Job Description

Job title	Institute for the Augmented Human Trials Manager
Department/School	Bath Institute for the Augmented Human
Job family	Education and Research
Grade	7
Salary	£37,099 to £44,360 Pro Rata, depending on experience
Working arrangement	Fixed term for 3 years, with the possibility of extension to the end of the funding period, @ 0.5 FTE
Reporting to	Institute Manager, Institute Director
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

Bath Institute for the Augmented Human

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.

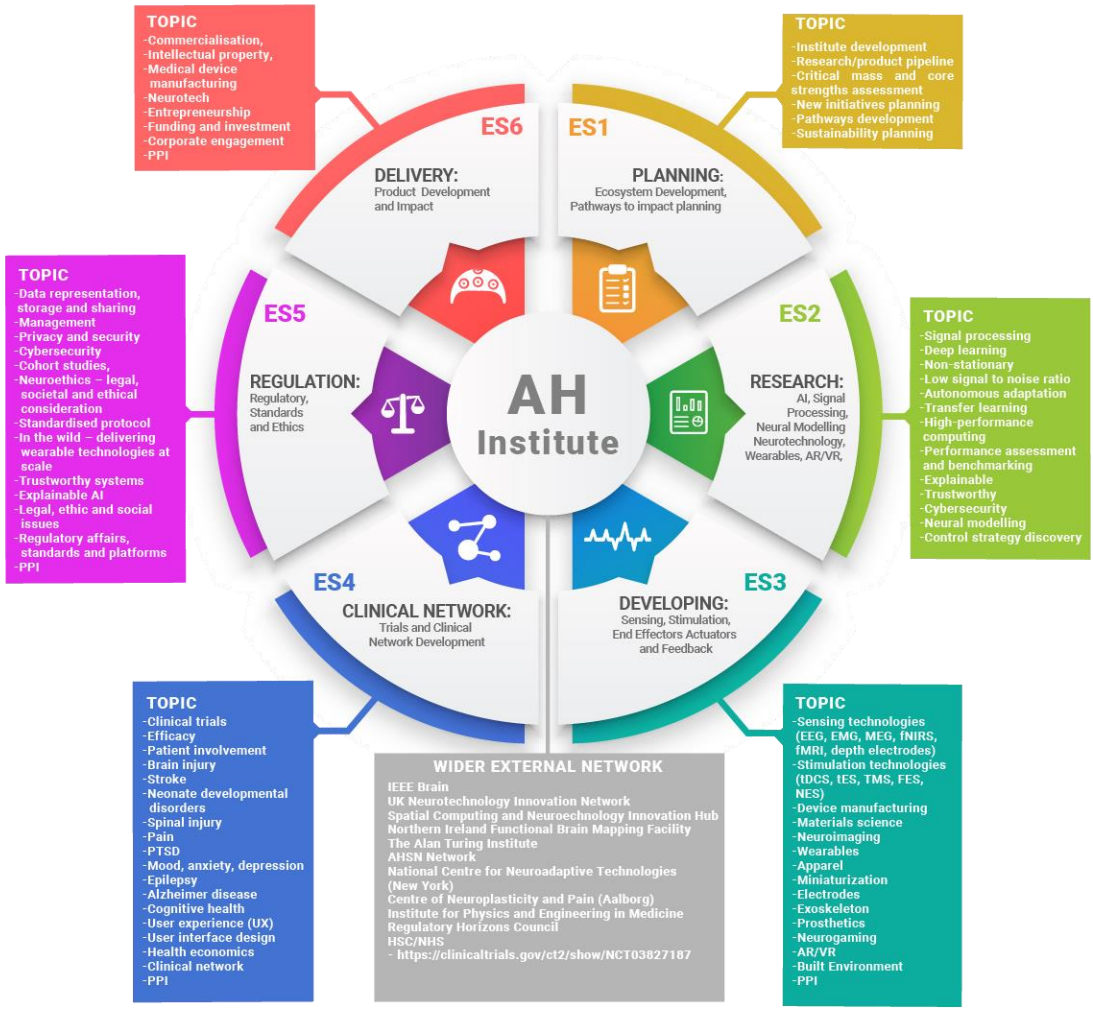
Vision – To establish a world-leading multidisciplinary training and innovation ecosystem that revolutionises the way that humans interface, interact, improve and evolve with technology.

