THE FOUNDATION FOR SCIENCE AND TECHNOLOGY

DEBATE SUMMARY

The opportunities for and threats to the research and innovation communities from Brexit

Held at The Royal Society on 16th November, 2016.

The Foundation is grateful to the Association of Innovation, Research and Technology Organisations (AIRTO), Innovate UK, The Michael John Trust and The Kohn Foundation for supporting this debate.

The hash tag for this debate is #fstbrexit .
Audio files of the speeches are on www.foundation.org.uk .

Chair: **The Earl of Selborne GBE FRS**
Chairman, The Foundation for Science and Technology

Speakers: **Sir Venki Ramakrishnan PRS FMedSci**
President, The Royal Society
Professor Louise Richardson FRSE
Vice-Chancellor, University of Oxford
The Rt Hon the Lord Willetts
House of Lords

Panellists: **Dr Hermann Hauser KBE FRS FREng FInstP**
Co-Founder, Amadeus Capital Partners
Professor Madeleine Atkins CBE
Chief Executive, Higher Education Funding Council for England

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SIR VENKI RAMAKRISHNAN reminded the meeting that the current reaction against globalisation and retreat into nationalism and protectionism were not new phenomena.

Past experience in the last century had shown that the consequences could be disastrous and long-lasting; global trade did not really recover until the 1970s. Past experience had shown the importance of ensuring that the benefits of globalisation were not only more widely spread (in the USA, for example, the benefits had been mainly experienced in the Western and Eastern states leaving a growing wasteland in between) but also were continually enhanced through higher productivity. The latter depended crucially on innovation for which the UK had a high reputation.

That reputation had depended on and had encouraged inward investment by foreign companies and had attracted the brightest and best of world talent to study and work at UK research centres – a large proportion of the UK's Nobel Prize winners had been foreign-born.

Innovation tended to thrive where there was an accumulation of complementary expertise, proximity to centres of research excellence, good transport to foster connectivity and a flexible and broadly-based education ensuring a plentiful supply of skilled workers. These were all areas where the role of Government was paramount.

The UK needed a Government industrial strategy which concentrated on these rather than one attempting to identify winning sectors. If the UK was to maintain and build on its reputation for innovation it needed to focus on labour mobility, adequate levels of investment in research and avoiding burdensome regulation.

The UK was second only to the USA as a haven for foreign scientists. These scientists had not only contributed to our scientific capital but had also built a valuable network of partners across the world. The Government would be making a grave error if it adopted policies on immigration which reduced its attraction to such talent and to such future partners. The concerns about immigration underlying the Brexit referendum results were not about stopping it; they were about controlling it.

EU research programmes have provided substantial funding for UK researchers. This has been a major benefit at a time when the UK's own science base funding has been declining in real terms. The UK's Brexit negotiations should have as a high priority the ability for the UK to buy its way into future EU programmes and achieve the substantial benefits of collaboration with EU researchers.

In the area of regulation, the UK has been particularly good at standards setting ensuring that the process was informed by good science and also helped to foster good science and innovation.

PROFESSOR LOUISE RICHARDSON said that the referendum campaign had shown the need for greater efforts by experts to convince the public of the value of experts and of scientists. Their work was the foundation of much that benefited the lives of every citizen. The referendum result had certainly provoked a strong emotional reaction among EU nationals in UK universities.

Also the Prime Minister's disparaging remarks at the Tory Party Conference about "citizens of the world" had been wrong and disturbing. It was important to remember that the present high reputation of UK universities was heavily dependent not only on EU funding but also their attraction to overseas students and researchers; 48 per cent of Oxford academics and 65 per cent of Oxford graduate students were of overseas origin.

One of the threats from Brexit facing UK universities was the potential loss of students from the EU (currently 30 per cent were EU) as a result of increased fees once non-EU fees were charged. And overseas student numbers would further suffer from the continued failure of Government to exclude students from net migration statistics.

A second threat was the potential poaching of academic staff by EU institutions (Germany, Netherlands and Ireland were the greatest threats) and the potential loss of foreign-born staff at all levels (including the kitchens). This threat could be reduced by early clarification of the right of EU nationals to remain in the UK.

A third threat was the loss of funding from EU research programmes and the ability to participate in the shaping and execution of such programmes. Other countries, such as Switzerland, Israel and Georgia, had been able to negotiate acceptable rights of access and participation. It was uncertain whether a price of such arrangements could be freedom of movement of people; Switzerland had found that its participation had suffered in the wake of the Swiss referendum decision to restrict freedom of movement.

Among opportunities could be an escape from some of the more burdensome aspects of EU regulation. Risk-based and speedy light regulation could give the UK a valuable competitive edge. Also a UK-based industrial strategy could ensure that this country played to its particular strengths.

LORD WILLETTS noted that we now lived in a "post-truth" era. For example it had become a "truth" that globalisation was viewed as a threat and a problem in the USA and yet the evidence was that in the USA the contribution of trade to GNP was less important than in many countries. He believed that the success of science depended less on funding than on the creation and maintenance of networks. He therefore advised the UK science community to focus on the promotion of global networks and, in its dealings with Government, to show, in the wake of Brexit, that it was energetically seeking to establish collaboration with the Commonwealth and non-EU countries such as the USA and Switzerland.

