

NEWS IN FOCUS

GENE EDITING European ruling on CRISPR crops flummoxes food-testing labs **p.15**

DISEASE Ebola researchers struggle to test drugs and vaccines in a war zone **p.16**

BIOSECURITY Eliminating the last stocks of deadly rinderpest virus **p.18**



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Boris Johnson highlighted science as one of the United Kingdom's "enormous strengths" in his first speech as UK prime minister on 24 July.

POLITICS

What the new UK leader could mean for science

Boris Johnson is a controversial figure — and his stance on Brexit concerns researchers.

BY HOLLY ELSE AND ELIZABETH GIBNEY

Boris Johnson is the United Kingdom's new prime minister — and is poised to lead the country out of the European Union. At the forefront of many scientists' minds are questions about how Johnson's leadership, including his support for a potentially chaotic 'no deal' Brexit, will affect research.

Johnson became prime minister on 24 July. He is a controversial politician, who has served as the Conservative government's foreign

secretary and as mayor of London. Johnson said little about research during his leadership campaign — although in his first speech as prime minister he praised the United Kingdom's leading scientists and criticized the EU's rules on gene-edited crops.

But Johnson's support for a no-deal split worries scientists, who have long said that an abrupt exit would be disastrous for UK research — instantly cutting off some funding from big-money EU science programmes and disrupting travel, hiring and collaborations.

Nature looks at what Johnson's premiership could mean for science.

How did we get here?

Johnson takes over from Theresa May, who after three years as prime minister failed to deliver Brexit, which the British people voted for in 2016. She resigned in May after her hard-won, but unpopular, agreement with the EU on the terms of the United Kingdom's departure failed to win support from Parliament. May's departure triggered ▶

► a leadership contest in the governing Conservative Party. On 23 July, Johnson beat Jeremy Hunt, a former health and foreign secretary, in a vote of the party's 160,000 members.

How could Johnson's Brexit stance affect research?

Johnson campaigned for Britain to leave the EU. He has said he wants to “take back control” of decisions about laws and to deliver the will of the people. He hopes to negotiate a new departure agreement with the European Commission, but says that the country will leave without a deal if nothing is in place by 31 October, the current deadline by which the United Kingdom must leave the EU. The EU has said that the withdrawal agreement is not open for renegotiation.

Researchers fear a no-deal Brexit because the scenario could jeopardize the United Kingdom's ability to take part in the EU's flagship research-funding programme, Horizon Europe, worth

€100 billion (US\$112 billion). UK researchers have historically been some of the bloc's biggest winners from the scheme — garnering more than the UK government has paid in.

Immigration is another major concern because there would be no treaties in place with the EU after exit day. This could have huge ramifications for UK research — 17% of scientists in the United Kingdom are originally from other European countries.

What is Johnson's track record on science and innovation policies?

Johnson gave scant attention to research during his leadership campaign. Because of that, Paul Nurse, director of the Francis Crick Institute in London — one of Britain's premier science centres — questions how seriously Johnson will take scientists now he is in power.

But the prime minister's first speech in office showed a “striking and somewhat surprising” attention to science, says James Wilsdon, a science-policy researcher at the University

of Sheffield, UK. Johnson highlighted life sciences, technology and academia as “enormous strengths” of the UK economy. And he described how the country has the opportunity to liberate biosciences from anti-genetic-modification rules imposed by the EU, freeing researchers to develop blight-resistant crops. He also hinted at changing tax rules to enable more investment in research.

But Johnson has not yet pledged to continue support for the government's flagship research target of spending 2.4% of the UK gross domestic product on research and development by 2027, says Wilsdon. “Even if we avoid a damaging economic slump of no deal, will there still be the funds to do this?” he adds.

What about climate change?

Johnson's parliamentary voting record reveals that he has generally been unsupportive of policies designed to mitigate climate change. In 2016, he voted against setting a decarbonization target and against requiring energy companies to have strategies for carbon capture and storage.

What is his political style, and how could that affect science?

Johnson is not an ideological politician, so any major policy changes he makes will be about political positioning rather than strong beliefs, says Kieron Flanagan, who studies science and technology policy at the University of Manchester, UK. This differs from May, who had a history of talking about the importance of long-term science and economic policies.

But Johnson's style could also benefit science. “He is attracted to shiny projects, and there are lots of those in science,” says Flanagan. He adds that Johnson has a reputation for not doing his homework. Bluffing in international negotiations about climate change or biodiversity, for example, could be problematic.

How has the cabinet changed?

Johnson has assembled a cabinet — the government's senior decision-making body — of people who are generally more right-wing and more in favour of a no-deal Brexit than their predecessors. Johnson also appointed Dominic Cummings — a controversial political strategist who has strong views on science and research policy — as one of his senior advisers (see “Top adviser is science enthusiast”).

Johnson appointed his brother, Jo Johnson, as minister for universities and science, a job he previously held in 2015–18. During that time, Jo Johnson was generally popular with scientists and oversaw a major shake-up of the research-funding system that resulted in the creation of the mega-funder UK Research and Innovation.

Some researchers warmly welcomed his return. “Jo Johnson has always been a very powerful supporter of UK universities, and, crucially, he is also a pro-European politician,” says Alastair Buchan, head of Brexit strategy at the University of Oxford, UK. ■

DOMINIC CUMMINGS

Top adviser is science enthusiast

Boris Johnson has appointed Dominic Cummings (pictured) — a divisive political strategist who regularly blogs about science — as one of his two senior advisers. But it is not clear how much time Cummings will be able to devote to science policy, says James Wilsdon, who studies science policy at the University of Sheffield, UK.

In blog posts from the past five years, Cummings has criticized research-funding mechanisms, saying the United Kingdom “ties research up in appalling bureaucracy” and fails to fund it enough. He has also said postdocs “are abused as cheap labour”.

On his blog, Cummings has proposed creating a UK version of the US Defense

Advanced Research Projects Agency to carry out high-risk, high-reward research. He has also suggested setting up a data-science unit in the prime minister's office that can “plug into the best researchers around the world”, guide policy and flag where there is an absence of evidence.

But Cummings' efforts to apply science to policy have also proved controversial. In an essay written in 2013, when he was an adviser to the education minister, he suggested that children might receive “personalised education” based on genetic testing, arguing that genes have a significant influence on intelligence. The essay attracted criticism from scientists. **E.G.**

