Position for Staff Researcher - MEMS and Micro/Nano Energy Harvesting Devices (Postdoctoral Fellow/Junior Researcher Position)

INL Creating value at nanoscale

Research Center: Int. Nanotechnology Laboratory (INL)
Location: Braga, Portugal
Research Field: Microelectromechanical Systems (MEMS)
Job Type: Full time
Career Stage: Desirable 3~8 years research experience after PhD
Closing Date: **July 31th 2015 23:00 (Lisbon time)**
Salary: Competitive package and benefits

Introduction

The International Iberian Nanotechnology Laboratory INL (http://www.inl.int), a research institution with an international legal status, is seeking for a highly qualified, self-motivated and experienced postdoctoral fellow/Junior researcher to participate in its activities regarding MEMS and micro/nano energy harvesting devices.

Job requirements

MEMS and micro/nano energy harvesting devices provide miniaturized solutions that can be seamlessly integrated for sensing, actuation and energy conversion/storage applications. It is not practicable in many applications to have external, bulky batteries providing power to sensing/actuating microdevices due to their relatively large sizes. Examples for which size reduction is vital are implantable medical appliances. On the other hand, standalone, self-powered applications greatly simplify connections to devices thus allowing more complex grids to be built upon.
For this matter, INL is developing a fully integrated scavenging system composed of (i) energy harvesting elements, (ii) full diode bridge for rectifying the resulting signals so that charge can be effectively stored in (iii) a small chip footprint supercapacitor, which is then connected to (iv) an optimal load resistor for powering sensors and/or actuators, related control electronics and wireless transceivers for data transmission. The system is targeted at providing power ratings in the 0.1 -1 μW range and all processing steps are realized at temperatures below 450ºC, as to make the fabrication as CMOS compatible as possible.

The Group of MEMS and Micro Energy Harvesting Devices of INL welcomes applicants with:

- PhD degree in electrical engineering, physics, nanoelectronics, materials or related fields;
- Previous laboratory experience in processing MEMS devices necessary, proficiency in energy conversion/scavenging materials and microdevices considered a plus;
- Demonstrated experience in cleanroom work, testing and integration of microsystems;
- Know-how on electronics and/or CMOS design considered a plus;
- Good publications record;
- Fluency in written and spoken English.

What we offer

- Employment contract and competitive compensation package in line with those offered by other international research organizations. Researchers will also benefit from the various social facilities available at INL.
- Access to state-of-the-art equipment and facilities.
- Highly competitive multidisciplinary research environment.

How to apply

International candidates are welcome to apply.
The application is made online through http://inl.int/job_offers.
Interested applicants should submit a motivation letter, a full curriculum vitae describing their experience.
Enquires should be directed to: **joao.gaspar@inl.int**
INL firmly adheres to a principle of non-discrimination.
In view of the large number of applications, only short-listed candidates will be contacted.