



**"Strengthening Circular Economy
and Valorisation of side-streams
in RAS Aquaculture"
AQUALOOP International Conference**

Interreg  Co-funded by
the European Union

South Baltic

*aqua
loop*

Developing skills for the circular economy – a PhD student perspective based on AquaLoop and other circular economy projects

Bremerhaven, Germany | 25 February 2026
Marta Gostkowska

@AquaLoop 
@AquaLoop Interreg SB 

aqualoop.edu.pl



Faculty of Oceanography &
Geography University of Gdańsk,
Poland



EUROPEAN UNIVERSITY OF THE SEAS



Employees: 148
Academic Staff: 98
Bachelor's and Master's students:
about 550
PhD students: about 40



- Strong marine science programs with hands-on training
- Sea-EU educational collaboration and sustainable blue economy track
- Participation in public events and ocean awareness initiatives
- Student and staff participation at global ocean events
- **International cooperation/projects**

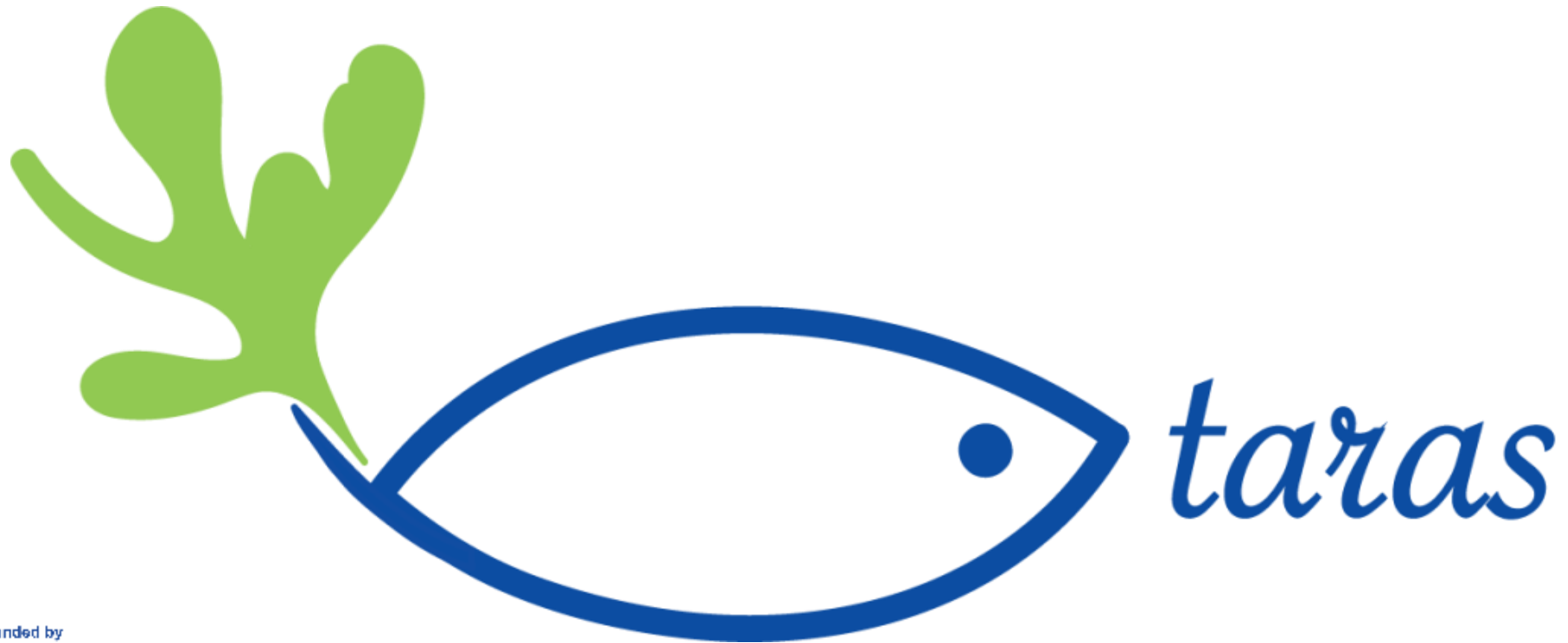


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AquaLoop Pilot 1 – TARAS

Testing Algae Applications in Recirculating aquaculture systems (RAS) to improve aquaculture circularity potential in the SB region



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AquaLoop Pilot 1 – TARAS



Farming of *Penaeus vannamei*

Dr. Joanna Hegele-Drywa (leader)

Microalgae cultivation using processing water

Dr Filip Pniewski (leader)

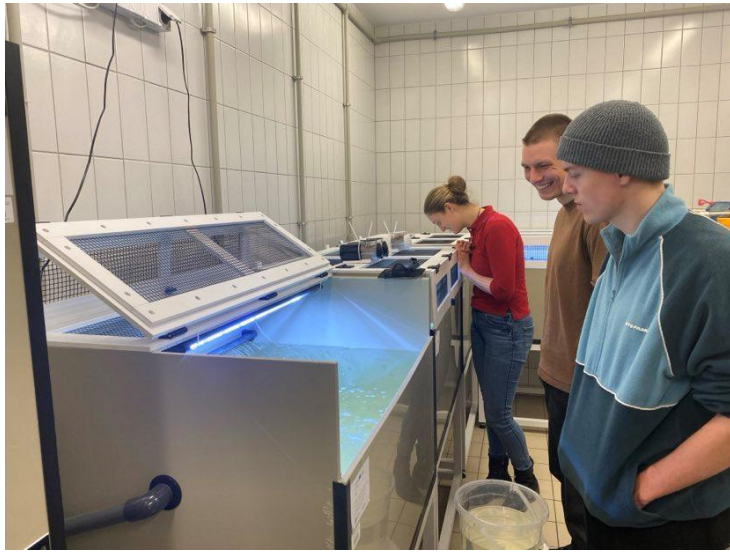
- 4 undergraduate students,
- 4 bachelor's degrees thesies (2 defended)
- 1 PhD student
- 8 interns/volunteers, oceanography students + international internship

