

Pre doctoral Position:

Biomedical Signal Processing and Computational Simulation (**BSiCoS**) Group, <https://bsicos.unizar.es/>, Aragon Institute for Engineering research (I3A), University of Zaragoza.

The candidate will join a highly multidisciplinary and interdisciplinary group, dealing with **Information technology (IT)** projects applied in Cardiology. Characteristics of the position are:

1. **ACADEMIC DEGREE:** Master's degree, in Telecommunication Engineering, Automatic Eng. Electrical Eng., Biomedical Eng., Physics, Mathematics or related
2. **POST PROFILE:** Full-time predoctoral researcher in the field of (IT) Engineering with application in Cardiology, with training in signal processing methods to participate in multidisciplinary projects and clinical studies, including the development of algorithms and implementation of processing methods of signals to obtain biomarkers based on invasive and non-invasive cardiovascular signals.
3. **FUNCTIONS TO BE DEVELOPED:** **a)** Elaboration of algorithms and new methods for the processing of **invasive and non-invasive cardiovascular signals** for obtaining indexes and diagnostic markers for **guiding the implantation of defibrillators**, according to the arrhythmic risk of the patient. **b) Development of signal processing methods** for the characterization of the cardiac response to the stress test, and in ambulatory records. **c) Statistical characterization** of cardiac risk according to the proposed risk indexes and their combination with other electrocardiographic markers. **d) Conducting clinical studies** (protocol design, signal acquisition). **e)** Dissemination of research results in international scientific journals and congresses (including the possible presentation at these congresses)
4. **EXPERIENCE REQUIRED:** Graduated in Master's degree, in Telecommunication Engineering, Automatic Eng. Electrical Eng., Biomedical Eng., Physics, Mathematics or related. Erasmus or similar stays will be evaluated in training and research centers in the field.
5. **OTHER KNOWLEDGE:** The experience in the following aspects will be valued: **Signal processing and/or Automatic Systems**
11. **DURATION OF THE CONTRACT:** 1 year (extendable up to 4 years for the PhD)

Interest in more details and submitting their CV contact:

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