



Open experiment facilities as tools for knowledge exchange

Wednesday, 28th August 2024

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 871108 (AQUAEXCEL3.0). This output reflects only the author's view and the European Commission cannot be held responsible for any use that may be made of the information contained therein.



AQUAEXCEL3.0



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aquaexcel.eu

AQUAculture infrastructures for EXCELlence in European fish research 3.0



**FISH
RESEARCH**



**SHELLFISH
RESEARCH**



**MACROALGAE
RESEARCH**



**TRANSNATIONAL
ACCESS**



**NETWORKING
ACTIVITIES**

AT A GLANCE

PROGRAMME: European Union Horizon 2020

TYPE OF ACTION: Research and Innovation Action

DURATION: November 2020 - October 2025 (60 months)

COORDINATOR: Institut national de recherche pour l'agriculture, l'alimentation et l'environnement (INRAE), France

CONSORTIUM: 22 partners in 13 countries

TOTAL BUDGET: €9.9 Million

The Transnational Access program (TNA program)



TNA gives **external aquaculture researchers** access to our partner's facilities

- Unprecedented set of **40 aquaculture research infrastructures**, covering all important species, rearing systems & environments
- Experimental costs, travel and subsistence **covered** by AQUAEXCEL3.0
- Experiments up to **3 months**
- Must be **transnational**
- Researchers from **any country** can apply
- Results of the work to be **published and made available** to the aquaculture community



The Transnational Access program (TNA program)



WATER ENVIRONMENTS

Freshwater, Marine, Cold, Temperate and Warm Water Environments



SPECIES

Salmonids, Cold and Warm Water Marine Fish, Freshwater Fish, Artemia, **Shellfish, Macroalgae, Worms and Insects**



FIELDS OF EXPERTISE

Nutrition, Physiology, Pathology, Health and Welfare, Genetics, Rearing Systems, Aquaculture Engineering and Integrated Operations, Modelling, Design, ICT and Bioinformatics.



AQUACULTURE SYSTEMS

Cage, Pond, Recirculation, Flowthrough, Hatchery and Disease Challenge Systems, **Integrated Multitrophic Aquaculture**



FACILITY SCALES

Small, Medium and Industrial Scales

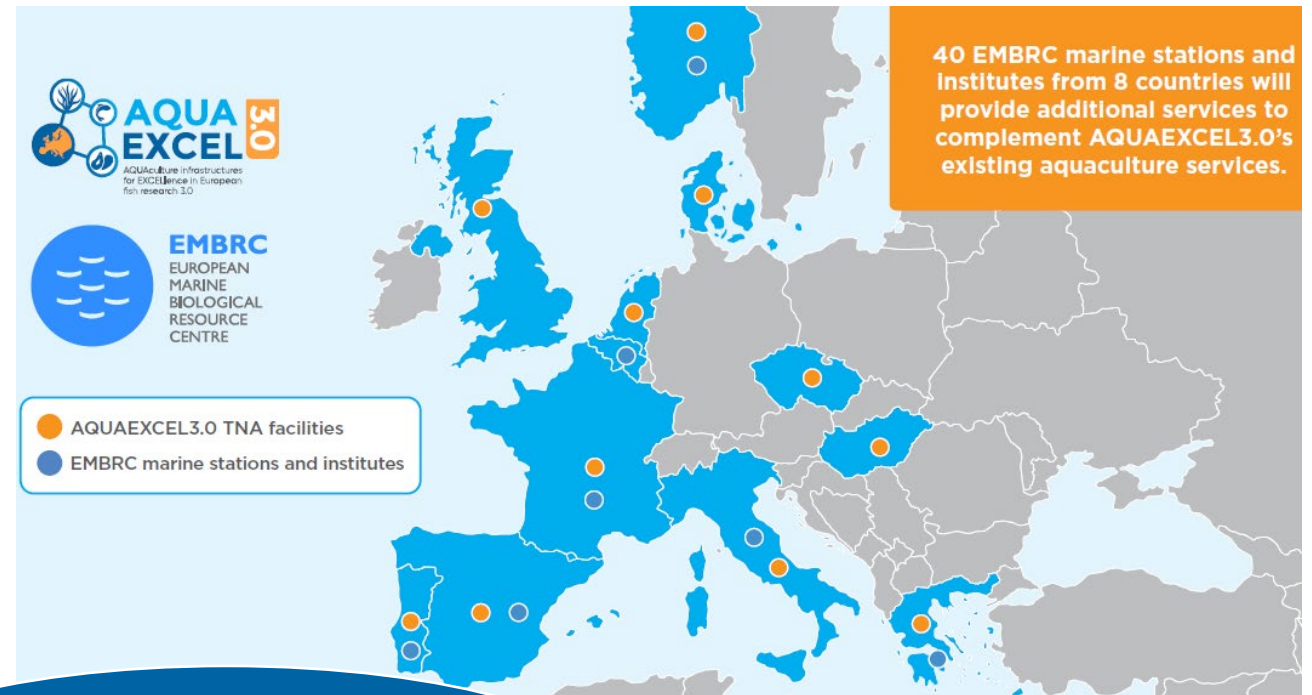
new fields compared to AQUAEXCEL²⁰²⁰ highlighted in **bold*



