Job Description

Job title	Project Coach BSEIW	**Grade**	B
Department	IOP Wales		
Responsible to	Welsh Government Projects Manager		
Revision Date	June 2026		

Purpose of the job

The Institute of Physics (IOP) is seeking passionate, committed Project Coach to help deliver our role within the ***Boosting Science Education in Wales*** initiative, funded by the Welsh Government's Curriculum for Wales Grant.

Working collaboratively as part of a coaching team, the Project Coach will support the planning, delivery, and continuous improvement of a programme of professional learning, mentoring, and peer engagement activities designed to raise the quality and confidence of science teaching, especially physics, across Welsh state primary and secondary schools. The support will be targeted at schools in under-served communities, rural areas and those teaching through the medium of Welsh.

This is a 3-year project which aims to transform science education by tackling shortages in subject-specialist teachers, promoting inclusive and equitable science experiences through adopting a science capital teaching approach, and increasing practitioner confidence and competence. The IOP's delivery will focus particularly on physics enrichment and equity-led whole-school transformation.

About IOP

We are a professional, modern, and ambitious organisation seeking to unlock the potential of physics and physicists nationally and internationally. Our purpose is to promote the advancement and dissemination of knowledge and learning in pure and applied physics for the benefit of all. We do this by building a thriving and diverse physics workforce, raising standards, supporting careers, and addressing barriers. We demonstrate the importance, relevance, and impact of physics in everyday life and the role it plays in addressing society's major societal, economic, and environmental challenges. We influence change, actively engage in public and government dialogue, improving the quality of debate, informing policy, and influencing funding strategies. Above all we are pioneering.

We foster a sense of community amongst employees, members, volunteers, and people with an interest in physics, providing a platform and a voice for ideas to be heard and creating an environment which enables game changing innovation.

The Institute of Physics is one of the world's largest professional bodies and learned society for physics, and it is a not for profit with charitable objectives. It is the national body for the UK and Ireland and has a seat at international bodies, including the UN. We are a world leading science publisher and are proud to be a trusted and valued voice for the physics community.

Our values

Our organisational values are at the heart of IOP and provide the foundations to empower us all to lead cultural change, deliver high performance across the organisation and enable us to promote advancements and learning in pure and applied physics for the benefit of all.

We are:

- Objective: objective, led by evidence
  Inclusive: confront barriers to inclusiveness and participation wherever we encounter them
- Exemplary: exemplify the highest standards in all that we do
- Open: rewarding, open and engaging

The way we work

The Institute of Physics is an equal opportunities employer and our people are at the heart of our approach to delivery. Following the impact of COVID-19, we developed an innovative and trust-based model of flexible working. This empowers our staff to choose both individually and as a team how, when and where they work to deliver the goals of the organisation, acknowledging that there will be occasions where in-person meetings, collaborations and events will help generate greater impact. The How We Work initiative is based on the principles of collaboration, trust, flexibility and agility. The successful candidate will have the choice of where they work; either from home, in our office in Cardiff, or a combination of both.

IOP Strategy 2024-2029

The IOP's strategy:

The IOP has recently published a new strategy to help focus its work across the UK and Ireland. Physics for our Future identifies three themes around which the Institute's work will be organised between now and 2029:

1. Skills: Tackling the skills shortage and opening up opportunity for the future.
2. Science: Strengthening physics across science and technology.
3. Society: Exploring the social and economic benefits of physics and ensuring they are understood.

More information about the IOP's strategy can be found here: Our strategy | Institute of Physics

To achieve our strategy, we will be guided by four fundamental principles which will run through everything we do:

- Member-focused: Members are at our heart and integral to our success.
- Inclusive: Physics must welcome, include and reflect all parts of our diverse society.
- Sustainable: For our environment, our community and our financial foundations.
- Partnership: Working together with partners every step of the way helps us achieve more together and we will deepen our collaboration with IOP Publishing.

Context of Job

Wales has fewer physics-training physics teachers per pupil than any other UK nation and is training less than 60% of the teachers it needs year on year. Up to 400 secondary school teachers leave the profession each year, and science and maths teachers are statistically more likely to leave the profession early than other subject areas. There is therefore an increasing pressure for science teachers to teach "out of specialism", and a growing need to provide those teachers with the subject knowledge and pedagogical support that will allow them to teach physics with confidence and flair.

