Partner search

Date (Dec. 2017)

- **(*) Relevant topic in work programme**

- **1/ Microalgae biotechnology:** AlgoSolis develops and optimizes new technologies for marine and freshwater microalgal biomass production and biorefining. Activities will focus on developing, testing, demonstrating and upscaling cost-effective production processes.
  2/ Process development in microalgal culture and refining: AlgoSolis conducts research on circular economy by developing and integrating several breakthrough processes like intensified photobioreactors, microalgal wet-biomass biorefining for by-products valorization, procedures for culture media recycling and microalgae culture on industrial effluent (urban wastewater, fisheries effluents, industrial CO2, fatal heat…)
  3/ Interdisciplinary training activities : AlgoSolis with the Nantes University propose training activities for professionals (microalgae culture – downstream processes – analytical methods).

- **Quick description of the project**

(describe the objectives, activities, partners requested and their skills)

AlgoSolis has been designed to address R&D issues related to the setting of a mass-scale, controlled and efficient exploitation of microalgae. AlgoSolis offers a complete infrastructure including culture and analysis rooms, biomass production areas (thermoregulated greenhouse, outdoor area), donwnstream processing unit for algal biomass harvesting and biorefinering.

Our facility can be used to:

(1) screen strains productivity and their ability to be produced in outdoor conditions (time varying light, possibility of culture contamination or culture conditions drift …),
(2) investigate and optimize the solar production of strains then selected,
(3) define optimized culture conditions to produce microalgal biomass with tailored composition,
(4) produce tailored extracts up to few kgs
(5) characterize the final integrated process designed for production of extracts of interest.

Cultivation systems: lab-scale fully controlled PBR, bubble columns, flat panel solar PBR, enclosed raceway from 10 to 100m2

Biomass refining: complete wet-biomass treatment line, centrifugation, bead-milling, solvent extractor, dissolved air flotttation, membranes separation...

If necessary, new equipments can also be easily integrated for their evaluation or optimization.

- **(*) Description of the expertise requested (up to 1000 characters)**

We are interested in joining a project related to microalgae production for aquaculture applications. We are especially looking partners involved in microalgal species selection, biological optimization, and animal feed nutrition (biological activities assessment, animal feed testing…).

- **Keywords describing the expertise requested (up to 10 words)**

- Aquaculture
- Microalgae biomass
- Animal feed nutrition
- Biological activities assessment

Organisation information

Organisation and country: AlgoSolis R&D facility - FRANCE
Type of organisation: **☐ Enterprise ☐ SME X Academic ☐Research institute ☐ Public Body ☐ Other: Association**
Former participation in FP European projects? **☐ Yes ☐ No**
Web address: http://algosolis.com/ https://www.gepea.fr/
Description of the organisation: AlgoSolis (www.algosolis.com) is a public facility operated by GEPEA laboratory (www.gepea.fr), which belongs to University of Nantes and CNRS. AlgoSolis is part of two European distributed networks (IBISBA and EERA) of research infrastructures facilities to promote R&D in bioprocess development for microalgae-based bioeconomy. This opens AlgoSolis R&D facility for transnational access, thus providing cutting edge technologies to a cross section of Europe's researchers. **AlgoSolis R&D facility** AlgoSolis develops and optimizes new technologies for microalgal biomass production and biorefining. With more than 20 independent production lines, the infrastructure of AlgoSolis allows the individual development of units to validate and optimize their performance in real-world operating conditions, or the study of their integration into an overall process from the production of biomass to the extraction of molecules of interest. In addition to the state-of-the-art technologies, AlgoSolis incorporates the latest innovations in the field, thanks to the work of GEPEA laboratory (www.gepea.fr) and its partners. This includes several breakthrough processes like intensified photobioreactors and wet-biomass biorefining, strains of industrial interest, optimizes procedures for culture media recycling and microalgae culture on industrial effluent. **GEPEA laboratory** AlgoSolis is operated by GEPEA laboratory (Chemical Engineering for Environment-Food, UMR GEPEA 6144-Université de Nantes). GEPEA laboratory brings together teams from the Université de Nantes, IMTA and ONIRIS. The GEPEA laboratory is a large (200 people) joined research unit with the CNRS. It has received an A+ rating by the national evaluation committee (AERES), which is the highest rate delivered only for French top-level laboratories. The research activities are organized in two main research axes: (i) Bioresources valorisation, and (ii) Ecotechnologies. AlgoSolis is related to the team "Bioprocesses Applied to Microalgae" which gathers forty people located primarily on the site of Saint-Nazaire. Activities are mainly focused on photobioreactors engineering, microalgal biomass harvesting, extraction and purification of metabolites of interest, treatment and recycling of water and culture medium. GEPEA has a long-term expertise in bioprocess engineering applied to microalgae with around 150 publications in peer-reviewed journals on the 2010-2015 period.

(*) Contact details

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(*) –Mandatory