

**University of Birmingham**  
**College of Life and Environmental Sciences**

**School of Biosciences: MRC Regional Phenome Centre**

**Mass Spectrometry Metabolomics Research Fellow**

**Salary from £28,695 to £37,394 a year**

Fixed-term for 3 years in the first instance

As part of the establishment of the **MRC Regional Phenome Centre** (RPC) at the University of Birmingham, we will be recruiting six full-time metabolomics scientists. The MRC RPC will apply liquid chromatography-mass spectrometry (LC-MS), NMR spectroscopy and computational biology to perform metabolic phenotyping research in stratified medicine, primarily in blood cancers, inflammatory diseases and immunological diseases. The School of Biosciences will house the mass spectrometry and informatics themes of the centre, with eight LC-MS systems to be purchased and applied for high-throughput and large scale studies. The MRC RPC will interact closely with the MRC-NIHR National Phenome Centre in London to enhance UK capacity and capabilities in metabolic phenotyping.

Here we seek to recruit a Mass Spectrometry Metabolomics Research Fellow to focus on the development and application of metabolic phenotyping, applying targeted and non-targeted strategies, to enhance stratified medicine at the University of Birmingham and nationally. The post-holder will work alongside two large and active metabolomics groups, headed by Professor Viant and Dr Dunn, as well as alongside the national NERC environmental metabolomics facility. They will also work closely with staff in the NMR spectroscopy theme of the MRC RPC based in the Henry Wellcome Building for Biomolecular NMR Spectroscopy at the University of Birmingham. The candidate will perform sample preparation applying manual and robotic approaches, LC-MS instrument maintenance and operation to acquire highly reproducible data in a high-throughput laboratory, and metabolite identification. The post-holder will apply their knowledge and expertise in study design and data analysis in biomedical metabolomics. The post-holder will also provide training and support to other RPC staff, University of Birmingham employees and students and in training courses operated by the RPC.

Applicants should hold a PhD in bioanalytical chemistry, mass spectrometry or metabolomics, with experience and demonstrated success of working independently and as part of a large team in a bioanalytical research facility as well as having a growing national reputation in metabolomics.

The University offers a variety of courses for personal development of its employees. The University of Birmingham is a family-friendly employer. The School of Biosciences welcomes flexible and part-time working to suit family or other commitments. The University has on-campus childcare facilities.

The post is available in the first instance for 3 years, with the expectation for significant extension subject to the success of the MRC Regional Phenome Centre.

Informal enquiries can be addressed to Professor Mark Viant (tel: +44 (0)121 414 2219 or email: [M.Viant@bham.ac.uk](mailto:M.Viant@bham.ac.uk)) or Dr Warwick Dunn (tel: +44 (0)121 414 5923 or email: [W.Dunn@bham.ac.uk](mailto:W.Dunn@bham.ac.uk)).

**Closing date: 25 January 2015**

**Reference Number: 47673**

For further information or to apply visit: [www.hr.bham.ac.uk/jobs](http://www.hr.bham.ac.uk/jobs)

**Valuing excellence; sustaining investment**

## Job Description

Post Title and Post Number	Mass Spectrometry Metabolomics Research Fellow - 47673
Organisation Advertising Description	School of Biosciences
Post Number	47673
Full Time/Part Time	Full Time
Duration of post	38 months
Post is open to:	Internal and External Candidates
Grade	Grade 7
Salary	Starting salary is normally in the range £28,695 to £37,394. With potential progression once in post to £39,685 a year.
Terms and Conditions	Research and Analogous staff
Closing Date	25th January 2015

## Job Summary

To contribute to the achievement of the School's research strategy by undertaking specified research activities within an established research programme.

As part of a MRC-led Clinical Research Infrastructure Initiative call in 2014, the University of Birmingham has been awarded £7.3M to enhance clinical research infrastructure and to integrate innovative technologies for genotyping and phenotyping in stratified medicine. Of the award, £5M will be applied to construct the MRC Regional Phenome Centre (RPC) which will apply liquid chromatography-mass spectrometry (LC-MS), NMR spectroscopy and computational biology to perform metabolic phenotyping research in stratified medicine, primarily in blood cancers and immunological diseases. The RPC will interact closely with the MRC-NIHR National Phenome Centre in London to enhance UK capacity and capabilities in metabolic phenotyping. The School of Biosciences will house the RPC mass spectrometry facility, with eight LC-MS systems and two robotic systems to be applied for high-throughput and large scale studies.

