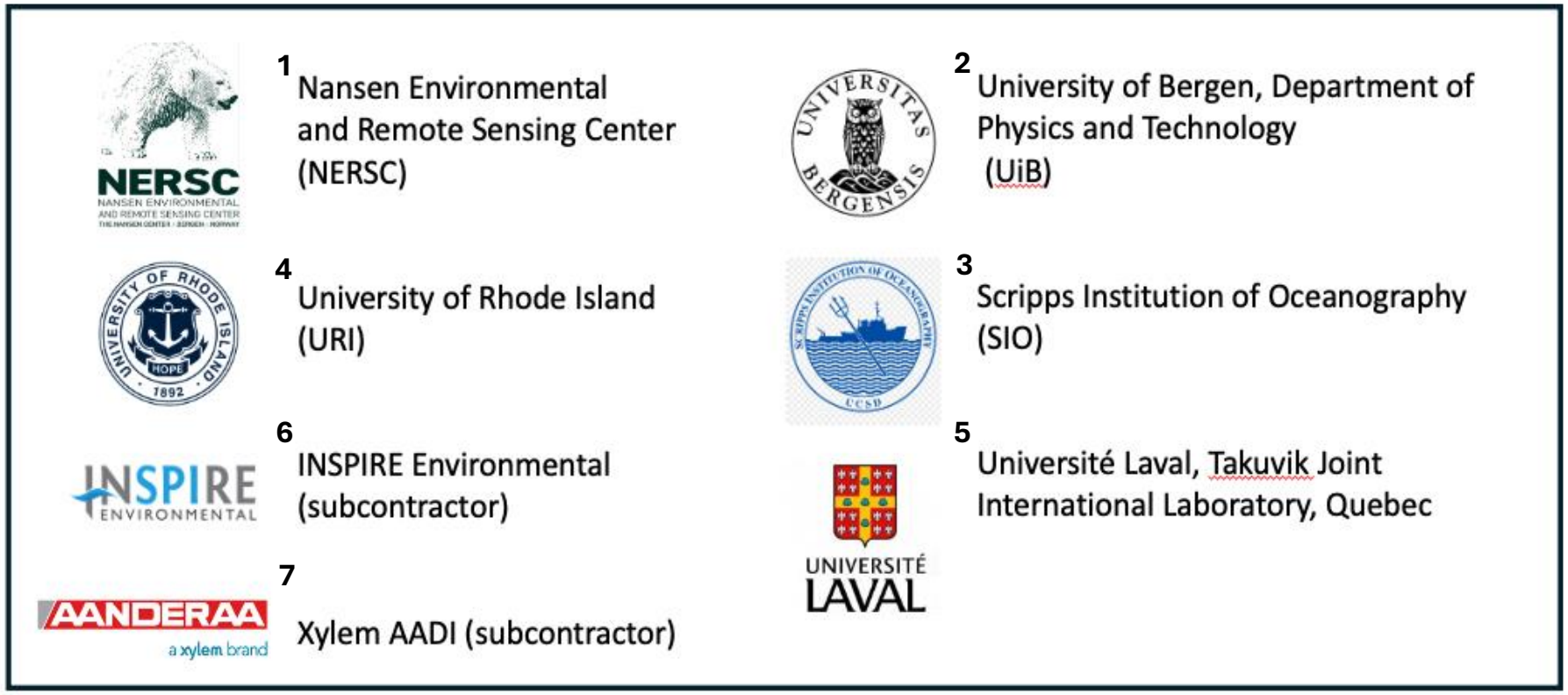
The partners and contributing personnel



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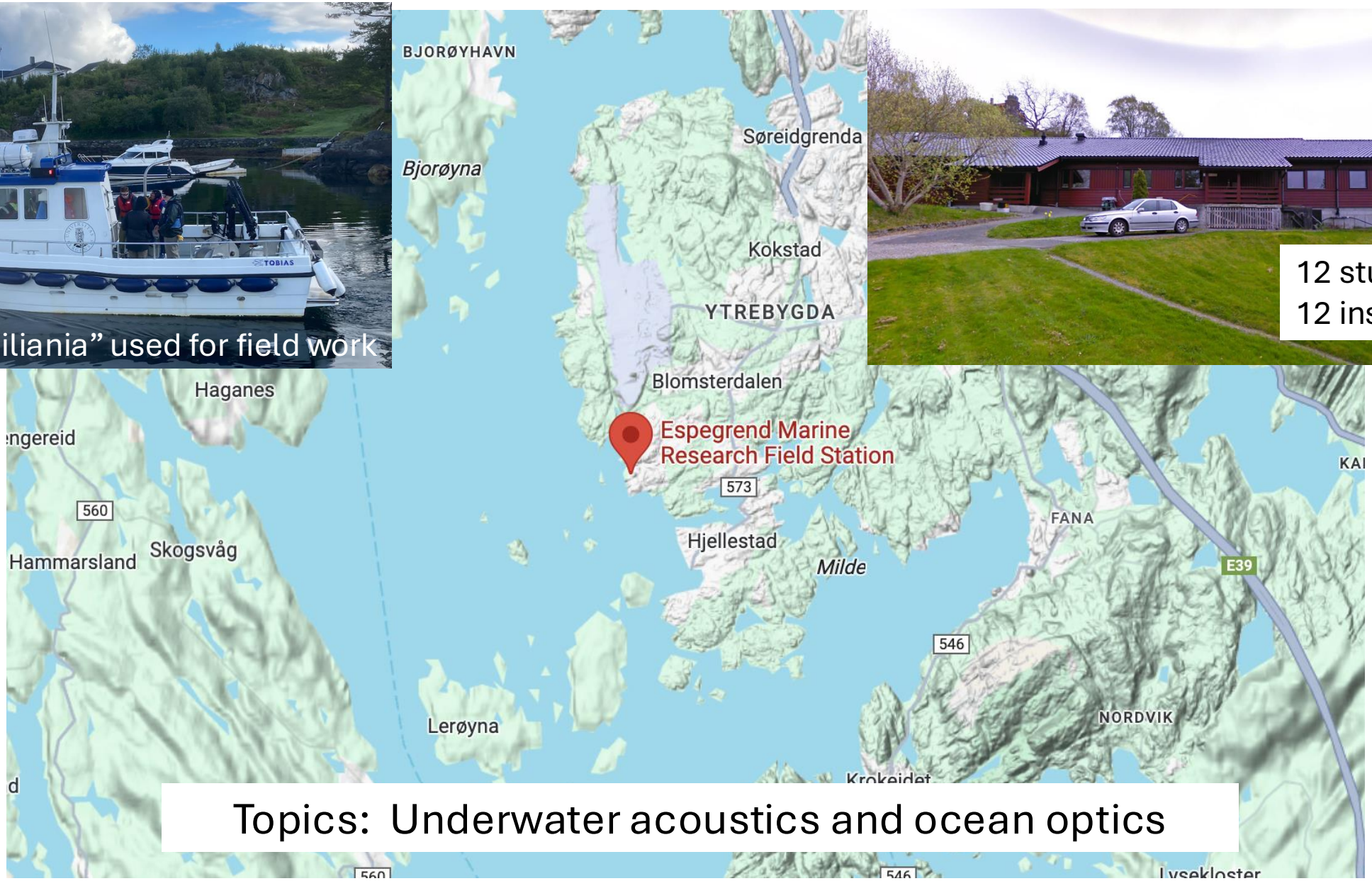
Activities

- Organise research schools, workshops, seminars and exchange visits for students and scientists
- Thematic focus was on ocean acoustics and ocean optics and technologies used to collect data
- The activities were build around field trials onboard icebreakers, in fjord environment and in Arctic stations
- Industry were involved providing state of the art ocean observing technology and environmental assessment of the technology
- Organise sessions and participate in conferences/workshops where students give presentations

