‘Blue skies’ research is inherently risky as the value and indeed real-world application of research projects cannot be guaranteed. Yet, this type of curiosity-driven research plays an important role, not least in increasing public interest in science. The Leverhulme Trust, a UK-based funding body, encourages academics to research what they think are the important frontiers of their field. Research Outreach was privileged to speak with Anna Vignoles, Director of the Trust, about innovative research they have funded and the current challenges the UK research and education systems are facing.

We have a responsibility to ensure our funding schemes enable a diverse range of talented people to become outstanding researchers. We have far too many people who lack even basic numeracy and literacy skills, which holds them back in the world of work. I wanted to understand why this continued to be so, despite most people remaining in school until the age of 16 at least! So, when an opportunity arose to do a PhD focused on understanding the relationship between education and labour markets, I jumped at it.

I spent three very happy years researching the UK education and skills system at the University of Newcastle with a fantastic PhD supervisor, Professor Peter Dolton. From there I had a long career in academia, starting at the London School of Economics (LSE), moving to University College London (UCL), and ending up at the University of Cambridge. I was incredibly lucky to be working in the field of the economics of education just as there was a resurgence of interest in the area – partly driven by the very apparent UK skills shortages and acute inequalities in earnings. I spent much of my academic career encouraging policymakers to engage with robust research evidence.

The Leverhulme Trust is a UK-based funding body committed to sponsoring curiosity-driven ‘blue skies’ research. The Trust supports researchers from a variety of backgrounds and skillsets both within, and outside of, traditional research routes – also offering sponsorship to researchers in crisis within the UK’s vast research landscape.

Research Outreach was privileged to talk with Anna Vignoles, Director of the Trust, about her esteemed career in research funding and collaboration, as well as what the future holds for existing and prospective researchers working in science and science-related subjects.

Could you tell us a bit more about the Leverhulme Trust and your role as director?

It is a privilege to lead the Leverhulme Trust, one of the largest research funders in the UK. We fund people at all career stages and from across all the subject disciplines, except for medicine. Our particular focus is to support outstanding ‘blue skies’ research and we invest about £100m a year, largely into UK university research.

When appointed director in 2021, I learned very quickly that many academics are hugely supportive and very fond of the Trust. One reason for this is the Trust’s approach to funding, which encourages academics to research what they think are the important frontiers of their field. Many of the project ideas we receive are therefore both ‘risky’ in the sense that they may not succeed scientifically, and require interdisciplinary collaboration. This approach leads to some very exciting research and, in my view, is more likely to result in genuinely innovative ideas.

Could you tell us a little bit more about your research background and how this has prepared you in your role?

I was a late starter in academia, having spent several years working in human resources. We have far too many people who lack even basic numeracy and literacy skills, which holds them back in the world of work. I wanted to understand why this continued to be so, despite most people remaining in school until the age of 16 at least! So, when an opportunity arose to do a PhD focused on understanding the relationship between education and labour markets, I jumped at it.

I was a late starter in academia, having spent several years working in human resources. I joined the University of Newcastle with a fantastic PhD supervisor, Professor Peter Dolton. From there I had a long career in academia, starting at the London School of Economics (LSE), moving to University College London (UCL), and ending up at the University of Cambridge. I was incredibly lucky to be working in the field of the economics of education just as there was a resurgence of interest in the area – partly driven by the very apparent UK skills shortages and acute inequalities in earnings. I spent much of my academic career encouraging policymakers to engage with robust research evidence.
on issues related to social mobility, and recommending how we might better organise and fund our education system. My understanding of the causes of educational inequalities and the vital importance of skills to our Research and Development (R&D) sector has undoubtedly influenced the way I approach my job. The Trust plays an important role in the funding landscape and influences the opportunities facing academics and indeed the direction of their careers. We have a responsibility to ensure our funding schemes enable a diverse range of talented people to become outstanding researchers.

What immediate challenges does the UK, European, and global research funding landscape face, and how is the Leverhulme Trust responding to these challenges? The UK research system is currently facing several challenges, some of which threaten its ability to remain competitive. Along with almost everybody else who is involved in research, I have been urging the UK government to ensure it continues to participate in EU research programmes. The EU Horizon programme is particularly important. It provides blue skies research funding for collaborative research projects, enabling UK researchers to work with their European counterparts. The loss of access to this programme would seriously undermine the UK’s ability to remain at the forefront of global research and innovation.

Another pressing problem is the need for adequate investment in R&D by both companies and the government. While the government rightly aspires for the UK to be a science powerhouse, there remains a significant gap between what is needed in terms of investment and what is currently planned. There is a particular need to increase investment in both intermediate and high-level skills.

