



**1 Position for Early-Stage-Researchers H2020-MSCA-ITN
“Breaking Bad Biofilms. Innovative Analysis and Design Rules for
Next-Generation Antifouling Interfaces”**

ORGANISATION/COMPANY: **ASINCAR Agrifood Technology Centre**
(www.asincar.com; Pol. de la Barreda, TL4, parcela 1, 33180 Noreña, Asturias, Spain)

RESEARCH FIELD: Biology, Biotechnology, Computer Science, Engineering, Chemistry, Statistics, Mathematics

RESEARCHER PROFILE: First Stage Researchers (R1)

APPLICATION DEADLINE: 15/05/2019

TYPE OF CONTRACT: Temporary

JOB STATUS: Full-time

HOURS PER WEEK: 40

EU RESEARCH FRAMEWORK PROGRAMME: H2020 / Marie Skłodowska-Curie Actions

MARIE CURIE GRANT AGREEMENT NUMBER: 813439

The BREAK BIOFILMS Training Network “Breaking Bad Biofilms: Innovative Analysis and Design Rules for Next-Generation Antifouling Interfaces” is a consortium of world leaders in sensing, cell imaging, interfacial engineering, microbiology and nanoformulation from 6 universities, 8 companies, a consortium of food industries, a research centre, and a business and innovation centre. BREAK BIOFILMS announces 15 positions for Early Stage Researchers (ESRs), who will have access to state-of-the-art equipment and will obtain a unique technical, industrial, and entrepreneurial training.

BREAK BIOFILMS description:

Biofilms, i.e. communities of microorganisms that attach and grow on a solid surface, cause about 80% of infections in humans, and disinfectants rarely succeed in destroying them. They cost European economy billions of euros annually. The BREAK BIOFILMS Training Network aims to solve this issue by training the next generation leaders. They will understand the (bio)physicochemical mechanisms of biofilm formation, be able to produce technology for detecting and identifying biofilm formation with extreme sensitivity, and develop next generation biocides for preventing and destroying biofilms in industrial and biomedical areas. This integrated strategy from biofilm detection to destruction that builds on key innovations from the partner labs, is globally distinctive and promises significant progress. The graduates will be ideally placed to enter and support existing European industry across a number of different sectors (biomedical, food, antimicrobials). Additionally, they will also be capable of creating new businesses thanks to a combination of in depth training in entrepreneurship and direct experience of establishing and running a virtual company as part of the training network. Beyond the trained researchers, this project will produce technologies that will enhance the productivity of European industries, create intellectual property with a strong probability of commercialization and improve the health and well-being of European citizens by minimizing infection rates and the inappropriate use of ineffective biocides that is leading to resistance.

More information on this Project can be found here:
<https://cordis.europa.eu/project/rcn/218447/factsheet/en>

Project webpage (under construction):
<https://www.unioviedo.es/breakbiofilms/index.php/about-us/esr-projects/>

The position is for 36 months and expected to begin within the last quarter of 2019. It will remain open until a suitable candidate has been identified. Applicants may agree to have their details shared within the BREAK BIOFILMS Network. The project will also include a secondment to a collaborating industrial company and one of the partner universities.

Research Project at ASINCAR Agrifood Technology Centre

Title: Development of a novel, non-destructive, real-time and portable method for the detection of complex bacterial biofilms in the Agri-food industry

Overview: The main goal is the development of a non-destructive analysis tool to detect complex biofilms in different surfaces in contact with food, based on the use of different spectroscopy techniques (mainly NIR, hyperspectral) and the following chemometric analysis using advanced mathematical, statistical and computer science (Artificial intelligence) methodologies. *The ESR will develop complex biofilms considering key parameters as maturation degree and surface material; following will design an analytical methodology to evaluate biofilms; then, correlation between generated biofilms and spectra will be established using chemometrics. Finally, new tool will be validated in ASINCAR's pilot plant.*

Main Supervisor(s): Pelayo González (pelayogg@asincarc.com), Roberto Moran (robertomr@asincarc.com)

