

Job Description

Job title	Research Associate
Department/School	Bath Institute for the Augmented Human
Job family	Education and Research
Grade	7
Salary	£37,099 to £44,263
Working arrangement	Fixed term for 3 years @ 1.0 FTE (2 posts available)
Reporting to	Director, Bath Institute for the Augmented Human
Responsible for	There may be a requirement for day to day supervision of other staff e.g., technical staff or co-supervision of doctoral or undergraduate students.
Location	University of Bath campus (Claverton Down or Bath City sites). Applicants may be required to work flexible hours and to travel within the UK and overseas as required.

Background and context



The Bath Institute for the Augmented Human (IAH) is the University's newest research Institute, established in 2023, as an innovative and agile leader in Human Augmentation R&D in the UK and Internationally.

Our opportunity

Human augmentation is the use of science and technology to enhance physical and cognitive performance. It has the potential to transform every aspect of our lives. It can enable humans to transcend our biological limitations, improve our health and wellbeing, and extend our lifespans.

The speed at which advanced innovations in this field are developing is rapid. The opportunities to bring multiple new human-machine interfacing technologies together are immense and it is very important for the UK to lead innovation in human augmentation and capitalise on these opportunities. There is an opportunity to help humans across the whole spectrum of their lives, not just physically and mentally, but supporting the way we live and work on a day-to-day basis. Human augmentation is expected to lead to many beneficial social and economic impacts.

Our response

The Bath Institute for the Augmented Human aims to be a leading institute nationally and globally, driving responsible, cutting-edge research and trialling and deploying human augmentation technologies that can impact broadly. Our vision is a complete multidisciplinary training and innovation ecosystem that revolutionises the way that humans' interface, interact, improve, and evolve with technology. The Institute will be a unique body of interdisciplinary research focusing on research excellence and addressing the global need for new tools and technologies for augmenting the human and developing researchers that have the skills to develop, trial, regulate and deploy human augmentation technologies.

We will work together – along with industry partners, patient groups and others – to find new and imaginative ways to integrate machines with our bodies and minds. Our end goal is to push the limits of our natural capabilities – improving quality of life and benefiting humanity. We'll also be taking a leading role in devising rules that ensure no harm is done by the tech developed in this field. We want to guarantee Human Augmentation technology is deployed both safely and ethically. The Bath Institute for the Augmented Human has been founded to accelerate technological developments and help the UK prepare for the growing impact of direct human-to-machine interactions.

Our focus

The **Bath Institute for the Augmented Human** will establish pathways to impact with minimum barriers, achieving impact across multiple sectors. Responsible research addressing societal, legal, and ethical considerations will be at the core of the institute. The Institute is founded on the following Mission, Vision, and Values:

