

## Post-doc & PhD candidate position in 6G (vehicular) subnetworks

### Job description

The UWICORE laboratory at the Universidad Miguel Hernández de Elche (UMH) in Spain offers a post-doc & PhD candidate position for research on 6G subnetworks, with a focus on its application to vehicular subnetworks. The research will be conducted within the **Horizon Europe 6G-SHINE project** (6G SHort range extreme communication IN Entities, one of the EU Flagship projects to design future 6G networks). The 6G-SHINE project will pioneer the main technology components for wireless in-X subnetworks, short range low power radio cells to be installed in entities like vehicles, robots or production modules, for a wide set of applications, including those with extreme requirements in terms of latency, reliability, or data rates. Such technology components will leverage the opportunities offered by short range communications and connectivity with a broader 6G network within the vision of 6G as a network of networks. Within the project, UMH will focus on MAC and resource management solutions for 6G subnetworks with a core application to the deployment of 6G subnetworks within future software-defined connected and automated vehicles (CAV). The candidate will contribute to the following activities: 1) creating realistic datasets of traffic within in-vehicle networks using 3D-based CAV simulators under development at UMH, 2) contributing to the definition of the architectures and interfaces for the seamless and flexible integration of 6G subnetworks into the 6G network of networks, 3) designing data-driven and AI/ML-powered predictive scheduling and preallocation mechanisms to support mixed traffic flows (including deterministic time-sensitive services) in 6G (vehicular) subnetworks, 4) designing new resource management techniques for managing traffic and radio resources among subnetworks belonging to the same entity (e.g. the same vehicle) and their interactions with the outer/wider-area 6G network. Most of the research will be SW-based, but some activities may include on experimental testbeds.

### Candidates profile

**Post-doc candidates** should have a PhD in Telecommunications, Electrical, or Computer Engineering (or closely related disciplines), and a proven track record of publications in relevant journals and conferences. Preferably, the candidate should have done the PhD or have experience in one of the following research topics: 5G and beyond networks, scheduling & radio resource management, AI/ML applied for networking solutions. The candidate should have good programming and simulation skills. Prototyping and experimentation experience will be positively considered (but not required). Good written and spoken communication skills in English are required, as well as team working skills, self-motivation, and a strong desire to utilize technology for improving society. The candidate should have availability to travel to attend project meetings and conferences.

**PhD candidates** should have a Master in Telecommunications, Electrical, or Computer Engineering (or closely related disciplines). Interest or experience in one of the following topics is required: 5G mobile networks, IoT, use of AI to optimize network management. The candidate should have good programming skills. Publications in journals and conferences are valuable, but not required. Prototyping and experimentation experience will be positively considered (but not required). Good written and spoken communication skills in English are required, as well as team working skills, self-motivation and a strong desire to utilize technology for improving society. The candidate should have availability to travel to attend project meetings and conferences.

### Conditions

- Competitive annual salary based on knowledge, qualifications and/or years of work experience.
- Full time dedication with flexible working conditions.
- Application deadline: continuous evaluation until the position is filled.
- Contract duration: 30 months.
- Starting date: ASAP from March 2023.
- Non EU-candidates should have preferably an EU working permit.

### **Location/Who we are/About the Uwicore lab**

The UWICORE (Ubiquitous Wireless Communications Research) laboratory is part of the Communications Engineering Department of the Universidad Miguel Hernández de Elche (Spain). The laboratory has strong expertise and research record on the design of wireless technologies to verticals, in particular in the areas of connected and automated vehicles as well as Industry 4.0 (or digital transformation of industries). The lab actively participates in European research programs and closely works with national and international companies and research institutions. The laboratory also actively participates in standardization groups (e.g., ETSI) to transfer its research output. The candidates will join a very dynamic research lab with international collaborations and possibilities to develop their research profile and promote their career.

### **Application**

Interested candidates should send their application by email. Candidates should send their Curriculum Vitae and their Academic Certificate and transcript of records to Prof. Javier Gozalvez ([j.gozalvez@umh.es](mailto:j.gozalvez@umh.es)), Dr. Miguel Sepulcre ([msepulcre@umh.es](mailto:msepulcre@umh.es)) and Dr. Baldomero Coll-Perales ([bcoll@umh.es](mailto:bcoll@umh.es)). The subject of the email should be "Position in 6G for Vehicular Subnetworks - Candidate name". Applications will be continuously evaluated upon reception, and online interviews will be organized with the selected candidates until the positions are filled.