Quantum Specialist (KTP Associate)

Department	Physics (www.strath.ac.uk/science/physics/)		
Faculty	Faculty of Science (www.strath.ac.uk/science/)		
Staff Category	KTP Associate	**Reference No**	862154
Reports To	Dr Oliver Burrow, Academic Supervisor, Paul Osborn, Company Supervisor	**Grade**	RS79
Salary Range	£47389 - £58225	**Contract Type**	Fixed Term (36 months)
FTE	1 (37.5 hours/week)	**Closing Date**	08/11/2026
Work Location	University of Strathclyde, Glasgow + Hayes, West London		

Job Advert

The Department of Physics at the University of Strathclyde, in partnership with CPI-TMD Technologies Ltd, is seeking an exceptional and highly motivated Knowledge Transfer Partnership (KTP) Associate to lead the commercial development of a next-generation atomic clock based on proprietary cold-atom technology developed at the University of Strathclyde.

This exciting role offers the opportunity to be at the forefront of the UK's rapidly growing quantum technology sector, translating world-leading academic research into a commercially viable product with applications across telecommunications, defence, critical infrastructure, navigation, and scientific instrumentation.

The position will be primarily based at CPI-TMD Technologies' headquarters in Hayes, West London, with regular engagement with academic collaborators at the University of Strathclyde. To facilitate knowledge transfer and technology development, the successful candidate is expected to spend approximately the first 8-12 months of the project embedded within the University of Strathclyde's research team.

About CPI-TMD Technologies

CPI-TMD Technologies Ltd is a leading UK designer and manufacturer of high-power microwave amplifiers, transmitters, and power systems serving the defence, communications, scientific, and industrial markets. Established in 1969 and employing approximately 150 people, CPI-TMD generates annual revenues exceeding £50 million, with more than 85% of sales exported worldwide.

Building on its strong heritage in advanced engineering and precision technologies, CPI-TMD has invested significantly in quantum technologies since 2014, developing innovative capabilities in atomic clocks, quantum sensing, and precision timing systems. The company is committed to establishing itself as a leader in the commercialisation and manufacture of quantum-enabled products.

Benefits of the KTP Associate Position

In addition to a competitive salary, the successful candidate will benefit from:

- A dedicated £2,000 annual personal development and training budget.
- Access to specialist technical, leadership, and project management training.
- Dedicated mentoring from both academic and industry experts.
- Ownership and leadership of a strategically important innovation project.
- Hands-on experience delivering real commercial impact within a growing technology business.
- Exposure to both academic research and industrial product development environments.
- The opportunity to gain recognised management and leadership qualifications.
- The chance to tailor your professional development through training in project management, finance, leadership, communication, commercialisation, and specialist technical disciplines.
- Excellent career prospects, with approximately 70% of KTP Associates being offered permanent employment by their host company on completion of the project.

About Knowledge Transfer Partnerships

This project forms part of the UK's Knowledge Transfer Partnership (KTP) programme, which helps businesses innovate and grow through strategic collaboration with universities and research organisations. KTP projects are funded by UK Research and Innovation (UKRI) through Innovate UK and play a key role in supporting the UK's innovation economy.

As a KTP Associate, you will occupy a unique position between academia and industry, acting as the bridge that enables cutting-edge research to deliver real-world impact, commercial value, and technological advancement.

For more information about the KTP programme and the role of a KTP Associate, please visit: www.ktpws.org.uk

Job Description

Brief Outline of Job:

The KTP Associate will take ownership of a strategically important development programme to create a compact cold-atom clock physics package. Based primarily at CPI-TMD in Hayes, following an initial placement of approximately 8–12 months at the University of Strathclyde, they will work alongside leading academic researchers and experienced industrial engineers, combining Strathclyde's cold-atom research with CPI-TMD's expertise in RF engineering and manufacture.

During the initial placement, the Associate will characterise Strathclyde's existing clock platform and model and experimentally validate its RF cavity. At CPI-TMD, they will lead the development of a manufacturable, ultra-high-vacuum-compatible cavity and its integration into a prototype physics package, supported by the academic team. The package will subsequently be integrated and tested within Strathclyde's clock architecture.

Following CPI-TMD's New Product Introduction (NPI) process, the Associate will advance an advanced laboratory demonstrator towards a robust, manufacturable atomic clock product. Through this work, they will embed the knowledge and capabilities needed to support future product development at CPI-TMD.

Main Activities/Responsibilities:

1.	Establish a detailed understanding of the existing RF cold-atom clock platform through literature review, practical operation, subsystem characterisation, and clock stability measurements.
2.	Develop and validate an electromagnetic digital twin of the RF cavity used within the compact cold-atom clock physics package.
3.	Apply Design for Manufacturing (DFM) principles to translate the validated RF cavity design into a production-ready component suitable for a deployable cold-atom clock physics package.
4.	Develop a UHV-compatible RF activity architecture at CPI-TMD.
5.	Integrate the UHV-compatible cavity into a prototype cold-atom physics package demonstrating laser cooling and trapping to validate the concept for compact clock applications.
6.	Integrate the transportable cold-atom physics package into the Strathclyde clock architecture.
7.	Complete project close out activities, documenting the technical, commercial and knowledge transfer outcomes of the KTP.

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	Educated to PhD level or equivalent in quantum technologies, AMO physics, or a related discipline, with hands on experience of complex experimental systems.

