

PhD position (Marie Skłodowska-Curie Early Stage Researchers): DNA-addressable arrays for multiplex ligand binding assays with optical smartphone readout

RESEARCH GROUP:

Nanobiotechnology for Diagnostics (Nb4D) group

<http://www.iqac.csic.es/nb4d/>

IQAC-CSIC/CIBER-BBN

Jordi Girona, 18-26

08034-Barcelona

PROJECT: FoodSmartphone – Smartphone analyzers for on-site testing of food quality and safety

Grant number: 720325

OFFER:

We offer the possibility to integrate oneself in a dynamic research group and to obtain a multidisciplinary formation in the chemistry and biomedicine fields. The contracted researcher will form part of a research line that is directed at studying new approaches for the on-site testing of food quality and safety.

The research activity will also be aimed at obtaining the title of Doctor, if during the period is considered that the investigator has achieved the proposed objectives, along with the adequate scientific formation and maturity to opt for this title.

The incorporation will be through the Marie Skłodowska-Curie Innovative Training Network (MSCA-ITN) whose aim is “to train a new generation of creative, entrepreneurial and innovative early stage researchers who will be able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit”.

SPECIAL REQUIREMENTS

There are strict eligibility requirements for the ESR PhD positions in MSCA-ITN. Please ensure that you qualify before applying, as ineligible candidates cannot be considered.

1. Applicants should not have resided or performed their main activity (work, studies, etc.) in the country of the host institution for more than 12 months in the 3 year period immediately prior to the start date of the PhD research.
2. Applicants for the ESR PhD positions should be in the first 4 years (full-time equivalent) of their research careers and not yet have been awarded a doctorate. This 4 year period is

measured from the date of obtaining the degree which would formally entitle to embark on a doctorate.

AGREEMENT AND RESPONSABILITIES:

The researcher that joins the group will learn the fundamentals and operation of multiplex binding assays. Their involvement in this project will include developing universal and reusable chip platforms based on DNA-directed immobilization strategies for the analysis of pesticide targets, assessing the performance of the universal chip using optical transducing principles, developing the interface for smartphone readout and data acquisition and performing an analytical evaluation and critical comparison of the multiplexed chips for pesticides in real food matrices.

Stays in other research organizations is actively encouraged and as part of this ESR the candidate will be required to go to CSEM (Switzerland) for a duration of approximately 3 months in order to develop the smartphone readout and data acquisition. They will also go to the partner organization Zeulab (Zaragoza, Spain) for critical comparison with conventional immunoassay formats, thus affording them hands-on experience in innovation SME.

It is expected that the candidate will be competent and will collaborate actively in the preparation of reports related to the research, the elaboration of articles to be published in internationally renowned scientific journals and the preparation of documents related to intellectual property protection, if necessary. Also, it is expected collaboration in the maintenance of the lab and the common tasks contributing to a good atmosphere of the whole research team.

CANDIDATE PROFILE:

- Degree in Chemistry
- Experience in organic chemistry with interest in bioanalytical assays
- Good knowledge of the English language (certificates will be required)
- The candidate should be dynamic and willing to work in a multidisciplinary research group.
- Communication skills are a must. The candidate will be required to publish their findings in internationally renowned scientific journals and will have to assist at research meetings and conferences.



Applicants should send motivation letter and curriculum vitae to:

Prof. M.-Pilar Marco

pilar.marco@cid.csic.es

Please indicate *“Marie Curie Fellowships: FoodSmartphone”* in the subject of the email.