



# UK Funding Landscape

A brief overview

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# QUANTUM WORKSHOP

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in Sudbury, Canada

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# Overview

- **Big picture**
- **Funding schemes:**
  - **Travel**
  - **Fellowships:**
    - **Various schemes and funders covering early career to senior professor schemes**
  - **Project funding for basic research**
  - **Dark matter science experiment call**
  - **Funding for quantum tech for fundamental science**
  - **Summer schools**

# Big Picture

- **Quantum technology an important area to invest in to fulfil UK Government's aim to be a tech superpower**
  - **Need to establish a skills pipeline: 1000's of quantum tech savvy PhD educated scientists and engineers needed for a new industry that will be created**
  - **Need to understand limits of what is possible with modern quantum tech to push boundaries**
  - **Export control concerns should be managed to ensure fundamental research can proceed**
- **Expect lots of parallels with the data science and AI revolution that we are currently living in**

# Big Picture

- UK Government launched its Quantum Strategy at the end of last year:
  - <https://www.gov.uk/government/publications/national-quantum-strategy/national-quantum-strategy-accessible-webpage>
- £2.5 billion investment over the next decade
- Covers a wide range of aspects:
  - Skills
  - Industry
  - Communications
  - Computing
  - Sensors
  - Imaging
  - Timing

## Objectives

Ensure the UK is home to world-leading quantum science and engineering, growing UK knowledge and skills

### The UK position today

Among the top 10 nations producing quantum scholarly outputs, the UK ranks 3rd for the quality and impact of its quantum science. (Based on field-weighted citation impact 2017-21).

Since 2014 the UK has funded over 470 postgraduate research students working on quantum technologies or a related discipline.

Bilateral arrangements with the US on quantum collaboration.

[Table from the UK Government's web page](#)

### 2033 target

**By 2033 we will maintain our top 3 position** in the quality of our quantum science publications, whilst increasing the volume of our research publications.

**By 2033, we will have funded an additional 1000 postgraduate research students in quantum relevant disciplines.**

**By 2033 we will have bilateral arrangements with 5 further leading quantum nations**, based on substantive collaborative work programmes.

# Travel

Enable collaboration  
with UK researchers

- **What:**
  - Up to £12k over 2 years
  - 2 calls per year
  - Latest call opened on 10th Jan
- **Who:**
  - Royal Society bi-lateral travel scheme: [International Exchanges](#)
- **Why:**
  - For building new collaborations
  - Great to seed building a stronger collaboration as a next step from this week if you find an opportunity that merits further exploration



# Travel

Enable collaboration  
with UK researchers

- International exchange opportunities exist for students to study in the UK or UK students to study abroad
- UK Quantum technologies programme [website](#) has more information on this scheme
- Other opportunities include:
  - EPSRC [Overseas travel grants](#)
  - EPSRC [Early career International collaboration grants](#) for early career UK scientists to develop an international partnership. Up to £200k for 2 years.

# Fellowships

**Moving to the UK to  
work for a while or  
permanently**

- **Junior Early Career Researcher Scheme:**
  - **Newton International Fellowship**
  - **Royal Society of Engineering Fellowship**
- **Established postdocs wanting to create an independent team:**
  - **Royal Society University Research Fellowship**
  - **Royal Society Dorothy Hodgkin Fellowship [career break scheme]**
  - **UKRI Future Leaders Fellow**
  - **STFC Ernest Rutherford Fellowship**
- **Senior professors wanting to relocate to the UK:**
  - **Royal Society Research Professorship**
- **This is not an exclusive list; visiting fellowships also exist (1 year duration for established academics)**

# Fellowships: Newton International Fellowships

- **What:**
  - Fellowship covering salary and other expenses (see scheme for full details)
  - Covers up to £420k over 3 years
  - Call opens on 17th January 2024
- **Who:**
  - Royal Society: [Newton International Fellowships](#)
- **Why:**
  - For non-UK scientists who are at an early stage of their research career and wish to conduct research in the UK



# Fellowships: Research Fellowship

- **What:**
  - Fellowship covering salary, travel and other permissible costs
  - 5 year duration
  - At mosts 4 years since PhD award
  - £625k maximum award
  - Call usually opens in May with a deadline in Sept, university level demand management as call has a quota
- **Who:**
  - Royal Academy of Engineering [Research Fellowship](#) (previous call)
- **Why:**
  - Support the best early-career researchers in establishing their independence with stable funding