At the same time, the introduction of the Curriculum for Wales represents a significant opportunity to rethink how science is taught. It emphasises learner progression, authentic contexts, and localised learning experiences, making the role of confident, well-supported practitioners even more crucial. However, disparities in teacher training, subject knowledge, and access to professional learning continue to impact the consistency and quality of science education across the country.

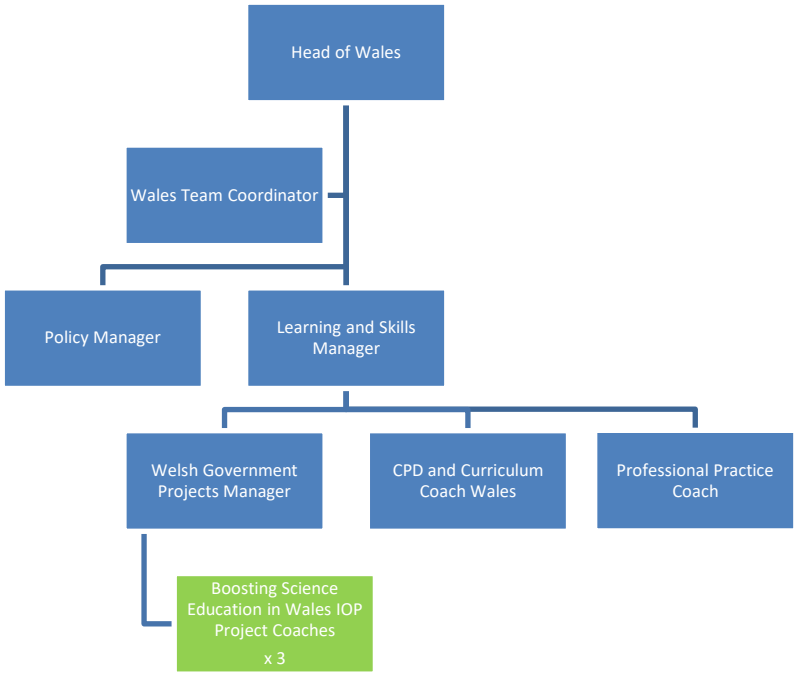
To address these challenges, the ***Boosting Science Education in Wales*** project takes a multi-layered approach, combining targeted CPD, inclusive teaching strategies, mentoring, and access to networks and resources. The Institute of Physics plays a pivotal role in this effort, particularly through its support for early career and out-of-field teachers, its leadership in the Welsh Physics Teaching Network, and its commitment to equity through the Whole School Inclusion and Equity Network.

The success of the project, and of the Project Coach role, depends on building sustainable capacity in schools, empowering practitioners to improve outcomes for all learners, and ensuring that all students, regardless of background, can see a place for themselves in science.

Key decision-making in the job

- Developing appropriate support and engagement interventions based on the best evidence available
- Gaining and maintaining credibility with schools in Wales, staff and senior leaders
- Delivering the stated outcomes of the 'Boosting Science Education in Wales' project, and adapting work to meet those outcomes as necessary (see appendix).

Organisational chart
This chart shows where this job sits within the department and team



The Institute of Physics is an open and inclusive organisation that welcomes and celebrates diversity.

Main responsibilities of the role	

	• **Co-design and deliver initiatives:** Collaborate with the IOP and wider partner teams (Royal Society of Chemistry and Science Made Simple) to deliver core project activities including:
	  ○ *Welsh Physics Teaching Network*
	  ○ *Easy Teach professional learning sessions*
	  ○ *Physics Forums*
	  ○ *Resource Round-Ups*
	  ○ *Whole-School Inclusion and Equity Network activities*
	  ○ *Primary and Secondary Science Days*
	• **Professional development delivery:** Deliver evidence-based CPD, mentoring, and coaching to support practitioners, particularly early-career and out-of-field teachers, to build subject knowledge and confidence in teaching physics in line with the Curriculum for Wales.
	• **Equity and inclusion:** Contribute to equity-focused interventions that explore and address systemic and school-level barriers to post-16 physics participation, including unconscious bias and science capital gaps.
	• **Monitoring and reporting:** Track and evaluate programme delivery, capturing data on participation, feedback, outcomes, and impact. Contribute to quarterly monitoring reports and support external evaluation.
	• **Stakeholder engagement:** Build and maintain strong relationships with schools in Wales, education stakeholders, and fellow partners. Represent the IOP in local networks and act as a regional champion for physics education.
	• **Continuous learning:** Develop and maintain your expertise in science education, curriculum reform, inclusion strategies, and subject-specific pedagogy to ensure interventions are current, effective, and aligned with practitioners' needs.