TNA program – EMBRC collaboration



- As of May 2024, the **European Marine Biological Resource Centre (EMBRC)** joined the AQUAEXCEL3.0 TNA program
- This action widened the access to aquaculture research facilities, providing **40 additional** marine stations and institutes from 8 countries to complement our existing services.



Now 80 aquaculture & marine facilities available for TNA!

TNA program – EMBRC collaboration



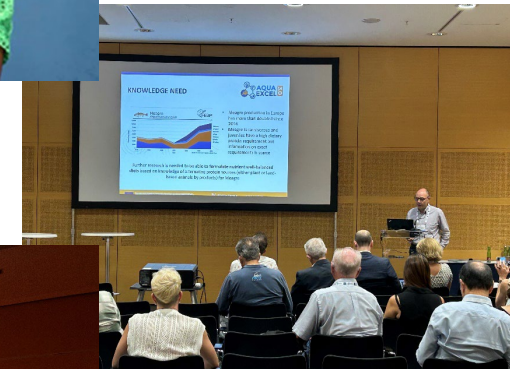
Focus on supporting **marine biological and ecological research**:

- **Facilitating access to marine ecosystems** (through coastal research vessels and the collection of organisms from the field)
- **Marine biological resources** (from culture collections and biobanks and taxonomy services)
- **Experimental facilities** (aquaria, tanks and mesocosms, dry and wet laboratories)
- **Technological platforms** (for molecular biology, imaging and structural and chemical analysis)



TNA program – successful knowledge outputs

- **Fish meal reduction for growing Meagre (*Argyrosomus regius*)** by Ramon Fontanillas (Skretting) at Aquaculture Europe 2023
- **Benefits of Krill meal inclusion towards better utilization of nutrients and growth in gilthead seabream juveniles** by Kiranpreet Kaur (Aker BioMarine) at Aquaculture Europe 2023
- **Beyond insect flour: use of wood-based yeast SCP (single-cell protein) as an ingredient for trout diets** by Ricardo Ekmay (Arbiom) at Aquaculture Europe 2022



Are you interested?



TRANSNATIONAL ACCESS

A major feature of AQUAEXCEL3.0 is its TNA program, allowing external researchers to access the partners' facilities via submission of research proposals, which are reviewed through an independent selection panel.

