

## Nordic Centre for Sustainable and Resilient Aquatic Production (SUREAQUA)



Nordic Centre of Excellence for Sustainable and Resilient Aquatic Production

(SUREAQUA), funded by Nordforsk, includes three research groups from the UEF. These groups operate at Department of Environmental and Biological Sciences, being led by Mikko Kolehmainen, Raine Kortet and Amit Bhatnagar.

During the past years, we have explored the versatile applications of freshwater and marine water microalgae in wastewater treatment, and lipid extraction. Further, in a collaborative work, we recently investigated multifaceted applications of isolated microalgae *Chlamydomonas* sp. TRC-1 in wastewater remediation, lipid production and bioelectricity generation. Secondly, we have participated in testing and constructing a lab scale model freshwater aquaponics system, suitable for culturing simultaneously juvenile whitefish and different green edible plants. We have also participated in analysis of legal adaptive capacity for increasing sustainable fish aquaculture production in EU-Finland. Additionally, we have been active in the center for defining a corresponding salt water pilot site in the North Atlantic area connected to salmon production. Our special focus has been in defining the requirements for aquatic modeling to be carried out later in the project.

The results obtained so far suggest that wastewater can be used as a source of macro- and micronutrients for the cultivation of microalgae, while at the same time microalgae remove pollutants from water. Moreover, we have demonstrated that it is possible to produce juvenile whitefish and, for example, good tasting salad simultaneously in the same system.

### More information:

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