WHAT DOES BREXIT EXIT MEAN FOR UK RESEARCH?

Academics at leading UK universities lend their expert opinions on how Britain’s potential exit from the EU might affect research.
First, I would like to refer to the excellent arguments about the benefits of the EU to research that have recently been put forward by Royal Society Fellows, Universities UK, and other organisations.

Research is a global endeavour and it relies on international mobility of researchers and their families. The big research problems of our time are simply too complex to be solved by national groups of scientists. Membership of the EU facilitates this international mobility. It’s easier to put your belongings in a car and drive to another EU country to work (as I did, moving from Belgium to the UK in 1989) than it is to start work in the US or Asia.

Big research problems such as cancer, climate change, international conflict and philosophy need collaborative work on large projects. The EU puts more funds into collaborative work than any national government ever would. Sometimes it’s good to give up a bit of your sovereignty to be part of a larger, more effective group. The EU research community is an example of this. Another is Britain’s membership of the UN Security Council.

British researchers co-author more research papers with the rest of the EU than with any other continent. Internationally co-authored research is more influential than research by authors from a single country, so the influence of British research would go down after a Brexit. UK research will not collapse, but it will become less competitive, less influential. Why would we do that to ourselves?
A key question we need to ask ourselves is ‘what kind of EU would develop without the influence of the UK?’

EU funding has been crucial to helping the University of Exeter support initiatives that facilitate the interaction of business and higher education. This has brought huge benefits to local companies and the regional economy. It has helped establish two Business Technology Centres which have supported more than 380 businesses, providing research support, advice and access to facilities and leading academics.

PROFESSOR SAUL BECKER.
Pro-Vice-Chancellor and Head, College of Social Sciences, University of Birmingham:

When thinking about the impact Brexit may have on research I see three principal areas of concern: the ability to 1) access EU research funding, 2) attract international academic talent to the UK and 3) secure international collaborations.

UK universities do very well out of EU funding programmes such as Horizon 2020. At the University of Birmingham we hold around 275 EU funded projects worth £90 million. The impact of a vote to leave the EU on our access to European research funding remains unclear and ultimately depends on the deal struck between the EU and UK after Brexit.

However, the potential risk to the UK if it is no longer able to participate is significant, not only in terms of the funding itself but in joining international research consortia. Collaborators, both in the EU and internationally, choose to partner with UK universities, in part at least, because of the access to this funding.

Similarly, the UK’s ability to attract academic talent is likely to be impacted; many universities, Birmingham included, have significant numbers of EU nationals included in their faculty who add invaluable perspectives and expertise to their research groups and for the students they teach.

MR CHRIS MOTTERSHEAD,
Vice Principal, Research, King’s College London:

Research is inherently a global enterprise, with any research building upon the contributions of many other researchers, irrespective of their nationality or source of funding and, in many ways, the global research platform will be unaffected by whether the UK is, or is not, in the EU.

The UK has some of the world’s best researchers, and this attracts high levels of funding from the EU and collaboration with other European academics. If the UK leaves the EU, there will inevitably be some impact, but the scale is not clear, not least because, given the quality of our research, many people in Europe are likely to continue to seek research relationships with UK academics.

UK academics also currently make a significant contribution to policy making in Europe, and whilst some of this will continue, ultimately they may become less influential if the UK votes to leave in June.
The EU enables cutting-edge research, discoveries and inventions that improve people’s lives and futures every day. It provides vital funding to the UK’s most talented researchers, working in areas from disaster prevention to curing cancer.

We are better able to collaborate with the best minds from across Europe to carry out research that leads to innovations and discoveries that boost our economy, create new jobs and improve people’s lives. In a world where many of the challenges we face are global, from cancer to climate change, it is more important than ever that we minimise barriers to working with international partners to share expertise and knowledge.

Outside the EU, we risk cutting ourselves off from unique support and networks and undermining the UK’s position as a global leader in science and innovation. It would be unclear whether, and on what terms, the UK could negotiate access to EU research programmes outside the EU. Continued participation would depend on negotiations with the 27 remaining Member States, and would require unanimous approval.

Even if the UK did succeed in securing participation in future EU research programmes through complex negotiations, outside the EU, the UK would move away from an influential position at the centre of European research programmes, voicing our views from the sidelines. Therefore we would be paying to participate, but lose the ability to shape or influence the programmes.

A full or partial withdrawal from EU research programmes would present a serious risk for UK research. There are two levels of argument – one is about resources for research, but the second and more important argument concerns what we get from being part of the European community of research.

Taking first the question of funding, the strength of our science base has ensured that we have benefited substantially from participation in successive Framework programmes and the current Horizon 2020 initiative. To this may be added investments in research and innovation from European Structural and Investment Funds. These investments in infrastructure provide an important complement to UK Government investment in scientific facilities such as the National Graphene Institute.

Some have argued that if Brexit were to happen, and we also exited from these programmes, we could direct the same resources nationally to research without the transaction costs of routing them through Brussels. This is, frankly, an unlikely scenario. Few in the research community would be confident that ‘repatriated’ funds would be allocated to research in the context of the likely state of a post-Brexit economy.

Beyond this there are specific arguments for maintaining participation in European research funding processes. As the US system has amply demonstrated, plurality of funding sources is a source of strength; it ensures that the best ideas are less likely to slip through the net of peer review and provides an environment where policy entrepreneurship is more likely. The European Research Council has been a good example of such innovation, effectively setting the gold standard for conditions of support for the most excellent researchers.

Collaborative projects in Europe allow us to share the costs of large facilities and create critical mass in other ways, for example through compiling large datasets in areas such as epidemiology. They give us access to partners with skills or assets complementary to our own, which would often not otherwise be available and would, in any event, come from a much wider choice set. For more application-focused research, European projects can provide the first step to new markets and partners within them. They provide a chance to influence the emergence of new standards and regulations, which will apply to us in any event. The societal challenges addressed by EU programmes tackle transnational problems such as environmental pollution or climate change. Even where these are undertaken by global initiatives, a collective European voice is more influential at the table of negotiations.

Turning to the fabric of the research community in the UK, European mobility has helped to generate our pre-eminent position in science by giving us access to excellent researchers and students from other Member States without the major barriers created by visas and other issues associated with non-EU appointments. EU schemes have provided important international experience for early career researchers.

There is an argument put forward that these benefits could be gained from European collaboration from outside the EU, for example as an Associated Country for Horizon 2020. Even if this could be agreed, it is clear that Member States hold the upper hand when it comes to setting the strategic and operational priorities. Trying to run European collaboration via bilateral or multilateral arrangements would be far costlier and more bureaucratic. Existing schemes of this type struggle to operate effectively. Countries and their agencies have different rules, priorities and timescales for making decisions, and vary in the duration of the commitments they can make. This is in contrast to the stability of the EU approach.

In summary, the research community in the UK has a clear stake in remaining as a full and enthusiastic participant in EU research programmes.

Professor Luke Georghiou from the University of Manchester writes here in a personal capacity. His research has been supported through successive European programmes (as well as national sources) and he has been a member of several evaluation and advisory expert groups examining European research and innovation at Commission and Member State level.