

## ECO-INNOVATIVE AQUACULTURE SYSTEM TRAINING FOR EUROPEAN INDUSTRIAL DOCTORATES

### EASYTRAIN ESR PROFILE

#### ESR 4

##### 1) RECRUITING AND PhD ENROLMENT

- **Host institution (beneficiary):** Alga&Zyme Factory s.r.l. (Ferrara, Italy)
- **Supervisory committee:** Simonetta Pancaldi (Alga&Zyme,), FJ Sánchez Vázquez (UMU) and Carlos Espinal (LANDING)
- **PhD awarding entity:** University of Murcia - UMU (Spain)
- **Duration:** 36 months

##### 2) DESCRIPTION OF PhD RESEARCH PROJECT

- **Title:** Improving microalgae production through optimized LED lighting and biotechnology applications.
- **Objective:** The research approached by ESR4 is aimed at the improvement of microalgae production through optimized LED lighting and biotechnological applications. In particular, ESR4 will investigate the effects of LED lights with different wavelengths (monochromatic or combinations) on microalgae growth and composition.
- **Expected results:** ESR4 will analyse the impact of continuous light versus light/dark cycles on plant growth performance and metabolism.
- **Secondments:** 3 months in UMU (Spain) and 3 months in LANDING (the Netherlands)

##### 3) REQUIREMENTS AND SELECTION CRITERIA

- *MSc-degree in Biology, Biotechnology or a related discipline.*
- *Theoretical knowledge of general biology, biotechnology and chemistry, with emphasis on plant biology, including plant physiology.*
- *Practical experience in the biological laboratory, in particular basic routines for preparation of solutions, microscopic examinations, microbiological techniques. The candidate should have basic informatics skills (Microsoft Office) and knowledge of statistical data treatment.*
- *Affinity and preferably experience with the cultivation of microorganisms, and microalgae specifically, under axenic conditions. Additional valuable previous experience is in biochemistry (spectrophotometry, electrophoresis, etc.) and photosynthesis-related methods.*
- *English conversation, writing skills, and presentation skills (B2 language level at least). Additional valuable skills are referred to the scientific communication of results, including reading and comprehension of scientific papers, co-authoring of papers and abstracts presented at Congresses, oral communication of scientific results at Meetings.*

- *Social skills: ability to work in a team. Additional valuable social skills include communication ability in academic and non-academic contexts and market-oriented thinking (technology transferability).*

#### **4) ADDITIONAL INFO**

##### ***The PhD programme at Murcia University:***

*The normal duration of a PhD in Spain is 3 years. The recruited candidate will be enrolled in the PhD Programme of “Molecular Biology and Biotechnology” of the International School of Doctoral Studies of the University of Murcia”. ESR4 will be mainly based in Alga&Zyme Factory srl, ESR4 will also benefit from PhD training courses offered by the University of Ferrara (Italy), as a part of the local doctoral programmes (<http://iuss.unife.it>). At both Academic Partners, complementary, transferable, interdisciplinary training activities include courses in Laboratory Health and Safety, Ethics in Research, Project Management, Scientific Communication, Research Methodologies, Language courses, Technology Transfer and Intellectual Property, Computer Science.*

##### ***Research at the Alga&Zyme Factory research group:***

*The Algae Laboratory of Alga&Zyme Factory (Alga&Zyme) is led by Simonetta Pancaldi, who is also Full Professor of Plant Biology at the University of Ferrara. As a spin off of the University of Ferrara, Alga&Zyme is a biotechnological R&D Company and an innovative SME based in Ferrara (Italy). The Algae group of Alga&Zyme elaborates and offers biotechnological solutions to a variety of sectors, addressing quality and sustainability of processes. The laboratory allows microalgae cultivation at a small-to-medium scale using photobioreactor plants up to 1000 L. For the industrial PhD programme, secondments are planned at the University of Murcia and at LandIng Aquaculture BV (NL). Moreover, specific agreements with Departments of the University of Ferrara enable an easy access to advanced research facilities.*

*The journals where the group has published in recent years include: Algal Research - Biomass, Biofuels and Bioproducts; Applied Microbiology and Biotechnology; Plant Physiology and Biochemistry; Plants; World Journal of Microbiology and Biotechnology.*

*For more information about Alga&Zyme:*

- Website: [www.algazymefactory.com](http://www.algazymefactory.com)
- Profile at LinkedIn: <https://jm.linkedin.com/company/alga&zyme-factory-srl>.

*For more information about the Main Supervisor, Simonetta Pancaldi:*

- Chief scientists at Alga&Zyme: <https://www.algazymefactory.com/index.php/l-azienda/team-scientifico/simonetta-pancaldi.html>
- Professional profile at LinkedIn: <https://it.linkedin.com/in/simonetta-pancaldi-3915aa31>
- Institutional webpage at University of Ferrara: <https://servizi.unife.it/rubrica/utenti/simonetta-pancaldi>
- Research profile at ResearchGate: <https://www.researchgate.net/profile/Simonetta-Pancaldi>
- Awarded Prize R.O.S.A. 2015: <http://www.premiorosa.org/it/c/2015.html>