

Funding

UK universities to get coronavirus financial support

The UK government has announced new measures to help protect universities from the effects of the COVID-19 pandemic. They include loans and grants to cushion losses from a drop in international students as well as £200m to cover research costs, including salaries and grant extensions.

Business secretary Alok Sharma, who trained as a physicist, says that the schemes are to ensure universities that face financial hardship can offer job security to researchers. “The support we are putting in place will give our world-leading universities a lifeline by protecting jobs to ensure our best minds can continue discovering new innovations that will benefit us all for generations to come,” he notes.

“Research-active” universities will be able to apply for the finance in the autumn to cover up to 80% of their income losses caused by any decline in international students. The support will be in the form of long-term, low-interest loans and a small amount of government grants. Conditions attached to the funding are yet to be announced but will be dependent on the uni-



Show me the money

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versity's ability to take advantage of the funds and may be restricted by current borrowing.

Around £200m has also been made immediately available to support researchers' salaries and other costs such as laboratory equipment and fieldwork. The UK government says it hopes this will allow universities to retain scientists and protect research projects. In addition, UK Research & Innovation – the umbrella body for the UK's seven research councils – will be redistributing up to £80m of existing funding to support research and development in universities. The focus of the investment will be high-priority projects, such as antibiotics resistance, plastic pollution and climate change.

“For UK research to drive the next generation of innovation, it will be important for government to ensure that the inspiring range of research activity across the private, public and third sector, large and small, is able to recover and flourish,” says Sarah Main, executive director of the Campaign for Science and Engineering. “[This] announcement is a good first step.”

Michael Allen

Europe

Britain will cover its Horizon Europe losses

The UK government has committed to meet any funding shortfalls that may occur if the UK “does not associate” with the European Union's upcoming research programme, Horizon Europe. The measure was announced as part of the UK's new R&D roadmap, with the government maintaining that it hopes to agree a fair and balanced deal for participation in EU R&D schemes after Brexit. The roadmap, which sets out the government's vision for the future of research and innovation in the UK, includes spending £22bn a year by 2024/25 on research and development as well as £300m to upgrade and maintain scientific infrastructure.

Since the Brexit vote in 2016, scientists have expressed concerns that leaving the EU would make the UK less attractive to researchers. As part of the new roadmap, the government announced a new “office for talent” to help top scientists, researchers and innovators move to the UK. Based



Mind the gap

The UK government has announced that it will protect lost funding if the UK does not become a full member of the European Union's research programme.

at 10 Downing Street and with teams across government departments, one of the new office's first jobs will be to review the current immigration system to ensure that it is simple, easy and quick. The roadmap also includes plans to set up an “innovation expert group” to review and improve how government supports research, from idea stage to product development. “The R&D roadmap sets out our plan to attract global talent, cut unnecessary red tape and ensure our best minds get the support they need to solve the biggest challenges of our time,” says UK business secretary Alok Sharma.

Astronomer Martin Rees, former president of the Royal Society, says, however, that Brexit and its “associated rhetoric” has made the UK less welcoming to top talent from abroad. “Let's hope that the welcome aspirations in this document are transmuted into substance,” he says.

Michael Allen

Education

AI could reduce teacher workload

Researchers at the University of Birmingham have developed an artificial intelligence (AI)-based system that could reduce the amount of time that school and university physics teachers spend marking student assignments. While educators welcome the initiative, some are cautious about the benefits that the new approach might yield.

Providing feedback to students is recognized as fundamental to effective teaching, but the amount of time spent marking assignments has long been a source of concern to educators. There is, however, growing interest in AI-based approaches to help relieve the marking burden. For example, Ofqual – the government regulator of school examinations and assessments in England – is preparing to launch a competition to better understand the potential for AI in marking written assignments.

The algorithm, designed by Birmingham theoretical physicists, identifies where students' assignment workings deviate from the teacher-defined “correct” method. The platform, which accepts submissions in digital and handwritten formats, then provides step-by-step feedback for the student. The marked version is reviewed by the teacher before it is given to the student.

The team's spin-out company, 6 Bit Education, is now preparing to pilot its system in university physics departments. But getting to this stage has been difficult. “Educators are already strapped for time, so we had to make sure creating content is easy and does not require learning a programming language,” says physicist Manjinder Kainth, who is chief executive of 6 Bit.

Peter Fairhurst, curriculum specialist in science education at the University of York, says that 6 Bit's system could potentially help teachers identify the wealth of misconceptions that students have in physics. This would, in turn, allow teachers to give better – and more targeted – feedback to their students. “Interpreting students' descriptive or explanatory answers to problems to unearth these types of misunderstandings would be groundbreaking,” he says.

Simon Perks