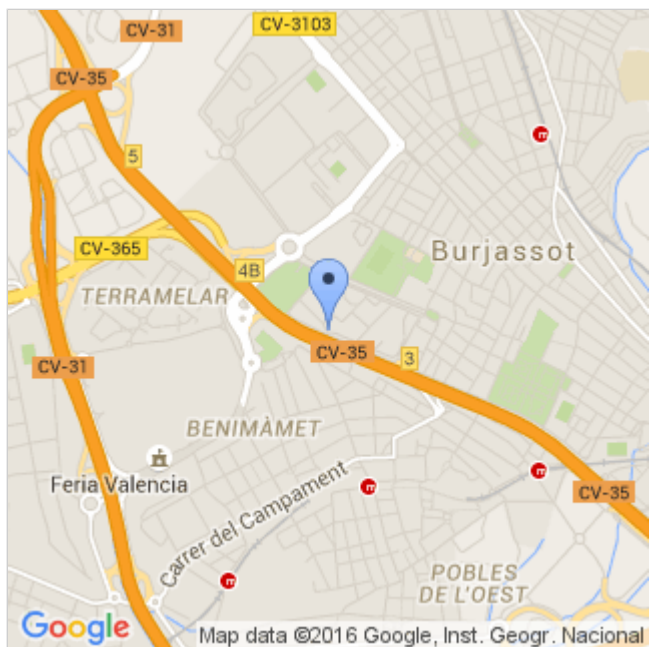


Expression of Interest



Contact Person/Scientist in Charge

- **Name and surname:** Pilar Campíns-Falcó / Carmen Molins-Legua
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Universitat de València – Estudi General

Department / Institute / Centre

- **Name:** Analytical Chemistry/Faculty of Chemistry/University of Valencia
- **Address:** Doctor Moliner 50, 46100 Burjassot
- **Province:** Valencia

Research Area

- Chemistry (CHE)

Brief description of the institution:

The University of Valencia (UV) stands out as one of the main public research organisations in Spain, with more than three thousand researchers integrated in 90 departments, 19 institutes and other research units belonging to social, biomedical, human, experimental and formal sciences. Along with human resources, the UV state-of-art premises and facilities, guarantee the quality of a vast scientific and technological offer available to the service of society.

The UV is a leading academic organisation at national level. Shanghai 2014 ranks UV among the top 200-300 universities in the world, and 4th best university in Spain. As per URAP 2014, the University of Valencia ranks third among all Spanish universities, first in Valencia region and 193th in the world.

University of Valencia is participating in several European projects under the subsequent RTD European Framework Programmes (I to VIII) and other European programmes: Erasmus, Leonardo, Life+, Cost, Third Health Programme, EEA Grants, Daphne III, Creative Europe... acting as several roles: coordinator, contractor, associated contractor, member, host institution... having experience in the development and management of more than 300 European projects as a whole.

UV participated in 78 community actions financed under the VII FP (CSA, Collaborative Projects, MSCA, ERC grants, etc.) with the role of coordinator in 29 of them. Currently, we are participating in 20 projects financed under Horizon 2020, with the role of coordinator in 8 of them, and 16 projects under several European Programmes other than H2020

Brief description of the Centre/Research Group (including URL if applicable):

Universitat de València (UV) (1499) is a modern university with 45,800 degree and 8,600 postgraduate students. Over 3,300 teachers and researchers, who make up 90 departments 17 institutes and other research units. The magnitude of its facilities and the available up-to-date instrumental equipment guarantee the quality of a vast scientific and technologic offer to the service of society. It is recognized as one of the most outstanding Spanish universities in both national and international rankings. It produces 63 % of the indexed references of all Valencian universities and ranks third among Spanish universities in indexed scientific production. Its increasing research budget, around € 60 million raised annually, is an indicator of its scientific and technological capabilities. **MINTOTA** (Leader Prof. P. Campins-Falco; WOK-Researcher ID: B-8943-2008, Scopus Author ID: 7005602260, orcid.org/0000-0002-0980-8298) develops its research in the department of analytical chemistry (Chemistry developed in the UV appears in 100-150 position in the Shanghai ranking). Its recent research are based on *the design of new strategies for developing in situ cost-effective dispositives based on the immobilization of reagents and biocompounds in solid supports (Nanomaterials, biocompatible and biodegradable polymers)*. MINTOTA has collaborations with other research groups of the UV, and with other Spanish and European universities, and develops activities dealing with knowledge from competitive projects and technology transfer

Project description:

The research carried out so far opens the door to the development of new contributions. The aim of this proposal is to demonstrate how new (nano) materials and biomaterials can significantly improve the established analytical methods, as well as create new ones that improve the efficient operability and sustainability as well as its resilience. The second aim is focus on the choice of materials through knowledge of its physical and chemical characteristics. Specifically the aims is to develop solid devices based on encapsulated reagents, which can be used as a trapping of the analyte in the support or as delivering reagents systems. This device can use the absorption characteristics of nano-materials (AuNPs or AgNPs) or fluorescence / luminescence of biomaterials. It will be a green alternative to using derivatizing reagents, catalysts and / or enzymes in solution. In general, these devices increase operator safety, reduce consumption and toxicity in handling and allow in situ monitoring in real time and continuously. Besides that, some other advantages are their simplicity, any operator can use, a low cost. All these features are important to ensure their functionality, applicability and ensure their transferability. The project will be focused on biodegradability studies, time response, increase of sensitivity through bio-chemiluminescent

reactions and its applicability in health, environmental and food industry. Another part of the project will be focused in the use of biomaterials (such as fluorescent o bio-quimioluminescent proteins) to developed biosensors that can be used as FRET o BRET systems

Applications

We look for outstanding applicants since the fellowships are granted in competitive process. Applications must be received by July 31st, 2016. Documents to be submitted:

- Curriculum vitae
- Summary of past research