

1. Interested institution:

Universitat Politècnica de Catalunya.

2. Brief Description of the Institution

The Universitat Politècnica de Catalunya (UPC) is a public institution dedicated to higher education and research, specialised in the fields of engineering, architecture and science.

The UPC puts its scientific and technological infrastructure at the service of research groups and centres, researchers and students, professionals, companies and institutions. UPC currently has more than 2500 teaching and research staff members, and a €49,003,263 turnover for R&D projects (2013).

The activity that goes on at UPC campuses and schools has made the University a benchmark institution. The University harnesses the potential of basic and applied research, and transfers technology and knowledge to society. These actions make the UPC—in partnership with industry—an agent and driver of economic and social change.

As a leading member of international networks of excellence, the UPC has a privileged relationship with global scientific and educational organisations. As a result, the University is at an advantage when it comes to attracting international talent.

3. Please tick the areas of research (as established in Marie Skłodowska Curie Actions)

- | | |
|---|---|
| <input type="checkbox"/> Chemistry (CHE) | <input type="checkbox"/> Environmental Sciences and Geology (ENV) |
| <input type="checkbox"/> Social Sciences and Humanities (SOC) | <input type="checkbox"/> Life Sciences (LIF) |
| <input type="checkbox"/> Economic Sciences (ECO) | <input type="checkbox"/> Mathematics (MAT) |
| <input checked="" type="checkbox"/> Information Science and Engineering (ENG) | <input type="checkbox"/> Physics (PHY) |

4. Research / Project Description

Towards an Internet of Things second wave of research

During the last decade, significant efforts from academia, the industry and standardization bodies have produced fundamental pieces in order to enable the Internet of Things (IoT). Today, a complete Internet Protocol-based protocol stack is already a reality. On the other hand, the number of low-power wireless (and also wired) communications interfaces for

“EXPRESSION OF INTEREST” FOR HOSTING MARIE S. CURIE FELLOWS IN SPANISH INSTITUTIONS (CALL MSCA IF 2015)

IoT devices such as sensors and actuators is increasing. Therefore, there is a need to characterize, optimize and design mechanisms for the whole IoT protocol stack, covering from the physical layer up to the application layer. However, many recent additions to the IoT protocol spectrum have only received limited attention. This project aims at improving the performance of IoT networking scenarios from a comprehensive point of view. Example areas of research include advanced congestion control for the Constrained Application Protocol (CoAP), routing protocol improvement, adaptation of 6LoWPAN functionality for new lower layers, designing Bluetooth Low Energy mesh networks, evaluation and improvement of low-power wireless technologies, radio-triggered wake-up systems, cross-layer energy consumption minimization, deployment issues, etc.

5. *Who can apply?*

At the deadline for the submission of proposals (10/09/2015), researchers (*):

- shall be in possession of a doctoral degree or have at least four years of full-time equivalent research experience.
- must not have resided or carried out their main activities in the country of Spain for more than 12 months in the 3 years immediately prior to the abovementioned deadline.

6. *Contact person*

Carles Gómez Montenegro.
E-mail: carlesgo@entel.upc.edu

7. *Applications: documents to be submitted and deadlines*

Candidates should provide:

- A complete CV, including the candidate's publications list.
- A motivation letter explaining why the candidate is interested in this position and how the candidate can contribute to the project.

The deadline for providing the above mentioned documents is the 15th of July 2015.

Please note that:

- Deadline of the next call for proposals for Marie Skłodowska – Curie Individual Fellowships is **September, 10th 2015**.
- Oficina Europea is only responsible for the display of the expressions of interests received by the institutions; further contact and information requests will take place directly between the host institutions and the interested researchers.

(*) Further details on the Call and additional eligibility criteria can be found at the [Participants' Portal](#)