Person Specification

The candidate
We are looking for someone who: • Is outcomes-driven, self-motivated, and committed to educational improvement. • Can work effectively in schools and education networks, gaining trust and respect. • Is committed to equity, inclusion, and widening participation in STEM. • Thrives in a collaborative, dynamic, and responsive team environment. • Shows willingness to travel across Wales for school and practitioner engagements, and to participate in team events and in-person meetings when required.
Experience this person should have is…
Essential Experience: • Delivering or supporting science education, CPD, or curriculum-aligned science communication. • Coaching, mentoring, or training teachers or education professionals. • Working with schools in Wales and understanding the Welsh education landscape. • Leading or contributing to inclusive practice and equity-based initiatives. • Project planning and evaluation.

Additional experience for specific focus area:

- **Subject-Enrichment:** Experience teaching physics or facilitating science CPD at a secondary level.

Skills this person requires are…

- Build and establish collaborative networks preferably in an education context
- Excellent communications skills and confident dealing with stakeholders at all levels, including school Senior Leadership Team
- Willingness to travel to schools across Wales
- Flexibility
- Team player – the ability to work co-operatively with others to achieve common goals
- Interpersonal skills – ability to positively communicate with others; the confidence to listen and understand
- Proactive – to think ahead and act to ensure the smooth completion of team / individual aims and objectives
- Dependable – able to complete tasks to high standard and to deadline
- Good working knowledge of Microsoft Office / computer literate

Desirable:

- Welsh language skills are desirable to support bilingual delivery and engagement with practitioners and schools across Wales

Qualifications required are…

Successful candidates are likely to be degree or higher-level apprenticeship qualified in a STEM field, or have extensive professional experience of working in science communication, education or training.

APPENDIX 1:

BOOSTING SCIENCE EDUCATION IN WALES

THE PROJECT

The purpose of the project is to address the issues arising from a shortage of physics and chemistry practitioners in Wales by enhancing science teaching and learning outcomes in primary and secondary schools. The project focuses on:

- enhancing practitioners' pedagogical and subject knowledge
- building confidence and expertise
- mentoring current and potential future practitioners.

Under the Curriculum for Wales grant support programme priority of science and engineering, the project will include professional development, specialised coaching and mentoring for practitioners and technicians, science teaching resources and online learning modules, and the creation of network to foster peer support. It will involve a multi-layered approach to delivery, focusing on building practitioner confidence and competence, engaging learners, and fostering collaboration through co-construction of activities. Delivery will include the following components:

- Targeted professional learning
- Blended support for practitioners and technicians
- Bilingual and inclusive resources
- Collaboration with key stakeholders

The project will support practitioners and technicians through evidence-based professional development, coaching and mentoring, such as the IOP's Stimulating Physics Network, the RSC's Teach Chemistry activities and the Thinking Doing Talking Science Primary professional learning programme. These programmes will focus on supporting early career and out-of-field practitioners and promoting equitable science capital in schools through your Inclusion and Equity Network. The project partners will provide support through interventions to improve outcomes and encourage post-16 STEM progression, including activities linked to real-world science careers, helping learners make connections between their education and future careers.

Support will be available to practitioners and technicians in all primary and secondary state schools in Wales, with targeted consideration for Welsh-medium schools, those in rural areas or those working with learners from underserved communities.

Support will include (with IOP :

- ***Secondary science days (IOP and RSC)*:** annual events bringing together science practitioners and technicians from across Wales. A partnership between the RSC and IOP, with liaison with the Royal Society of Biology (RSB), each Science Day offers three workshops (chemistry, physics and biology), a keynote talk (where appropriate), and dedicated networking opportunities. These events will directly support practitioners in developing their curricula aligned to the Curriculum for Wales framework.

- ***Primary Science Days (IOP and RSC)***: building on successful secondary Science Days, two events for up to 60 primary practitioners. Each day will feature three hands-on workshops centred on a specific theme, designed to boost practitioner confidence on engaging primary science.

- *Steps into Science primary workshops (RSC)*: smaller, more focused full-day workshops (for groups of approximately 20 practitioners) will be co-developed with primary practitioners.