He also urged a realistic approach to regulation; acceptance of some EU regulation was an essential prerequisite for access to EU markets. Mutual recognition of standards could be more important for trade than low tariffs and the scientific community had a key role to play in helping to shape standards so that they were based on sound scientific evidence. He believed that the EU's dogma about freedom of movement was not as fully reflected in EU practice as was commonly supposed. In his opinion the referendum result had shown that universities had failed to persuade the public that they were not a self-serving élite but rather a source of major advances which benefited the whole community.

The pre-dinner discussion period was launched with contributions from two additional panel members. DR HERMANN HAUSER spoke of the contribution to many good UK policy initiatives made by foreign-born national like himself and contrasted the high esteem in the eyes of many Europeans of such EU initiatives as Schengen Area and the Euro and the general view in the UK that both had been disastrous.

PROFESSOR MADELEINE ATKINS stressed that the number one concern for Higher Education Institutions (HEIs) was the potential threat to its future pool of talent. The challenge was to assist Government in the design of an immigration policy which would eliminate that threat. If UK HEIs were to maintain their current high world reputation the UK needed to be seen as the most exciting place for researchers from all over the world – a place where they could prosper and progress through post-graduate, post-doctorate and early career stages. The creation and maintenance of sustained long-term collaboration relationships required visa rules and processes designed to help mobility rather than to impede it.

The post-dinner discussion period was launched by a contribution from PROFESSOR FRANCE CÓRDOVA, Director of the US National Science Foundation, who suggested that the widespread astonishment at the discrepancy between recent election/referendum results and pre-vote opinion poll findings stemmed in part from a failure to understand the fundamental difference between data derived from an opinion poll and data derived from carefully designed surveys. Also the growing danger that beliefs rather than truth were gaining the upper hand in political dialogue was a formidable challenge for all scientists and academics.

In the discussion periods before and after the dinner interval, it was clear that the key points made in the presentations commanded wide-spread support and that the concerns expressed by the panel speakers

were widely shared, especially about the paramount need for the Brexit negotiations and post-Brexit policies to avoid measures on immigration which would deprive UK HEI's and research institutions from access to the world's best talent and from the ability to collaborate in future EU research programmes. Some speakers did stress the need for the UK to do more to encourage the supply of home-grown engineers but, as many other speakers pointed out, this should not be allowed to diminish the recruitment of the best international talent.

As regards immigration policies many contributions pointed out that the Brexit result should not be allowed to obscure survey findings showing public understanding of and support for permitting the entry of foreign-born talent of benefit to the UK.

Differing views were expressed about the role which Governments could usefully play in fostering innovation. Some speakers considered that a focus on picking winning sectors or regions was less likely to be valuable than a focus on improving basic infrastructure and connectivity.

Pursuing the points made in the presentations about the need for better public understanding of the contribution made by science and innovation to wealth and welfare, some interventions stressed the importance of avoiding giving the impression that the scientific élite was simply seeking to serve its own special interests. Scientists needed to convince taxpayers that their taxes were producing worthwhile and tangible benefits. Could professional communicators perhaps help in this task? Some contributors did not believe they could and argued for greater involvement of the public in science projects, especially in social science projects.

Was it conceivable that, in the wake of the complex negotiations to take the UK out of the EU, the British public might reach a different judgement about the net benefits of Brexit and that there would be growing pressure at that stage for a second referendum? Certainly some speakers thought that adverse economic developments, including growing inflation, and the problems of renegotiating a host of regulations and standards might well have this consequence. But others stressed that a democratic decision had been made and Government was determined to carry it through to completion.

Sir John Caines KCB

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Two important documents were published after the debate which are very relevant:
Prime Minister's speech to the CBI on 21st November, 2016
www.gov.uk/government/speeches/cbi-annual-conference-2016-prime-ministers-speech

Leaving the EU: implications and opportunities for science and research
Report of an inquiry of the House of Commons Select Committee on Science and Technology
www.publications.parliament.uk/pa/cm201617/cmselect/cmsctech/502/502.pdf

The Foundation hosted a debate before the referendum. A report is available on the Foundation website – www.foundation.org.uk – the debate was on 3rd May, 2016.

The House of Lords Select Committee on Science and Technology published a report on EU membership and UK science on 20th April, 2016 – see
www.parliament.uk/business/committees/committees-a-z/lords-select/science-and-technology-committee/inquiries/parliament-2015/eu-relationship-and-science/

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Higher Education Division, Department for Education, Northern Ireland Government
www.economy-ni.gov.uk/articles/higher-education-division

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www.hefce.ac.uk

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www.hefcw.ac.uk

Innovate UK
www.gov.uk/government/organisations/innovate-uk

Invoke Capital
www.invokecapital.com

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www.ktn-uk.co.uk

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www.rolls-royce.com

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www.royalsociety.org

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