



Educational needs in relation to innovative and sustainable aquaculture

Innovative technologies in aquaculture – webinar

Konrad Ocalewicz

Institute of Oceanography, Laboratory of Fish Genetics and Reproduction
University of Gdańsk

17th November



Aquaculture is the fastest growing food sector

—

is it growing too fast (in terms of impact on environment)?



Innovative and sustainable aquaculture

Application of new „environmentally friendly” technologies

1. Recirculating Aquaculture Systems (RAS) - to reduce (or even eliminate) environmental impacts from aquaculture farming.
2. Offshore aquaculture – much less nutrients and less biodiversity when compared to sensitive coastal waters – this may make quicker dispersion of fish waste.
3. Multi-trophic aquaculture – to provide balanced system(s) for environment (farming of fish together with shellfish, seaweed, etc.).
4. Renewable energy sources.
5. Local, small scale production of high quality aquaculture products.



Sustainable aquaculture based on the interactions between people, animal and the environment

The transfer of knowledge and legislation:

1. Building a frameworks focusing on **communication and cooperation** between scientists, aquaculture companies and governments.
2. Meetings and workshops.

Development of new technologies and use in practice:

1. Collaboration agreements between universities/scientific institutions and aquaculture companies.
2. Organization of workshops presenting and teaching what is sustainable and innovative aquaculture.
3. Fast application of innovative technologies due to science-aquaculture collaboration platforms.



Sustainable aquaculture based on the interactions between people, animal and the environment

Education (not only schools...):

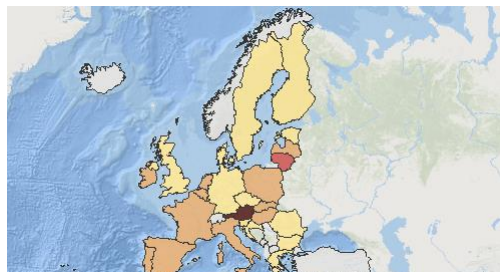
1. Health benefits of eating fish and other products from aquaculture.
2. Role of aquaculture in the food production.
3. Aquaculture means protection of wild stocks.
4. Impact of aquaculture on environment.
5. What is sustainable and innovative aquaculture?



Sustainable aquaculture based on the interactions between people, animal and the environment

Higher education – BSc/undergraduate

Where to study? **Almost everywhere in EU...**



Sustainable aquaculture based on the interactions between people, animal and the environment

Higher education – MSc/postgraduate

POSTGRAD.com
No.1 Site for Postgraduate Courses Worldwide

HOME NEWS EVENTS ADVICE FUNDING SUBJECTS BLOG UK EUROPE USA AUSTRALIA REGISTER

23 Postgraduate Courses for Aquaculture in Europe

Agriculture, horticulture and veterinary studies » Agriculture » Animal husbandry » Fish farming » Aquaculture

The screenshot shows the Keystone website interface. At the top, there's a navigation bar with 'Master', 'PhD', 'Law', 'Bachelor', 'MBA', 'Healthcare', 'Courses', and 'Online'. Below that, a red banner highlights 'Master Degrees', 'Masters of Science', 'Masters of Arts', and 'Universities'. The main content area features a large image of people working in an aquaculture setting. The title 'MSc Programs in Aquaculture and Fisheries in Europe 2021' is prominently displayed. Below the title, there's a brief description of MSc programs and a 'Read more' link. At the bottom of the screenshot, there are logos for 'Aquaculture and Fisheries' and 'University of Gdansk'.

University of Gdańsk – a three year experience in teaching in aquaculture

Bachelor's degree in **Aquaculture – Business and Technology**

The screenshot shows the website of the Faculty of Oceanography and Geography at the University of Gdańsk. The header includes the university logo and the faculty name 'Wydział Oceanografii i Geografii'. A navigation menu lists 'WYDZIAŁ', 'REKRUTACJA', 'STUDENCI', 'DZIAŁALNOŚĆ NAUKOWA', 'PRACOWNICY', and 'JAKOŚĆ KSZTAŁCENIA'. The main content area is titled 'Akwakultura - biznes i technologia' and features a sub-section 'Studia stacjonarne I stopnia'. There is a large image of a boat in a circular aquaculture cage system. To the right of the image, it says 'Rok akademicki: 2018/2019'. At the bottom, the faculty name and website URL 'http://www.oig.ug.edu.pl/' are provided. Logos for the University of Gdańsk and the Faculty of Oceanography and Geography are visible at the bottom corners.

