

Call for open positions in the field of bio-robotics, biomechanics, and neural engineering

The Laboratory of Biomedical Robotics and Biomicrosystems (<http://www.biorobotics.it>) at Università Campus-Biomedico di Roma (<http://www.unicampus.it>) is accepting applications for 3 PhD positions in the fields of bio-robotics, biomechanics, and neural engineering.

The candidates will cooperate in the three-year project "HandBot - Biomechatronic hand prostheses endowed with bio-inspired tactile perception, bi-directional neural interfaces and distributed sensori-motor control", funded by the Italian Ministry of Education, University and Research under the "PRIN" program.

We are looking for highly-motivated candidates with a strong background in robotics, mechatronics, bio-mechanics and motor control. Ideal candidates should have clear attitude for excellent research and the capability to collaborate within an interdisciplinary research group, involving people from medical fields as well as from the engineering disciplines.

Profile 1

Candidates have a background in control and artificial intelligence applied to robotics, are highly motivated and interested in medical applications of robotics and are interested in the development of a hierarchical control architecture of a biomechatronic hand for prosthetic application.

Profile 2

Candidates have a background in biomechanics and biomechatronic design, and are interested in the development of novel actuation and sensory systems for orthopedic surgery, implantable surgical instruments, prosthetic sockets.

Profile 3

Candidates have a background in biorobotics, biomechatronics and human-machine interfaces, and are interested in the biomechatronic design of a multi-fingered prosthetic hand embedding tactile sensors for bidirectional hand control.

Applicants should have a MSc degree, although exceptional candidates with a BSc degree will be considered.

Ideal candidates should fulfill the following requirements

- University degree (master/diploma) in mechanical/electrical/biomedical engineering or other suitable field
- In-depth knowledge of (bio-)mechatronic design
- Strong interest in neurophysiology and biomechanics
- Good aptitude for experimental trials with healthy and amputee subjects
- Ability to work in international and interdisciplinary teams
- Knowledge of CAD software for designing mechanical (SOLIDWORKS) and electronic (EAGLE) components is desired
- Strong competencies in C/C++ programming and MATLAB
- Previous experience with LabVIEW, PIC development tools (CSS or MPLAB)
- Good oral and written English skills to disseminate results through scientific publications and presentations.

Workplace

The project will be carried out at the Laboratory of Biomedical Robotics and Biomicrosystems (<http://www.biorobotics.it>) at Università Campus-Biomedico di Roma (<http://www.unicampus.it>). Università Campus-Biomedico di Roma is a no-profit institution devoted to higher education and research in the biomedical field. The university confers degrees in Medicine, Biomedical, Chemical, and Industrial Engineering, Nursing, and Nutrition; it also runs Ph.D. programs in "Bioengineering and Biosciences", and in "Integrated Biomedical Sciences and Bioethics". It is characterized by emphasis on the central role of the patient in health care. A research polyclinic is associated to the university. The Laboratory of Biomedical Robotics and Biomicrosystems strongly benefits from the tight link with the School of Medicine and Surgery, and with its University polyclinic, for developing and validating innovative biomedical robotics technologies with high safety, reliability, robustness and acceptability, based on a solid human-centered design approach.

How to apply

All the interested candidates are recommended to contact Prof. Eugenio Guglielmelli (e.guglielmelli@unicampus.it) with a short motivation letter (describing the applicants background, career plans, motivation for a PhD), CV (with list of publications if applicable), portfolio of relevant previous projects (including an electronic copy of the master thesis), academic transcripts, as well as names and contact information of at least two references.

The selection of PhD students will follow the general enrollment of the

University Campus Bio-medico. Additional 9 positions are open on other areas of biomedical engineering and nutrition science. All the details on how to apply to the PhD in Bioengineering and Biosciences, the roles and the guidelines are detailed at the following link: <http://www.unicampus.it/dottorati-bandi/bando-dottorati-di-ricerca-xxix-ciclo-anno-2014>. For additional info contact Dr. Flavia Salvadori (f.salvadori@unicampus.it).

The deadline for the application for the PhD position is January, 2nd 2014.