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UK ACADEMIC SALON 2021 REPORT

KEYNOTE SPEAKERS
AND DISCUSSIONS



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Introduction

Bringing together leaders and experts from higher education, industry and policymaking, the 2021 UK Academic Salon presented a series of in-depth discussions exploring the future of research and development in the UK.

The sessions took a panoramic view of the UK R&D sector, exploring the role it played in the UK's economic realignment and how it could be used to address regional inequality. In a global context, the issue of climate change, and how universities could facilitate effective climate action, was a recurring theme. "It is the biggest challenge of our time,"

said Victor Zhang, who outlined Huawei's commitment to green technologies and the UK research sector. A similar sentiment was voiced by Paul Monks, who spoke of the "economy-wide transformation" that Britain must undergo if it is to meet its 2050 net-zero target.

Convening online for a second year, attendees were reminded that the Covid-19 pandemic is yet to recede. John Gill heralded the strength of the UK research base and the University of Oxford's role in developing the AstraZeneca vaccine. That research base will play an essential role in the UK's economic recovery.

Victor Zhang, vice-president, Huawei Technologies

Climate change was a central focus of Victor Zhang's keynote. He spoke of Huawei's initiatives in green technologies, including energy-efficient storage systems. "Energy saving and energy storing is another focus for Huawei's R&D in the UK," Mr Zhang said. "We are developing better ways to reduce energy consumption within data centres, optimising their operation by precisely controlling the flow of cooling air."

Reflecting on the impact of the pandemic, Mr Zhang said such crises demanded a coordinated global response from governments, academia and industry. He reaffirmed Huawei's commitment to the UK's R&D sector and hoped that the company could play its part in the country's post-pandemic economic recovery. "In the last four years alone, we have added £3.3 billion to the UK's GDP," said Mr Zhang.

With more than 30 partnerships with universities and research institutes, Huawei was investing in the future of UK science, empowering the next generation of technology leaders.

Sir Anton Muscatelli, principal and vice-chancellor, University of Glasgow

Taking a broader view of the R&D landscape in the UK, Sir Anton Muscatelli welcomed the government's 2027 R&D investment target of 2.4 per cent of GDP. "The aspiration for the UK to become a science superpower is an important



Victor Zhang



Anton Muscatelli

signal of intent," he said. Strengthening relationships between research and industry could drive the post-pandemic recovery.

But Sir Anton also sounded a note of caution. The UK still lags behind some of its OECD peers in translating research into commercial opportunities. Innovation strategies must provide clear pathways for collaboration between businesses and universities, centring around pillars of innovation, infrastructure and skills. There was a fine line between diversification and fragmentation. He said universities could play their part in driving regional collaboration, but "the government's overarching vision for R&D must be matched by a consistent, clear and ambitious strategic plan, backed by a detailed financial road map for both private and public investment".



Innovation strategies must provide clear pathways for collaboration

Sir Anton Muscatelli

The future of UK-China collaboration

THE PANEL

John Gill, editor, *Times Higher Education* (moderator)

Lord Johnson of Marylebone, chairman, Tes Global

The relationship between the UK's research base and its partners in China was not only of huge significance to the sector but of "critical importance" to its status as a first-class knowledge economy. Lord Johnson of Marylebone, chairman of Tes Global, outlined some trends in UK-China research collaboration. There had been a significant increase in research partnerships since 2000, rising from 750 at the start of the century to more than 16,000 in 2019. It was clear that China was on course to become the UK's most important research partner.

"This is a relationship that is of critical importance to our future as a knowledge economy and to our ability to confront global challenges, including climate change and threats from new viruses," said Lord Johnson. He added that the quality of UK-China research partnerships was enhancing the reputations of both countries' research bases. "In terms of bang per buck, collaborating with China makes sense in terms of generating impactful research," he said.

When it came to quality and capacity in tech research, China was leading the field.



