Marine biological resources

ALLIGATOR

CONCENTRATING MICROALGAE CULTURE IN AN ENCLOSED PHOTOBIOREACTOR

Photobioreactors (PBRs) dedicated to growing microalgae or cyanobacteria are a promising technology, with numerous potential applications such as in high value-added products, bioenergy and carbon capture.

However, further technological advances are still required in order to reduce production costs and environmental impact and increase energy efficiency.

In this context, optimising the PBRs' performance by increasing the concentration of culture in a given illuminated area is a promising way to enhance production and achieve eco-efficiency.

Hence the ALLIGATOR project aims to develop a new design for an intensified PBR. The overall aim is ensure light availability throughout the whole reactor thickness. The proposed configuration relies on a thin-gap bubble column. This is expected to enhance gas-liquid mass transfer and to favour mixing between microalgae and nutrients, while also allowing a high concentration of biomass.

Partners

Research centers

Laboratoire de Génie des Procédés - Environnement - Agroalimentaire (GEPEA), Université de Nantes, Saint-Nazaire [Project Developer]
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