Science and Technology Facilities Council

Centres for Doctoral Training in Data Intensive Science: Investing in critical skills

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UK Research and Innovation

UKRI aims to put the UK at the forefront of the artificial intelligence and data revolution. Artificial intelligence and machine learning are transforming many industries, including the creative sector, the service sector and security.

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Arts and Humanities Research Council (AHRC)

AHRC funds world-class, independent researchers in a wide range of subjects. Their research provides social and cultural benefits and contributes to the economic success of the UK but also to the culture and welfare of societies around the globe.

Arts and Humanities Research Council

Biotechnology and Biological Sciences Research Council (BBSRC)

BBSRC invests in world-class bioscience research and training. Their research is helping society to meet major challenges, including food security, green energy and healthier, longer lives and underpinning important UK economic sectors, such as farming, food, industrial biotechnology and pharmaceuticals.

Biotechnology and Biological Sciences Research Council

Economic and Social Research Council (ESRC)

ESRC is the UK's largest funder of research on the social and economic questions facing us today. Their research shapes public policy and contributes to making the economy more competitive, as well as giving people a better understanding of 21st century society.

Economic and Social Research Council

Engineering and Physical Sciences Research Council (EPSRC)

EPSRC invests in world-leading research and postgraduate training across the engineering and physical sciences. Their research builds the knowledge and skills base needed to address scientific and technological challenges and provides a platform for future UK prosperity by contributing to a healthy, connected, resilient, productive nation.

Engineering and Physical Sciences Research Council

Innovate UK

Innovate UK works with people, companies and partner organisations to find and drive the science and technology innovations that will grow the UK economy. They drive growth by working with companies to de-risk, enable and support innovation.

Innovate UK

Medical Research Council (MRC)

MRC is at the forefront of scientific discovery to improve human health. Their scientists tackle some of the greatest health problems facing humanity in the 21st century, from the rising tide of chronic diseases associated with ageing to the threats posed by rapidly mutating micro-organisms.

Medical Research Council

Natural Environment Research Council (NERC)

NERC is the driving force of investment in environmental science. Their leading research, skills and infrastructure help solve major issues and bring benefits to the UK, such as affordable clean energy, air pollution, and resilience of our infrastructure.

Natural Environment Research Council

Research England

Research England is a new council within UK Research and Innovation. Taking forward the England-only responsibilities of HEFCE in relation to research and knowledge exchange, Research England will create and sustain the conditions for a healthy and dynamic research and knowledge exchange system in English universities.

Research England

Science and Technology Facilities Council (STFC)

STFC is a world-leading multi-disciplinary science organisation. Their research seeks to understand the Universe from the largest astronomical scales to the tiniest constituents of matter, yet creates impact on a very tangible, human scale.

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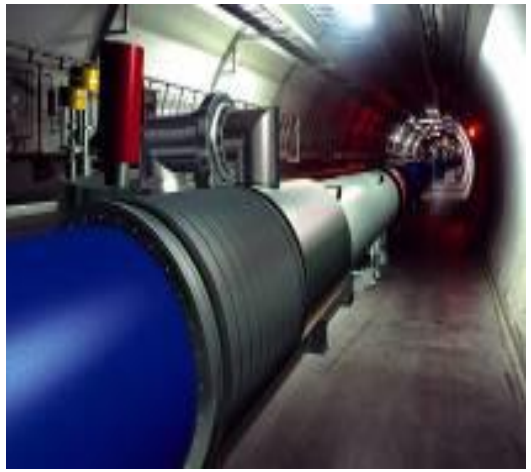
STFC core science Programme



Particle physics/particle astrophysics

- Revealing the structure and forces of nature
- CERN, DUNE

Ground-based astronomy

- European Southern Observatory, JWST
- Square Kilometre Array

Space-based astronomy

- European Space Agency, UK Space Agency
- Bilaterals – NASA, JAXA, etc.

