Research Associate – Analytical breath analysis.

Job Ref: REQ240969

Department of Chemistry

Project Description

Applications are invited for a postdoctoral research associate in analytical breath analysis. This project is part of "A volatilome-based signature for age-related recovery & resilience" funded by the Wellcome LEAP Dynamic Resilience Program (https://wellcomeleap.org/dr/). Working with Dr Matthew Turner (Chemistry, Loughborough University) the group will aim to identify potential breath-based biomarkers of physiological resilience, predictive of age and frailty in the human population. The successful candidate will join a collaborative research team spanning three Schools combining expertise in breath VOC analysis, cell biology and Artificial intelligence. This post is full-time (37 hours/ week) and fixed term for 6 months.

This project will be based within the Department of Chemistry and will be building on our existing expertise in breath analysis. The day-to-day activities of the post will include the management and logistics of sample kits, collection and analysis of VOC samples from human participants and cell cultures, as well as all aspects of their quality assurance.

This is an exciting opportunity to join a cross-disciplinary collaboration. The position is ideally suited for an ambitious early career researcher with a strong background in Analytical Chemistry. Experience of the operation, maintenance and interpretation of GC/MS data is essential. Knowledge of breath VOC sampling and preparation of permeation standards will also be essential to the role. The successful candidate will be highly motivated and have excellent communication skills.

Job Description

Job Grade: Specialist and Supporting Academic Grade 6

Job Purpose: This is a Wellcome LEAP Dynamic Resilience project to identify VOC biomarkers of age and frailty using Thermal Desorption Gas Chromatography Mass Spectrometry (TD-GC-MS)

Job Duties

RESEARCH AND SCHOLARSHIP

- To prepare breath sampling kits for use in clinical and community sampling environments.
- To collect and VOC samples for analysis from human participants and cell / tissue cultures.
- Support the project with expert data interpretation and training for non-specialists in sample collection.
- Maintain instrumentation and sampling equipment.
- Communicate effectively with collaborators internally and externally to the university.
- Plan and manage research activities to meet agreed objectives and deadlines.
- Attend and present results at regular meetings.
- Contribute to the preparation of reports and/or research articles.
- Contribute to project promotion and industrial engagement activities.
- Build external contacts and participate in knowledge exchange to strengthen relationships for future collaboration.

- Assist with the preparation of proposals and applications for funding to external bodies.

TEACHING AND LEARNING

- Assist in the supervision of undergraduate and postgraduate research projects within the research group.
- Engage in training programmes through staff development that are consistent with your aspirations and that of the project (e.g. IP protection).

OTHER ACTIVITIES

- Assist with the management and smooth operation of equipment and instrumentation within the research group.
- Undertake other duties that may be reasonably requested and are commensurate with the nature and grade of the post.

Points To Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equity & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equity & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

Organisational Responsibility

Reports to Dr Matthew Turner, Lecturer in Analytical Science.

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

1 – Application
2 – Test/Assessment Centre/Presentation
3 – Interview

Essential Criteria

Area	Criteria	Stage
Qualifications	Holds (or is about to obtain) a PhD in Analytical Chemistry	1
Experience and Knowledge	Relevant experience in TD/GC/MS	1,3
	Experience in the collection of exhaled Breath VOC samples	1,3
	Research experience with sufficient depth of specialist knowledge in the discipline	1,3
	Preparation of research publications or documents that can be protected in the patent literature	1,3
	Advance knowledge of the research methods and techniques to work effectively within the research project	1,3
	Experience in supervision of postgraduate or undergraduate project students in the laboratory	1,3
	Will engage in continuous professional development	3
Skills and Abilities	Excellent written and oral communication skills	1,3
	Ability to organise time and plan effectively to meet deadlines	1
	Ability to work in a team with strong interpersonal skills	1,3
	Ability to deliver oral presentations, write research reports and produce draft publications	1,3
	Ability to share responsibility for the supervision and training of undergraduate and postgraduate students in the laboratory	1,3
Training	Willingness to travel to undertake appropriate training / attend meetings and conferences.	1,3
	Willingness to undertake any appropriate further training	1

Desirable Criteria

Area	Criteria	Stage
Experience	Experience in working in cross disciplinary teams	1,3
	Experience quality control of GC/MS instrumentation for VOC breath analysis	1,3
	Experience in preparation of permeation sources for gas analysis	1
	High degree of experience in GC/MS maintenance	1,3
	Experience in statistical analysis and machine learning algorithms for mass spectrometric data	1,3

Conditions of Service

The position is **Full-time** and **fixed term** for a period of 6 months. Salary will be on research grade 6 from £34,866 to £45,163, starting salary to be confirmed on offer of appointment.
The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff, details of which can be found here.

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which are available at http://www.lboro.ac.uk/services/hr/a-z/family-leave-policy-and-procedure---page.html.
We also offer an on-campus nursery with subsidised places, subsidised places at local holiday clubs and a childcare voucher scheme (further details are available at: http://www.lboro.ac.uk/services/hr/a-z/childcare-information---page.html

In addition, the University is supportive, wherever possible, of flexible working arrangements.
We also strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see http://www.lboro.ac.uk/services/hr/athena-swan/