Job title: Research Fellow in electrochemical biosensor design
Location: University College London, Stanmore campus
Salary: £35,965- £43,470 per annum (Research Associate)
Hours: Full time
Contract type: Fixed-term/contract
Duration: 15 months
Closing time: Open until we find a suitable candidate
Line manager: Dr Sara Ghoreishizadeh
Start date: October 2020 or shortly afterwards.

Duties and responsibilities

The position is a part of the EPSRC-funded ENOM (Electrochemical Analyser Microchip with Monolithic integration of Nano-electrode Array and Instrumentation) project. The project aims to create a core biomolecule analyser system based on semiconductor technology that is scalable, low-cost, long-lasting, and autonomous. The post holder will join the Biomarkers., Biosensors & Bioelectronics team led by Dr Sara Ghoreishizadeh and will have the overall responsibility of sensor development– including design, layer-by-layer cleanroom-free fabrication of sensor on semiconductor microchip devices, and characterisation of enzymatic-based electrochemical sensors for detection of small biomolecules (e.g. glutamate). The post holder will be working closely with other team members working in integrated circuit design, Biosensor design, and biomarkers research.
Technical Research Duties

- To design, prototype, test, characterise and document electrochemical bio/nano sensors. This involves the electrodeposition and electrochemical fabrication techniques such as Cyclic voltammetry, chronoamperometry and Electrochemical Impedance Spectroscopy, among others.
- To develop and publish resulting recipes and methods for nano-structuring and enzyme immobilisation on microelectrodes.
- To work closely with other team members in developing specifications for the sensor fabrication and readout electronics.

General Research Duties

- To contribute to the timely production of project deliverables.
- To work together with and/or co-manage/co-supervise research staff and/or research students (PhD and MSc).
- To write progress reports and prepare results for publication, presentations and the web.
- To contribute to bids for research grants.

The post holder will carry out any other duties as are within the scope, spirit and purpose of the job as requested by the line manager or Head of Department/Division. The post holder will actively follow UCL policies including Equal Opportunities policies. As duties and

responsibilities change, the job description will be reviewed and amended in consultation with the post holder.

The Biomarkers, Biosensors & Bioelectronics team is within the UCL Aspire Centre for Rehabilitation Engineering and Assistive Technology (Aspire CREATe). Aspire CREATe is part of a UCL Faculty of Engineering Sciences and UCL Faculty of Medical Sciences which is located in the Royal National Orthopaedic Hospital (RNOH), the largest orthopaedic hospital in the UK.

Key requirements

The successful candidate must have a PhD (or equivalent professional experience) in the field of electrochemical sensors/biosensors. They should have proven experience with electrochemical measurement techniques such as voltammetry and amperometry and Electrochemical Impedance Spectroscopy as well as electrodeposition techniques for bio/nano-layer deposition. They should have proven ability to analyse and write up data, design and implement research and demonstrate excellent interpersonal, oral and written communication skills.

The post holder will be registered with UCL and will be based at the UCL RNOH Stanmore campus. The post holder may also need to work at UCL Bloomsbury and Royal Free campuses for the purpose to access specialised facilities (e.g. imaging, clean room).

The start date of the post will be October 2020 or shortly afterwards.

Application process

Our preferred method of application is online via our website (TBC).

For informal enquiries about the post please contact Dr Sara Ghoreishizadeh s.ghoreishizadeh@ucl.ac.uk quoting the full job title above.