

**The
Alan Turing
Institute**

**Director of Science
and Innovation**

July 2023



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Executive Summary

The Alan Turing Institute was founded in 2015 with a clear and compelling purpose: ‘To make great leaps in the development and use of data science and artificial intelligence in order to change the world for the better.’

It is named in honour of Alan Turing (23 June 1912 – 7 June 1954), whose pioneering work in theoretical and applied mathematics, engineering and computing are considered to be some of the key disciplines comprising the fields of data science and artificial intelligence.

Historically, five universities - Cambridge, Edinburgh, Oxford, UCL and Warwick - and the Engineering and Physical Sciences Research Council (EPSRC) were Founder Members of The Alan Turing Institute. Eight new universities – Leeds, Manchester, Newcastle, Queen Mary University of London, Birmingham, Exeter, Bristol and Southampton – joined the Institute in 2018.

The Turing has since continued to extend its university network across a total of 36 members and our plans will only see this network expand further.

It is underpinned by world-leading academic excellence and is unique in bringing together academia, industry, government and the third sector on a national scale.

The Institute is largely funded through grants from Research Councils and strategic and other partners, including; Accenture, the Bill and Melinda Gates Foundation, GCHQ, Lloyd’s Register Foundation, MI5 and the UK Ministry of Defence, to name only a few.

In the coming years, The Alan Turing Institute aims to be internationally recognised as a centre of research and innovation that harnesses the power of data science and AI to make a lasting impact on the world’s most pressing societal issues.

The Institute seeks to appoint individuals to the role of Directors of Science and Innovation, driving the Institute’s new science and innovation agenda, [outlined in the Turing’s strategy](#), launched in March 2023, while remaining responsive and agile to new strategic opportunities in this fast-moving space.

This is a critically important time for the Institute and for these technologies. Working closely with our partners, we will develop innovative solutions to the world’s most difficult problems, from the climate and biodiversity crisis to the transformation of health.

When people think of data science and AI, we want them to think about the positive difference it has made to the lives of millions of people around the world.



What we do

We have three ambitious goals:

1. Advance world-class research and apply it to national and global challenges

Innovate and develop world-class research in data science and AI that supports next generation theoretical developments and is applied to national and global challenges, supporting the creation of new businesses, services, and jobs.

2. Build skills for the future

Contribute to training people across sectors and career stages with the necessary breadth and depth of technical and professional skills in data science and AI to match the UK's growing industrial and societal needs.

3. Drive an informed public conversation

Provide balance in the public conversation on data science and AI by speaking to its technical, social and ethical dimensions through public engagement and the provision of advice to policymakers, industry and civil society.

Data science and AI is an intellectually rich field drawing on many different specialisms in order to be successful, from the core technical foundations to considerations of the societal and ethical implications of new technologies, and the fairness of algorithmic systems.

To make the great leaps in research that the Institute aspires to, promoting and embedding equality, diversity and inclusion (EDI) is integral to achieving our mission. We have an embedded EDI structure, considering the Institute's role as an employer, a research institute, and a national institute, and have published an EDI strategy and action plan outlining our commitments and activities.

What we do

Advance world-class research and apply it to national and global challenges

The Alan Turing Institute is primarily interested in science and innovation which tackles the big challenges in data science and AI with lasting effects for science, the economy and the world we live in.

Initially, this part of the Institute's research has been organised in a programmatic structure across several different domain areas, supported by key partners in each.

This part of the portfolio of work will be refocused towards delivering an 'end-to-end, interdisciplinary pathway to impact', with a series of Grand Challenges in key societal areas, underpinned by fundamental research and core capabilities. The Institute will also retain a watching brief for emerging areas of strategic importance.

Grand Challenge areas

We are seeking to define and prioritise our science and innovation activity with a grand challenge- approach in the following areas:

- **Health**
transform health to enable better outcomes for all
- **Environment and sustainability**
address the climate and biodiversity crisis and the need for greater sustainability
- **Defence and national security**
protect the UK, its people and the places they inhabit

Core capabilities

To drive advances in the above areas, multi-faceted core capabilities are required to provide the underpinning infrastructure. To this end the Institute will drive the following cross-cutting core capability areas as part of its science and innovation agenda:

- Building our **fundamental capability in data science and AI**, including foundation models.
- Expanding the **development and provision of open-source infrastructure** that is accessible to all.
- Grow our core **research software engineering capability** to continue to contribute to the improvement of datasets and deployment of cutting-edge research.
- Expand our capability to support the **translation of our communities' science and innovation activity.**

Digital Society and Policy

Using our unique position and established expertise, we can tap into the enormous potential for data science and AI to drive a new generation of services which are efficient, smart and responsive to both complexity and uncertainty.

The Turing will draw and expand on its established research and partnerships in [public policy](#) and [data-driven economics](#) to drive this work forward and complement the wider science and innovation agenda.

What we do

Build skills for the future

To remain a science and AI superpower the UK has to invest in skills and talent. The AI skills gap is well documented, and the Institute alone cannot solve all of the problems in the skills pipeline.

Thus, the Institute aims to concentrate on:

- **Placements and knowledge exchange:** provide additive career and knowledge exchange opportunities that support a diverse range of individuals at different career stages to gain experience across sectors.
- **Data science and AI training:** offer training for data science and AI professionals and domain experts in target sectors, establishing offers that enable them to take advantage of Turing placement programmes and training opportunities.
- **Capacity building initiatives for business:** support and equip business leaders to improve their application readiness of data science and AI, ensuring our offer addresses the challenges businesses face.

