Job Summary

Job Title: Research Associate - Environmental Noise Exposure Science
Grade: 7
Salary: £34,189 to £39,609 per annum
Department: Health Sciences
Hours/Contract: Full-time, fixed term contract for 18 months
Reference: 759

Role Purpose

This specialised post involves using spatial databases and geographical information systems (GIS) to develop and apply environmental noise models and integrate modelled and measured data from other sources. The models and data on noise levels will be used to undertake outdoor residential exposure assessment and provide data on noise level exposures to planned epidemiological studies.

The post-holder will use and enhance ‘in-house’ scripts of the UK (Calculation of Road Traffic Noise; CRTN) and European-wide (Common Noise Assessment Methods in Europe; CNOSSOS-EU) road traffic noise models and integrate and analyse data on rail and aircraft noise provided by external partners. You will also be involved in model evaluation studies making statistical comparisons between noise levels measurements and estimated noise levels from models. This element extends to analysing the relationship of measured noise levels with measured ultra-fine particles (UFP) from a current study at Gatwick airport. You will be responsible in maintaining large datasets and both assist or lead in the production of scientific and technical reports.

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<tr>
<th>Main Duties and Responsibilities</th>
<th>% Time</th>
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<tr>
<td>Working closely with Professor John Gulliver, and partner researchers at University of Leicester and other universities, to enhance and apply noise models to undertake noise exposure assessment for epidemiological studies</td>
<td>40</td>
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<tr>
<td>Collate, integrate, and analyse data on rail and/or aircraft noise from external sources and use these data to estimate residential exposures</td>
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<td>Analyse the relationship of spatial distributed measurements of noise levels and ultra-fine particles (UFP) from the area around Gatwick airport to inform a study on the potential of UFP to confound studies on the relationship of noise and health (ANCO project)</td>
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<tr>
<td>Undertake model evaluation studies comparing noise level measurements with modelled noise levels from ‘in-house’ models or from data supplied by external partners</td>
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<td>Writing up analyses for publication in peer-reviewed journals</td>
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<td>Participating in seminars and work-in-progress meetings within the Centre and with external partners</td>
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### Job Summary

- To ensure that all research activities undertaken are in compliance with the 'Research Code of Conduct' operated by the University

### Internal and External Relationships

The University of Leicester are leading on two of the studies: ANCO and RISTANCO. Both of these studies have external partners in London. Cambridge University lead on the METAHIT project; other partners are at London universities and Norway. Imperial College London lead on the CLUE project; other partners are at King’s College London. The projects are UK focused but will have international significance and therefore results will be presented at both UK and overseas conferences.

### Planning and Organising

You will be responsible for the day-to-day management and progress of the various project elements in relation to specified milestones and deliverables. Regular meetings will be held between the post-holder and Professor John Gulliver, which will sometimes involve Professor Anna Hansell (Centre Director and lead investigator on ANCO and RISTANCO); occasional meetings will be held, either in person or via Skype, with external project partners. You will be required to effectively manage your own time to deliver on the priorities of the post, and arrange meetings as required in order to respond to challenges and to facilitate progress.

### Qualifications, Knowledge and Experience

#### Essential

- A PhD (or equivalent experience) in environmental exposure science, GIS, environmental science, applied acoustics, or a relevant discipline*
- Experience of developing environmental noise models within or linked to spatial databases and/or GIS*
- Experience of analysing environmental data using statistical techniques*
- Experience of handling large and complex data sets on population and the environment
- Practical experience of using GIS software in an analytical context

#### Desirable

- A good understanding of the development and use of environmental exposure data in epidemiological analyses
- Experience in modifying and automating GIS processes with R, Python or related languages
- Experience of establishing parallel processing for models on high performance computers (HPC)
- Experience of protocol and report preparation
- Experience of preparation of manuscripts for scientific journals

### Skills, Abilities and Competencies

#### Essential

- An excellent command of computers, and common (e.g. MS Office) and specialist GIS (e.g. ArcGIS, QGIS, PostGIS) and statistical (e.g. R, STATA and/or SPSS) software packages*
- Excellent written and oral communication skills*
- Excellent organisational and time management skills
- Excellent interpersonal skills
Job Summary

- Ability to learn quickly in new areas of work
- Ability to work independently and as part of an international team
- High level of proficiency in English, sufficient to undertake research and administrative activities utilising English Language materials and to communicate effectively with staff and students

Desirable

- Project management experience
- Ability to take the initiative and be a self-starter

*Criteria to be used in shortlisting candidates for interview*

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.