

AQUAEXCEL TRAINING COURSES SERIES

Date: 19-22 May 2014 **Location:** Norwegian University of Science and Technology (NTNU) and Stiftelsen for industriell og teknisk forskning (SINTEF), SeaLab, Trondheim, Norway

COURSE OUTLINE

TITLE: Efficient Utilisation of New Monitoring and Control Systems in Fish Experiments

COURSE DESCRIPTION

The main focus of this course will be on the use of advanced monitoring and communication tools in aquaculture fish experiments. Experimental methods in first feeding experiments will be introduced, with emphasis on the possibilities offered by instrumentation and control systems. Participants will learn to handle and efficiently use the available cameras, sensors and control systems at the CodTech automated first feeding rig in different types of experiments. Opportunities for applying monitoring and control tools in different production systems will be evaluated. Another objective of the course will be demonstrating how to apply remote access tools in sea-based aquaculture at the Aquaculture Engineering (ACE) exposed farming site. Course participants will visit corner stone aquaculture companies in the coastal region of Frøya, and will be given the opportunity to interact with Norwegian industry representatives.

COURSE CONTENT

Main parts of the course:

- First feeding and on-growing aquaculture
- E-Infrastructure opportunities
- Control Systems
- Remote Monitoring

COURSE ORGANISERS: NTNU and SINTEF, Norway

TARGET AUDIENCE:

- Master's students in aquaculture, automation and process control, Information and Communications Technology (ICT)
- Facility operators and researchers in aquaculture research infrastructures
- Aquaculture staff with development and operation responsibility (producers, suppliers)

COURSE TUTORS

	Elin Kjorsvik Professor at NTNU, Dept of Biology www.ntnu.edu/employees/elin.kjorsvik
	Jan Ove Evjemo Senior researcher at NTNU, Dept of Biology www.ntnu.edu/employees/jan.ove.evjemo
	Jo Arve Alfredsen Associate Professor at NTNU, Dept of Engineering Cybernetics www.itk.ntnu.no/english/people/academic/alfredsen.jo.arve
	Morten Alver Adjunct Associate Professor at NTNU, Dept of Engineering Cybernetics www.ntnu.edu/employees/alver
	Gunnar Senneset Senior researcher at SINTEF Fisheries and Aquaculture www.sintef.no/Kontakt-oss/Alle-ansatte/?Emplid=1497
	Ep Eding Senior researcher/lecturer at Wageningen University www.wageningenur.nl/en/Persons/ing.-EH-Ep-Eding.htm

COURSE 1

Title: Recirculating Aquaculture System (RAS) Technology
Course Provider: Aquaculture and Fisheries Group, Wageningen University (the Netherlands), with the expertise of NORIMA, FREMER and IMARES
Location: Wageningen University, the Netherlands
Date: 22-25 April 2013

COURSE 2

Title: Contribution of Genetic Approaches to the Development of Sustainable Aquaculture for Temperate and Mediterranean Fish
Course Provider: INRA
Location: Rennes, France
Date: 16-18 October 2013

COURSE 3

Title: The Application of Chromosome Set Manipulations and the Importance of Gamete Collection and Management in Aquaculture
Course Provider: Institute of Aquaculture, University of Stirling
Location: Stirling, UK
Date: 18-22 November 2013

COURSE 4

Title: Efficient Utilisation of New Monitoring and Control Systems in Fish Experiments
Course Provider: NTNU and SINTEF
Location: NTNU and SINTEF Sealab, Trondheim, Norway
Date: 19-22 May 2014

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COURSE OUTLINE

LOCATION: Norwegian University of Science and Technology (NTNU), Centre of Fisheries and Aquaculture (www.ntnu.edu/marine/sealab) and SINTEF Fisheries and Aquaculture (www.sintef.no/home/Fisheries-and-Aquaculture) SeaLab, Brattørkaia 17C, 7010 Trondheim, Norway. Full day excursion to an exposed sea-cage salmon farming site and to the aquaculture region of Frøya.

DATE & TIME: Commences at 8:30am Monday 19 May 2014 and concludes at 3:00pm Thursday 22 May 2014: Four days including excursion.

REGISTRATION: Visit www.aquaexcel.eu/training_courses for online registration. Participants are requested to submit their CV and a brief description outlining their motivation for attending the course. Places will be confirmed, at the latest, one month before the start of the training course. Admittance to the course will be confirmed officially. Please do not make travel arrangements unless you have received official confirmation.

FEES: Course attendance is **FREE**, thanks to EC FP7 funding. Participants are expected to pay for their own travel, subsistence and accommodation.

MAXIMUM PARTICIPANTS: 20 people (CV & description of motivation for wanting to attend the course may be used as selection criteria).

LANGUAGE OF INSTRUCTION AND MATERIAL: English

PRACTICAL INFORMATION

TRAVEL TO LOCATION:	<p>BY AIR Trondheim Airport Værnes is just 32km north-east of the city. You can make connections to Trondheim from anywhere in Europe. See www.avinor.no/en/airport/trondheim</p> <p>The airport bus runs every 10 minutes and stops at many of the central hotels and central connection points. The stop "Trondheim central station" is located 200m from SeaLab. See www.flybussen.no/trondheim/. You can also take the local train which stops just outside the airport.</p> <p>BY TRAIN Trondheim has train connections to Stockholm, Sweden and to both the northern and southern parts of Norway with several daily departures/arrivals. See www.nsb.no</p> <p>BY BUS There is an express bus service to/from Bergen and Oslo every day, departing from and arriving at Trondheim Central Station, which is also the centre for all the district buses. See www.nor-way.no</p> <p>BY CAR Plan your own trip with Google maps (http://maps.google.no), or use the Michelin guide (www.viamichelin.com).</p>
ACCOMMODATION:	<p>On 20 May, a room will be booked for you at Hotel Frøya (www.hotellfroya.no) either in a single or twin room. For the other days, please book a room at one of the following hotels:</p> <ul style="list-style-type: none"> • Rica Nidelven (www.rica.no/hoteller/trondheim/rica-nidelven-hotel/) • Clarion Hotel (www.clariontrondheim.com/nordic-choice-hotels) • P-Hotels Brattøra (www.p-hotels.no/photels/english/) • Youth hostel (http://trondheimvandrerhjem.no/) • Hotel Frøya (www.hotellfroya.no)