Collaborating with China makes sense in terms of generating impactful research

Lord Johnson

This influence could be felt across the UK research base. Not only was collaboration valuable, but engaging with Chinese partners was becoming a matter of huge importance if the UK was to remain viable as a research country in some key areas.

"We found that in no fewer than 20 subject areas, collaborations with China account for more than 20 per cent of the UK's high-impact research," said Lord Johnson. "In automation and control systems, telecommunications and materials science, collaborations with China represent more than 30 per cent of the UK's most-impactful output."

Lord Johnson said the UK-China relationship was complicated by politics, but he advocated a nuanced approach, and for the UK's principal research funders and regulators to undertake a survey of its collaborations to check for dependencies in core areas.

Road map to recovery: Will 2.4% be enough?

THE PANEL

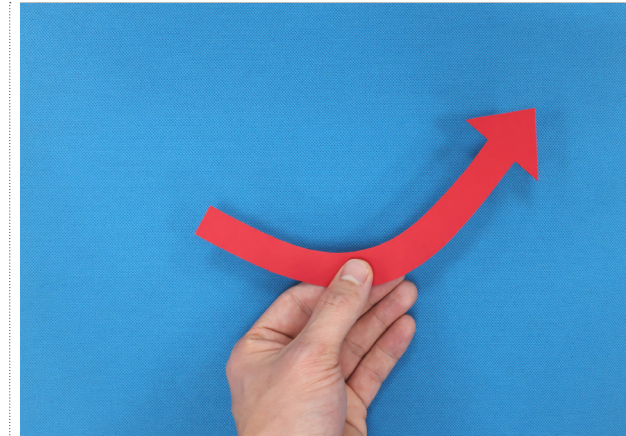
John Gill, editor, *Times Higher Education* (moderator)

Nick Hillman, director, Higher Education Policy Institute

The UK government's commitment to its 2.4 per cent research and development investment target is a rare phenomenon in policymaking because it remains largely uncontroversial, attracting broad support across the political spectrum. But the question posed to Nick Hillman was whether it would be enough to drive post-pandemic recovery and position the UK as a world leader in research and innovation.

Mr Hillman welcomed the target but sounded a note of caution. He said the target was only in line with the present OECD average for R&D spend, with that average liable to increase by 2027. More significantly, he noted that many OECD countries had targets exceeding the UK's. Modern economies such as Sweden, Israel and South Korea – countries the UK might view as peers – are all way ahead, with targets double the OECD average.

The government needed to be bold, said Mr Hillman. In 2017, the Conservative manifesto described the 2.4 per cent target as "a staging post" en route to a 3 per cent GDP R&D spend. Prime Minister Tony Blair's 2.5 per cent for 2014 was



[UK R&D spending] is a far-from-unique story of bold promises being made but not being delivered on

Nick Hillman

more ambitious and missed the target. "That is very instructive because from 2004 to 2014, our GDP spending was meant to go up from 1.5 per cent on R&D to 2.5 per cent," said Mr Hillman. "It actually went up by 0.1 per cent to 1.6 per cent. That is a far-from-unique story of bold promises being made but not being delivered on."

If the government needs to be bolder, so too does higher education when lobbying for funding. "Just because politicians have in recent times looked relatively warmly on R&D in British universities does not mean it is because we have made the case well."

Road map to COP26: How do we solve our next global crisis?

THE PANEL

Ellie Bothwell, rankings editor, *Times Higher Education* (moderator)
Paul Bates, associate director of impact and innovation, Cabot Institute, University of Bristol
Alyssa Gilbert, director of policy translation, Imperial College London
Chris Pearce, vice-principal of research, University of Glasgow

When the 2021 UN Climate Change Conference (COP26) convenes in Glasgow this November, it will do so as carbon emissions continue to rise and the impact of climate change grows more apparent. But can COP26 present a watershed moment for climate action? Ellie Bothwell, rankings editor at *Times Higher Education*, put the question to the panel.

Alyssa Gilbert, who is chair of the COP26 universities network, thought not. Nonetheless, COP26 presented the opportunity to build on previous climate commitments. "As a host, this is really an opportunity to catalyse climate action in our own country," Ms Gilbert said.