- ***Online 'Easy Teach' sessions (IOP and RSC)***: developed directly from practitioner feedback, this series will provide essential professional learning for GCSE physics and chemistry practitioners and technicians, including student/trainee practitioners, NQTs, early-career practitioners, and those teaching out-of-field. The series will focus on essential content and pedagogical strategies, addressing a critical need for accessible and relevant training.

- ***Supporting future science practitioners***: IOP and RSC will collaborate with all initial teacher education (ITE) providers across Wales to introduce student/trainee practitioners to the resources available for science education. Through practical workshops (offered in-person or online), you will ensure that primary and secondary student/trainee practitioners begin their teaching journey knowing how the Institute of Physics and the Royal Society of Chemistry can support them through their careers.

- ***Practitioner and technician bursaries***: The bursary scheme will enhance access to high-quality professional learning and foster reflective practice, addressing financial barriers that are known to hinder participation. Bursaries will cover supply costs for in-person events, enabling wider access for practitioners and schools, particularly those with limited budgets. To access bursaries, recipients will demonstrate meaningful reflection on their learning, articulating key takeaways, application to classroom practice, and/or anticipated impact on learners.

- ***Welsh Physics Teaching Network (IOP)****:* will continue to build on your successful support, working with early career and out-of-field practitioners through a suite of blended approach activities, including:
  - 1:1 coaching and mentoring; both on-line and in-person to early career practitioners and those working outside of their own subject discipline, to build confidence and skills needed to design and implement a physics-based curriculum. You will support practitioners and schools to plan learning programmes that focus on their local community, and importantly, the local employment opportunities.
  - Physics forum; this fortnightly mechanism for physics practitioners and technicians across Wales to engage with each other, upskill, share resources and to be part of a vibrant community. Sessions will feature guest speakers from industry and academia, with a particular emphasis on STEM Ambassadors.

- ***Resource round-up (IOP)***; online and in-person sessions, raising awareness of and supporting practitioners and technicians on how to use a variety of science-based resources, promoting the Science Capital Teaching Approach, such as:
  - Best Evidence Science Teaching, a large collection of resources to test and consolidate understanding of key concepts in science suitable for ages 7-16
  - 'Isaac Physics', an Open Platform for Active Learning to support and provide activities in physics problem solving to practitioners, technicians and learners.
  - 'On this Day in Physics in Wales', a bilingual teaching resource which showcases a physics-related item for each day of the year, spread across the nation, linking to; 'The Big Map of Physics' which will be built on to increase promotion with secondary and primary schools as a bilingual resource, adding in additional class-based activities, quizzes and school trips to local landmarks to enhance both the practitioner and learners' local physics knowledge. In addition, to work with Adnodd and Hwb to further adapt the map to incorporate chemistry and biology, to create 'The Big Map of STEM'.

- ***IOP Whole School Inclusion and Equity Network*** will continue to progress to bring together an extensive range of both primary and secondary practitioners, technicians, university initial teacher education (ITE) departments, with other organisations and charities focused on STEM and social justice and working together to address inequality and promoting inclusion through the Science Capital Teaching Approach. The network will continue to facilitate professional learning through half-termly online Teach Meets for schools new to the approach, as well as termly online sessions for sharing opportunities and best practice. Future sessions to include developing resilience, competency and curiosity through mathematics and challenging stereotypes, exploring aspiration building and future career development starting with primary. The 2025 pilot programme of in-person Teach Meets

with school clusters to develop community relationships and partnership working will support further development of in-person Teach Meets. The network will seek opportunities to collaborate on and promote case studies and action research around the Primary Science Capital Teaching Approach via the Physics Education Research Group at Cardiff University.

- *Thinking, Doing, Talking Science (Science Made Simple)*: will enhance and adapt the evidence-based practitioner professional learning programme Thinking Doing Talking Science to the landscape specifically presented through the Curriculum for Wales and schools' distribution in Wales.

- *Royal Society of Chemistry Teach Chemistry activities***:** will leverage their existing portfolio of evidence-based support for practitioners and technicians to offer a suite of flexible learning options.

Resources developed through the Funding will be made available bilingually via Hwb, reaching a wider audience than those directly involved with our programme of support.

This project is a partnership between the Institute of Physics, the Royal Society of Chemistry and Science Made Simple, drawing on established expertise within each of the organisations. In addition, the project will engage with the Welsh Government, local authorities and their partnerships, the national professional learning and leadership body, Adnodd, Hwb, the Primary Science Teaching Trust and other organisations involved in delivery of support under the CfW grant support programme.