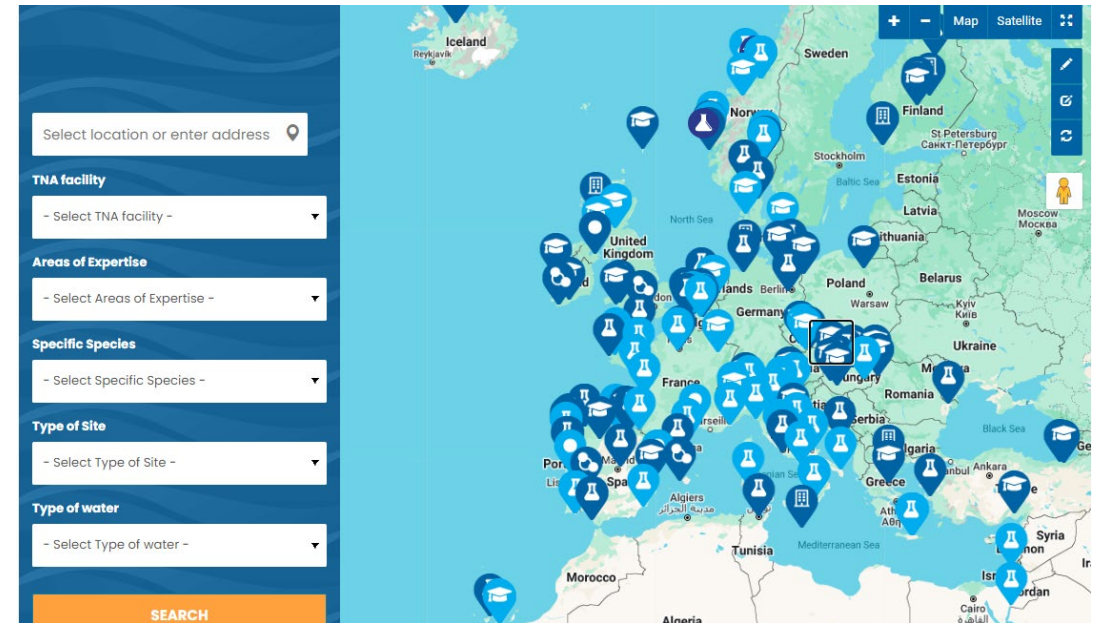
Access is offered to 40 unique research infrastructures of the participating partners, with the associated costs, travel and subsistence covered by AQUAEXCEL3.0. The available production systems, environments, scales, fish species and fields of expertise are diverse, offering access to shellfish and macro algae infrastructure in Integrated Multitrophic Aquaculture (IMTA) settings, with shellfish, marine worms. Access is available to EU and Associated States' research facilities, including medium-sized enterprises (SMEs), based on the scientific excellence in the aquaculture sector.

Please note – the European Commission has suspended cooperation with Russia in research and innovation. We no longer consider Russian applicants for participation in the transnational access program.

APPLY NOW



<https://aquaexcel.eu/transnational-access/>



<https://aquaexcel.eu/interactive-map/>

Other upcoming activities from AQUAEXCEL3.0



FREE online training courses:

- **Welfare Indicators** – Open continuously (registration details available on website)
- **“Using modelling as a tool for experimental design”** – Recorded version will be available soon
- **“Conducting Experimental Infections in Fish and Shellfish”** – Coming November 2024 (live, online version)
- **“Shellfish and seaweed production in research infrastructures”** – Expected Q4 2024 (live, online version)

<https://aquaexcel.eu/training-courses/>

WELFARE INDICATORS

LED BY: NOFIMA

DATE: October 2023

This training course will focus on welfare indicators for different fish species used in aquaculture research. Participants will learn about the latest technologies around developing welfare indicators, their advantages and disadvantages and carry out practical exercises around real-life cases for welfare monitoring. Environmental enrichment and exercise training will be examined in relation to how they can be beneficial in terms of promoting resilience and robustness in fish.

USING MODELLING AS A TOOL FOR EXPERIMENTAL DESIGN

LED BY: NTNU

DATE: February 2024

This course will expand upon AQUAEXCEL²⁰²⁰ training with new results, integrating the planned updated virtual lab with new models that participants will be able to test. Researchers will be trained in the use of numerical models as efficient tools for designing experiments and gaining a better understanding of the interaction between biological and physical factors within aquaculture research, including growth, nutrition, waste production, water quality, water treatment and hydrodynamic flow fields.

CONDUCTING EXPERIMENTAL INFECTIONS IN FISH AND SHELLFISH

LED BY: DTU

DATE: November 2024

This course will cover the use of fish for fish disease research; How to design and perform experimental infection trials in shellfish (oysters, clams, cockles and mussels); Considerations when conducting virulence and pathogenesis studies with virus; Considerations when conducting studies of bacteriological diseases; Statistical analysis of data from experimental trials; Vaccine testing under experimental and field conditions; How to conduct trials with shellfish (shrimps) and considerations to take into account when designing infection trials with endo- and ectoparasites in marine non-salmonid species.

SHELLFISH AND SEAWEED PRODUCTION IN RESEARCH INFRASTRUCTURES

LED BY: DTU

DATE: November 2024

This training course will teach participants Hatchery procedures for flat oysters; Hatchery procedures for seaweed; Grow-out procedures for seaweed on longline structure; Optimization of mussel suspended culture (DTU-DSC); Technical development in the seaweed industry; Land-based seaweed aquaculture: systems and grow-out procedures.



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