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.


HEALTH
SPORT
DEFENCE
WORKFORCE
INDUSTRY
Neurotechnology
Augmented Reality and Virtual Reality
Exoskeleton / Prostheses
Virtual Digital Assistant
Wearable Devices
IMPACT


TOPIC
-Commercialisation,
-Intellectual property,
-Medical device manufacturing
-Neurotech
-Entrepreneurship
-Funding and investment
-Corporate engagement
-PPI
ES6
DELIVERY:
Product Development and Impact
ES1
PLANNING:
Ecosystem Development, Pathways to impact planning
TOPIC
-Institute development
-Research/product pipeline
-Critical mass and core strengths assessment
-New initiatives planning
-Pathways development
-Sustainability planning
TOPIC
-Data representation, storage and sharing
-Management
-Privacy and security
-Cybersecurity
-Cohort studies,
-Neuroethics – legal, societal and ethical consideration
-Standardised protocol
-In the wild – delivering wearable technologies at scale
-Trustworthy systems
-Explainable AI
-Legal, ethic and social issues
-Regulatory affairs, standards and platforms
-PPI
ES5
REGULATION:
Regulatory, Standards and Ethics
AH
Institute
ES2
RESEARCH:
AI, Signal Processing, Neural Modelling Neurotechnology, Wearables, AR/VR,
TOPIC
-Signal processing
-Deep learning
-Non-stationary
-Low signal to noise ratio
-Autonomous adaptation
-Transfer learning
-High-performance computing
-Performance assessment and benchmarking
-Explainable
-Trustworthy
-Cybersecurity
-Neural modelling
-Control strategy discovery
ES4
CLINICAL NETWORK:
Trials and Clinical Network Development
ES3
DEVELOPING:
Sensing, Stimulation, End Effectors Actuators and Feedback
TOPIC
-Clinical trials
-Efficacy
-Patient involvement
-Brain injury
-Stroke
-Neonate developmental disorders
-Spinal injury
-Pain
-PTSD
-Mood, anxiety, depression
-Epilepsy
-Alzheimer disease
-Cognitive health
-User experience (UX)
-User interface design
-Health economics
-Clinical network
-PPI
WIDER EXTERNAL NETWORK
IEEE Brain
UK Neurotechnology Innovation Network
Spatial Computing and Neuroechnology Innovation Hub
Northern Ireland Functional Brain Mapping Facility
The Alan Turing Institute
AHSN Network
National Centre for Neuroadaptive Technologies (New York)
Centre of Neuroplasticity and Pain (Aalborg)
Institute for Physics and Engineering in Medicine
Regulatory Horizons Council
HSC/NHS
- https://clinicaltrials.gov/ct2/show/NCT03827187
TOPIC
-Sensing technologies (EEG, EMG, MEG, fNIRS, fMRI, depth electrodes)
-Stimulation technologies (tDCS, tES, TMS, FES, NES)
-Device manufacturing
-Materials science
-Neuroimaging
-Wearables
-Apparel
-Miniaturization
-Electrodes
-Exoskeleton
-Prosthetics
-Neurogaming
-AR/VR
-Built Environment
-PPI

Job purpose

The IAH Research Trials Manager will be responsible for supporting Institute members in developing and delivering high quality trials which meet the requirements of Good Clinical Practice and all applicable standards and regulations. Trials will be conducted at the Bath Institute for the Augmented Human and at multiple partner sites (including NHS sites) across the UK, depending on the nature of the trial.

The post holder will be required to work closely with the Institute Manager and with research management experts within the University of Bath, to ensure the quality of study design and deployment. They will also be required to work closely with research participants and public and patient representatives, representatives of research ethics committees, regulators and monitors, and with any third-party organisations (such as Small to Medium Enterprises) who may be involved in specific trials. In addition, the post-holder will be expected to work collaboratively with local NHS organisations and with local, regional and national research support infrastructure (such as the NIHR Regional Research Delivery Networks) to enable trial completion on time and to target.

