



Floating University & Blue Skills Lab

**A postgraduate student's
experience**



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Who am I?

PhD in Marine Geosciences

- University College Cork, Ireland, UCC Marine Geology Research Group
- Studying automated image analysis techniques to study cold-water coral habitats
- Thesis title: “The Application of machine learning and 3D Photogrammetry for Cold-water Coral habitat classification in the NE Atlantic”

Postdoc in the Department of Geography at UCC

- The use of Virtual Reality in Geosciences – Making 3D data accessible

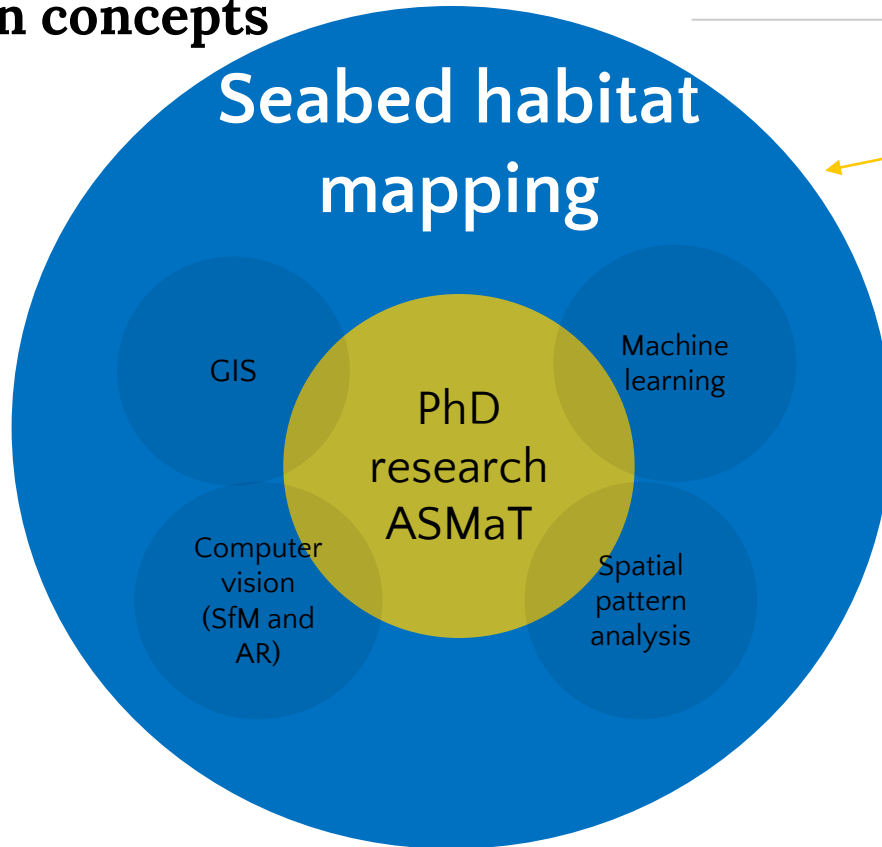


ROV Holland I, Marine Institute. Source: author's archive





Main concepts



Sea-going experience

Marine data acquisition

Marine data processing





Eurofleets + training

2020

EUROFLEETS+ Floating University – “Mapping the Ocean Floor: An Introduction to Practical Aspects of Hydrographic Surveying”

2022

**Eurofleets+ Blue Skills Lab
AUV workshop**



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Eurofleets+ Floating University

Celtic Voyager, Cork, Ireland, 2020



EUROFLEETS+ Floating University – “Mapping the Ocean Floor: An Introduction to Practical Aspects of Hydrographic Surveying”





A hands-on experience

Learning from the best

Infomar, Marine Institute data processing skills





Acoustic data acquisition and processing



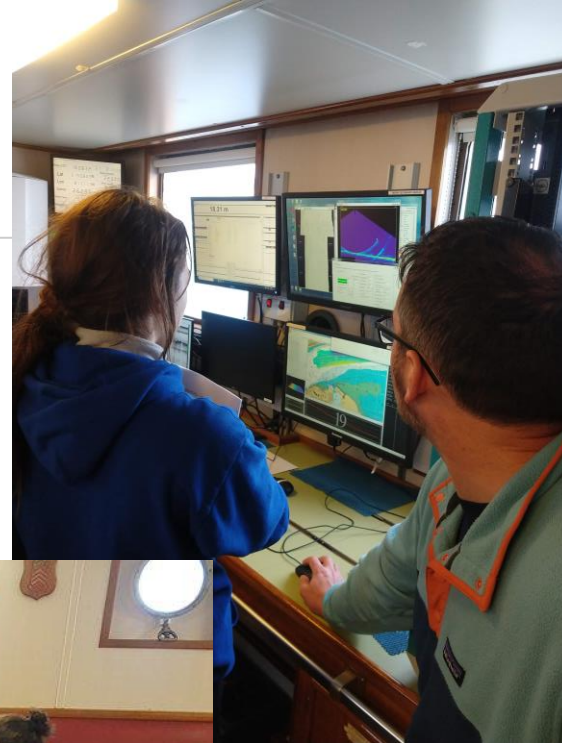
Seafloor Information Systems (SIS)

KONGSBERG



Process

Qimera



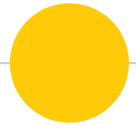


Sampling techniques

Survey design, data logging, importance of sampling grid, use cases







Fast forward 1 year...



