

# “Creating an Optimum Environment”

**April 12, 2021**

The EAS Aquaculture Europe events are attracting increasing numbers of stakeholders involved or interested in the latest knowledge and innovations in European aquaculture. The increasing importance of recirculation aquaculture systems – and their use with multiple species for all or part of the rearing cycle - has encouraged EAS to start an annual series of speciality events: RAS@EAS.

To complement the science presented in the parallel sessions of the AE conference, RAS@EAS looks to take a different approach, with the emphasis on bringing together key figures from science and industry to focus on key issues, present the latest knowledge and share experience with different species and systems. Each RAS@EAS event will focus on a specific challenge in RAS systems, with several sub-sessions based on interactive discussion and audience participation.

**The RAS@EAS will take place  
ONLINE on Monday, April 12, 2021  
just prior to the Aquaculture Europe 2020 Online Event!**

Photos courtesy of ScaleAQ, Norway

## “Creating an Optimum Environment”

RAS@EAS covers all systems where water is re-used, where environmental conditions and disease management may be better controlled and where biosecurity is enhanced. RAS enables a reduction in water usage, improved management of waste and discharge, the control of disease and the optimisation of environmental conditions for year-round production and market supply.

RAS@EAS will address these key questions:

### How do we best approach disinfection?

Different disinfection strategies are used in RAS to improve water quality, biosecurity and fish health, although their efficiency is not fully documented. There are opposing opinions when it comes to using in-loop disinfection regarding the effects on the microbial community, fish welfare and work safety. The scope of this session will be to address the advantages and disadvantages of the disinfection protocols in RAS (for example use of ozone, UV), management of microbial communities and biosecurity.

### Where are we going with monitoring & autonomy?

The scope of this session will be on autonomous systems for future fish production including technologies for data gathering, evaluation and reliability, potential challenges, maintenance and energy efficiency. Panellists will give their insights into the value of data from cameras, sensors and probes and other devices for real-time monitoring of RAS and how this can contribute to optimal system management.

### What are the most challenging interactions between fish & RAS environment?

The environment in RAS can be very different from ambient water/open rearing systems (e.g. water chemistry including mineral load, pH, CO<sub>2</sub>, salinity but also microbiota, lack of seasonality and daily change in temperature, photoperiod). These can impact on fish growth performance, ion regulation and osmotic capacity, mucosal microbiome and immune system, precocious sexual maturation, malformations (e.g. nephrocalcinosis, abnormal swim bladder, skeletal deformities), swimming/feeding behaviour and stress levels. While RAS technology has improved rapidly over recent years, understanding of the interactions between fish and RAS environment remain limited. This session will review and discuss some of these challenges.

**Each session will start with an overview presentation, followed by a moderated panel discussion that seeks to maximise audience participation.**

**Organising committee: Astrid Buran Holan, ScaleAQ, Norway, Jelena Kolarevic, The Arctic University of Norway (UiT) and NOFIMA, Norway and Herve Migaud, Inst. of Aquaculture, Stirling University, UK.**

**Free for EAS members and 100 EUR for non-members.**

**Registration for this event can be made separately, but all those registered for the full AE2020 event will be able to attend.**