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Opening at IMSE

Researcher position on mixed-signal design and CMOS biosensors

Contract: Researcher position founded by the Spanish Ministry of Science and Innovation.

Contact person: Prof. Manuel Delgado-Restituto ‹ mandel@imse-cnm.csic.es ›

The research group on **Wireless Implantable and Wearable Intelligent Biosensor Devices** at the Instituto de Microelectrónica de Sevilla (IMSE) offers a researcher position (pre- or post-doc) within the framework of the Project “Millimeter-sized Implant with embedded Responsive Artificial intelligence for Brain disorder Assistance”, funded under the Research Challenges R&D&I Projects Program.

The Project focuses on neuroscience developments and aims to advance towards the implementation of a reliable and efficient closed-loop mechanism which, based on the electrical activity recorded from the brain, is able to provide an efficient and non-harmful actuation for ameliorating disease pathologies, like Alzheimer’s disease, epilepsy or Parkinson’s disease. This real-time feedback procedure will support the adaptability of the system to the plasticity of the neural tissue and, thereby, it will open up doors for the implementation of robust, long lifetime neural prosthesis whose operation self-adjusts to the patient's progress. In order to improve the selectivity and detection accuracy of the closed-loop system, **Artificial Intelligence (AI) paradigms** will be explored seeking for an optimum equilibrium between efficiency and hardware cost.

What we expect

We are seeking for a highly motivated, enthusiastic junior scientist aiming at improving their career perspectives in both public and private sectors. Candidates should meet the following requirements (qualification and skills):

1. At least, master degree in the field of electronics engineering, telecommunications, computer engineering, physics, or similar. Post-docs in these areas are also eligible.
2. Solid formation on the **design of digital integrated circuits** (VHDL/Verilog), either for FPGA or ASIC.
3. A background on biomedical engineering and neuroscience will be positively valued.

4. Computational abilities in Artificial Neural Networks, learning algorithms, benchmarking, etc. will also be positively valued.
5. Excellent research skills and analytical abilities, fluency in English (spoken and written), great work ethic, and proactive communication competencies.

What we offer

- Full-time contract from 01/06/2023 until the end of the year (31/12/2023) months with the possibility of extension.
- Gross salary for the duration of the contract (7 months) depending on qualification: from 21k€ for Bachelor degree candidates to 33k€ in the case of post-docs. These amounts are gross minimum and are negotiable depending on experience.
- A stimulating international research environment with over 30 PhD students and post-doctoral researchers.
- Access to state-of-the-art IC design tools and IC technologies
- Large experience in IC manufacturing

How to apply

The deadline for applications is **May 5, 2023**.

Candidates should send their application electronically by e-mail to **Manuel Delgado-Restituto <mandel@imse-cnm.csic.es>**. The application in **English** or **Spanish** should include a CV, and a transcript of records of the accomplished degrees.