



THE POST

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| College: | University of Exeter Medical School http://medicine.exeter.ac.uk/ |
| Post: | Postdoctoral Research Fellow |
| Reference No: | P59725 |
| Grade: | F |
| HERA: | RFEL |
| Reporting To: | Professor Jonathan Mill |

Applications are sought for a highly motivated Postdoctoral Research Fellow to join the Complex Disease (Epi)genomics Group at the University of Exeter Medical School. A three-year full-time post is available from 1st January 2018 funded by a project grant from the Medical Research Council (MRC). The goal of this project is to identify novel pathways involved in the pathogenesis of schizophrenia.

Job Description

Project overview

The successful applicant will work on a collaborative MRC-funded project that aims to characterise regulatory genomic variation in schizophrenia brain. The project involves using cutting-edge methods to profile gene regulation (DNA modifications, histone modifications, gene expression, alternative splicing) in purified neuronal nuclei isolated from a unique collection of post-mortem brain samples. Given the evidence for a neurodevelopmental component to the aetiology of schizophrenia, we will also annotate patterns of gene regulation across development of the human cortex, enabling us to explore the hypothesis that disease-associated loci are dynamically regulated during this critical period. Building on our previous work exploring epigenomic variation in schizophrenia, this integrated-genomics project will explore the dynamic regulation of gene function during human brain development and its relevance to the aetiology of schizophrenia.

The successful applicant will be based within the Complex Disease Epigenetics Group (<http://www.epigenomicslab.com/>) at the University of Exeter Medical School. We are a dynamic, interdisciplinary team including molecular biologists, mathematicians and bioinformaticians. The primary focus of our work is to understand the causes and consequences of molecular changes in the brain, and the role that these changes play in neuropsychiatric and neurodegenerative disease.

We are particularly interested in applications from postdoctoral scientists with expertise in any of the following: molecular biology, epigenomics (DNA and histone modification analysis), genomic sequencing (ChIP-seq and Pacific Biosciences Iso-seq), applied mathematics, computational biology, or bioinformatics. The successful applicant may be either a laboratory-based scientist or focus on informatics approaches.

Main duties and accountabilities:

1. To undertake research aimed at identifying the role of regulatory genomic variation in schizophrenia. Depending on the background of the successful applicant (laboratory or computational), responsibilities may include all or some of the following:
 - Isolating purified populations of neuronal nuclei from human post-mortem brain tissue
 - Undertaking genomic profiling experiments to assess DNA modifications, histone modifications, gene expression, and alternative splicing
 - Data processing, quality control and analysis
 - Bioinformatic interpretation of large-scale genomic datasets
 - Integrative analysis of genomic variation

- Working with collaborators to coordinate a large, interdisciplinary project
 - Writing publications and disseminating research findings
 - Making presentations at conferences or exhibiting work in other appropriate events;
 - Assessing, interpreting and evaluating outcomes of research;
 - Resolving problems of meeting research objectives and deadlines;
 - Developing ideas for application of research outcomes;
 - Deciding on /following research programmes and methodologies, often in collaboration with colleagues.
2. To contribute to teaching and learning programmes in the School and to supervise postgraduate research students.
3. To act as research team leader including:
- Mentoring colleagues with less experience and advising on their professional development;
 - Coaching and supporting colleagues in developing their research techniques;
 - Supervising the work of others, for example in research teams or projects;
 - Developing productive working relationships with other members of staff;
 - Co-ordinating the work of colleagues to ensure equitable access to resources and facilities;
 - Dealing with standard problems and help colleagues to resolve their concerns about progress in research.
4. To routinely communicate complex and conceptual ideas to those with limited knowledge as well as to peers and to present the results of scientific research to sponsors and at conferences.
5. As determined by the nature of the project and at the direction of the PI, to plan, co-ordinate and implement research programme activity including:
- Managing the use of research resources and ensuring that effective use is made of them;
 - Monitoring and reporting on the use of research budgets;
 - Helping to plan and implement commercial and consultancy activities;
 - Where appropriate, to plan and manage own consultancy assignments.

This job description summarises the main duties and accountabilities of the post and is not comprehensive: the post-holder may be required to undertake other duties of similar level and responsibility. Please visit the Human Resources website to view the Research Fellow role profiles.

Person Specification

| Competency | Essential | Desirable |
|-----------------------------|--|--|
| Attainments/Qualifications | PhD in genomics, bioinformatics, or a related field. | For laboratory-based applicants: experience of FACS, ChIP-seq, DNA methylation profiling, RNA-seq, or long-read sequencing. For bioinformatics/computational applicants: experience of working with complex genomics datasets, systems biology approaches, and multivariate analyses. |
| Skills and Understanding | Possess sufficient specialist knowledge in genomics to develop/follow research programmes and methodologies. Record of research output in high quality publications. | A strong interest in neuroscience and mental health. |
| Prior Experience | Experience of managing complex research projects and working in a large inter-disciplinary team. | Experience of managing / supervising junior researchers. |
| Behavioural Characteristics | Excellent written and verbal communication skills. Able to communicate complex and conceptual ideas to a range of groups. Evidence of the ability to collaborate actively within the Institution and externally to complete research projects and advance thinking. Able to participate in and develop external networks. Able to balance the pressures of research, administrative demands and competing deadlines. | Able to identify sources of funding and build relationships for future activities. |
| Circumstances | Willing to undertake some international travel to undertake specialised training, and present findings at meetings and conferences. | |

In addition to completing the online application form, applicants are requested to upload a detailed cover letter describing their suitability for this position and a key scientific publication.

Terms & Conditions

Our Terms and Conditions of Employment can be viewed [here](#).

Further Information

Please see our [website](#) for further information on working at the University of Exeter.