

# KTP Associate: Virtual Reality for Vision Rehabilitation and Training

Department	Biomedical Engineering ( <a href="http://www.strath.ac.uk/engineering/biomedicalengineering/">www.strath.ac.uk/engineering/biomedicalengineering/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	KTP	Reference No	468329
Reports To	Philip Rowe (Academic Supervisor), Laura Walker (Company Supervisor)	Grade:	RS79
Salary Range:	32800	Contract Type:	Fixed Term (24 months)
FTE	1 (35 hours/week)	Closing Date	12/09/2022

## Job Advert

The Department of Biomedical Engineering, in partnership with Visibility Scotland ([visibilityscotland.org.uk](http://visibilityscotland.org.uk)), are seeking to appoint a Knowledge Transfer Partnership (KTP) Associate to lead the translation of virtual reality technologies into an integrated platform suitable for vision rehabilitation and training. The outcome of the KTP will be an affordable digital assessment and rehabilitation device and an accredited training programme, with the potential to be deployed globally.

Visibility Scotland helps and supports anyone, of any age, living with a visual impairment across Scotland. Their aim is to help people with sight loss to live independent and fulfilling lives.

In their Glasgow location, they provide a pioneering neurological sight loss training programme, which includes visual strategies and essential skills to increase independence in the home, when out and about, and in the workplace. Visibility Scotland's training programmes are holistic, aiming to increase confidence and build resilience.

The Sir Jules Thorn Centre for Co-Creation of Rehabilitation Technologies, at the Department of Biomedical Engineering of the University of Strathclyde, seeks to improve patients' lives by making rehabilitation technology accessible, by developing cutting edge technology through a co-creation approach with the rehabilitation community.

You will be employed by the University of Strathclyde, but will spend a progressively increasing amount of working time at Visibility Scotland's premises in Queen's Crescent, Glasgow. It is expected that you will follow Visibility Scotland's working calendar and practices.

The post is initially for 24 months but it is our aspiration that, on successful completion of the project, you will continue the work as a Visibility Scotland employee, initially for a year, funded by the RS Macdonald Charitable Trust ([www.rsmacdonald.com](http://www.rsmacdonald.com)) and, prospectively, on a long-term basis. This KTP offers an extensive opportunity to provide the link between an expert academic team and a dynamic organisation, with unique and exceptional access to both worlds.

Your post is part of the Knowledge Transfer Partnership (KTP) programme, that aims to help businesses improve their competitiveness and productivity through better use of knowledge, technology and skills that reside within the UK knowledge base. It is funded by UK Research and Innovation through Innovate UK, and is part of the government's Industrial Strategy.

To find out how KTP works and the vital role you will play if you successfully secure a KTP Associate position please visit [www.ktpws.org.uk](http://www.ktpws.org.uk).

The position offers you the following benefits:

- A challenging and rewarding job with responsibility.
- A planned programme of training courses, including a £4,000 personal development budget.
- Mentoring from experienced industrial and academic supervisors.
- The support and resources of the University of Strathclyde and of Visibility Scotland.
- The potential to implement strategic development, and a career within Visibility Scotland at the end of the scheme.

To be considered for the role you will hold a Masters degree related to product development, such as Biomedical Engineering, Product Design, or cognate disciplines, with a background skillset or clear interest centred on blending user needs with business goals through integration of product development activities, whether initially self-delivered or, more prospectively, delivered through a supply chain.

The desired skill set points to a professional figure coming from the product design / engineering community, possibly with some prior knowledge of user interface design and/or virtual reality, or with an appropriate background knowledge to allow acquiring this through a reasonable amount of training. You must enjoy working with people, being empathetic and supportive. It is estimated that you will work in partnership with over 100 stroke survivors within the first 24 months.

## Job Description

### Brief Outline of Job:

Supported by the academic team at the University of Strathclyde, you will interact efficiently with engineers, healthcare professionals, Visibility Scotland governance, and business development. For this reason, you will need documentable skills in working within highly multidisciplinary teams, presenting complex information in an accessible way to a range of audiences. Good familiarity with technical reporting, and independent work planning and time management, will also be required.

You will bring, or develop through support by the University and Visibility Scotland, business knowledge, enabling Visibility Scotland to access the European and, prospectively, global market for the technology developed. You will have strong leadership qualities, and you will skilfully balance multiple work streams. You will cover a challenging role from many perspectives:

- You will develop an understanding of a rapidly evolving market with high value potential, including players, drivers, constraints, stakeholders, competition, etc., and build towards a competent approach in proactively identifying opportunities, and matching them with device and service design.
- By taking active part in the device and protocol development, mostly of the virtual reality components, you will develop a culture of device and programme design under the requirements and constraints of a diverse range of technical and commercial stakeholders, and through co-design approaches.
- You will follow a sustainable approach to bridging academic activity to commercial practice.
- You will ensure that the project evolves from an academic concept supported by a University to a product supported by the diverse players of a full commercial supply chain, redefining the role of the academic project components so that they best match their strengths in translational research, yet integrated into a commercial pipeline.