Research school in a fjord in Bergen, June 2024

The boat “Emiliania” used for field work


12 students,
12 instructors

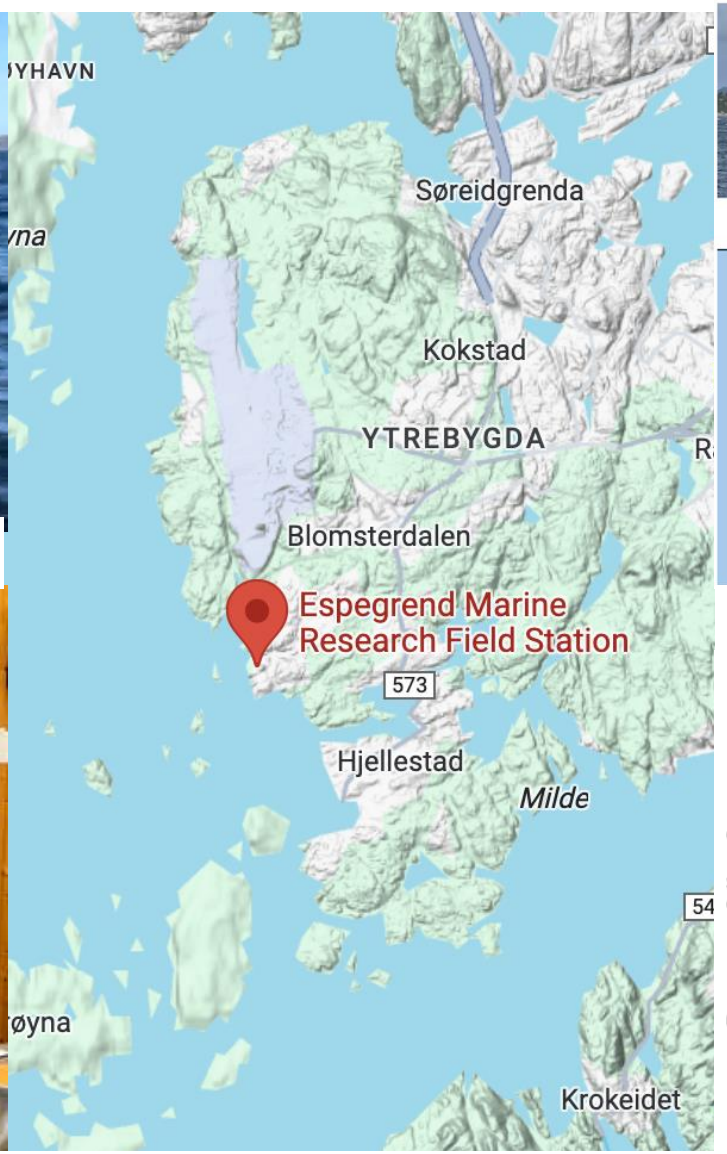


Topics: Underwater acoustics and ocean optics

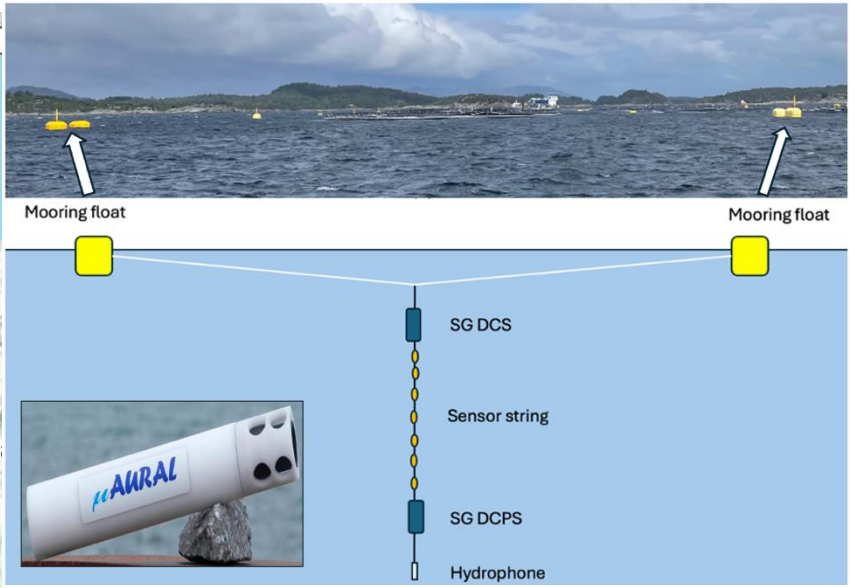
Programme at the Research school