The panel were in agreement. Paul Bates hoped the rule book for implementing the Paris climate accord would be agreed upon. "If we do that process well and those rules are put into action, that is where the rubber will hit the road," he said.



CC
It's too easy to believe the solutions we need... to tackle climate change can suddenly materialise on demand
Chris Pearce

To enable more effective climate solutions, the power of financial markets needed to be brought to bear on the issue. "As soon as companies have to start reporting climate impacts and risk on their balance sheets, as soon as they have to take climate risk into account on their investment decisions, then you can actually start to see real change," said Professor Bates. But, he cautioned, universities needed to look at their own affairs. Legacy estate issues could have profound implications for sustainability and carbon footprint.

Chris Pearce said it was an opportunity to secure sustained investment in the research base and its infrastructure. "It's too easy to believe the solutions we need and the expertise we need to tackle climate change can suddenly materialise on demand," he said.

Next steps towards a place-based strategy for science and innovation

THE PANEL

John Morgan, deputy news editor, *Times Higher Education* (moderator)
Simon Collinson, deputy pro vice-chancellor of regional engagement, University of Birmingham
Alice Frost, director of knowledge exchange policy at Research England, UK Research and Innovation
Robert Huggins, director of research and innovation, Cardiff University

Creating pockets of regional innovation is not simply a question of funding. Policymakers have to be more exacting when looking to maximise the impact of research and development. Simon Collinson said one of the key issues was addressing skills deficits that limit innovation. Also, universities produce talent and research outcomes, but they are not always aligned with the requirements of the regional economic ecosystem.

"Let the knowledge flow to where it can make a difference," said Alice Frost. The best-performing cities have developed vibrant economic ecosystems favourable to entrepreneurship and start-up activity.

Robert Huggins said universities should pair local SMEs with entrepreneurs and use the influence of their institutes to attract inward investment.

Global Britain: Can the UK remain a science and technology superpower?

THE PANEL

Jack Grove, deputy features editor, *Times Higher Education* (moderator)
Louis Barson, director of science, innovation and skills, Institute of Physics
Jessica Corner, pro vice-chancellor of research and knowledge exchange, University of Nottingham
Rosalind Lowe, head of policy and engagement, National Centre for Universities and Business
Joey Pan, director of industry and public affairs, Huawei

CC
Let the knowledge flow to where it can make a difference
Alice Frost

Building a world-class research base requires more than just funding. The panel welcomed the government's 2.4 per cent target, noting that it was important to see it as a fundamental reset of baseline spending. But some context was offered. There has been a long period of underinvestment in R&D, and retooling the economy for the 21st century demands a holistic approach. Rosalind Lowe said the availability of skills, data, regulations and tax incentives all had a part to play.

The panel spoke of the changing nature of the economy and how it asked fundamental questions of a university education. Ultimately, Joey Pan noted, great minds, skills and excellence will always attract investment and find willing partners in the international business community.

CLOSING REFLECTIONS

Closing reflections

THE PANEL

John Gill, editor, *Times Higher Education* (moderator)

Paul Monks, chief scientific adviser, Department for Business, Energy and Industrial Strategy

Paul Monks brought the 2021 UK Academic Salon to a close, speaking about the scale, ambition and challenges the UK faces if it is to meet its target of net-zero emissions by 2050. He described the decarbonisation of our economy and building resilience to the impact of climate change as the biggest challenges. Achieving net-zero



We really need to take the net-zero challenge and think about R&D

Paul Monks

requires a reduction in demand, greater efficiency, more low-carbon energy and greenhouse gas recovery. All sectors must play their part, from how we build homes to how we provide transport for cities. Professor Monks described it as the circularisation of the economy and a pervasive challenge.

“To achieve net-zero by 2050 is really going to require an economy-wide transformation,” said Professor Monks. “We really need to take the net-zero challenge and think about the R&D, the technology and the behaviour change that is going to be needed.”

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