

## House of Commons Science and Technology Committee Inquiry

This response is submitted by the Facility Executive, Oversight Committee and Users of the EPSRC & BBSRC funded UK 850 MHz Solid-State Nuclear Magnetic Resonance (NMR) Facility that has been operational at the University of Warwick since 2010, hosting since its inception research projects of 48 principal investigators from 23 UK institutions.

Numbering is as per: <http://www.parliament.uk/business/committees/committees-a-z/commons-select/science-and-technology-committee/news-parliament-2015/leaving-the-eu-inquiry-launch-16-17/>

*1. What the effect of the various models available for the UK's future relationship with the EU will be on UK science and research, in terms of: collaboration; free movement of researchers and students; access to funding; access to EU-funded research facilities, both in the UK and abroad; and intellectual property and commercialisation of research*

1a. Mobility is an integral part of international science research today. Four out of the eight members of the Facility Executive, who are senior academics in Physics and Chemistry departments in six UK universities, worked (for over one year) in other EU countries, prior to taking up independent research positions back in the UK. This experience of researching in world-leading laboratories (both in academia and in industry) in other non-English speaking EU countries played a very important role in our development, enhancing greatly our outlook and vision as scientific researchers. In addition, the excellent and highly regarded Facility Manager (very high scores are consistently awarded in user evaluation questionnaires for the support provided by the Facility Manager) is from Romania, with his early career scientific development having been as a PhD student in the Netherlands and a post-doctoral researcher in France. One of the two user representatives on the Facility's Oversight Committee is a French national working at the University of Liverpool. In our research groups, a significant proportion of current PhD students and researchers whose work is essential to the high-level outputs of the Facility in the fields of chemistry, materials science, the life sciences and physics have a non-UK EU passport; as a snapshot ~20% of visitors to the Facility in 2015 (noting that time is only allocated to UK-based Principal Investigators) were from non-UK EU countries. Freedom of movement with geographically near countries ensures that these scientists could take up their positions of study and work without the complexities of a visa

application – indeed, we believe that this is a key factor in attracting high quality researchers to the UK. We believe that there is a significant risk that any future loss of freedom of movement will likely have a detrimental effect on, first, the ability of UK science to attract top EU-based researchers and, second, ensuring that future leading academics gain high-level international experience in nearby EU countries as a basis for building impactful labs when back in the UK.

1b. The Facility Executive and users of the Facility have benefited considerably from EU science funding: for example, one member of the Facility Executive and two current users hold European Research Council (ERC) grants, while the Director and one of current user representative on the Facility's Oversight Committee were both recipients of Marie-Curie post-doctoral funding in France and the UK. We believe that loss of access to EU funding competitions would be very bad for UK science – it is not simply a question of the cash, it is rather the competing at the highest level to win. In particular, it is especially sad that there is a high risk that the UK will no longer be able to shape EU science policy – the UK has been a major driving force in ensuring that ERC fellowships are the gold standard of scientific research excellence. The impact on the UK of not being able to shape and influence EU science policy, notably pushing for the primacy of scientific excellence, will be detrimental. UK science is better for being involved in shaping EU science policy, with benefit and insight being gained when scientists from different backgrounds and with different perspectives come together. There is a high risk that leaving the EU will leave the UK and its science researchers a passive bystander.

1c Finally, it is important to note that the initial purchase of the 850 MHz spectrometer (an investment of over three million pounds in 2008) benefitted from a contribution from the European Regional Development Fund (as part of the Birmingham Science City Advanced Materials Projects).

*2. What the science and research priorities for the UK Government should be in negotiating a new relationship with the EU*

2. Top priority should be ensuring continued access to the Marie-Sklodowska-Curie fellowships which enable mobility for post-doctoral researchers and ERC grants which are

highly regarded due to their prestigious status. In addition, the 850 MHz spectrometer that constitutes the Facility is part of an Integrating Research Infrastructure bid led by a group in Switzerland in the Horizon 2020 program (INFRAIA-02-2017 call, after a successful first-stage application, a full proposal is due by March 2017); access to the funding this would bring is an important element in the Facility Executive's plans for the Facility's future sustainability.

*4. The status of researchers, scientists and students working and studying in the UK when the UK leaves the EU, and what protections should be put in place for them*

4. The UK's leading place in international scientific research relies on high quality researchers being attracted to work here and, importantly, wanting to stay here. We fear that the EU referendum result has already damaged the view of the UK as a place that is open to the outside world with the anti-immigration insular campaigning. Moreover, we fear that there is a risk that the perceived increased insularity in Brexit UK may, given the high degree of research mobility, lead to an exodus of talented scientists from the UK. At the very least, the process of allowing researchers (importantly including also PhD students) with a non-UK EU passport to continue to enjoy their current rights here in the UK must be unambiguously clarified as soon as possible, and made as easy and financially reasonable (noting the current high cost associated with gaining residency) as possible. The statement by the Foreign and Commonwealth Office <https://www.gov.uk/government/news/statement-the-status-of-eu-nationals-in-the-uk> on 11th July 2016 stating "When we do leave the EU, we fully expect that the legal status of EU nationals living in the UK, and that of UK nationals in EU member states, will be properly protected" does not yet do this. We encourage the Government to seek to achieve, prior to a decision to trigger Article 50, a mutual agreement with the EU concerning the rights to live and work of EU scientists (researchers and PhD students) in the UK and vice versa. This also affects UK scientists whose partners are from other EU countries. If these issues are not urgently addressed, there will be further reputational damage that would undoubtedly erode UK science's ability to attract and retain top researchers. In this context, we are aware how difficult and expensive the current UK visa regime is – an excellent Indian post-doctoral researcher in one of our groups failed his first visa application and also had to pay almost £700 for a visa for a 6-month extension to his contract. It would be very concerning if the current visa process was extended to all non-UK citizens.

*5. The opportunities that the UK's exit presents for research collaboration and market access with non-EU countries, and how these might compare with existing EU arrangements*

5. While excellent research is, of course, occurring in countries outside the EU – UK researchers have many collaborations with non-EU countries and there are already existing schemes, e.g., from the Royal Society, to facilitate this – the fact is that the UK is geographically near to other EU countries. This is an essential factor in fruitful collaboration and interaction via regular coordinated meetings, productive short trips, informal discussions and workshops: this is much easier for travel within the European continent. The short distance also makes the UK attractive, for example, for the best post-doctoral researchers from other EU countries: the short distance gives the feeling of still being close to home while experiencing a foreign culture and research mentality for an extended period of time – this clearly also applies to UK researchers gaining experience in other EU countries before returning to establish independent careers back in the UK.

*6. What other measures the government should undertake to keep UK science and research on a sound footing, with sufficient funding, after an EU exit*

6. Flat-cash spending review settlements for science since 2010 are resulting in the effect of diminishing UK resource spend on its R and D base becoming increasingly evident. Hence, if a significant amount of funding from the EU is lost, replacement UK funding has to be found to keep it as one of the very best science research nations in the world. Moreover, the devaluation of the Pound following the Referendum result reduces the buying power of the allocated resource since subscriptions to international bodies must be paid and much specialised scientific equipment and consumables are only available from overseas suppliers. In addition, government should take clear steps to emphasise the great value to the country of academic thought and research within science and beyond.

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