# Fellowships: University Research Fellowship

- **What:**
  - Fellowship covering salary, PDRAs, equipment (see scheme for full details)
  - Covers up to £1.83M over 8 years (mid-term review for last 2 years of funding)
  - Call opens on 11th July 2024
- **Who:**
  - Royal Society: [University Research Fellowship](#)
- **Why:**
  - Set up an independent research team
  - Long term support to build a programme and develop as a researcher



# Fellowships: Dorothy Hodgkin

- **What:**
  - Fellowship covering salary, PDRAs, equipment (see scheme for full details)
  - Covers up to £1.83M over 8 years (mid-term review for last 2 years of funding)
  - Call opens on 3 September 2024
- **Who:**
  - Royal Society: [Dorothy Hodgkin Fellowship](#) (good for people with career breaks)
- **Why:**
  - Set up an independent research team
  - Long term support to build a programme and develop as a researcher

# Fellowships: Future Leaders Fellow

- **What:**
  - Fellowship covering salary, PDRAs etc. See scheme notes for detail
  - 4 years with a possible extension for a further 3 years
  - No limit on the funding
  - Internal university demand management for this call
  - Expect call in March with a deadline in July
- **Who:**
  - UKRI: [Future Leaders Fellow](#) (previous call)
- **Why:**
  - Someone looking to establish or transition to independence

# Fellowships: Ernest Rutherford

- **What:**
  - Fellowship covering salary, travel and other permissible costs
  - 5 year duration
  - Call usually opens over the summer, deadline normally in late Sept/early October
- **Who:**
  - Science and Technology Facilities Council [Ernest Rutherford Fellowship](#) (previous call)
- **Why:**
  - Enable early career researchers with clear leadership potential to establish a strong, independent research programme



# Fellowships: Research Professorship

- **What:**
  - Fellowship covering salary, PDRAs, equipment (see scheme for full details)
  - Covers up to £1.4M over 5 years (can be extended up to 10 years)
  - Call opens on 10 April 2024
- **Who:**
  - Royal Society: [Research Professorship](#)
- **Why:**
  - Long term support to world-class researchers of outstanding achievement and promise who wish to relocate to the UK

# Project funding for basic research

- **Several schemes available for project funding in the UK, none that a bi-lateral.**
- **e.g. EPSRC standard model calls**
  - **Great way for UK partners to build a local team (small projects) or a consortium of university groups for a larger project**
  - **Funding restricted to the UK partners, but could be used for hosting / supporting work placements, and bilateral workshops or other initiatives that could add value to an international partnership**
  - **International teams as an ancillary partner (non beneficiary) would add value**



# Dark matter science experiment call

- **What:**
  - 2 side expressions of interests requested for projects
  - **Deadline: 2 February 2024 4:00pm UK time**
  - **Budget envelope should be realistic**
  - **Need an identified project team, including an identified lead/co-lead**
  - **Confirmation of engagement with Boulby**
- **Who:**
  - **The Science and Technology Facilities Council have an open call for experimentation at Boulby: <https://www.ukri.org/opportunity/future-underground-dark-matter-science-experiments/>**
- **Why:**
  - **Direct searches for particle DM (e.g. WIMPs)**
  - **Direct searches for wave-like hidden sector DM**





# Funding for quantum tech for fundamental physics

- The Science and Technology Facilities Council have a scheme for funding quantum tech for fundamental physics funded through 2025: £40M budget to establish activity. See <https://uknqt.ukri.org/our-programme/qtfp/>
- Supports funding this workshop
- Funds projects that we see this week
- More broadly seeks to fund quantum tech applications for fundamental science: e.g.
  - Low background lab searches for dark matter
  - Neutrino physics
  - etc.
  - Expect to see more calls for funding soon (no details yet)



# Summer schools

- **Doctoral Training Programmes are focused on skills development**
- **An aspect of this is high quality summer schools**
- **International schools with support for US, Canada and UK participants was run in 2023 <https://www.ukri.org/news/uk-quantum-summer-schools-launched-will-build-international-links/>**
- **Likely to expect similar opportunities in the future**
- **International schools can provide a great training element for bids for cohorts of PhD students - interest in building links this week with that in mind.**

# Some useful links

- UKRI Funding Finder: <https://www.ukri.org/opportunity/>
- UKRI International Funding page: <https://www.ukri.org/councils/epsrc/guidance-for-applicants/types-of-funding-we-offer/international-funding/funding-for-international-collaboration/>
- Royal Society Grants: <https://royalsociety.org/grants-schemes-awards/>
- Royal Academy of Engineering: <https://raeng.org.uk/programmes-and-prizes>
- UK's National Quantum Technologies Programme: <https://uknqt.ukri.org/about-us/>
- Quantum Technologies for Fundamental Physics: <https://uknqt.ukri.org/our-programme/qtfp/>