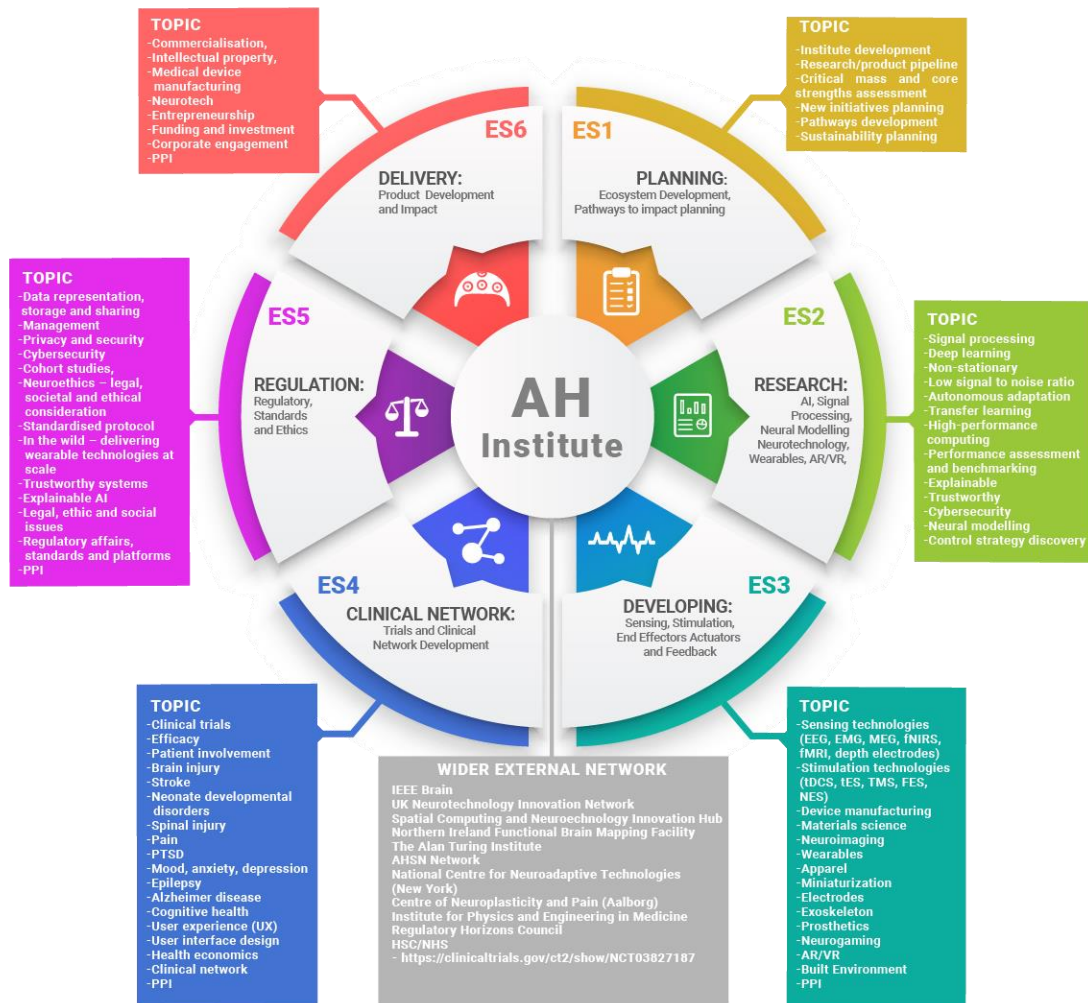
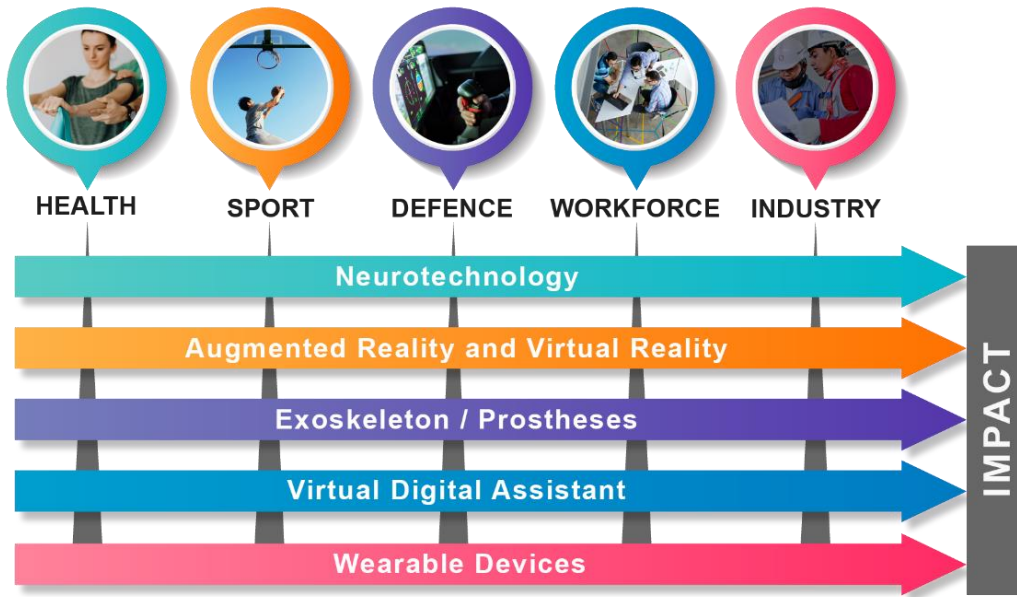
Mission – To leverage technology for the advancement of human health, wellbeing, and performance.

Vision – To establish a world-leading multidisciplinary training and innovation ecosystem that revolutionises the way that humans interface, interact, improve and evolve with technology.

Values -

1. **Trusted** – The leading voice in the development and deployment of human augmentation.
2. **Inclusive** – Enabling a diverse, interdisciplinary, collaborative, and inclusive community.
3. **Impactful** – Embedding co-creation to deliver impact through innovation.

The figures below provide a high-level overview of the main application domains and underpinning human augmentation technologies we aim to focus on along with an outline of the innovation ecosystem.



Job purpose

The Bath Institute for the Augmented Human Research Associate will have significant responsibility for assisting in delivering the strategy of the Institute on a day-to-day basis, supporting research teams across five key thematic areas and maintaining alignment to the Institute's long-term vision.

