University of Salford MANCHESTER

Job Description

Role Title: Postdoctoral Research Fellow in Psychoacoustics

School / Dept: School of Science, Engineering and Environment

Reference: MPF1020

Grade: Grade 7

Full or Part time: Full Time – 36 months Fixed Term

Hours: 36.25

Reports to: Professor in Acoustics Engineering and Psychoacoustics (Lead of IAM-CC project)

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Overview

This is an exciting post-doctoral opportunity to work on a highly innovative project to advance societal readiness towards adoption of Innovative Air Mobility (IAM).

You will be working on the project IAM-CC (A Competence Centre to assess and advance societal readiness towards adoption of Innovative Air Mobility solutions to increase social welfare), funded by the European Commission. The key outputs of IAM-CC include the IAM Societal Readiness Assessment and Analysis, the IAM Impact Quantification platform, immersive VR/AR tools for public engagement, and a Recommendation System that supports replicable, context-sensitive IAM deployment. These innovations will deliver a step-change in how societal readiness is assessed—moving from abstract acceptance surveys to dynamic, city-validated tools and living datasets, enabling a new generation of evidence-based, inclusive IAM planning.

The role will focus on the development of psychoacoustic research for the development of tools and methods to assess the impact of IAM noise on communities, and also to work on the elaboration of recommendations to prevent noise to become a barrier preventing wider adoption of IAM solutions. The role will require an excellent understanding of psychoacoustic methods, and previous experience on IAM noise.

The contract is fixed term for 36 months, although possibilities for extending will be explored during the tenure of the role depending on research income.

The Salford's Acoustics Research Centre is one of the largest acoustics groups in Europe. The Acoustics Research Centre has state-of-the-art equipment and facilities to conduct psychoacoustics research. This includes a series of listening rooms designed for specialised critical listening, with acoustic treatment to ensure compliance with ITU standards. These listening rooms are optimised for listening tests on loudspeakers to BS 6840-13 / IEC 268-13, and is equipped with state-of-the-art multi-channel spatial audio systems such as ITU standard layouts and Ambisonic reproduction setups, and augmented and virtual reality systems.

The lead academic supervisor Prof. Antonio Torija Martinez is a leading expert in psychoacoustic methods for novel aerial vehicles. He is also a member of the NASA Urban Air Mobility (UAM) Noise Working Group, and an expert contributor to the NASA white paper on UAM noise.

This work was funded by the European Commission, grant number 101271620.

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Role Purpose

The role is for a postdoctoral research fellow to carry out psychoacoustic research for the IAM-CC project

Specific objectives are to:

- Expand VR capabilities at Salford to develop a Vertiport environment simulation tool.
- Develop an Augmented Reality tool to assess impact of IAM noise.
- Carry out psychoacoustic studies using VR/AR methods.
- Collect and analyse acoustic and sound perception data during field studies.
- Validate and refine psychoacoustic models for the assessment and perceptual modelling of IAM noise.

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Principal Duties & Responsibilities

You will work carrying out research within an already defined project plan in the IAM-CC project, which includes:

- Coordinate with consortium partners for noise / psychoacoustic related research.
- Assist the PI at Salford in the leadership of WP10 - A glimpse into the future: social experiments using VR, AR and large-scale simulations.

In order to support your career development, you will be involved in leadership and management activities.

Specific responsibilities are:

- Conduct research following the project plan, and produce deliverables according to set deadlines;
- Lead research, under the supervision of the PI;
- Liaise with the PI and other members of the project team to report progress and steer the project;
- Liaise with project partners to maximise impact of the research;
- Disseminate research outputs both in peer-reviewed journals and national/international conferences;
- Participate in ongoing research activities in collaboration with the PI and other members of the research team;
- Respect the highly confidential nature of the material and ensure confidentiality;
- Perform any other duties appropriate to the grade as may be required by the College Registrar/Head of School/Head of Acoustic Research Centre/Line Manager;
- Comply with the personal health and safety responsibilities specified in the University Health and Safety policy;
- Engage with the University's commitment to deliver value for money services that optimise the use of resources by maintaining a cost-conscious approach when undertaking all duties and aspects of the role;
- Promote equality and diversity for students and staff and sustain an inclusive and supportive study and work environment in accordance with University policy;

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This role detail is a guide to the work you will initially be required to undertake. It may be changed from time to time to meet changing circumstances. It does not form part of your Contract of Employment.

Person specification follows on next page

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Person Specification

The successful candidate should demonstrate the following, which are ‘Essential’ (E) or ‘Desirable’ (D), and will be assessed by Application Form (A), Interview (I), Presentation (P), or Test (T), as indicated.

Qualifications

1. A Degree or Masters in acoustics, engineering, or physics (E) (A)
2. A PhD in Acoustics or a related discipline, or be close to completing one (i.e. realistic and demonstrable likelihood of thesis submission in 2026) (E) (A)
3. Member (or eligible to become a member) of the Institute of Acoustics (IoA), the Audio Engineering Society (AES), or related professional body (D) (A)

Background and Experience

4. Experience of conducting high-quality research in acoustic and/or psychoacoustics (E) (A) (I)
5. Track record on experimental methods / design of psychoacoustic experiments (E) (A) (I)
6. Experience of conducting studies on human response to sound (E) (A) (I)
7. Experience of psychoacoustic modelling (E) (A) (I)
8. Experience of VR technologies and their application for psychoacoustic experiments (E) (I)
9. Experience of publishing research in peer-reviewed journals (D) (I)
10. Experience of fieldwork in acoustics (D) (I)

Knowledge

11. In-depth knowledge of acoustic measurements and/or signal processing techniques (E) (A) (I) (P)
12. Detailed knowledge of experimental methods to investigate sound perception (E) (A) (I) (P)
13. Knowledge of psychoacoustics / psychoacoustic methods (E) (A) (I) (P)
14. Knowledge of drone noise emission and perception (E) (I) (P)
15. Excellent coding skills (E) (I)
16. Detailed knowledge of statistics (D) (I)

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Skills and Competencies

17. Proficiency in written and spoken English and excellent communication skills with the ability to present information clearly and conduct in-depth technical discussions with colleagues and project partners (E) (A) (I) (P)

18. Ability to work under pressure and deliver according to set timescales (E) (I)

19. Ability to manage multiple tasks, to prioritise and meet deadlines (E) (I)

20. Ability to efficiently work in teams, and liaise with project partners (E) (A) (I)

21. Ability to being proactive and lead research (D) (I)

22. Ability to lead junior researchers (D) (I)

23. Willingness to learn new methods and techniques and expand their own research area (E) (I)