

Kelp association genetics and breeding for sustainable aquaculture.

A two-year postdoctoral research position is immediately available at the Roscoff Marine Laboratory in France (<http://www.sb-roscoff.fr/en/laboratory-integrative-biology-marine-models>). The aim of the project is to develop and apply various genetic approaches, including GWAS, as part of a breeding program to support sustainable kelp aquaculture. Algal aquaculture is a rapidly expanding sector in Europe and there is a pressing need to develop new and effective breeding approaches to ensure efficient production of high-quality biomass whilst minimising environmental impact. The project will involve two approaches: 1) use of GWAS to identify genetic loci associated with important parameters such as growth and stress tolerance and 2) genetic crosses to explore the potential for strain improvement using locally-adapted germplasm, with an assessment of the possible impacts of outbreeding and inbreeding depression. In the context of the European Union project GENIALG (H2020-EU-BG-01-2016, ID 727892), the host laboratory has established a large collection of strains of the kelp *Saccharina latissima* and has initiated common garden cultivation for GWAS analysis. A series of intra- and inter-population crosses have also been carried out. Building on these initiatives, the successful candidate will oversee the phenotyping and genotyping of this experimental material and will carry out a GWAS and other analyses. The candidate will benefit from broad local experience and technical support in seaweed cultivation, genetic analysis, genome analysis and seaweed ecology.

Applicants must hold a PhD and have a good background in quantitative genetics and breeding and experience with the use of molecular biology approaches (i.e. generating large-scale RAD-seq data for SNP development) and bioinformatics tools applied to gene association studies. Specific experience with seaweed genetics and culture would be a plus but is not essential.

Salary will be 2000 € to 2500€ per month (net) depending on experience.

Applications should include a detailed CV including a description of research experience, relevant publications and contact information for at least two persons that can provide references. Applications will be accepted until the 4th of July, 2018 and selected candidates will be interviewed from the 9th to the 13th of July 2018 for a projected recruitment in September.

Applications should be sent to Mark Cock (cock@sb-roscoff.fr) and Myriam Valero (valero@sb-roscoff.fr). We prefer applications in electronic form.