The postholder could be supporting trials across any of the following 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/Prostheses: 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.

For trials conducted off-site, the post will involve extensive travel to partner sites (including NHS sites) to train site teams in trial procedures, to support recruitment of participants and to find collaborative solutions to recruitment challenges.

The Research Trials Manager will enable the Institute members to build evidence for the efficacy, safety, value and acceptability of human augmentation technologies in improving various aspects of human physical or cognitive performance or wellbeing. They will have the opportunity to contribute to publishing papers in high impact journals and presenting the research to non-specialist and specialist audiences in different settings.

The post will involve extensive travel and may involve extended stays away from campus. The post-holder will be required to arrange their own travel and manage their travel expenses and will therefore require access to their own transport.

Main duties and responsibilities	
	Responsible to the PI/CI for (as appropriate to discipline):
1	Co-ordinating high quality trials involving human participants, in collaboration with other staff, in line with ICH-GCP (Good Clinical Practice) and all other applicable regulations and standards.
2	Organising and managing, and supporting academic colleagues to organise and manage, valid approvals for all studies from scientific, ethical, regulatory and governance review bodies. This will involve working effectively with the Institute Manager, with relevant experts at Bath and with the representatives of relevant review bodies (research ethics committees, MHRA).
3	Organising and managing, and supporting academic colleagues to organise and manage, the setup of trials in line with applicable standards and regulations, and ensuring that governance, financial, logistical and accessibility aspects are considered and planned for.
4	Manage schedules and interact with multiple academic, clinical and operational partners, families and carers in a range of settings (e.g. laboratory, NHS and social care settings).
5	Arranging travel and optimising schedules to ensure optimum use of funding.
6	Assist in the preparation of grant proposals to maximise the quality of recruitment plans for any studies of human augmentation technologies involving human participants.
7	Assist in the preparation of research study protocols, participant-facing information, standard operating procedures and data capture systems to ensure that recruitment strategies are fit for purpose.
8	Sharing best practice with other research staff within the IAH and contributing to improving the knowledge and skills base regarding study setup, study management patient and clinician engagement, and participant recruitment.
9	Work with the Institute Manager and relevant expertise within Bath to ensure that research study design and delivery plans are appropriately informed by PPIE.
10	Proctively maintain awareness of any risks in relation to trial delivery or participant recruitment, and escalate to the Institute Manager as appropriate in order to inform the IAH Risk Register and risk management plan.
11	Develop and maintain systematic internal (IAH) methods and tools for reporting study progress (including recruitment) to the IAH management board.

12	Undertake training as required (e.g. GCP), and train others in research protocols and activities relevant to specific studies.
13	Attend, present and exhibit at conferences/workshops and other relevant events as necessary.
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 higher degree in a relevant subject with at least 2 years' experience of trials management, OR equivalent relevant experience and professional qualification.	√	
Knowledge and Experience		
Experience in developing research collaborations with clinical partners.	√	
Experience in conducting research with human participants, analysing findings, summarising findings and presenting findings in written reports.	√	
Sound knowledge and understanding of Good Clinical Practice, GDPR and the UK Policy Framework for Health and Social Care Research.	√	
Experience in data acquisition from multiple subjects and handling large datasets.	√	
Experience in obtaining ethical approval for research.	√	
Experience in obtaining regulatory (MHRA) approval for research.		√
Excellent oral, interpersonal and written communication skills.	√	

Demonstrated ability to work unsupervised for long periods and to deliver results at a professional level.	√	
Proficiency in IT skills (as appropriate to discipline).	√	
Commitment to working within professional and ethical codes of conduct.	√	
Innovation and developing creative solutions.	√	
Commitment to excellence in research.	√	
Enthusiasm and self-motivation.	√	
Tenacity – working to achieve own and team objectives and to overcome obstacles.	√	
Ability to be an effective team worker.	√	
Commitment to safe working practices.	√	