

**Job Description: Research Officer on the EPSRC Funded GENERATION Project**

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| **Faculty:** | ***FSE*** |
| **Department/Subject:** | ***Computer Science*** |
| **Salary:** | **£38,205 to £** **44,263 per annum together with USS pension benefits** |
| **Hours of work:** | ***Full Time*** |
| **Number of positions:** | ***1*** |
| **Contract:** | **This is a fixed term position for up to 18 months duration (starting August 2024)** |
| **Location:** | **This position will be based at the Bay Campus** |

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| **Introduction** | Interconnected technologies, sometimes referred to as the internet-of-things (IoT) are now ubiquitous in society. The energy consumption of such devices is predicted to be over 1100 TWh yr-1 by 2025 and it has been recognised that smart solutions, such as energy harvesting, need to be developed, to make the operation of such devices more sustainable. Light, having the highest power density of any ambient energy source, can be exploited using photovoltaics, designed with specialist materials to extract as much energy as possible from ambient light sources. The rate of adoption of IoT technologies has been extraordinarily rapid. This favours affluent early adopters of such technologies but could leave certain marginalised and excluded groups (e.g. older persons and those in poverty) behind. GENERATION assembles a multidisciplinary team of Materials Chemists, Electronic Engineers, Human Computer Interaction experts and Social Scientists, to design, build, and evaluate; sustainable, self-powered interactive technologies, specifically with older persons in mind, so that they are not excluded from the digital future, and not lost in the digital divide. The work will challenge the multidisciplinary team in new ways. Materials Scientists and Engineers rarely have the opportunity to consider first-hand, the social consequences of the technologies they develop, or how those technologies could benefit a marginalised population. Social Scientists and Human Computer Interaction experts will have the opportunity to design and evaluate, the most cutting edge of self-powered IoT technologies. The technologies will be developed via a series of community co-design workshops run with a diverse cohort of older people. The devices will be built by our team of engineers and scientists and will be evaluated in the Swansea University AWEN Institute Living Laboratory, a space dedicated to co-producing products, services and environments for an increasing older population, as well as in SPECIFIC-IKC's "buildings as power stations", buildings which generate and store their own energy. In addition to the inclusive, self-powered, digital technologies developed, our findings from the community co-design and evaluation workshops will be summarised in a report made freely available to third sector organisations and governmental and non-governmental bodies to inform and make recommendations on reducing the digital divide for an ageing population. |
| **Background information**  | The Computational Foundry is a £32.5 million world-class facility and a beacon for research collaborations. It ‌is backed by £17m from the *European Regional Development Fund* and drives research into computational and mathematical sciences, making Wales a global destination for computational scientists and industrial partners. Our community of computational and mathematical scientists pursue transformative research and believe that better computational science is vital in building a progressive world.The Foundry facilitates cross-discipline research, working with a ‘wider’ computational science community, encompassing academics from other disciplines within the University where academic interests overlap. The Computational Foundry is a place where industry partners can work with us, test new ideas, people from all disciplines can link up on research collaborations, and where the digital innovators of tomorrow are completing their studies.In this project, the successful candidate will work with chemists, material scientists, engineers and social scientist. |
| **Main Purpose of Post:**  | 1. Design and carry out participatory and co-creation work with older adults and other user types.
2. Design, build, evaluate and deploy hardware and software prototypes.
3. Provide human-centred perspectives to material, chemical ang engineering science innovations.
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|  | 1. Pro-actively contribute to and conduct research, including gather, prepare and analyse data and present results, exhibiting a degree of independence in terms of specifying the focus and direction of that research.
2. Prepare reports, draft patents and papers describing the results of the research, both confidential and for publication. The appointee is expected to be actively engaged in the writing and publishing of research papers, particularly those intended for publication in refereed (eg international) journals or comparable as a normal part of their role.
3. Be self-motivated, apply and use their initiative, aiming to determine suitable ways to tackle challenges and seeking guidance when needed
4. Use creativity to analyse and interpret research data and draw conclusions on the outcomes
5. Interact positively and professionally with other collaborators and partners within the Faculty, elsewhere in the University and beyond both in industry/commerce and academia.
6. Contribute pro-actively to the development of external funding applications to support their own work, that of others and the Faculty and the Institution in general. The appointee will be expected as a normal part of their work to be actively engaged in writing, or contributing to writing such applications.
7. Contribute to Faculty organisational matters in order to help it run smoothly and to help raise its external research profile.
8. Keep informed of developments in the field in both technical and specific terms and the wider subject area and the implication for commercial applications and the knowledge economy or academia.
9. When requested act as a representative or member of committees, using the opportunity to extend their own professional experience.
10. Demonstrate and evidence own professional development, identifying development needs with reference to Vitae Researcher Development Framework particularly with regard to probation, performance reviews, and participation in training events.
11. Maintain and enhance links with the professional institutions and other related bodies.
12. Observe best-practice protocols in maintenance and retention of research records as indicated by HEI and Research Councils records management guidance.  This includes ensuring project log-book records are deposited with the University/Principal Investigator on completion of the work
13. To promote equality and diversity in working practices and maintain positive working relationships
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| **General Duties** | 1. To promote equality and diversity in working practices and maintain positive working relationships
2. To conduct the job role and all activities in accordance with safety, health and sustainability policies and management systems, in order to reduce risks and impacts arising from the work activity
3. To ensure that risk management is an integral part of any decision-making process, by ensuring compliance with the University’s Risk Management Policy.
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| **Person Specification** | **Essential criteria:** 1. A PhD in Human Computer Interaction.
2. Evidence of active engagement, personal role, and contribution to writing and publishing research papers, particularly for refereed journals.
3. Evidence of the capacity for active engagement in designing research and writing, or contributing to writing, applications for external research funding.
4. Ability to demonstrate significant independence of focus and direction in research – determining ’what, why, when and with whom' to progress work.
5. Evidence of the ability to design and conduct participatory design workshops.
6. Evidence of system prototyping.
7. Evidence of effective working in diverse team environments.
8. Evidence of developing and deploying prototypes in challenging context for longitudinal use.
9. A commitment to continuous professional development

**Welsh Language:** *(Delete as applicable)*Level 1 – ‘a little’ (you do not need to be able to speak any welsh to apply for this role)*e.g. pronounce Welsh words, place names, department names. Able to answer the phone in Welsh (good morning / afternoon). Able to use of learn very basic every-day words and phrases (thank you, please, excuse me). Level 1 can be reached by completing a one-hour training course.*For more information about the Welsh Language Levels please refer to the Welsh Language Skills Assessment web page, which is available [here](https://www.swansea.ac.uk/welsh-language-standards/compliance/recruitment/).**Desirable Criteria**1. Experience of public communication and outreach including through web site design and development.
2. Experience of supervising undergraduate or postgraduate student projects
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| **Additional Information** |  |

  