PhD fellow in Experimental Neuroscience

IIT invites excellent candidates to apply to its PhD program organized in collaboration with the Open University; this international PhD program confers Doctorates in *Health, Sustainable and Human Technologies*.
In order to be admitted into the ARC program, the minimum requirements are

i. a Masters-level degree, which broadly corresponds to a 4/5-year undergraduate MSc/MChem/Meng-style degree or to a postgraduate Masters in the British system, or to a second level University degree in Italy;
ii. a grade corresponding to an upper second class (2.1) or a merit in the UK system or 100/110 in the Italian system. Candidates with lower grades but redeeming features (publications, specific expertise) are requested to contact the potential supervisors before applying;
iii. where English is not the applicant's first language, a valid IELTS (International English Language Testing System) certificate. The minimum acceptable score is an overall 6.5, with no less than 6.0 in any of the four categories

One PhD fellow position **will be available from 1st of October 2025** in the group of Microtechnology for Neuroelectronics led by its Principal Investigator, Luca Berdondini.

Title of the project: Pre-clinical investigation of bioelectrical neural activity and therapeutic strategies in in vivo models of brain tumors

Description: Your project will contribute to the *Technologies for Healthy Living Flagship at IIT*, and it will be implemented by synergizing contributions from multiple IIT Research Units, namely the *Multiscale Brain Communication* Research Unit (PI L. Fadiga), the *Organic Neuroelectronics* Research Unit (PI F. Biscarini), the *Nanotechnology for Precision Medicine* Research Unit (PI. P. Decuzzi), the *Multifunctional Neural Interfaces with deep-brain regions* (PI. F. Pisanello) and the *Microtechnology for Neuroelectronics* Research Unit coordinated by L. Berdondini. Activities will be implemented in the later research unit in which L. Berdondini brings extensive experience in high-resolution electrode neurotechnologies and neuroscience research. His expertise also extends to fostering innovation through technology transfer and the integration of startups.
The research project aims to leverage advanced neurotechnologies to enhance our understanding of bioelectrical signals and network properties associated with brain tumors, with the goal of assessing and guiding potential therapeutic interventions.

Within the research team, your main responsibilities will be:

- The use of new generations of high-resolution intracortical CMOS-probes to investigate bioelectrical activity and network properties emerging in mice animal models with brain tumors.
- Coordinate with the co-PIs to advance the analysis and interpretation of electrical read-outs and investigate the efficacy of therapeutic strategies.

Director of Studies (Main Supervisor) : Luca Berdondini (Microtechnology for Neuroelectronics)
Other supervisors: Paolo Decuzzi (Nanotechnology for Precision Medicine);
Luciano Fadiga (Multiscale Brain Communication);
Fabio Biscarini (Organic Neuroelectronics);
Ferruccio Pisanello (Multifunctional Neural Interfaces with deep-brain regions)

Essential expertise:

i. An undergraduate degree in Neuroscience, Biology, Bioengineering or equivalent;
ii. Experience in coding for data analysis (Python or equivalent)];

Desirable expertise:

i. Previous experience in electrophysiology and/or work with animal models;
ii. Previous experience in a challenging and international environment

How to apply. Prospective students must submit using the online form the following documents

1) 2-page CV, which includes studies, expertise and achievements.
2) 1-page research statement, which includes the choice of a project from the list above and a justification of the choice. Only if robustly justified, the student may signal their interest also for a second project, but there is no guarantee that this will be taken into account by the selection panel.
3) A transcript of undergraduate and postgraduate studies.
4) A valid IELTS certificate, obtained no more than two years before the proposed registration date.
5) Contact details of two referees.

For this position, ARC accepts candidatures on a deadline mode.

The Deadline for this position is 23rd may 2025.

Istituto Italiano di Tecnologia, with its headquarters in Genoa, Italy, is a non-profit institution with the primary goal of creating and disseminating scientific knowledge and strengthening Italy's technological competitiveness. IIT's research endeavour focuses on high-tech and innovation, representing the forefront of technology with possible application from medicine to industry, computer science, robotics, life sciences and nanobiotechnologies.
Istituto Italiano di Tecnologia is an Equal Opportunity Employer that actively seeks diversity in the workforce.

Please note that the data that you provide will be used exclusively for the purpose of professional profiles' evaluation and selection, and in order to meet the requirements of Istituto Italiano di Tecnologia. Your data will be processed by Istituto Italiano di Tecnologia, based in Genoa, Via Morego 30, acting as Data Controller, in compliance with the rules on protection of personal data, including those related to data security.