Nuclear physics

- Nuclear Skills for - medicine, energy and environmental applications

Computing in support of these activities

- Data Intensive Science / AI

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CDT round 1

Some background

- Eight centres, involving 19 universities
- £9.4 million STFC funding
- Very positive industry response: ~100 companies and other non-academic partners involved
- 212 students funded by STFC
- >£4.5 million cash contribution from non-STFC sources
- Networking across the centres and summer schools

AIRBUS

AVIVA

Met Office

AWE

Ordnance Survey

EDF ENERGY

BBC

BARCLAYS

IBM

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Current call

This call builds on STFC's previous investment for CDTs in data intensive science but with an increased emphasis on innovation and giving the students appropriate training for future careers both in and outside of academia. Centres should nurture the capabilities, talents and skills needed to equip students to collectively address many different global challenges.

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What we want

- Training and developing data skills within the STFC core-science programme
- Application of these skills to different sectors/organisations for broader economic and societal benefit
- Centres can be based at a single institution or spanning a consortia of eligible institutions.
- **Funding is available to support up to 5 Centres for Doctoral Training in data intensive science, starting in October 2022.**

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Focus of the centre

- STFC will fund four new students/year for three years of intake. The centre will be expected to provide at least two additional new four-year studentships each year for the same initial three years from outside (non-UKRI) funding
- The centre will be required to provide a structured cohort-based training programme for the students, predominantly in their first year, in which students undertake a formal, assessable programme of taught coursework
- 6 month secondment to partner organisation (industry, charity or third-sector)

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Working with partner organizations

- The centre will be expected to engage the broader user and employer community, including industry (including small and medium enterprises) and other relevant organisations.
- Organisations should have active engagement in determining and providing the training programme and in co-supervising students, with additional input and guidance from STFC/UKRI where appropriate.
- Project partner contributions can be either in kind (for example commitment to host a student) or financial (for example helping to support the centres activities)
- Building on government investment for Levelling-up and Economic Recovery is encouraged

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Assessment

Primary criteria:

1. Quality of training environment including approach to supporting a healthy and inclusive centre

- The overall quality of the research training environment, and cohort approach to training focussed on the student experience. For example, how specific training on data intensive science techniques and innovation will be delivered on a cohort basis.
- The degree to which you are supporting a healthy and inclusive research and innovation culture, including for example the approach to equality diversity and inclusion, and innovation.

2. Quality of the research environment and team

- The quality and diversity in the scientific areas to be addressed by the centre, including appropriateness with regards to data intensive science.
- The alignment of the centre to wider host institution strategies.
- The potential impact which could arise as a result of the centres success, both in terms of academic/scientific benefit, and wider economic/societal benefit.
- The extent to which responsible research and innovation will be supported and delivered in the centres research activities.

3. Partnership and Engagement

- The relevance and strength of the links formed with other organisations (particularly local small and medium enterprises) and other potential users.
- The extent of their involvement in determining and providing the proposed training programme, in co-supervising students / in exploiting the outcomes of the research and training, and overall involvement in helping to manage the centre.
- Evidence of what plans are there to match students to placements and monitor their progress, and strength of the research innovation arising from those placements.
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Secondary criteria:

4. Value for money

- The level of funding, in addition to that provided by STFC/UKRI, that would be available for supporting additional studentships and associated training activities. This includes any support offered to fund placements, contributions from external sources, and the level of commitment from the institution(s) applying to host the centre.

5. Management and Delivery

- The effectiveness of the plans for the management and governance of the centre including the suitability and commitment of the director and senior management team, plans for obtaining independent strategic oversight and the involvement of students in the management process

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Timeline

Call for proposals	9th September 2021
Closing date	11th November 2021
Assessment meeting	January 2022
Outcome announced	Early February 2022
CDT starts	October 2022

All applications should be made *via* the Joint Electronic submission (Je-S) platform
Call Guidance Document can be found under "additional information" on the funding finder page

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Thank you

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