

**Job Title:** Research Associate

**Grade:** 7

**Salary:** £39,105 to £45,163 per annum, pro-rata if part-time

**Department:** Population Health Sciences

**Hours/Contract:** Full time, part time (22.5 hours, 0.6 FTE), or job share considered, fixed term contract for 2 years

**Job Family:** Teaching and Research

**Reference:** 11205

### Role Purpose

To contribute to analyses of the Wellcome Trust Discovery Award grant “Applying a multidisciplinary approach to defining molecular pathways in lung function impairment”, particularly Work Package 1. The overall programme aims to accelerate discovery of genetic risk factors for lung function impairment, and define the mechanisms and biological pathways underpinning the observed associations. Work Package 1 focuses on using genomic data to discover lung function-associated variants, and their disease effects, via leading internationally collaborative genome-wide association studies of lung function. It also aims to study the influence of discovered variants at different stages of the life course, and their effects on respiratory disease onset and progression, as well as their pleiotropic effects on other diseases.

This project will involve working collaboratively and independently as part of the Genetic Epidemiology Group and with co-investigators at the Universities of Nottingham and Cambridge, and collaborators in the SpiroMeta and CHARGE consortia, to achieve defined milestones and produce high quality research outputs.

You will be expected to attend regular quarterly meetings that take place in Leicester, Nottingham and Cambridge. You will join an internationally-renowned research group, funded by the Wellcome Trust, MRC, NIHR and industry collaboration, and which has a major focus on training and capacity building.

### Main Duties and Responsibilities

#### Research

- To lead, coordinate and undertake large-scale collaborative genome-wide association analyses of quantitative lung function (using both array and sequence data)
- To undertake post-GWAS *in silico* analyses to investigate mechanisms by which lung function-associated variants may contribute to risk of clinically relevant outcomes. This will involve statistical genetic approaches (such as fine-mapping and colocalization analysis), as well as generation of genetic and polygenic risk scores, conducting phenome-wide association studies, integrating results with multi-omics data, and causal inference using Mendelian randomization
- To make significant contributions to research outputs, including journal papers, where appropriate as lead author
- To contribute to the development of the choice of techniques, critiques, approaches, models and methods





- To contribute to the overall research programme using innovative research models, novel approaches and techniques
- To meet with collaborating scientists, to present and discuss findings, and to evaluate and prioritise areas for further work and contribute to the international profile of the team by presenting research to research teams, local audiences and international conferences
- To lead in writing up research findings for dissemination amongst the research team and broader international community, and develop ideas and contributions for future grants, and technical outputs
- With the support of colleagues, to identify opportunities to apply for fellowships and/or further project grants
- To provide guidance to other staff and students
- To actively seek opportunities to carry out multi-disciplinary research with other research groups at the University or stakeholders external to the University, with the approval of the Principal Investigator (PI)
- To contribute to broader team goals such as public outreach or the development of new advanced teaching materials, based on novel research

### **Professional Development**

- Duties and opportunities to engage in work that support your own professional development.

### **Impact and Knowledge Exchange**

- To network and contribute to the maintaining and furthering of the wider research programme and research area
- To consult effectively on own specialism directly with people external to the University
- To engage positively and pro-actively in research impact

### **Leadership and Citizenship**

- Guidance to other team members, both research staff and students
- Pro-actively build networks and collaborations
- Providing mentoring and coaching to Early Career Researchers and research students

\*The successful applicant will be expected to work a minimum of 2 days per week in the office or pro-rata equivalent, and to attend in-person meetings related to the Wellcome Trust Award (but can work flexibly from home otherwise).

### **Internal and External Relationships**





Regular meetings with members of the programme research group

Meeting members of the department for critical discussion of the research and exchange of new ideas and approaches that might benefit the research

Attendance and presentation of work in progress at national and international meetings of relevance to the research program

Liaison with external collaborators

### Planning and Organising

You will be required to effectively manage your time to plan your research activity and to deliver on the priorities of the project:

- Prioritise tasks within agreed work schedules;
- Plan for specific aspects of research, incorporating issues such as deadlines, project milestones and overall research aims;
- Adapt daily and weekly plans to accommodate new developments and be flexible to the changing priorities of the research project;

### Qualifications, Knowledge and Experience

#### Essential

- PhD or equivalent in appropriate discipline or the equivalent professional qualification and experience (already-awarded or thesis completion expected by the time of taking up the post) \*
- Experience of techniques used in genomics, statistical genetics, and bioinformatics, with particular expertise in computational approaches to genomic analyses and genetic epidemiology \*
- Knowledge of human genomics \*
- Evidence of bioinformatic or statistical programming competency \*
- Evidence of research productivity (including high-quality research publications and presentations) \* commensurate with career-stage
- Evidence of proven analytical problem-solving capability \*

#### Desirable

- Experience of analysis of both genotyping array data and sequencing data
- Experience of causal inference using Mendelian randomization
- Evidence of personal development of subject expertise
- Experience of version control software, e.g. Git.

### Skills, Abilities and Competencies

#### Essential

- Willingness and ability to work with internal and external stakeholders\*





- Evidence of continued development of subject expertise\*
- Excellent communication skills – written and verbal, evidenced by the ability to communicate complex information \*
- Strong quantitative and computational skills, including statistical programming (ideally R) and use of high-performance computing environments\*
- Evidence of working effectively as part of a team and the ability to work independently \*
- Effective planning and organisational skills
- Working towards independence and ability to be involved in collaborative research
- Evidence and commitment to Continuous Professional Development (CPD) for yourself, and encourage commitment to learn and develop in others
- Collegiate member of a research team

**\*Criteria to be used in shortlisting candidates for interview**

**Reason for Fixed Term Contract**

The reason for the fixed term contract is stated in section 1.9 in the summary of contractual terms in your contract of employment.

**Criminal Declaration**

If you become an employee, you must inform your manager immediately, in writing, if you are the subject of any current or future police investigations/legal proceedings, which could result in a criminal offence, conviction, caution, bind-over or charges, or warnings.

**Supporting University Activities**

As a University of Leicester citizen, you are expected to support key university activities such as clearing, graduation ceremonies, student registration and recruitment open days. We expect all staff as citizens to work flexibly across the University if required.

**University Values**

**Inclusive** - We are diverse in our makeup and united in ambition. Our diversity is our strength and makes our community stronger.

**Inspiring** - We are passionate about inspiring individuals to succeed and realise their ambitions. We challenge our community to think differently, to get involved, and to constantly embrace new ideas.

**Impactful** - As Citizens of Change we will generate new ideas which deliver impact and empower our community

**Equity and Diversity**

We believe that equity, diversity and inclusion is integral to a successful modern workplace. By developing and implementing policies and systems that challenge stereotypes across all aspects of our work, we have a culture that recognises and values the diverse contributions of our staff which benefits everyone. Our strong values of inclusivity and equality support our efforts to attract a diverse range of





high quality staff and students, and identify our University as a progressive and innovative workplace that mainstreams equality, diversity and inclusion.