AquaLoop Pilot 1 – TARAS

Skills developed through pilot work:



- Monitoring water quality parameters
- Maintaining culture conditions
- Managing feeding strategies and supplementation
- Shrimp measurements and survival monitoring
- Time management in long-term experimental cycles
- Applying circular economy principles in practice



cross-border student exchange program

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What?

A week long exchange program based on the AquaLoop project pilots, hands on experience, laboratory work, study trip, cross-border cooperation and networking.

For whom?

Aquaculture (and related majors: biology, marine biology, etc.) undergraduate and graduate students from the AquaLoop project partner universities: University of Rostock, University of Gdańsk, and Klaipeda University.

Why?

To get familiar with AquaLoop pilots, circular economy practices in aquaculture, partner institutions, and students from Germany, Poland and Lithuania.

When?

January – March 2025

Where?

University of Rostock (DE)
University of Gdańsk (PL)
Klaipeda University (LT)



OVERVIEW

25 Participants
15 Countries
23 Nationalities
5 blue bioeconomy challenges
6 challenge owners and mentors
5 great solutions

Challenge-Based & Experiential Learning

Entrepreneurship & Innovation Skills Development

Interdisciplinary & International Collaboration

02

BBT Baltic Hackathon

6th to 8th June 2025
Borucino, Poland



Photos: Hanna Dmochowska, Konstantinos Madias



Aqualoop & TETRAS challenges at the BBT Baltic Hackathon

Challenge 1

What's the secret to building an energy-efficient recirculating aquaculture system (RAS) in the Baltic area?

Challenges 2

How can we make recirculating aquaculture system (RAS) production in the Baltic area sexy?

Challenge 3

Can we find a sustainable replacement for minerals (mica), used in cosmetics, in the Baltic?

Challenge 4

How can Baltic offshore wind farms be inspired to invest in regenerative ocean farming?

Challenge 5

How can we raise healthier fish with fewer treatments in intensive recirculating aquaculture systems (RAS) in the Baltic area?



Photos: Hanna Dmochowska

Challenge 1 - What's the secret to building an energy-efficient recirculating aquaculture system (RAS) in the Baltic area?

Mentor: Bartosz Blum, CEO, Aqua Medic Poland
Challenge owner: Aqua Medic Poland, Poland/
AquaLoop Interreg South Baltic

AQUA MEDIC



Challenges 2 - How can we make recirculating aquaculture system (RAS) production in the Baltic area sexy?

Mentor: Freya Robinson, Project manager, SUBARINER Network for Blue Growth
Challenge owners: Business Lolland-Falster, Denmark/TETRAS Interreg Baltic Sea Region project

/Business
Lolland-Falster



Very positive feedback



Very high evaluation ratings!

78% - very satisfied

22% - satisfied

67% - exceeded their expectations

33% - met their expectations



Participants together with the judging panel

Young Innovators Tackled Blue Economy Challenges at the Blue Bio Techpreneurs Baltic Hackathon

BASIA DMOCHOWSKA | UNIVERSITY OF GDAŃSK & KONSTANTINOS MADIAS, SUBMARINER NETWORK

From June 6-8, 2025, the [University of Gdańsk](#) hosted the [Blue Bio Techpreneurs Baltic Hackathon](#), a three-day event organized under the [Blue Bio Techpreneurs](#) project, co-financed by the [European Maritime, Fisheries and Aquaculture Fund \(EMFAF\)](#) for 2021-2027.

The event brought together some of Europe's brightest young minds to develop practical, innovative solutions for real-world challenges in the [blue economy](#), focusing on sustainable aquaculture and marine biotechnology.

Diverse Talent, Real Impact

Selected from 58 high-quality applications, **25 students from 15 countries** representing master's and doctoral programs in marine science, biotechnology, and aquaculture gathered for a fulfilling weekend. They worked alongside experts and mentors from various fields, including business, finance, marketing, and research, to tackle blue biotech challenges in multidisciplinary teams. With 48 hours at their disposal, the participants generated solutions for **five real regional challenges** submitted by companies and institutions and tailored to their interests.



Baltic Hackathon Reflections

What was the main lesson you learned from the hackathon?

Cassia Wilson



"My main lesson learnt from the hackathon was probably the **power of a diversity of backgrounds** and research in helping to **create a feasible solution to real-world problems** in such a short time frame."

Baltic Hackathon Reflections

What was the main lesson you learned from the hackathon?

Carlos Montaner



"I truly believe the positive ripples of this Hackathon will be felt worldwide and for decades to come."

Every participant's resolve has grown larger and steadier through the connections made here with like-minded individuals, which will facilitate future **collaborative work towards a more sustainable future.**

Conclusion:

AQUALoop & Blue BioTech Baltic Hackathon showed me that:

- Circular economy ≠ only scientific knowledge
- Interdisciplinary collaboration matters
- Practical problem-solving is key
- Ability to connect research with real-world challenges
- Understanding industry needs & effective communication are crucial