Drive an informed public conversation

Public perceptions of data science and AI range from futuristic science-fiction to very real distrust and concern about the fairness and transparency of algorithms being applied in public life.

The Institute is committed to helping to fix this by providing an informed, independent voice on what can be a complex and controversial area.

Working in a fast-moving space, we will concentrate our attention on high-profile scientific developments or policy issues where our contribution can be most effective.

We will help bring balance and empower informed decision-making by:

- **Increasing access to information:** ensure high-quality and reliable information about data science and AI reaches across all areas of society
- **Developing frameworks and tools:** ensure ethical principles and a consideration of public voices are built into every stage of the design, development and implementation of AI systems
- **Informing laws and regulations:** drive a new generation of governance and regulation
- **Engaging the public sector:** continue to expand our research and innovation in public policy
- **Signposting the way:** help audiences find their way through the data science and AI landscape



Background

Join us as we define a new era for The Alan Turing Institute. With renewed energy and focus, we will pursue our purpose to make great leaps in data science and AI in order to change the world for the better.

Our Grand Challenges provide a common focus, a mandate to prioritise and inspiration for diverse communities and capabilities to come together. They are underpinned by world-leading fundamental research in data science and AI, together creating an end-to-end interdisciplinary pathway to deliver impact at scale.

We are now looking for four ambitious and inspirational leaders to drive the Institute's science and innovation agenda. The first three Directors of Science and Innovation will lead the Institute's Grand Challenges in Health, Environment & Sustainability, and Defence & Security. The fourth Director of Science and Innovation will lead the Institute's capabilities in fundamental data science and AI research.

Reporting to the Institute's Chief Scientist, these roles will form part of the Science and Innovation leadership team and will take collective responsibility for delivering impact in alignment with our vision for Turing 2.0.



Candidate profile

We are now looking for four ambitious and inspirational leaders, to drive the Institute's Grand Challenges and our work on Fundamental data science and AI research.

We are seeking a diverse set of Directors of Science and Innovation and would be particularly interested to hear from candidates with experience and successes from outside the norms of academia and traditional research environments.

The ideal candidate will be an effective leader with the ability to translate vision into execution.

Collaborative by nature, you will be delivering real-world impact in terms of science and innovation, building skills for the future and helping to drive an informed conversation around this fast-moving technology.

You will take on an enabling role, helping to make big things happen for the UK and the Turing by removing existing barriers to use data science and AI to solve some of the most pressing challenges.

Role specification

Duties and responsibilities

Providing leadership

- Lead and motivate an agile team with responsibility for developing, dynamically communicating, and implementing action plans, that deliver against the grand challenges and associated missions in line with the Institute's strategy.
- Lead innovative world-leading science and innovation that delivers impact nationally and internationally alongside and for academia, industry and the public and third sector, achieving wide-ranging public and societal benefit.

Working with stakeholders

- Develop and nurture new strategic external relationships with partner organisations in academia, industry, the public and third sector.

Developing culture

- Promote the Institute's vision, purpose and values to colleagues and stakeholders internally and externally.
- Act as a role model, in alignment with Turing values, identifying, encouraging and developing talent and innovative ideas within the organisation.

Act as a figurehead

- Represent the Institute at the highest levels of academia, industry, the public and third sector, as well as other appropriate organisations and stakeholders.
- Be a public voice for the Institute helping to drive the conversation regarding safe, ethical and responsible development and adoption of data science and AI in industry, the public and third sector, as well as society more broadly.
- Act as an informed national voice for your specialism, working with media, events and other public platforms to drive thought leadership.

Role specification

Essential knowledge and experience

- Record of world-leading excellence in an academic, government and/or industrial setting, in the field of data science and/or AI.
- Extensive experience in one or more strategic domain areas, including health, defence & security, environment & sustainability, data science and AI.
- Proven leadership track record across research and innovation programmes either in an academic or commercial organisation.
- In depth understanding of the national data science and AI landscape.
- Ability to establish strategic and long-lasting relationships with national and international stakeholders and long term strategic plans.
- Can translate vision into execution.
- **Inclusion** – Commitment to diversity, equality and inclusion in relation to every aspect of the Institute’s activity and engagement.
- **For Fundamental Data Science and AI Research only:** Strong scientific track record evidenced by senior authorship of publications in prestigious international journals.

Desirable

- A credible high-profile spokesperson for media and other stakeholders on scientific and innovation issues.
- Experience and knowledge of the academic research environment to support the ability to manage working relationships with universities and research organisations.
- Experience gained in a leading commercial organisation of the practical translation of research into successful commercial innovation.
- Domain expertise directly in data science and AI; or their underpinning disciplines.



Terms of Appointment

- **The Directors of Science and Innovation will report directly to the Chief Scientist.**
- **This is a permanent appointment.**
- **We offer a competitive salary along with a benefits package that includes a defined contribution pension scheme, private healthcare and 30 days annual leave.**

How to apply

For further information, including a detailed job description and person specification, please visit our adverts here:

[Director of Science and Innovation - Fundamental Research](#)

[Director of Science and Innovation - Grand Challenges](#)

The closing date for applications is **23:59 on Tuesday, 31 October 2023.**

Equality Diversity and Inclusion

We are committed to building a diverse community and would like our leadership team to reflect this. We therefore welcome applications from the broadest spectrum of backgrounds.



**Thank you for your interest
in The Alan Turing Institute.**



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