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Brexit has Britain's scientists in a cold sweat

by William Booth and Karla Adam

CANTERBURY, England — Britain has been a powerhouse of discovery since the age of science began. Newton, Darwin, Crick? They parted the curtain on gravity, evolution and DNA.

Now comes Brexit, and to use a nonscientific term, the scientists in the country are freaking out.

Since the vote in June to leave the European Union, leaders of Britain's scientific academies are making dire predictions about what could happen to research and innovation here.

Damage to British research, the scientists warn, could be among the cascade of unintended — and largely unappreciated — consequences of the vote to exit the bloc.

The researchers worry that Britain will not replace funding it loses when it leaves the E.U., which has supplied about $1.2 billion a year to support British science, approximately 10 percent of the total spent by government-funded research councils.

Some researchers in Britain are also anxious about the possibility of a drop in funding from continental agencies. (Peter Nicholls/Reuters)

There is a whiff of panic in the labs.

Worse than a possible dip in funding is the research community's fear that collaborators abroad will slink away and the country's universities will find themselves isolated.

British research today is networked, expensive, competitive and global. Being part of a pan-European consortium has helped put Britain in the top handful of countries, based on the frequency of citations of its scientific papers.

The heads of British academic societies recently posted a public letter reminding everyone that the country's universities, many of them among the best in the world, are staffed by legions of top-flight researchers from abroad.

Equally, the student bodies, especially graduate students in master's and doctoral programs, are populated by young scholars from the continent.

The community is asking: Will the foreigners continue to be welcome in British laboratories and will British researchers continue be partners with collaborators from abroad?

Dame Jocelyn Bell Burnell, president of the Royal Society of Edinburgh, said a third of the research staff at leading universities in Scotland are E.U. passport holders.

"They are all very twitchy right now," Burnell told a science and technology committee in Parliament last month. . "If good opportunities show themselves elsewhere in Europe, they will be off."

The new prime minister, Theresa May, vowed that preserving the country's innovation was "a priority" and that British negotiators would focus on scientific collaboration in any future talks in Brussels.

In a letter to Sir Paul Nurse, director of the Francis Crick Institute in London and a former president of the Royal Society, May wrote that Britain is "enriched by the best minds from Europe and around the world," according to a copy of the correspondence obtained by the BBC.

Anecdotal evidence suggests that headhunters may already be circling. Analysts with the Conference Board of Canada advised that Canadian universities try to lure talent across the ocean: "With Britain's wealth of talent facing an uncertain future after Brexit, we can reasonably expect them to consider their international options."

Spain's deputy prime minister, Soraya Sáenz de Santamaría, told the Financial Times her country would like to see the European Medicines Agency move from London to Madrid.

Some 15 percent of lecturers at British universities hold E.U. passports (and are not British). At the highest-ranked British universities, that number rises to 20 percent. In some academic departments at the London School of Economics and Political Science, half of the teaching staff is from abroad.

Alexander Halliday, a professor of geochemistry at the University of Oxford, testified at the House of Lords. Britain, he said, is considered one of the most entrepreneurial places in the world. "It wasn't that way 10 years ago," he said, and pointed to a surge in E.U. science spending compared with flatlined funding by Britain.

As one example of Britain's ability to draw talent, Halliday said a "staggering" one-fourth of the winners of the coveted Marie Curie fellowship, awarded by the E.U. to scientists to study abroad, come to Britain.

Here in Canterbury, the University of Kent bills itself as "the U.K.'s European university," with outposts in Athens, Brussels, Paris and Rome. The vice chancellor, Dame Julia Goodfellow, said

of her location in Kent, “We’re surrounded by sea on three sides. It’s an hour to London but almost as quick to Paris or Brussels. It just makes sense to look outside Britain.”

Europeans make up 18 percent of the school’s graduate students and 22 percent of the faculty. The university pumps almost $1 billion a year into the local economy.

“One of our biggest issues right now is the uncertainty,” Goodfellow said. Researchers and students want to know they’ll get visas and funding. “Kent will push for an open-door policy,” she said.

Harmonie Toros, 42, is a senior lecturer at the University of Kent, where her speciality is international conflict resolution. She is French-Turkish, and her husband is an Italian academic also at the university. They have two young children.

She said Brexit has hit her professionally and personally.

“Professionally, I would be planning to apply for a European Research Council grant now. It would be the right thing to do in my career. But it is a huge undertaking, 90 pages, will take a month and a half to do. And my chances of getting it are between 5 and 10 percent.”

She’s worried those odds may have fallen in the wake of Britain’s decision to leave the E.U.

“I would understand if the European Research Council weren’t particularly inclined to give us as much money as they used to,” Toros said. “Do I put a month of my time or more into an application I will have even lesser chance of getting? There are quite a few of us in this kind of position asking, ‘Is it really worth it?’ ”

On the personal side, Toros said that for the first few weeks after Brexit, she would eye people on the streets and wonder how they voted. The county of Kent came out strongly in favor of leaving the union.

“You look at neighbors, and you know some of your neighbors voted ‘leave,’ ” she said. “My entire work is on dialogue. I’m not going to stop talking to people because they voted ‘leave.’ That would be crazy.”

Vid Calovski is president of the Kent Graduate Student Association. He said, “We’re scared the vote will change what makes the university such an eclectic community.”

A friend, Paul Wong, 23, who is from Malaysia and is studying for a master’s in actuarial science, said that in his class of 30 students, none are from Britain. Another graduate student, Ben Brown, 22, who is getting a master’s in comparative politics, ticked off his roommates in a student apartment: “Four French, an American, one German, a Dutch — and me.” He’s the lone Brit.

Research in the 21st century is more collaborative than ever, the scientists say.

Anne Rosser is a professor at Cardiff University in Wales and a joint director of the Brain Repair Group there. Her focus is Huntington's disease, a rare neural disorder. With partners at eight other labs, the consortium is searching for ways to transplant stem cells into damaged brains.

"You can't do this kind of research in one country," Rosser said. She is especially worried about what will happen to funding and collaboration for investigating rare diseases.

Asked if Brexit could hurt her research, she said, "It could certainly slow down what we are doing."

Rosser said she will apply for European funding this year, but she added that scientists are growing anxious about eligibility.

"In science, the last thing you want is isolation," she said.

Chris Husbands, vice chancellor of Sheffield Hallam University, said 12 research groups at his institution were preparing to participate in grant applications for the E.U.'s Horizon 2020 money, due in August. He said that four of the teams on his campus were told by their E.U. partners that it was unhelpful now to have British collaborators.

The scientific journal Nature pointed out that much of the anxiety in British science is so far based on anecdotal evidence — as well as mere emotions — which are unreliable for proving that British innovation is going to take a whack.

Regardless, Nature reported that Britain's science minister, Jo Johnson, has set up a specific email address (research@bis.gsi.gov.uk) for researchers to send him stories of lost opportunities.

Adam reported from London.