

Investigations in biological systems by using miniaturized electrochemical sensors

Summary

The Electrochemical Sensors and Electroanalytical Methods Laboratory at the Institute of Chemistry, University of São Paulo (USP) - Brazil, is seeking to hire one post-doctoral researcher to work on a project entitled “*Investigations in biological systems by using miniaturized electrochemical sensors*”. The scholarship will be granted by the São Paulo Research Foundation (FAPESP) and the research is linked to the Thematic Project “*Integrated miniaturized chemical sensors: novel fabrication platforms for biological, health and environmental applications*” (Process # 2018/08782-1), whose coordinator is Prof. Mauro Bertotti (<http://www.iq.usp.br/lseme/?lang=en>).

The selected candidate will perform research on the development of microelectrodes and microelectrodes arrays for further use in biological systems, particularly in the monitoring of neurotransmitters release, as well as in the study of metabolic processes. Experiments will be performed using devices mounted in different configurations, depending on the size of the cells and the desired information about the cellular system. In order to improve the sensitivity and selectivity of the fabricated sensors response, strategies based on the modification of the electrode surface will be employed, if necessary. The project will be carried out in collaboration with researchers from the Department of Biochemistry, hence we envisage a multidisciplinary approach with emphasis on excellence and highest scientific standards.

USP is the largest Brazilian public university (90.000 enrolled students) and is highly recognized by its fundamental role in advancing research in the country (currently, USP is responsible for more than 20% of all scientific production in Brazil). USP is made up of several campuses and our laboratory is located in the campus of the city of São Paulo, which is the main port of entry to Brazil. FAPESP is an independent public foundation with the mission to foster research and the scientific and technological development of the State of São Paulo.

Needed skills and experience

Self-motivated and creative post-doctoral researchers, who are able to design and conduct experiments as well as to present their work at meetings and to write scientific manuscripts, are welcome. Candidates must present academic competitiveness at the international level confirmed by publications in indexed journals in the subjects of interest of the research project. Advanced training in Electroanalytical Chemistry, including the fabrication and use of microelectrodes, will be considered a very important differential. Experience with Scanning Electrochemical Microscopy is highly desirable. Candidates are expected to help to coach/co-supervise undergrad and grad students and lab technicians, when necessary.

Contract Period and Project Start

The scholarship duration is 24 months and it can be extended for up to 2 more years, depending on the evaluation of the work performed during the current period and the research plan for the extended period. The starting date for the successful candidate is flexible, but is expected to be before June 1st, 2019.

Values and Conditions

1. Monthly grant (free of taxes) of R\$ 7,373.10 (around U\$ 1,800.00), plus 15% of the annual value for contingency expenses in items directly related to the research activity (Technical Reserve);
2. Financial support for travel and installation expenses may be requested for the selected applicant who lives out of São Paulo;
3. The candidate must have completed a PhD not more than 5 years before the start of the stipend.

Full details can be found at: <http://www.fapesp.br/en/5427>.

How to Apply

The submission deadline is March 8th, 2019, and interested candidates should apply exclusively by email (mbertott@iq.usp.br), including "FAPESP post-doctoral fellowship" as subject, followed by his/her name. The applicant must include the following documents ***in a single PDF file***:

1. Summarized CV (maximum 2 pages), including published papers attesting the competence to develop the project;
2. A text in English, with a maximum of 2 pages, describing previous experience in the field, as well as suggestions to make the research more innovative and challenging.
3. Two recommendation letters.

Selection

Screening of applications will start as soon as they are received. The selection will be made based on the CV of the candidates (experience in the area of research of the project and the quality of publications), motivation and evaluation of the recommendation letter. A Skype interview may be required for some applicants during the selection process. Candidates will receive the list of applicants and the result of the selection process until March 15th, 2019 by email. The selected candidate must submit the necessary documents for FAPESP scholarship application within 15 days of his/her approval.