Taking measurments with Secchi disk

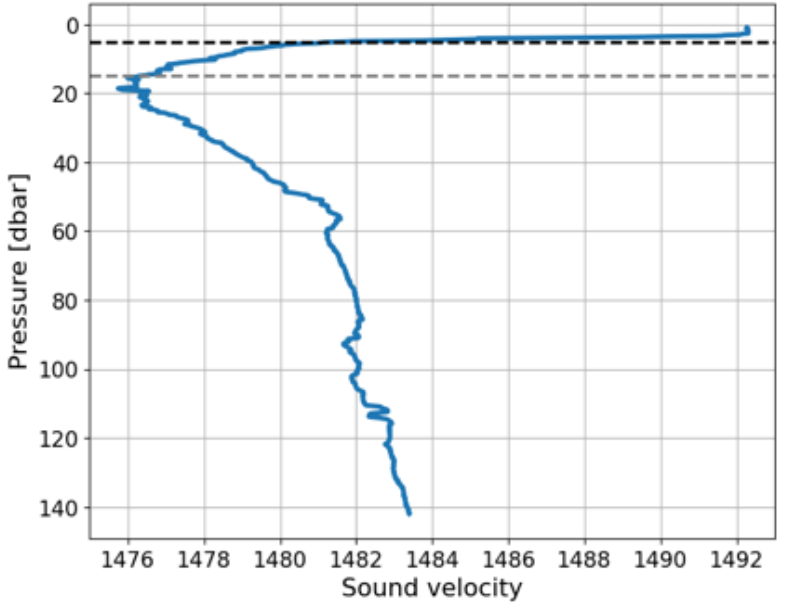
Analysis of water samples in the lab



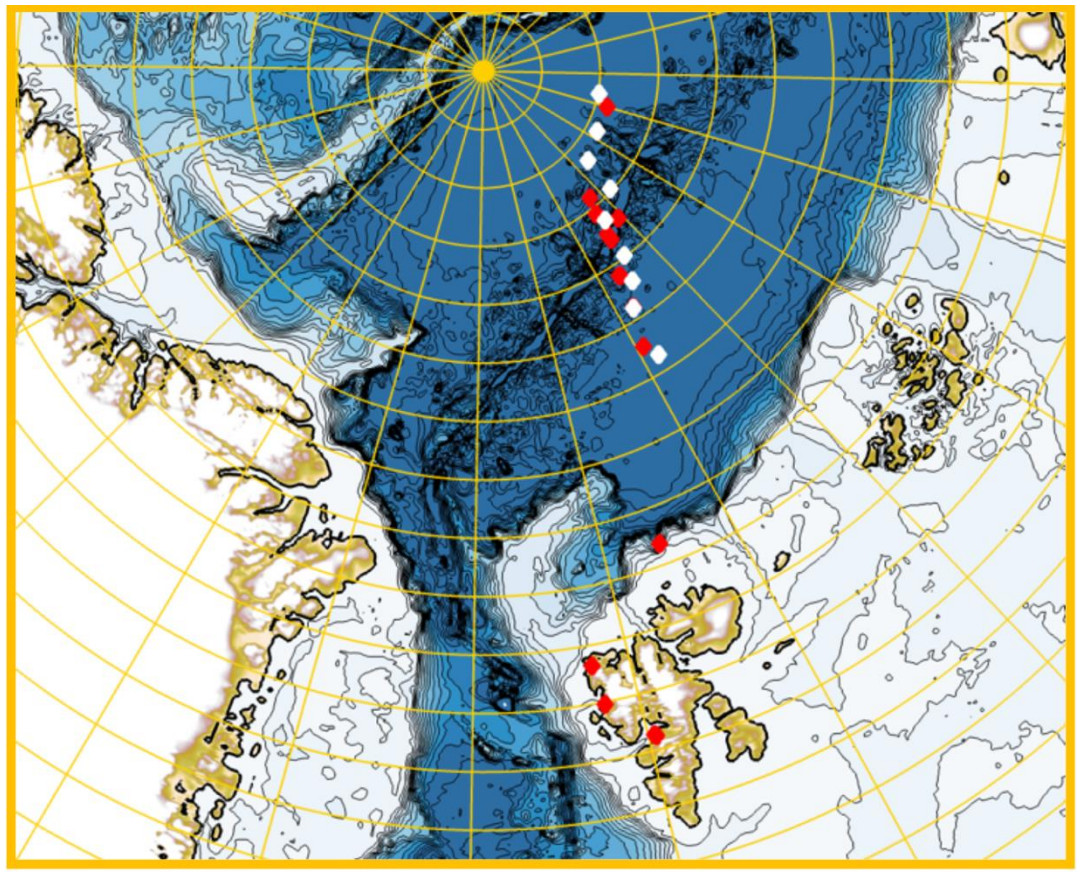
A report from the research school is published on zenodo: DOI [10.5281/zenodo.14825782](https://doi.org/10.5281/zenodo.14825782).