The Research Associate will collaborate with the Academic Directors, the Institute Manager, and with administrative and technical support staff associated with the Institute.

The post-holder will be required to work closely with Institute members and thematic leads in any of the areas listed below as required. The postholder should have specialist experience in one or more of these areas but have the background and skills to support research across the areas.

- **Neurotechnology:** This involves interfacing with the human nervous system to both monitor and influence brain activity. In an integrated system, neurotechnology can be used to interpret user intentions or emotional states directly from brain signals. This data can guide the behaviour of other system components.
- **Virtual/Augmented Reality (AR):** AR overlays digital information onto the physical world, which can be seen through devices like AR glasses or headsets. In combination with neurotechnology, AR can display information that is contextually relevant to what the user is thinking or feeling, enhancing decision-making and situational awareness.
- **Wearables:** These are smart electronic devices worn on the body. In this system, wearables can track health metrics like heart rate or physical activity, provide haptic feedback, and augment the capabilities of AR and neurotechnology by offering additional data sources or control interfaces.
- **Virtual Digital Assistants (VDAs):** These are AI-driven tools that can understand and respond to natural language. Integrated with the other technologies, a VDA can offer hands-free operation and personalized assistance based on the user's mental state, environment, and activity as detected by neurotechnology, AR, and wearables.
- **Exoskeletons/Prosthetics:** These are wearable devices that enhance physical strength and endurance. When combined with insights from neurotechnology, AR, and wearables, an exoskeleton can be precisely controlled based on the user's intentions and physical needs, providing support exactly when and where needed.

The Research Associate will contribute to and participate in cohesive and performance driven teams which include academic staff, technical support team (software and electronics engineer and technicians), PhD researchers and other post-doctoral

researchers within the IAH, ensuring team members with thematic areas are supported to achieve the successful delivery of shared goals across the Institute.

The Research Associate is line managed by the Director of the Institute. They will have considerable autonomy and will be expected to show substantial personal initiative.

Main duties and responsibilities

1	Responsible to the PI/CI for (as appropriate to discipline):
2	Conduct individual and/or collaborative research projects. Contribute to the design and execution of the project e.g. timetabling and meeting project milestones; participating in regular discussions with collaborative partners. Generate, collect and analyse existing data related to the project using qualitative and/or quantitative techniques.
3	Writing up results of research and contributing to the publication of results in high-quality peer-reviewed academic literature.
4	Disseminating results of research project as appropriate to the discipline through activities such as <ul style="list-style-type: none"> • overseas research visits • conference presentations • public engagement activities
5	Participate in departmental/group meetings and prepare and deliver presentations/seminars to project team, internal and external stakeholders or funders.
6	Assist with the supervision of postgraduate students and undergraduate project students and the assessment of student knowledge.
7	Continually update knowledge and understanding in field or specialism to inform research activity.
8	Identify sources of funding and provide assistance with preparing bids to funding bodies. Develop ability to secure own funding e.g. travel grants.
9	Contribute to the development of research objectives and proposals for own or joint research projects, with assistance of a mentor, if required.
10	Disseminate knowledge of research advances to inform departmental teaching.

You will from time to time be required to undertake other duties of a similar nature as reasonably required by your line manager. You are required to follow all University policies and procedures at all times and take account of University guidance.

Person Specification

Criteria	Essential	Desirable
Qualifications and Training		
A PhD ⁱ degree in subject area of direct relevance for the Institute, or equivalent significant relevant experience and professional qualification.	√	
Knowledge and Experience		
Post doctoral experience.		√
Demonstrated significant depth and breadth of specialist knowledge of subject matter to contribute to research programmes and to the development of departmental research activities.	√	
Demonstrated awareness of latest developments in the field of research and in research design.	√	
Demonstrated potential to publish in high quality, peer reviewed journals.	√	
Skills		
Ability to prepare research proposals, to conduct individual research work and to disseminate results.	√	
Ability to organise and prioritise own workload to meet required deadlines.	√	
Ability to write research reports and to effectively disseminate outcomes.	√	
Excellent oral, interpersonal and written communication skills.	√	
Proficiency in research techniques (as appropriate to discipline).	√	
Proficiency in IT skills (as appropriate to discipline).	√	
Skills		

Commitment to working within professional and ethical codes of conduct.	√	
Innovation and developing creative solutions.	√	
Commitment to excellence in research.	√	

ⁱ If you have not yet been awarded your PhD, you will need to have submitted your thesis; passed your viva (with or without minor corrections) and receive confirmation of your PhD award within 6 months of appointment.