Experience

E2	Hands-on experience of developing, operating and troubleshooting complex experimental systems.
D1	Experience with cold-atom systems, including laser cooling and trapping.
D2	Experience with experimental atomic clocks or precision frequency measurements.
D3	Experience of assembling testing or operating ultra-high vacuum systems.

D4	Experience of RF cavity characterisation, microwave measurement techniques.
D5	Experience of developing scientific instrumentation for use outside a research laboratory or for manufacture.

Job Related Skills and Achievements

E3	Ability to investigate experimental problems systematically and develop practical solutions.
E4	Experience of scientific programming and numerical analysis to interpret experimental data.
E5	Ability to plan and organise own work, set priorities and deliver agreed project objectives.
E6	Ability to document experimental methods, designs and results so that others can use them.
D6	Experience of CAD software for mechanical design.

Personal Attributes

E7	Ability to work independently and collaborate with colleagues across academic and industrial teams.
E8	Willingness and ability to acquire new technical skills required for the project.
E9	Motivation to translate research into practical technology for industrial applications
E10	Willingness to work initially at the University of Strathclyde and subsequently relocate to the company premises in Hayes, West London

Application Procedure

(HR use only)

Applicants should visit Strathclyde's vacancies portal and complete an online application form including the name of three referees who will be contacted without further permission, unless you indicate 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.

The University of Strathclyde encourages the recruitment of disabled and neurodivergent candidates. If you require any reasonable adjustments or support at any stage of the recruitment or application process, please contact us at humanresources@strath.ac.uk, and we will be happy to assist you. This includes supporting you with the option to submit a paper application or a CV instead of completing the online application form.

Interviews

The University is a Disability Confident Employer and operates a guaranteed interview scheme for disabled candidates who meet all the essential criteria for the post that they are applying for.

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 Oliver Burrow, (oliver.burrow@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the KTP Associate staff category can be found at: Conditions of Employment.

Rewards and Benefits

Our comprehensive benefits package, including generous annual leave, family-friendly benefits, flexible work options, and a commitment to continuous learning, reflects our appreciation for the valuable contributions of our colleagues.

We understand that each staff member has unique priorities and lifestyles, so our diverse benefits ensure there is something for everyone, details of which can be found on our Rewards and Benefits webpage.

- **Financial Rewards:** We provide attractive financial packages, including competitive salaries, relocation support for employees and a generous pension scheme, with university contributions of 14.5%.
- **Work-Life Balance:** We are dedicated to enhancing healthy work-life balance for our employees. We offer generous annual leave, an additional annual leave purchase option, flexible and agile work arrangements.
    - Annual Leave: Entitlement of 25 days, in addition to 11 public holidays.
    - Flexible and agile working: The University provides flexible work arrangements. You can request arrangements that fit you and your role, such as hybrid, part-time, compressed hours, term-time, adjusted shifts, staggered hours. These requests can be made from the first day of your employment.
- **Family Friendly Benefits:** We offer a variety of enhanced family-friendly benefits to support our employees in balancing work and family responsibilities. These include Maternity Leave, Paternity/Maternity Support, Adoption Leave, Shared Parental Leave, Parental Leave, Carers Leave and support, Family Friendly Research & Scholarship Leave, and access to our on-campus nursery.
- **Career Development:** Our commitment to personal development is reflected in initiatives such as professional courses, subsidised educational programs, coaching and mentoring, leadership development, secondment opportunities, and access to our library.
- **Health & Wellbeing:** We place high importance on the safety, wellbeing, and health of all our staff and offer discounted Strathclyde Sport membership, an Employee Assistance Programme (EAP), Occupational Health Service, and Cycle to Work scheme.
- **Recognition Awards:** At Strathclyde, we place a strong emphasis on acknowledging and rewarding our staff's commitment and exceptional contributions. This is demonstrated through our Long-Service Awards and our Values-based Strathclyde Medals.

Level 1 Disclosure

This post requires a satisfactory Level 1 Disclosure certificate issued by Disclosure Scotland. The successful candidate will be asked to apply for a Level 1 Disclosure as part of the pre-employment process. A start date will not be confirmed until this process had been completed and deemed satisfactory by the University.

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 Universities' Superannuation Scheme. Further information regarding this scheme is available from Payroll and Pensions.

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Equality and Diversity

The University of Strathclyde is a socially progressive institution that strives to ensure equality of opportunity and celebrates the diversity of its student and staff community. Strathclyde is people-oriented and collaborative, offering a supportive and flexible working culture with a deep commitment to our equality, diversity and inclusion charters, initiatives, groups and networks.

We strongly encourage applications from Black, Asian and minority ethnicity, women, LGBT+, disabled candidates and candidates from lower socio-economic groups and care-experienced backgrounds.

The University currently holds an Athena Swan **Silver award**, recognising our commitment to support and transform gender equality within higher education and research.

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.

In delivering **our People Strategy**, we will contribute, act, and make decisions guided by these values.

- **People-oriented:** committed to our staff and students, providing opportunities, and investing in their development.
- **Bold:** confident and challenging in what we do, and supportive of embracing appropriate and managed risk in our decision-making.
- **Innovative:** focused on discovering and applying knowledge with impact and encouraging creative thinking and new ideas.
- **Collaborative:** working together, with our colleagues and external partners, with integrity and in an open, respectful way.
- **Ambitious:** for our institution, staff and students as well as supporting the ambitions of our partners.