

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

## 1. Interested institution:

**University:** Universitat Politècnica de Catalunya, Barcelona Tech.  
**Department:** Electrical Engineering Department.  
**Group:** CITCEA-UPC. <http://www.citcea.upc.edu/index.php?lang=en>  
**Av/Diagonal 647, 08028, Barcelona, Spain.**

## 2. Brief Description of the Institution

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

In a highly creative context, the UPC's research, teaching and management projects are based on the principles of **freedom, justice, democracy, solidarity, cooperation, sustainability, efficiency, transparency and social responsibility**. They also reflect the **University's commitment to the environment and to change**.

With a focus on intellectual rigour, critical thinking, a cross-disciplinary approach to knowledge, educational innovation and entrepreneurship, the UPC produces competent professionals with the skills they need to tackle present and future challenges.

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**.

The UPC puts its scientific and technological infrastructure at the service of research groups and centres, researchers and students, professionals, companies and institutions.

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**

CITCEA-UPC is a technology transfer center which was created in 2001 within the UPC (Universitat Politècnica de Catalunya, Barcelona Tech), and it is specialized in responding to electrical and electronic technological challenges. The aim of the center is to receive these challenges and solve them by creating a functional prototype that will serve the companies to eventually develop a new commercial product or to solve a new technological problem created by the growth and evolution of the society.

It is formed by 9 UPC professors, 7 PhD, 15 hired engineers and 30 undergraduate and postgraduate, the center has been recognized as a Catalan technology reference center with high capacity and experience and solid enough to carry out projects of all kinds, whether from commercial projects with private companies to European projects in cooperation with various institutions and companies throughout Europe. Thus, from the same 2001 CITCEA is part of the TECNIO network, which includes research centers and technology transfer centers which are able to develop top level technological projects. Moreover, in 2009 the center was given official recognition by the AGAUR about being a consolidated research group of Catalonia. This recognition has been renewed in 2014.

The expertise of CITCEA lies in all kinds of applications where control of energy and/or movement are needed. In this area the technologies developed are: electricity, control, electronics, power electronics, communications and industrial control with digital processors. The applications of these technologies range from automation of processes and machines to renewable energy and the electric grid, among many others.

The fields of specialization where CITCEA has deep knowledge through basic research and applied research for industry are:

- Electric vehicles: impact, laws, charging protocols and specifications, business models...
- Smart grids: Efficiency, market and regulation, monitoring, design, power quality and security in the energy supply...
- Wind energy: Grid integration, turbines technology, offshore power plants, HVDC...
- Solar energy: Grid integration, inverters, panel emulation, PV followers...
- Microgrids: Design, grid synchronization, storage, anti-islanding, IEC 61850 communications...
- Power electronics: Converters, battery chargers, DSP control...
- Automation and industrial communication: Control and management, movement, high speed transmission hardware and software design...
- Digital control: Signal processing, analogic to digital conversion, state observation, non-linear and multivariable control...
- Electric machines: Engine and generators design, Finite element simulations, drives, vectorial control, sensorless control...

#### **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**

Oriol Gomis Bellmunt: [gomis@citcea.upc.edu](mailto:gomis@citcea.upc.edu)  
Jordi Giral Guardia: [jordi.giral.guardia@citcea.upc.edu](mailto:jordi.giral.guardia@citcea.upc.edu)

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

Curriculum Vitae  
Expression of motivation  
Deadline: 15<sup>th</sup> July

Please note that:

- Deadline of the next call for proposals for Marie Skłodowska – Curie Individual Fellowships is **September, 10<sup>th</sup> 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](#)