University of Gdańsk – a three year experience in teaching in aquaculture

Bachelor's degree in **Aquaculture – Business and Technology**

Why we decided to run this course? Aquaculture Sector is deadly eager to employ as many people as possible now!



The screenshot shows the website of the Faculty of Oceanography and Geography (Wydział Oceanografii i Geografii) at the University of Gdańsk. The page is titled "Akwakultura - biznes i technologia" and "Studia stacjonarne I stopnia". It features a navigation menu with options like "WYDZIAŁ", "REKRUTACJA", "STUDENCI", "DZIAŁALNOŚĆ NAUKOWA", "PRACOWNICY", and "JAKOŚĆ KSZTAŁCENIA". The main content area includes a "Rekrutacja" sidebar with links to "Zasady rekrutacji", "Internelewna Rejestracja Kandydatów", and "Pierwsze kroki przyjętych na studia". The central image shows a boat in a large circular aquaculture tank. A "Zarejestruj się" button is visible, and the academic year "Rok akademicki: 2017/2018" is noted.



UNIwersytet Gdański

University of Gdańsk – a three year experience in teaching in aquaculture

Bachelor's degree in **Aquaculture – Business and Technology**

A very nice start! 24 students attended the undergraduate course!





UNIWERSYTET GDAŃSKI

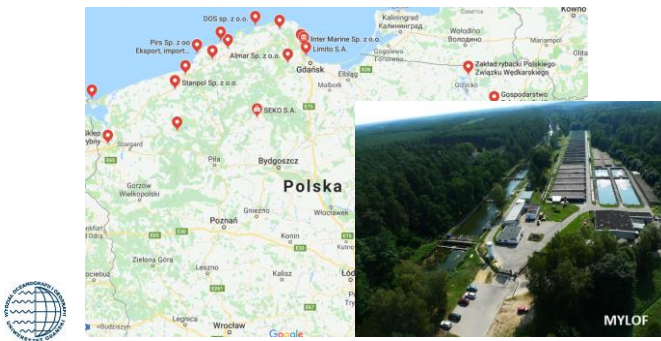
University of Gdańsk – a three year experience in teaching in aquaculture

Bachelor's degree in **Aquaculture – Business and Technology**

A very nice start! 24 students attended the undergraduate course!

And after one month less than 50% wanted to continue the education.....

Why?



UNIWERSYTET GDAŃSKI

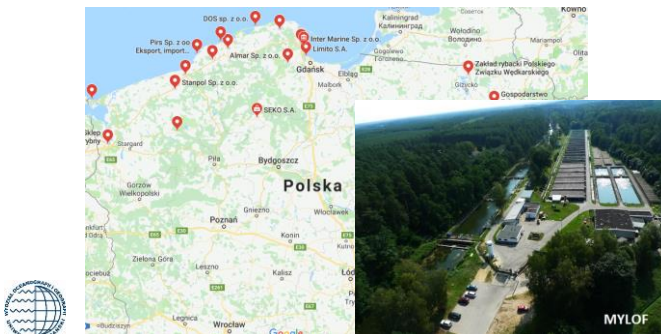
University of Gdańsk – a three year experience in teaching in aquaculture

Bachelor's degree in **Aquaculture – Business and Technology**

A very nice start! 24 students attended the undergraduate course!

And after one month less than 50% wanted to continue the education.....

Why? Because they found out that aquaculture business is far from the city!!!



Aquaculture – business and technology



So, how to make studying Aquaculture more attractive?



1. Aquaculture is a family business. Most of our students are already in this business.
2. Studying aquaculture is attractive but working in the sector is not...the money?
3. Low consumption of fish – low interest in aquaculture.
4. Make FISH more attractive what will make AQUACULTURE attractive!

