Job Summary

Job Title: Research Software Engineer (2 posts)
Grade: 7
Salary: £34,804 to 40,322 per annum
Department: Health Sciences
Hours/Contract: Full time, part-time (0.6FTE minimum) or job-share will be considered. Two posts available now for a period of 2 years or until 30 August 2022, whichever is the sooner.
Reference: 1945

Role Purpose:
The Health Data Research Hub for Respiratory Health (BREATHE) aims to bring multiple respiratory data sets from the UK together into a form that can be used for research to improve health in respiratory conditions through improved harmonisation and curation of the data. This is one of seven national digital innovation hubs, each of which focuses on a single aspect of clinical data.

In this job you will provide informatics capacity for Leicester’s contribution to BREATHE. The role will involve management and curation of data and metadata for Leicester-based respiratory-focussed studies for upload to the BREATHE repository. This will include local cohorts such as the EXtended Cohort of E-health, Environment and DNA (EXCEED) study and other data sets from the respiratory research group at the NIHR Leicester Biomedical Research Centre.

In supporting the hub, you will manage, maintain and enhance the EXCEED study informatics resource. This will include documenting, maintaining and improving existing informatics tools and pipelines and developing novel tools in collaboration with researchers in the Leicester genetic epidemiology group and external collaborators using the EXCEED resource.

Resources Managed
Work with EXCEED, BREATHE and respiratory investigators to identify data sets and approaches for data management.

Potential supervision of junior members of staff or research students and assist group Investigators in applications for research funding and in aspects of managing the grant portfolio.

EXCEED and BREATHE data sets (initially self-reported questionnaires, examination, linked primary and secondary health care records, environmental data and genetic data) and linked data.

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<th>Main Duties and Responsibilities</th>
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<tr>
<td>• Develop, implement, maintain and apply informatics processes to manage, curate, collate and integrate respiratory data sets and metadata to improve data quality and enhance its utility for research and manage regular data uploads to the BREATHE platform.</td>
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<tr>
<td>• Manage the EXCEED study informatics resource appropriately by maintaining existing informatics tools and pipelines and improving existing tools: to bring new data sources into the study; enhance data management/analysis and linkage; and work with staff/researchers to improve study management and recruitment to the study. Utilise learning from EXCEED that can be applied to other BREATHE datasets.</td>
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<td>• Contribute to EXCEED-based research projects by working closely with researchers to prepare datasets for sub-studies and analyses; devise novel informatics/analytics tools and technical...</td>
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- Approaches to help produce effective research outputs. Collaborate with BREATHE researchers to test and apply these approaches to other datasets.
- Contribute, as an experienced researcher, to determining the direction of the BREATHE and EXCEED projects in line with reaching the research goals. This may include elements of research design, contributions to grant applications, writing project progress reports and project management and contributing to/writing and submitting work to research/technical peer reviewed journals and relevant scientific conferences.
- Keep up-to-date with scientific/technical developments and literature, and with professional issues relevant to your role.
- Provide informatics direction and support as required to other projects led by Prof. Martin Tobin’s team.

You will be expected to devote approximately 20% of your time to continuing professional development, which will be divided among the areas described above in proportions that relate to your skills and development needs.

Internal and External Relationships

- Supervision and advice will be provided by Prof. Martin Tobin and Dr. Robert Free
- Liaison and reporting to BREATHE Data Managers, Leadership Team, Platform Leads, Disease Champions across the UK BREATHE institutions
- Liaison and reporting to Health Data Research UK, and with different parts of the HDR UK infrastructure, including other Hubs, Sites and Gateway
- Key data supply and delivery partners in the public and third sectors
- Commercial and industry partners, including the pharmaceutical, medical technology and e-health
- Third sector, including the Asthma UK and British Lung Foundation Partnership
- Patient and Public Involvement/Engagement groups
- Locally, the postholder will liaise with EXCEED Project Manager, Administrators, recruiting staff, Investigators, PPI group and other stakeholder
- Attendance and presentation of work in progress at local, national and international meetings of relevance to the research program
- Effective communication with line manager regarding progress on projects as required
**Planning and Organising**

The post holder will work to formulate projects which will meet the overall research objectives and deadlines of BREATHE and EXCEED. This may include adaptation of plans and rapid responses to meet the needs of large research consortia.

Specifically the postholder will:

- Plan and prioritise own workload considering current, short term and long term responsibilities and achievability of project objectives
- Work largely with minimal supervision whilst maintaining professional levels of support
- Delivery of BREATHE and EXCEED project deliverables in line with agreed delivery schedule

**Qualifications, Knowledge and Experience**

**Essential**

- Technical, technology/engineering or scientific degree OR equivalent experience*
- PhD in bioinformatics, computer science or related OR equivalent experience*
- Evidence of research activity (e.g. PhD thesis, publication record, involvement in successful grant applications, contribution to research projects)*
- Demonstration of contributions to informatics/IT projects (links to project source code are encouraged in the application)*
- Experience in relevant research models, techniques and methods and the ability to develop new ones within area of expertise*

**Desirable**

- Track record in informatics and/or large scale data mining/genomic research projects*
- Knowledge of ontologies/concept dictionaries and their use in biological and clinical research
- Experience of clinical research projects including use of available tools such as REDCap*
- Understanding of NHS information governance related issues
- Evidence of involvement in innovative research*

**Skills, Abilities and Competencies**

**Essential**

- Proven analytical and technical/scientific problem solving capability
- Programming/development experience (ideally including Python and R)
- Excellent interpersonal skills (including written and verbal communication) with attention to detail.
- Ability to work independently but also as part of a research team
- Good interpersonal skills, enjoys new challenges and developing others
- Experience in presenting at national and international meetings
### Job Summary

**Desirable**

- Use of standard data file formats (e.g. CSV, XML) and other sources of data (e.g. JSON-based web-service APIs)
- Knowledge of database design / development (e.g. MySQL, PostgreSQL, SQL Server)
- Experience of web application development technologies (e.g. HTML, Javascript, JQuery, Bootstrap)
- Understanding of development techniques (e.g. OOP, formalised/regression testing, version control, continuous integration/development)
- Knowledge of Unix/Linux-based operating systems and their administration
- Evidence of ability to collaborate closely with colleagues across disciplines and grades

*Criteria to be used in shortlisting candidates for interview*

**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.

**Research Passport Requirements**

Where it is determined that the duties of this post for the purposes of research involve work with the NHS, it is necessary to ensure that the performance of the duties attached to the post are covered by NHS indemnity arrangements and the appointee must comply with all such arrangements, including occupational health clearance.

**VITAL**

The University encourages all staff to live our VITAL values which are:

Valuing People, Innovators, Together, Accountable, Leaders.

**Equality and Diversity**

We believe that equality, 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.