Another challenge is the university funding system. The tuition fee income from domestic students has eroded in value dramatically with higher inflation. This means that the sector relies on cross-subsidising both domestic students and the costs of research with international student fee income. While international students are a vitally important part of the UK higher education system, increasing this cross-subsidy further is not viable in the long-run. It is time that we addressed the issue of how we fund higher education teaching and research in a sustainable manner.

The Trust has responded to these challenges. In terms of the skills issue, we have increased our investment in our doctoral scholarship scheme. Post-Brexit, we have introduced new grants to attract top global talent to the UK, namely via our Leverhulme International Professorships. More generally, we have increased investment in large blue skies research schemes that encourage international collaboration and have the potential to help the UK to be a global leader in key research fields.

The Leverhulme Trust works closely with research funding organisations, for example the British Academy and the Council for At-Risk Academics (Cara). Could you tell us a little bit more about this collaboration and its implications?

I am very proud that we are partnering with the British Academy and Cara to provide financial support for researchers at risk who have come to the UK from across the globe. This scheme provides starter grants for academics who have already been admitted to the UK and are available to academics at risk regardless of their country of origin. Many of the applications have been from Ukrainian researchers. The sums available are modest, but judging from the strong demand we have had so far for these grants, they clearly fill a much-needed funding gap.

Why are collaborative networks so important for the future of education and research?

Collaborative partnerships are vital for the Trust. For example, we work extensively with the Royal Society, the British Academy, and the Royal Academy of Engineering. We partner with them on a variety of different grant schemes and of course we benefit hugely from their extensive links to many universities.

For example, our research fellowship scheme is offered by all three of the learned academies and is an important source of funding for experienced academics who need time out from teaching or administration to focus on their research. The scheme is very popular across a wide range of disciplines and does its job of enabling busy academics to maintain their research momentum.

Equally, we have a more targeted scheme that the British Academy manages, providing small grants for applicants from the arts, humanities, and social sciences. There are fewer sources of funding for these subjects and despite providing modest sums of money, it is one of our most popular schemes.

We also collaborate with a range of other funders on issues that are central to the health of the UK research sector. We have recently been working with UKRI and other research charities to develop ideas around the use of a more inclusive ‘narrative CV’, where applicants can evidence a wide range of experience beyond that which is typically included in a traditional CV. Historically, academic success was measured quite narrowly, largely by the number of publications and...
We have increased investment in large blue skies research schemes that encourage international collaboration and have the potential to help the UK to be a global leader in key research fields.

I see the future of education and research changing with breakthroughs in technology and data processing, particularly in relation to artificial intelligence (AI) tools. These tools can enable researchers to analyse large datasets much more quickly and accurately than ever before, including complex qualitative data. This has the potential to reduce the time taken to do certain research tasks, as well as providing insights that may enable more breakthroughs in many fields.

Certainly, AI is going to impact on teaching and learning in schools and universities. It has huge potential to provide personalised learning experiences for students. However, underinvestment in technology has been a theme in education for the last 30 years and access to AI is likely to remain very unequal. I also fear a mismatch between what happens inside education institutions and what will be happening in commercial settings.

There is also undoubtedly a risk that AI could exacerbate existing inequalities, both via unequal access to it and algorithmic bias. For example, if AI algorithms are trained on biased datasets, they may perpetuate existing biases and discrimination in areas such as hiring, lending, and criminal justice. Indeed, a recent report on artificial intelligence and education in the UK’s state schools by the think tank Cambridge has already been researching these challenges for many years. We need to do more to invest in developing AI tools and technologies that are accessible and inclusive, and to ensure that the benefits of these tools are shared equitably across society.

I think there is a clear research agenda here. We should focus on developing methods to detect and mitigate bias in AI algorithms. We need to do more to explore the ethical implications of using AI technology in various contexts and to ensure that AI technology is accessible and inclusive. However, for me the big issue that needs to be addressed rapidly is safety. We need ‘fit for purpose’ governance frameworks and regulations that ensure that AI technology is developed and used responsibly. There is still a lot of work to be done in this field.

The Leverhulme Trust is committed to supporting talented international students to the UK and is a major driver of research excellence. Our track record of funding projects that have had an impact on the public’s understanding of history, most recently with research into Richard III, whose remains were found in a car park in Leicester. So, although we do not impose dissemination or outreach conditions on our grant recipients, we do provide students and researchers with support to help them maximise the impact of their research.

How do you see the future of education and research changing with breakthroughs in technology and data processing, particularly in relation to artificial intelligence (AI) tools?