Teaching at SMARTSea School

News

Luke and Larissa teaching on SMART Seaschool

26 Nov 2021



Students from NUIG, Maynooth and UCC took part in an two day practical course on board the RV Celtic Explorer.



A Marine Science and Technology Partnership
Programme for the island of Ireland



Home Training Partners Resources Contact



Strategic Marine Alliance for Research & Training (SMART)

The Strategic Marine Alliance for Research and Training (SMART) is a marine science partnership programme for developing Ireland's capacity for marine science, research, and monitoring.

20230430_075723.jpg

SMART Training Programmes

Call Open: SMART Marine Institute Research Bursaries 2023

The Marine Institute and the Strategic Marine Alliance for Research and Training (SMART) are offering up to 24 bursaries on...

[Read More >](#)

Deferred: Science@Sea 2023 Tom Crean Training Survey

A Science@Sea marine data collection training survey will take place on the 15th and 16th of February in Cork Harbour...

[Read More >](#)

Call Open: Science@Sea 2022

Two Science@Sea training surveys in multidisciplinary marine science will take place from the 14th to 17th of March in Cork...

[Read More >](#)

Marine Institute SMART Research Vessel Bursaries 2022

The Marine Institute in collaboration with the Strategic Marine Alliance for Research and Training (SMART) is offering up to 27...

[Read More >](#)



<https://smartseaschool.com/>



Image: Luke O'Reilly



Image: Author's archive



2022



2

Eurofleets+ Blue Skills Lab AUV workshop

Gullmar Fjord, Sweden, 2022



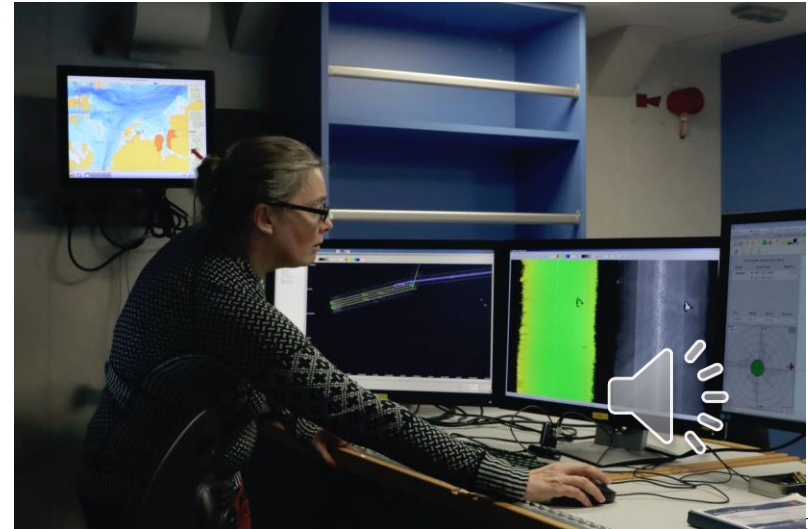
Gothenburg University (UGOT) in collaboration with the Swedish Marine Robotics Centre (SMaRC)



Technical training with the best

Oceanographic experts

- Prof Anna Wåhlin
- Filip Stedt





AUV 'RAN'





Course programme

- Oct 31st – set-up software, installing maps, plan draft mission, pre-mission procedures and QC of mission plan
- Nov 1st – Group exercises and lectures
- Nov 2nd – Practical training (mission QC, pre-dive checks and execution of mission)
- Nov 3rd – Practical training (mission QC, pre-dive checks and execution of mission) and data post-processing
- Nov 4th – data post-processing and course report preparation.





A hands-on experience

- Pre-mission procedures and QC of the mission plan
- Practical training (mission QC, pre-dive checks and execution of mission)
- Data post-processing and course report preparation.



