IMPERIAL COLLEGE LONDON

**JOB DESCRIPTION**

**Job Title** Research Associate

**Department** Department of Electrical and Electronic Engineering, Communications and Signal Processing Research Group

**Faculty** Faculty of Engineering

**Job Family/Level** Academic and Research, Level B

**Contract** Full time, fixed term for 24 months

**Location** South Kensington Campus

**Responsible to** Mr Mike Brookes & Dr Patrick A. Naylor

**The Purpose of the Post**

To conduct original research for an EPSRC-sponsored project on binaural speech enhancement for hearing aids. The project is concerned with the development of robust binaural enhancement algorithms that are able to improve speech intelligibility for hearing aid users.

**Key Working Relationships**

The successful applicant will work principally under the direction of Mr Mike Brookes & Dr Patrick A. Naylor but will also work closely with other members of the project team including collaborators in Speech Hearing & Phonetic Sciences at University College London.

**Key Responsibilities**

* To undertake original research
* To plan and carry out research in accordance with the project aims and timeframes.
* To participate in project meetings, seminars, and be prepared to give seminars, and attend relevant workshops and conferences.
* To present research in conferences, open days and to departmental visitors
* To write progress reports and prepare results for publication and dissemination via journals, presentations and the web.
* To co-operate with and/or co-supervise research students working on topics related to the project.
* To liaise with other members of the project team and co-operate with them for the benefit of the project objectives.
* To help maintain the laboratory environment
* To develop a sound understanding of ethical and health and safety regulations, and the responsibilities of themselves and their colleagues.
* To undertake any necessary training and/or development.
* Any other duties commensurate with the grade of the post as directed by the line manager / supervisor.

***To observe and comply with all College policies and regulations, including the key policies and procedures on Confidentiality, Conflict of Interest, Data Protection, Equal Opportunities, Financial Regulations, Health and Safety, Imperial Expectations (for new leaders, managers and supervisors), Information Technology, Private Engagements and Register of Interests, and Smoking.***

***To undertake specific safety responsibilities relevant to individual roles, as set out on the College Website Health and Safety Structure and Responsibilities page* (**[*http://www3.imperial.ac.uk/safety/policies/organisationandarrangements*](http://www3.imperial.ac.uk/safety/policies/organisationandarrangements)**).**

***Job descriptions cannot be exhaustive and the post-holder may be required to undertake other duties, which are broadly in line with the above key responsibilities.***

***Imperial College is committed to equality of opportunity and to eliminating discrimination. All employees are expected to adhere to the principles set out in its Equal Opportunities in Employment Policy, Promoting Race Equality Policy and all other relevant guidance/practice frameworks.***

**PERSON SPECIFICATION**

**Applicants are required to demonstrate that they possess the following attributes.**

[**Imperial Expectations**](http://www3.imperial.ac.uk/hr/procedures/support/opportunities/expectations)

These are the 7 principles that Imperial leaders, managers and supervisors are expected to follow:

1. Champion a positive approach to change and opportunity
2. Communicate regularly and effectively within, and across, teams
3. Consider the thoughts and expectations of others
4. Deliver positive outcomes
5. Encourage inclusive participation and eliminate discrimination
6. Support and develop staff to optimise talent
7. Work in a planned and managed way

**Eligibility**

You must already have, or be close to completing, a doctoral degree (or have at least four years of full-time equivalent research experience) in signal processing or a related area and a good first degree (or equivalent experience and/or qualifications) in Engineering, Physics, Mathematics or Computer Science. You must have a background in the processing of speech or other acoustic signals.

**Education and Qualifications**

* PhD or equivalent experience and/or qualifications in signal processing with specific relevance to the processing of speech or other acoustic signals.
* First degree and/or masters-level qualification (or equivalent experience and/or qualifications) in a relevant science or engineering topic.

**Knowledge and Experience**

* In-depth knowledge of signal processing algorithms and practices for study and exploitation of sound and acoustics in the context of hearing aid technology.
* In-depth knowledge of research methods and statistical procedures
* Signal processing knowledge to an advanced level.
* Mathematical knowledge relevant to acoustic signal processing.
* Knowledge of procedures and practices for authoring academic publications.
* Knowledge of speech enhancement techniques is highly desirable.

**Skills and Abilities**

**Essential**

* Proven ability to deliver publication-quality research in signal processing.
* Successful track record of generating novel research outputs.
* Proven skill in setting up simulation experiments involving sound and acoustics and speech signal processing algorithms and in evaluating their outcomes.
* Adept in programming signal processing algorithms in Matlab and/or C, C++.
* Adept in formulating technical reports using LaTeX and other relevant tools.
* Proven ability to work towards research goals in the face of technical challenges.
* Proven ability to work to deadlines to deliver research outputs in the form of presentations, reports and, where appropriate, demonstrations.
* Ability to communicate with scientists and researchers from a variety of disciplines.
* Good mathematical ability.
* Ability to relate to other researchers and students in an academic context, to learn and teach new skills.
* Ability to organise own work with minimal supervision.
* Ability to prioritise own work in response to deadlines.

**Desirable**

* Ability to exercise initiative in formulating and executing work plans.
* Experience of making effective technical presentations and poster presentations.

**Personal Attributes**

* Willingness to undertake any necessary training for the role.
* Willingness to work as part of a team and to be open-minded and cooperative.
* Willingness to travel both within the United Kingdom and abroad to conduct research and attend meetings and conferences.
* An open, flexible and positive approach to working in a constantly changing environment.