PhD student in Self-Adaptive Cyber-Physical Systems (@UPM)

**KEYWORDS:** Embedded / Cyber-Physical Systems; Reconfigurable Systems; Autonomous Learning; Run-time Self-Adaptation.

In the Centre of Industrial Electronics (CEI) at Universidad Politécnica de Madrid (UPM), we are looking for a highly motivated and talented PhD student in the field of Self-Adaptive Cyber-Physical Systems. As part of the position, the PhD candidate will be involved in research activities related with the following topics:

- Algorithms and architectures for classification and processing of complex sensorial information in autonomous CPS, combining automatic learning techniques and/or soft-computing with real-time adaptation capabilities.
- Transparent task-offloading and automatic hardware composition of reconfigurable accelerators.
- Robust control techniques for autonomous CPSs based on automatic learning techniques and evolvable hardware.

The PhD candidate will be part of a highly international and enthusiastic team. This 3 year position will be funded within the scope of the H2020 project “CERBERO - Cross-layer modEl-based fRamework for multi-oBjective dEsign of Reconfigurable systems in unceRtain hybRid envirOnments”, started in January 2017 (http://www.cerbero-h2020.eu/) and the Spanish R&D Plan project “PLATINO - Plataforma HW/SW distribuida para el procesamiento inteligente de información sensorial heterogénea en aplicaciones de supervisión de grandes espacios naturales”. The 3 years PhD scholarship includes health insurance coverage and a net salary competitive for living standards in a city as Madrid. Expenses for attending conferences, summer schools and workshops are also covered with the available funding.

**BASIC QUALIFICATIONS:** Master in Electrical / Computer Engineering, Computer Science, Physics; or similar. Previous research activities in the fields of interest will be highly appreciated.

**PREFERRED SKILLS:** Very good knowledge of digital hardware design and VHDL; High-level synthesis tools for FPGAs; Design of mixed software/hardware systems; Operating Systems and C/C++ programming for embedded systems. Experience with Cyber-Physical Systems, Evolvable Hardware and Autonomous Learning is also valuable. A high level of English, as well as being willing to learn Spanish, are also necessary for this position.

**POSITION AVAILABLE:** The selection procedure will open in January 2018 and will be maintained opened until the position is covered. The starting date is flexible, but preferred ASAP.
**INFORMATION:** If you are interested in this position and want to have more details about it, please contact Dr. Eduardo de la Torre (eduardo.delatorre@upm.es) or Dr. Andrés Otero (joseandres.tero@upm.es), including the reference PhD_SA_CPS. For the formal application, the following documents will be required:

- CV
- Academic transcript of courses followed and grades obtained provided by your institution.
- Brief letter describing your motivation and previous experience.
- Any reference you can provide from professors of the field.