### Purpose of the Post

These posts are funded by a major Bill & Melinda Gates Foundation grant to develop a passive dietary monitoring system for both adults and children living in Low and Middle-Income Countries (LMICs) which will accurately report food and nutritional intake. In particular, through integrating wearable and fixed cameras together with pervasive sensors, the monitoring system will detect and capture eating episodes, classify food types from the camera images, estimate the ingestion volume and deduce the nutrient intake of the individual. The system will be validated in rural and urban settings in two African countries (Kenya and Ghana).

The RA will carry out research programmes in Computer vision and pervasive sensing to develop an Innovative Passive Dietary Monitoring System. In addition, at Research Associate level, the researchers will be expected to submit publications to refereed journals and to attract external research funding.

### Main Duties:

- Characterisation of computer vision and pervasive sensing to identify and develop suitable techniques, and apparatus, for the collection and analysis of data
- To assist with the analysis of data
- To ensure the validity and reliability of data at all times
- To maintain accurate and complete records of all findings
- To assist with the writing of reports to research sponsors
- To present findings to colleagues
- To provide advice to other staff and students
- To assist with the publication of findings
- To attend relevant workshops and conferences as necessary
- To develop contacts within the College and the wider community
- To promote the reputation of the Group, the Department and the College

In addition, at Research Associate level:

- To take initiatives in the planning of research
- To direct the work of small research teams
- To write reports for submission to research sponsors
- To submit publications to refereed journals
- To provide guidance to staff and students
Job Description

- To provide guidance to PhD Students
- Contribute to bids for research grants
- To conduct and plan own scientific work with appropriate supervision.
- To maintain highly organised and accurate record of experimental Work.
- To actively participate in the research programme of the Group
- To publish in high quality journals and to present data at national and international meetings.
- To participate in Group research meetings and internal seminars.
- To collaborate with other allied scientists within Imperial College and elsewhere in London and abroad, as appropriate.
- To contribute to the smooth running of the Group’s laboratories and, facilities with other scientists, clinicians, technicians and students within the laboratories.
- Assist in the supervision of undergraduate and postgraduate research students and research assistants as required.

Where Imperial or funder conditions necessitate, you will be required to complete timesheets for your work on projects in a timely manner.

Other Duties

- To undertake any necessary training and/or development
- To undertake appropriate administration tasks
- To attend relevant meetings
- To observe and comply with all College policies and regulations, including the key policies and procedures on Confidentiality, Conflict of Interest, Business Continuity, Data Protection, Equal Opportunities, Ethics related, External Interests, Financial Regulations, Health and Safety, Imperial Expectations (for new leaders, managers and supervisors), Information Technology, and Smoking.
- To undertake specific safety responsibilities relevant to individual roles, as set out on the College Health and Safety Structure and Responsibilities web page: [www.imperial.ac.uk/safety/policies/organisationandarrangements](http://www.imperial.ac.uk/safety/policies/organisationandarrangements).
- To undertake Business Continuity responsibilities relevant to individual roles
Job Description

**Person Specification**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Essential (E)/ Desirable (D)</th>
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<tbody>
<tr>
<td>Candidates/post holders will be expected to demonstrate the following</td>
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<tr>
<td><strong>Education</strong></td>
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<tr>
<td>At Research Assistant level: A Master’s degree (or equivalent) in Electronic Engineering, Computer Science, Biomedical Engineering or a related discipline.</td>
<td>E</td>
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<tr>
<td>At Research Associate level: A PhD (or equivalent) in Electronic Engineering, Computer Science, Biomedical Engineering or a closely related discipline, or equivalent research, industrial or commercial experience</td>
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<td><strong>Experience</strong></td>
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<td>Practical experience within a research environment and / or publication in relevant and refereed journals</td>
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<tr>
<td>A proven research record and publications in relevant areas</td>
<td>D</td>
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<td>Considerable experience in interdisciplinary research and managing large collaborative research projects.</td>
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<tr>
<td><strong>Knowledge</strong></td>
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<tr>
<td>Knowledge of Computer Vision; Artificial Intelligence and Machine Learning; Audio signal processing; Wearable and pervasive sensing; Technology translation; Testing and validation and conducting human studies.</td>
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<td>Knowledge of research methods and statistical procedures</td>
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<td><strong>Skills &amp; Abilities</strong></td>
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<td>Ability to conduct a detailed review of recent literature</td>
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<td>Ability to develop and apply new concepts</td>
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<td>Creative approach to problem-solving</td>
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<td>Excellent verbal communication skills and the ability to deal with a wide range of people</td>
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<td>Excellent written communication skills and the ability to write clearly and succinctly for publication</td>
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<td>Ability to organise own work with minimal supervision</td>
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<td>Ability to prioritise own work in response to deadlines</td>
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<td>Advanced computer skills, including word-processing, spreadsheets and the Internet</td>
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<td>Ability to direct the work of a small research team and motivate others to produce a high standard of work</td>
<td>E (Associate)</td>
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<td><strong>Other</strong></td>
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<td>Willingness to work as part of a team and to be open-minded and cooperative</td>
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<td>Flexible attitude towards work</td>
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<td>Discipline and regard for confidentiality and security at all times</td>
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<td>Willingness to undertake any necessary training for the role</td>
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<td>Willingness to travel both within the United Kingdom and abroad to conduct research and attend conferences</td>
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<td>Willingness to work out of normal working hours (including weekends) if the requirements of the project demand</td>
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</table>

Please note that 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 follow the [7 Imperial Expectations](#) detailed below:

1. Champion a positive approach to change and opportunity
Job Description

2) Encourage inclusive participation and eliminate discrimination
3) Communicate regularly and effectively within and across teams
4) Consider the thoughts and expectations of others
5) Deliver positive outcomes
6) Develop and grow skills and expertise
7) Work in a planned and managed way

Employees are also required to comply with all College policies and regulations paying special attention to:

- Confidentiality
- Conflict of Interest
- Data Protection
- Equal Opportunities
- Financial Regulations
- Health and Safety
- Information Technology
- Private Engagements and Register of Interests
- Smoking
- Confidentiality
- Conflict of Interest
- Data Protection
- Equal Opportunities
- Financial Regulations
- Health and Safety
- Information Technology
- Private Engagements and Register of Interests
- Smoking

They must also undertake specific training and assume responsibility for safety relevant to specific roles, as set out on the College Website Health and Safety Structure and Responsibilities page.

The College is a proud signatory to the San-Francisco Declaration on Research Assessment (DORA), which means that in hiring and promotion decisions, we evaluate applicants on the quality of their work, not the journal impact factor where it is published. For more information, see https://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-evaluation/

The College believes that the use of animals in research is vital to improve human and animal health and welfare. Animals may only be used in research programmes where their use is shown to be necessary for developing new treatments and making medical advances. Imperial is committed to ensuring that, in cases where this research is deemed essential, all animals in the College’s care are treated with full respect, and that all staff involved with this work show due consideration at every level.
http://www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-integrity/animal-research/

Committed to equality and valuing diversity, we are an Athena SWAN Silver Award winner, a Stonewall Diversity Champion, a Disability Confident Employer and work in partnership with GIRES to promote respect for trans people.