The DcFAM_MSCA **#PhD call** just opened, and the **UAB-IBB is recruiting an excellent researcher** to develop its career in #Functional Advanced Materials **under the research topic** "Point-of-care biosensing devices for nanovesicle detection in healthcare applications**".**

DocFam+ (DOCtoral training programme in Functional Advanced Materials: Towards a Better Future) is a new doctoral programme for the recruitment of excellent doctoral researchers, led by the Institute of Materials Science of Barcelona (ICMAB-CSIC).

DocFam+ is a **unique interdisciplinary and intersectorial research programme, offering excellent salaries and international experience through secondments**. The complete training programme includes annual workshops, a career development retreat and industry days, among others. In the current open call, **13 fellowships will be offered** to well-qualified candidates, who wish to obtain a doctoral degree in any of the research topics offered among partner institutions.

At UAB (Department of Chemistry), the Group of Sensors and Biosensors is a host laboratory for this fellowship programme and the research proposal explores the use of nanovesicles as a target in point-of-care devices for the early diagnosis of communicable and non-communicable diseases. Major technological challenges, identified as technology bottlenecks for the extensive use of exosomes as biomarkers, will be addressed.

The first one addresses the specificity in the isolation of exosomes from complex biological samples. To achieve that, a rational study of the biomolecules on the membrane of the exosomes will be performed, followed by their use for the isolation by novel solid-phase preconcentration strategies and advanced materials including magnetic molecularly imprinted polymeric nanoparticles. The second one addresses the increase in sensitivity using strategies for the simultaneous amplification and tagging of overexpressed transcripts and microRNA in exosomes. Finally, analytical simplification will be implemented to minimize pipetting, washing steps and manipulation of reagents to provide analytical tools requiring minimal training for final users, but without any loss in the analytical performance. Electrochemical biosensing will be considered a prominent point-of-care technology, which can operate under minimal technical requirements in scarce-resource settings. The application that is envisaged is related to healthcare including targets affecting global health in which the exosomes as novel biomarkers can provide profound information on the disease, following up and treatment, taking as a reference of non-communicable and infectious diseases.

The **research group is led by Prof. M. Isabel Pividori** (https://isabelpividori.net), professor of the Department of Chemistry and Group leader at the Institute of Biomedicine and Biotechnology (IBB), who has been actively involved in electrochemical biosensing devices, with over 150 publications in the field. The projects funded by various programs have facilitated the development of technologies aimed at simplifying biosensing procedures and enhancing analytical signals through the integration of nanomaterials. Dr. Pividori is also a co-founder of a start-up. She has participated in several technology transfer programs and holds patents, one of which is being exploited by the start-up. The laboratories are placed in the Department of Chemistry and the multidisciplinary Institute of Biotechnology and Biomedicine (IBB), within UAB campus, giving you access to a huge research and training ecosystem, ideal

for fostering collaborations and progress in your scientific career, plus access to all UAB social facilities (accommodation, gym, swimming pool, bars and restaurants, cinema, theatre, many student associations, etc.).

This DocFam+ doctoral programme is **open to researchers of any age, nationality and gender**.

However, you must fulfil the **following eligibility criteria***:

- Researchers must be doctoral candidates, i.e. **not have a doctoral degree** at the deadline of the open calls.
- Candidates may **not have resided or carried out their main activity in Spain for more than 12 months in the 3 years immediately before the call deadline**.
- Candidates must hold a degree with a **minimum of 300 ETC credits in university studies of which at least 60 must be at the Master's level**, OR Candidates must hold a qualification obtained under foreign educational systems without the need for official recognition, having previously confirmed with the university that this qualification accredits a level of training equivalent to the official Spanish university Master's degree and that it would serve as a means of access to a PhD in the country in which it was awarded.

* Exceptions may apply: you can get more information about eligibility criteria, selection process and many more by visiting the project website: https://docfam.icmab.es/

If you are interested in this #PhD call and your profile check out all requirement boxes, please get in contact with us at promocio.ibb@uab.cat and we will provide you with more information regarding the call requirements, the laboratory specifications, the research topic, the UAB-IBB infrastructure and any other information or support you might need to present a successful application. More info also here: https://isabelpividori.net/recruiting-a-phd-student-join-the-docfam-program/

Deadline for applications in this second call is June 30th 2024.