



AQUAEXCEL²⁰²⁰ WORKSHOP WP5

VIRTUAL LABORATORY: CO-SIMULATION BETWEEN DIFFERENT MODELS IN THE AQUACULTURE DOMAIN

Thursday 3 December, 13:00-15:00 (CET)

Join GoTo Meeting

<https://global.gotomeeting.com/join/462694093>

Participants can log in from 12:45

Workshop objectives and expected output

The main objective of this technical workshop is to present the use of VL (virtual laboratory) as tool in aquaculture, gather feedback on the current solution and discuss ways forward.

Prior to the workshop, please access the virtual laboratory at

<https://ae2020virtuallab.sintef.no/>

Try to run an experiment and look at the results, then answer the questionnaire:

[AQUAEXCEL2020 - Virtual Lab - Questionnaire](#)

Workshop agenda:

1300-1305: Introduction to workshop (Eleni Kelasidi, SINTEF)

1305-1340: Virtual Laboratory: How we achieved co-simulation between different models in the aquaculture domain. Presentation, demonstration and interactive session (Finn Olav Bjørnson, SINTEF)

1340-1400: Open simulation platform – co-simulation of maritime systems. Presentation and interactive session. (Stian Skjong, SINTEF)

1400-1450: Survey results and interactive session.
Discussion on current solution and ways forward.

1450-1500: Other issues and wrap-up (Eleni Kelasidi, SINTEF)

About the VL (Virtual Lab) concept

A virtual laboratory has now been developed which can simulate experiments with fish in closed tanks and open cages, and receive data on expected growth, waste production and water quality. Based on numerical modelling, it allows in silico testing of experimental protocols with a user-friendly interface, prior to their practical application. The overall goal of the virtual laboratory is to assist in optimizing the use of experimental resources and improve experimental design and test power.

A web-interface for setting up and executing virtual experiments has been completed and is available for the public at <https://ae2020virtuallab.sintef.no/>. The interface is linked with the technical framework integrating the models such that users can execute virtual experiments without needing deep insight into how the framework and sub-model integration is implemented.

The following numerical models are the main components included in the virtual laboratory developed in WP5 of AQUAEXCEL2020:

- Growth, nutrition and waste production models for different fish species
- Water quality and water treatment modelling
- Modelling of hydrodynamic flow fields in tanks and cages

REGISTRATION

You are invited to register in advance by emailing Eivind.Lona@sintef.no with your name and contact details, but participants are also welcome to join on the day.