

# 1 PhD position Marie Skłodowska-Curie Innovative Doctoral Networks - EMPOWER-6G

UNIVERSITAT OBERTA DE CATALUNYA (UOC), Barcelona, Spain, is looking for 1 Doctoral Candidate in the framework of the Marie Skłodowska-Curie Doctoral Network EMPOWER6G funded by the European Commission (<https://www.empower6g.eu/>). The recruited candidate will join the Wireless Networks Research Lab (WiNe) and become a member of the Doctoral Network in an international environment, working closely with senior experts who will supervise the PhD and collaborating with the rest of the Doctoral Network fellows.

The UOC is a fully accredited University, partly funded by the Regional Government of Catalonia, operating from Barcelona and serving over 40,000 students worldwide. It was established in 1994 and has received international awards in recognition of its educational model and the quality of its academic activity. The research and innovation projects are managed by the Internet Interdisciplinary Institute (IN3), which is the research institute of the UOC. The Doctoral Candidate will work in the UOC's Research Hub, located in the 22@ District of Barcelona, the technological district, home of many major company headquarters and universities.

EMPOWER-6G, is a newly launched Marie Skłodowska-Curie Innovative Doctoral Network (DN) aiming at becoming one of the first timely efforts of top EU academic and private institutions related to 6G that targets training and research excellence in Cell-Free-enabled network design and ML-based network management. The project will work towards a novel converged optical-wireless architecture that realizes an efficient 6G Cell-Free (CF)-based access network for high-density and high-coverage deployments. The proposed architecture takes full advantage of the distributed processing CF concept, as well as of wireless mmWave solutions, while being in-line with the ORAN Alliance. Specifically, the project will work on the development of novel solutions at the radio access domain by enabling emerging CF technologies, while also contributing innovations at the optical transport domain and significantly evolving the MEC system towards fully elastic Edge Computing. The Doctoral Network also includes the following partners: IQUADRAT (coordinator), the National Technical University of Athens, Infinera, ISI Athena, the Katholieke Universitet Leuven, IS-WIRELESS, NVIDIA, and SIAE Microelettronica. Further information can be found at <https://www.empower6g.eu/>.

Within the framework of EMPOWER-6G, the recruited researcher will work on his/her individual project entitled "Smart contract platform for network slice transactions", focused on developing a smart decentralised contract platform to enable slicing transactions among multiple tenants, and

optimizing the operation of the contract platform by using blockchain-based solutions in the context of 6G communications.

### **Skills/Qualifications:**

- Must hold a Master in Electrical Engineering, Computer, Science/Engineering, Math/Physics/Statistics or a related field.
- Strong mathematical background.
- Track record of research excellence.
- Good communications skills.
- B2-C1 English Level.
- Programming skills (Python, MATLAB, C++).
- Experience/knowledge of blockchain and/or Artificial Intelligence will be considered an asset.

### **Specific Requirements**

Candidates must also meet the following criteria:

1. Be in the first four years (full-time equivalent research experience) of their research careers.
2. Be of any nationality, but not having resided or carried out their main activity in the country of the host institution of the position they are applying to for more than 1 year in the past 3 years.
3. Have not yet been awarded a PhD degree.

### **Benefits**

The Doctoral Candidates (DC) enrolments are under very attractive employment conditions and competitive salaries offered in Marie Curie Doctoral Networks. The selected DCs will join top-class research groups and have a unique opportunity to pursue a career in wireless communications and networking. Working in this ambitious research project, DCs could lead to the successful completion of a doctoral degree, together with a very strong joint multidisciplinary research training program in the field of wireless and optical networks. The planned mobility among eight EU countries and ten institutions is a plus of these job positions.

### **Eligibility criteria**

Candidates must also meet the following criteria: 1) be in the first four years (full-time equivalent research experience) of their research careers; 2) be of any nationality, but not having resided or carried out their main activity in the country of the host institution of the position they are applying to for more than 1 year in the past 3 years; 3) have not yet been awarded a PhD degree.

### **Selection process**

The following information is required in the application process:

- CV
- Presentation letter
- Master and Bachelor diplomas and transcripts

Application consists of a double submission process. Please, submit the required information to:

- Dr. Ferran Adelantado ([ferranadelantado@uoc.edu](mailto:ferranadelantado@uoc.edu))