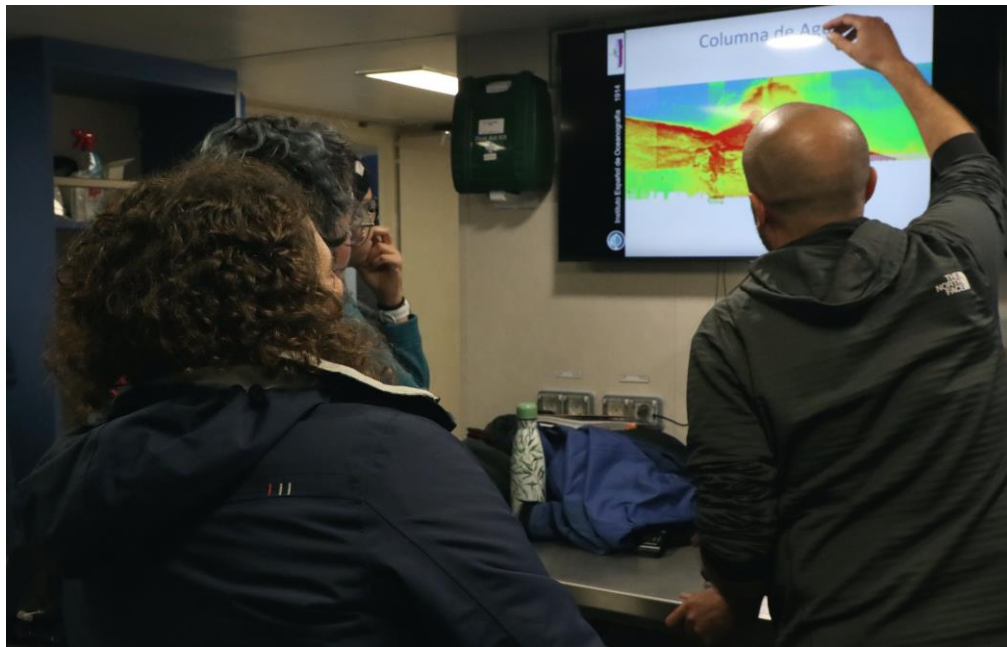
SEA-BIRD
SCIENTIFIC





Group exercises

- Focus group discussion
- Defining research questions
- Discussing the mission plan - strategies, locations
- Survey design - equipment set up





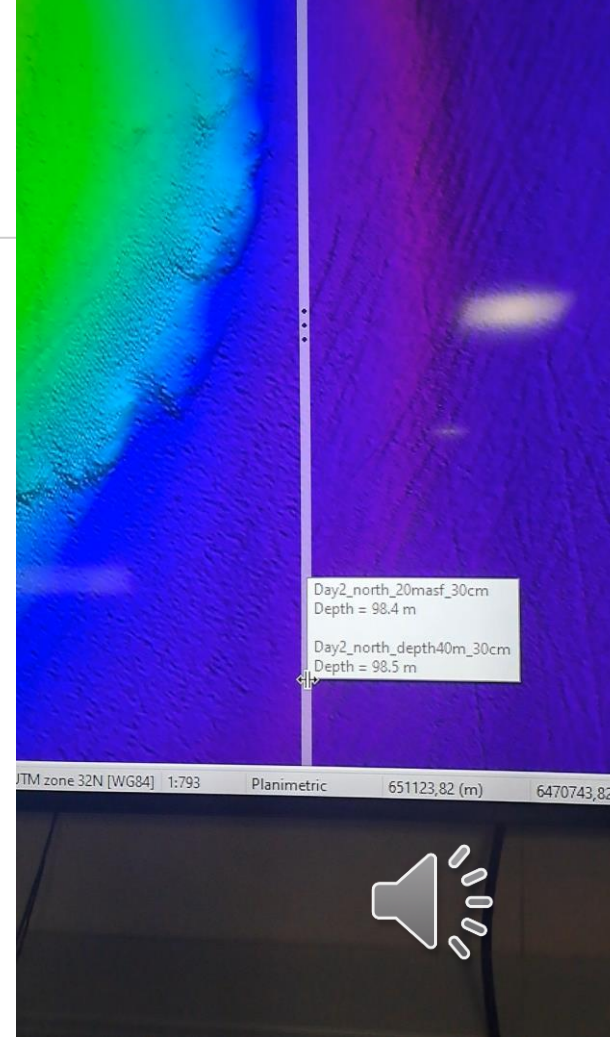
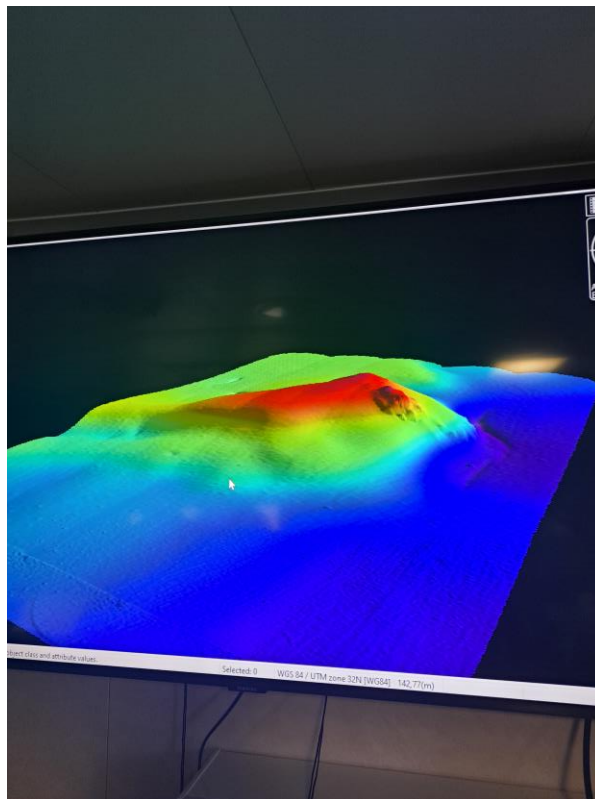
Data collection

