Section 1.9

Convening academia, industry and policy makers

Sir Patrick Vallance speaking as part of the 'What can AI do for our public good?' session at AI UK 2022

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AI UK 2022

The Turing's flagship **AI UK** event returned in March 2022 for a two-day showcase of the best of UK research in AI and data science. More than 2,100 attendees from 52 countries joined us, from across academia, industry and the public sector.

After last year's virtual event, we moved to a hybrid format for 2022: the majority of our 200+ speakers were filmed in person in London, while attendees logged on via our online platform to watch live. With 48 sessions and 11 workshops across four stages, AI UK 2022 covered a huge array of topics, including biodiversity, smart cities, AI imagery, labour exploitation and data governance, to give just a flavour. Uniting this diversity of topics was a clear overarching theme: how do we maximise the benefits of AI while limiting its potential harms?

Stellar speakers at the event included Sir Patrick Vallance, Dame Stephanie Shirley and Jeanette Winterson. These sessions and more can now be watched on our **YouTube channel**. Planning is well underway for AI UK 2023.

"The past two years have demonstrated just how important data is for solving complex, global problems. AI UK provided an important occasion to explore this and discuss how we can further embed data infrastructure and improve the UK's capability in data science and AI."

Sir Patrick Vallance
Government Chief Scientific Adviser and National Technology Adviser

COVID-19 report

A major report published by the Turing in June 2021 reflected on the response of the UK's data science and AI community to the pandemic. '**Data science and AI in the age of COVID-19**' summarises insights from a series of workshops held in late 2020, which involved about 100 experts from backgrounds including ethics, mathematics and medicine.

The report found that the data science and AI community stepped up to work alongside clinicians, policy makers and government at the heart of the response. But there were also substantial challenges that prevented the community from realising its full potential. The report highlights a need for: increased data availability, access and standardisation; greater representation of minority groups, both within datasets and within the research community; and clearer and more accurate communication of research findings to policy makers and the public. The report presents suggestions from the workshop participants for how the community might address these challenges and be better placed to respond to the next public health crisis.

Turing Network Development Awards

A new initiative from the Turing this year saw 25 UK universities receive funding to help build new collaborations across the data science and AI sector. These **Turing Network Development Awards** (TNDAs) gave grants of up to £25,000 to institutions from Scotland, Wales, Northern Ireland and England. The aims of these awards include: growing the data science and AI research and innovation community across UK universities; raising awareness of the Turing's opportunities and initiatives; identifying and exploring complementary areas that could form the foundation of future collaboration; and supporting knowledge exchange across the Turing network. Our future vision at the Turing includes working with more universities and researchers from across the UK to drive impactful research in data science and AI. The TNDAs are a starting point for this, and we expect collaboration and strategic alliances to develop beyond the lifetime of these awards.

Our 'Data science and AI in the age of COVID-19' report found that there were substantial challenges that prevented the data science and AI community from realising its full potential in tackling COVID-19

An algorithm developed during a DSG has been embedded into a plankton imaging instrument onboard the Cefas research vessel

Data Study Groups

After a reduced schedule in 2020, our **Data Study Groups** (DSGs) were back in full force in 2021 with events in **April**, **September** and **November**. These collaborative 'hackathons' allow organisations from industry, government and the third sector to pose real-world data science challenges to talented teams of carefully selected researchers. Running as virtual events since the pandemic, DSGs take place over three weeks, with a week of part-time, preparatory workshops and presentations, followed by two weeks of full-time group work.

In total, 122 participants tackled 12 challenges in 2021. These included a challenge with Cefas to classify plankton species using machine learning (also see page 14), and three challenges with the UK Dementia Research Institute that used AI to tackle research problems in this area.

The DSG team was also thrilled this year to win a KE Award for **Academic Engagement of the Year**. The KE Awards, organised by PraxisAuril – the UK's professional association for knowledge exchange practitioners – recognise the people and initiatives that have helped to initiate and deliver impact from publicly funded research.

"The DSG participants came up with a much-improved algorithm for classifying plankton species, which has now been embedded into the new plankton imaging instrument onboard our Cefas research vessel. This will allow us to collect valuable information more efficiently during future ocean surveys."

Sophie Pitois
Principal plankton ecologist, Cefas and Challenge Owner of the Turing-Cefas DSG

Supporting the National AI Strategy

A significant development within the UK's AI ecosystem this year was the launch of the government's **National AI Strategy**, which sets out a 10-year plan for enhancing the nation's reputation in this domain by boosting businesses' use of AI, attracting international investment, and developing the next generation of tech talent.

The Turing supported the development of the Strategy by conducting a survey of the UK's AI ecosystem in June 2021, working alongside the AI Council. The survey gathered the views of over 400 people who are researching, developing, working with, or using AI technologies. The results, summarised in **our report**, revealed areas that the UK needs to prioritise to realise the full potential of AI, including recruiting and retaining top AI talent, translating research into commercial products, and growing technical and ethical awareness at the leadership level. We are committed to playing our role in helping to foster a sustainable, inclusive and multidisciplinary UK AI ecosystem.

Interest groups

Our **interest groups** continue to bring researchers together around shared passions, across the UK and beyond. We now have 40 interest groups at the Turing, totalling over 3,500 members. Five groups have been founded this year, including '**Clinical AI**', '**Synthetic data**' and '**Bridging machine learning and behaviour models**'.

The groups act as forums for sharing knowledge, with the aim of sparking new ideas for collaborations and projects. Highlights this year include the setting up of the '**Turing trustworthy AI forum**' interest group, which allows researchers and business leaders to discuss the latest thinking in trustworthy AI, with the goal of helping organisations to deliver safe and ethical AI-driven systems. Another success story is the '**AI & arts**' interest group, which now connects over 70 members from universities, museums and arts institutes around the UK. One of its members, Turing Fellow Drew Hemment, this year launched the Turing-funded '**The New Real Observatory**' – an interactive, AI-powered tool that artists can use to create imagery by manipulating environmental data.

Our first data-centric engineering summit

In September 2021, we held our inaugural **DCEng Summit** – a two-day virtual event that explored how data science tools and methods can improve the reliability, resilience, safety, efficiency and usability of engineered systems. Over 350 attendees watched 70 international speakers across 25 thought-provoking sessions that enhanced the reputation of this innovative and emerging field.