Start date: 01/09/ 2019

Brief description of ASINCAR Agrifood Technology Centre

ASINCAR is an Agrifood Technology Centre recognized by the Spanish Ministry of Economy. Moreover, ASINCAR is also a **Bussiness Cluster** (awarded with Bronze label of the European Cluster Excellence Initiative) **formed by more than 85 companies (>95% SMEs) coming from the whole value chain**. Under any of the roles, **main mission is to contribute to the competitiveness and sustainability of the Agrifood companies**, and their adaptation to future market scenarios, **through innovation, cooperation, knowledge and technology transfer** as well as support for accessing to new markets. Under the cluster role main activities refer to boosting the Agrifood sector generating and catalyzing opportunities for a group of enterprises, while technological capacities are more focused in the development and implementation of specific research and innovation solutions for specific companies.

Main ASINCAR activity areas cover:

- **Research, Development and Innovation projects**, with main interests in the following topics: Development of novel food products and formulations; Food preservation technologies and enhancement of Shelf Life; Packaging systems; Micro- and Biotechnology applied for Food Safety and Quality; Valorisation of agri-food by-products; and On-line and advanced IT systems for food value chain ("Industry 4.0")

- **Laboratory for full Food Analysis:** microbiological, physico-chemical and sensory tests (recognized by ENAC, national competent accreditation authority)
- **Technical and technological consulting** (implementation of safety and quality standards, operational groups, launching of activity, quality and origin brands, ...)
- **Vocational training**, for employers (operational and directive) and unemployers

Benefits

The successful candidate will be employed on a full-time basis with a competitive salary in accordance with the Marie Skłodowska-Curie Actions (MSCA) rules and the personal circumstances of the applicant. The successful candidate will receive a financial package consisting of MSCA living allowance and mobility allowance. Eligible applicants with a family will also receive an additional family allowance according to the rules of the MSCA. The exact (net) salary will be confirmed upon appointment and will depend on the Host Institution's local tax regulations and on the country coefficient of your Host institution country.

Requirements

Applicants must fulfill the usual MSCA eligibility and mobility rules.

-Applicants must at the date of recruitment **be in the first 4 years** (full-time equivalent research experience) **of their research careers** and have not been awarded a doctoral degree.

-The researcher must not have resided or carried out his/her main activity (work, studies, etc.) in the country of his/her host organisation from more than **12 months in the 3 years** immediately prior to his/her recruitment (short stays, such as holidays, not taken into account).

Selection process

General information for applicants: **ESR position will also be advertised locally.** The candidates need to contact the main supervisor(s) of their positions as for specific/local acceptance requirements (e.g. English requirements, minimum grade...). **To apply, please send your CV, a cover letter and any other supporting documents (i.e diploma, recommendation letters, reference contacts ..) in English by e-mail to the main supervisor(s) of your positions (use as subject "BREAK BIOFILMS Application").**

Applications will be welcomed from candidates of any nationality with a proven track record in one of the fields related to the project demonstrated through a Master's degree certificate and appropriate experience. Candidates

should also be able to demonstrate extra-academic experience and evidence of creativity and leadership. The Supervisory Board (SB) will grade the candidates on a scale regarding:

1. Academic excellence (0-30 points)
2. Professional experience (0-10 points)
3. Linguistic proficiency in English and /or the languages of his/her Host Institution (0-10 points)
4. Publications and other scientific activities (0-20 points)
5. Letters of reference (0-10 points).

SB will shortlist candidates, to be interviewed in person or via video conference by the recruiting beneficiary supervisors, who will take the final decision according to the rules of the hosting institution. The successful ESR will then begin their 36 month contracts. The candidates will automatically be informed at each stage of the evaluation process.

In case of any doubt or need, applicants are encouraged to contact the scientific supervisor (Pelayo González; pelayogg@asincar.com) or the contact person for local administrative matter (Roberto Morán, robertomr@asincar.com ; Tel. +34 985 74 45 18).

Additional comments

Data collected from the candidates will be used for recruitment purposes only and will not be shared outside BREAK BIOFILMS unless authorised by the applicant. The data will be kept for a period of five years after the end of the project for EU auditing purposes.

Acknowledgements

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie Grant Agreement No. 813439