We created two missions:

Survey A: South of the fjord and included a patch test and mapping of an interesting geomorphological feature.

Survey B was to the North of the fjord. Survey B comprised of an MBES test with the AUV in two different survey modes:

1. based on the altitude
2. depth
3. Two frequencies





Data presentations

- Each group presented the findings of their mission





The people

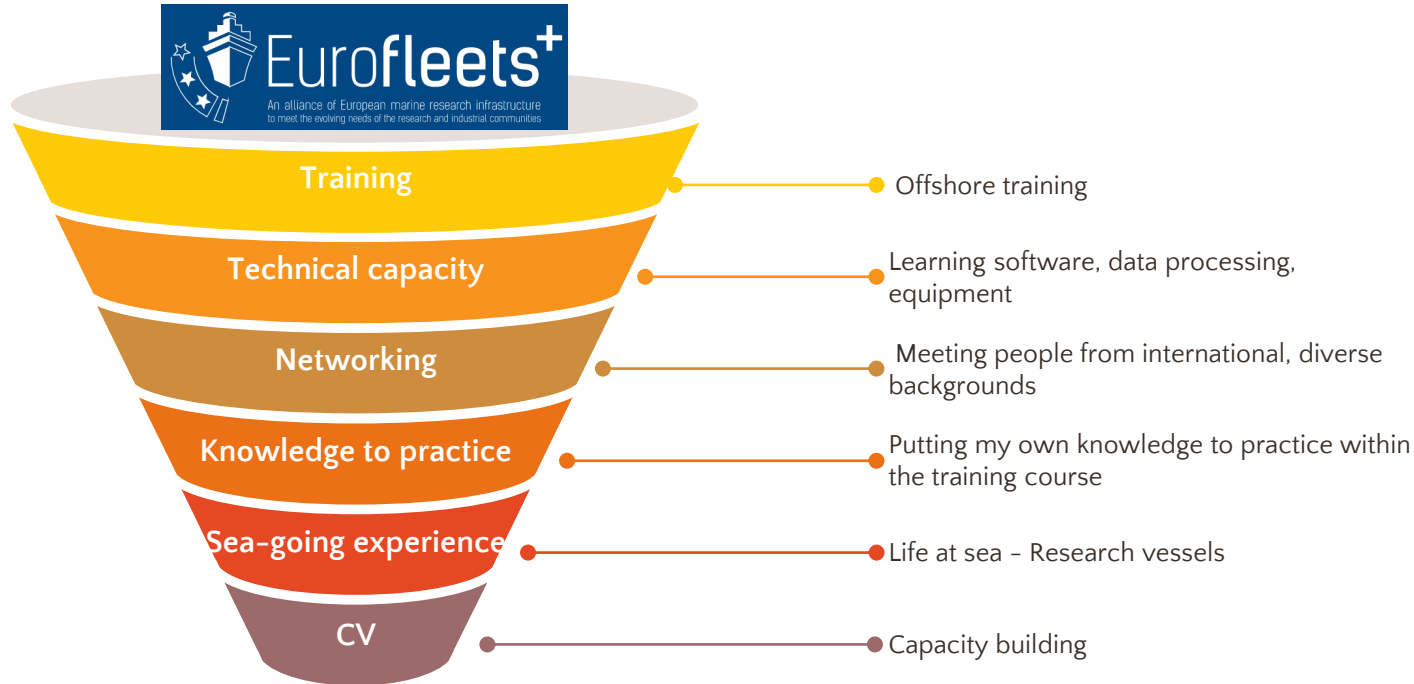
- >10 countries
- Different backgrounds
- A lot to share



Image: Kai Salm



Take-away message





Thanks!

Questions?

Please contact me at: Larissa.oliveira@ucc.ie



Image: SMARTSeaSchool