The successful applicant must be highly motivated to contribute to fulfilling the research objectives of the RPC with a focus on the development and application of metabolic phenotyping to enhance stratified medicine **in blood cancers**. The job will include study design, sample preparation, data acquisition applying mass spectrometry platforms and training as well as collaboration with researchers within and external to the university (academic, industry, scientific instrument manufacturers).

## Main responsibilities

- Conduct independent research in biomedical metabolomics, with a focus on stratified medicine in **blood cancers** with internal and external users of the RPC
- Contribute to the design of research projects in the RPC including as a research co-investigator on grant applications
- Contribute to laboratory refurbishments and mass spectrometer / robotics installations in the School of Biosciences in relation to the RPC
- Perform research applying non-targeted and targeted analysis of mammalian samples on **four Thermo Scientific mass spectrometers**
- Ensure optimal operation of RPC instrumentation (mass spectrometers and robotics), including maintenance, to meet research goals in a timely manner
- Manage one of two robotic systems for sample preparation, **with a focus on high-throughput liquid handling**, to fulfil RPC research goals
- Be responsible for sample preparation and analysis for RPC projects
- Be responsible for method development and validation to enhance RPC capabilities
- Be responsible for ensuring RPC financial targets are met for the **Thermo Scientific mass spectrometers**
- Provide analytical chemistry training to RPC, school and university staff and students
- Work with the RPC Operational Head and research grant holders to achieve the research objectives of the RPC
- Disseminate high quality research in peer-reviewed journals, scientific conferences and to the general public
- Provide training and teaching in UHPLC and mass spectrometer operation
- Solve problems that may affect the achievement of research objectives and deadlines in the RPC
- Develop novel methodologies and techniques to be applied in metabolic phenotyping and stratified medicine to enhance the capabilities and capacity of the RPC
- Provide expert advice to colleagues and students within the discipline of metabolic phenotyping and stratified medicine
- To deal with problems that may affect the achievement of research objectives and deadlines
- To carry out administrative tasks related directly to the delivery of the research.
- To provide training and supervision of other staff and students

## Person specification

### Skills and experience

- First degree in area of specialism and a higher degree relevant to research area: PhD (awarded) in metabolomics and mass spectrometry.
- High level of analytical capability
- High level of accuracy, organisation and attention to detail is mandatory
- Ability to communicate complex information clearly
- Ability to assess resource requirements and use resources effectively
- Detailed knowledge of laboratory safety
- Sufficient breadth and depth of specialist knowledge in the discipline and research methods to work within established research programmes
- Experience in metabolomics and in the operation of mass spectrometry platforms

- Good intellectual reasoning
- Able to assume responsibility
- Good team member

### **Scope of the Role**

- Complete work to fulfil research objectives of the RPC
- Operate within areas of mass spectrometry, metabolic phenotyping, cancer and stratified medicine
- Maintain operation of mass spectrometry and robotic systems

### **Planning and Organising**

- Plan for the efficient use of research resources in RPC as appropriate
- Contribute to the planning of multiple and concurrent research projects in the RPC in collaboration with RPC staff and collaborators
- Contribute to the planning of their own projects and those of PhD students
- Co-ordinate own work with others to avoid conflict or duplication of effort
- Ability to work on own initiative, manage time effectively, progress tasks concurrently and work to deadlines

### **Decision Making**

- Develop and prioritise tasks to fulfil RPC objectives, with RPC staff
- Apply appropriate methods for sample preparation and data acquisition
- Implement School safety policy
- Perform study design and methodological improvements, with RPC staff
- Provide specialist training in sample preparation, mass spectrometry and robotic sample preparation
- Perform alterations to working practices, with RPC staff
- Purchase appropriate consumables and service contracts
- Discuss serious health and safety issues with RPC staff

### **Internal/External Relationships**

- Liaise with research staff and collaborators to fulfil research objectives
- Liaise with external principal investigators of the research project to fulfil research objectives
- Disseminate research at conferences and through peer-reviewed journals
- Referee articles for peer-reviewed academic journals
- Maintain contact with (including membership of) appropriate professional bodies
- Liaise with the relevant external research community via seminars and conferences