CTD data and acoustic recording at a fish farm

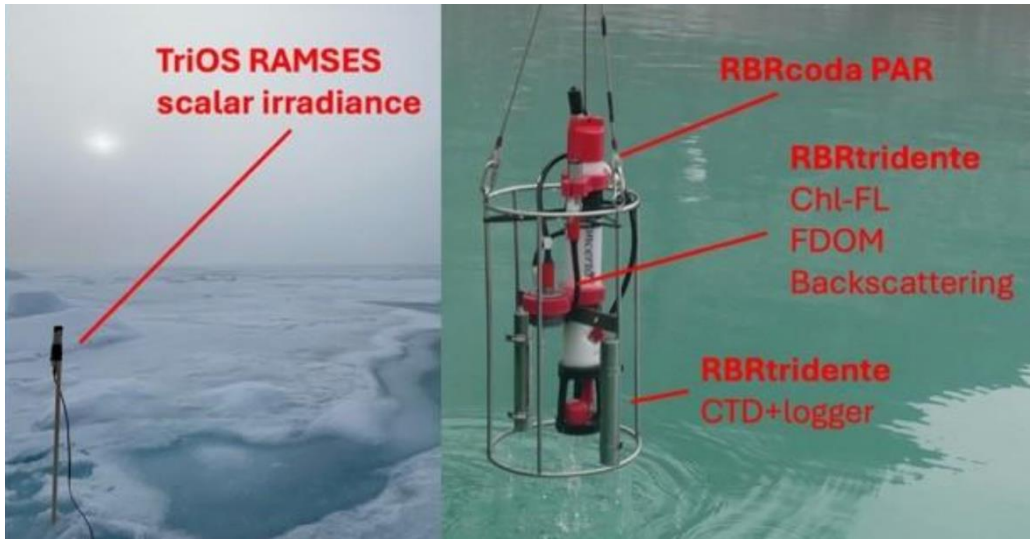


Arctic cruise with KV Svalbard in 2025



Locations where water samples were collected for ocean optics: white diamonds are the ice stations and red diamonds are small boat deployments or CTD stations (Ref. H. Sandven)

Work on the ice stations, controlling the radiometric measurements via a field laptop



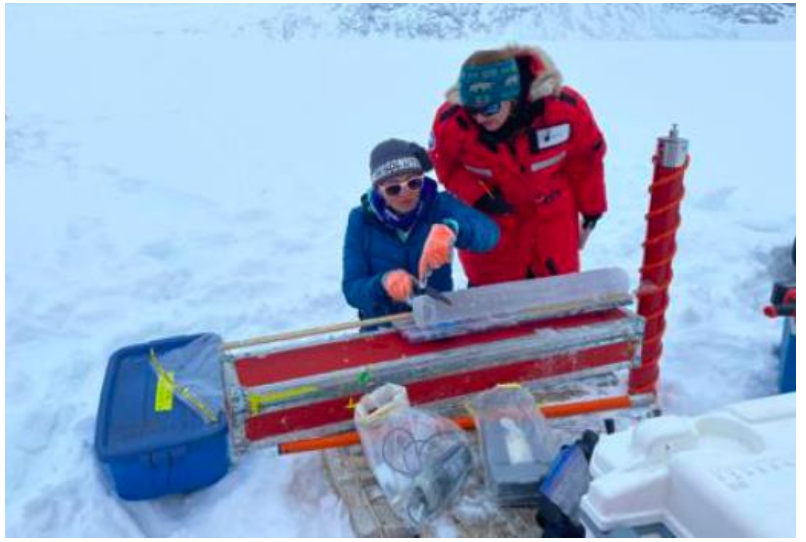
In situ instruments used in ocean optics

Advanced Field School on Arctic Sea Ice : Tracking Changes Across Scales

April 9-18, 2025, Qikiqtarjuaq, Nunavut, Canada

- Organised by the Sentinel North program of Université Laval (Quebec City, Canada) and the UAK project,
- Hosted at the Qikiqtarjuaq Research Station (Nunavut, Canada) (67° 33' N, 64° 01' W),
- Disciplines including optics-photonics, Arctic marine biology and ecology, marine physics, biochemistry and remote sensing.
- Interaction with community members of Qikiqtarjuaq.
- 16 international graduate students and postdoctoral fellows

Qikiqtarjuaq Research Station - Field work on sea ice and lab analysis



Outcome and impact

The students/young scientists involved in UAK have learned to:

- Prepare and use instruments, conduct field experiments and collect data
- Analyze data, write reports and publish results
- Asses risks and environmental impact of field experiments
- Give presentations at conferences/ workshops

Impact:

- Students are motvated to pursue a scientific career in ocean science
- Collaboration between the UAK partners in Norway, USA and Canada has been strengthened and will lead to new collaborative research projects
- Involvement of the industry partners is important for development and innovation in ocean observing technology in the coming years

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