- You will collect an appropriate evidence base to support follow-on investment, in order to carry forward the KTP outcomes. This will include collection of laboratory data and, importantly, qualitative and, where possible, quantitative information from diverse stakeholders on perceptions, acceptance of the technologies, and desired outcomes and outlook.
- You will set up the technical development and validation infrastructure necessary to support the short-term activity and the long-term sustainability of the product pipeline. This will initially include set-up of device development laboratory and test site within Visibility Scotland and Strathclyde and, throughout the project, integration of this with external service providers (e.g., VR and software developers) to support the business pipeline on the long term.

You will also contribute to the knowledge base through training workshops and reports which will be the basis for academic dissemination, for example through journals, conferences, and/or lectures. Consistent reference to literature and uses of academic and industry expertise will ensure best practice and successful delivery.

### **Main Activities/Responsibilities:**

1.	Lead, design, develop and implement the Virtual Reality rehabilitation platform, so that it is scalable, sustainable, and integrated with existing Visibility Scotland operations.
2.	In tight collaboration with Visibility Scotland personnel, implement a training programme matching the Virtual Reality platform.
3.	Lead in the laboratory and field experimental validation activities, including determining appropriate research methods and contributing to the development of new research methods.

4.	Join external networks to share information and ideas, inform the development of research objectives and to identify potential sources of funding.
5.	Develop a user, academic, industrial, and service stakeholder network for maintaining useful and efficient communication between all parties, acting as a conduit to transfer knowledge between the stakeholders.
6.	Develop market and product pipeline insight and apply it to product development.
7.	Prepare technical documents, which include reports, standard operating procedures, protocols, and authorisation applications.
8.	Contribute to the protection of the Intellectual Property generated and managed by the KTP.
9.	Contribute to academic dissemination related to the KTP.
10.	Plan and manage workload, with assistance from colleagues as required.
11.	Engage in continuous professional development within the University and Company as appropriate
12.	Contribute to the KTP Associate Final Report by the required deadline.

## Person Specification

### Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable).

E1	Good Masters degree in Biomedical Engineering, Product Design, or cognate disciplines
D1	Significant experience in industry or academia following the Masters degree
D2	Membership of relevant Chartered/professional bodies (IPEM, IET, IEEE, etc.)
D3	Knowledge and/or education in the broader fields of orthoptics and vision sciences

## **Experience**

- E2 Breadth and depth of knowledge of Virtual Reality and/or User Interface development
- E3 Experience of working in a multidisciplinary team
- E4 Experience of data collection on human subjects
- D4 Experience in intellectual property protection and/or knowledge exchange
- D5 Experience in product design
- D6 Experience in working in a clinical or rehabilitation environment
- D7 Experience in academic dissemination through journals and/or conferences

## **Job Related Skills and Achievements**

- E5 Solid computer programming skills in one or more mainstream languages (C++, C#, Python)
- E6 User interface and/or virtual reality and/or vision diagnostics software design
- E7 Proficient use of mainstream office software (MS Word, MS Excel, MS Outlook, etc.)
- D8 Definition of experimental protocols on human subjects
- D9 Securing of ethics and/or compliance authorisations
- D10 Stakeholder relationship management

## **Personal Attributes**

- E8 Self-directed, self-motivated, and resilient
- E9 Determination to see the project through to completion
- E10 Good attention to detail
- E11 Excellent communicator, with the ability to with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences
- E12 Strong interpersonal skills, including negotiating, influencing and network building
- E13 Proficiency in technical writing/presentation
- D11 Awareness of commercial drivers
- D12 Desire to influence lasting change across the third sector.

## **Application Procedure**

Applicants are required to complete an application form including the name of three referees who will be contacted before the interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

## **Other Information**

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Professor Philip Rowe ([philip.rowe@strath.ac.uk](mailto:philip.rowe@strath.ac.uk)) or Dr Mario Giardini ([mario.giardini@strath.ac.uk](mailto:mario.giardini@strath.ac.uk)).

## **Rewards and Benefits**

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

## **Conditions of Employment**

Conditions of employment relating to the KTP staff category can be found at: [Conditions of Employment](#).

## **PVG checks**

This position may involve regulated work, making it a legislative requirement that the successful candidate becomes a member of the Protection of Vulnerable Groups Scheme. If appointed, employment with the University will not be confirmed, until membership of the Scheme has been received. The successful applicant will be precluded from working with protected groups until that time.

## **Probation**

Where applicable, the successful applicant will be required to serve a 6-month probationary period.

## Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from Payroll and Pensions.

## Interviews

Formal interviews for this post will be held in the week commencing 26 September.

## Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

## University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. Our Values have been derived from how we act and how we expect to be treated as part of Strathclyde.



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