

Mobility in UK chemical sciences

A policy position from the Royal Society of Chemistry

Recommendations

1. The new immigration system should seek to remove arbitrary barriers to skilled workers, to decrease associated costs and promote a welcoming attitude. This is particularly crucial for early-career chemical scientists and for SMEs.
2. The UK should seek ambitious reciprocal arrangements across the world in order to enable scientists to move around and to collaborate on both a long and short-term basis.
3. The current UK visa system is complicated, not user-friendly and should be significantly streamlined. It should instead focus on attracting talent rather than plugging gaps in the jobs market, simply expanding the current system cover EEA nationals is inadequate for the needs of UK science.

Background

The UK effectively has two systems for allowing non-UK citizens into the UK to work and live, for EU and non-EU citizens, respectively. Firstly, The UK's non-EEA visa system has evolved over time into a multi-tier system that allows for controlled entry to the UK for those who are not EU/EEA/Swiss nationals. Secondly, as a member of the EU, the UK has facilitated the principle of free movement of people across the EU to live and work in another member state. The same applies to citizens from EEA countries and Switzerland. The Government has pledged to end freedom of movement (FoM), confirming this in its [Immigration White Paper](#) released in December 2018. By 2021, the White paper proposes a single, 'skills-based' system for all non-UK and non-Irish nationals, effectively reforming and expanding the existing visa system to cover EEA and Swiss nationals who wish to work in the UK. This has important ramifications for the progress of scientific research within the UK.

Science is a global endeavour. Collaboration between the best scientists, no matter where in the world, delivers the best ideas and innovation. Mobility is an essential driver for collaboration and scientists themselves have come to assume that they will move around in order to advance their career. Mobility of scientists is essential for enabling the exchange of knowledge and ideas, engaging in collaborative projects, and gaining access not only to other scientists but also to new and advanced facilities across the world. Freedom of movement has facilitated these activities within much of Europe and has enhanced the attractiveness of the UK for scientists from the European Economic Area. This in turn has helped the UK attract additional inward investment and funding, providing resources for further collaboration and innovation. There is no doubt that freedom of movement has helped to establish the UK as a global leader in science and innovation.

In light of the above, any future immigration system must be flexible, low cost, and light-touch in regulation, as well as adopting a welcoming tone and attitude, so that UK science can continue to thrive and attract talent from all over the world.

In a survey of nearly 5,800 of our chemical sciences community, 84% of UK chemical scientists think that freedom of movement has had a positive impact on UK science and innovation.¹

In the same survey, 71% of all chemical scientists, 63% of UK nationals, believe Freedom of Movement has had a positive impact on their careers.¹

In a survey conducted in 2018, three quarters of respondents have moved to live in another country for research purposes.²

A migration system that meets the needs of UK chemical sciences

A future UK migration system must:

1. **Be flexible, mirroring the changing needs of UK chemical sciences.** It is most useful to think of the mobility of scientists not as a 'brain drain/gain', but as 'brain circulation'. The rapid pace at which ideas are generated and scientific fields advance means that easy movement of scientists and researchers from around the world with the necessary skills and knowledge to drive innovation is essential to UK chemical sciences. Academic research, commercialisation and companies need access to highly specialised scientists and fish for them in global talent pools. Neither the specialist nature of the scientific knowledge of an individual, nor the dynamic nature of scientific endeavour, are captured in the non-EEA immigration system, which instead focuses on plugging existing 'gaps'.

“It’s not like hiring a doctor or a lawyer; these are areas of research where there are maybe fewer than 50 people working in them. It’s not unreasonable to say that, for this research, it would not have been able to happen without hiring from the EU.”³

Moreover, those who work in chemical sciences have come to expect to travel as a natural part of their work and know that this is highly beneficial to their own careers.¹ Scientists and innovators bringing ideas to the UK will be crucial to the UK achieving the Industrial Strategy’s target to boost spending on R&D to 2.4% of GDP by 2027.⁴ Enabling mobility of scientists and researchers throughout the world for both long and short-term work and research should be paramount, and as a key part of the global scientific community, the UK requires a flexible and dynamic migration system.

- 2. Be welcoming in substance and attitude.** Currently, the UK as a global leader is a draw for scientists, researchers and innovative entrepreneurs from all over the world. This means that UK science and innovation is in part driven by non-UK investment⁵ and is by definition a global and welcoming community. However, this is not a given and a future UK immigration system cannot take this for granted. The Government has said that highly skilled scientists, researchers and entrepreneurs should be encouraged to come here.⁶ We welcome this statement and hope these words are backed up with actions and the right attitude, starting with a flexible, low-cost and low admin system that encourages people to want to come to the UK to study, work and set up companies in UK science hubs.
- 3. Recognise that innovation in the chemical sciences – as well as the UK’s economy - will always need a range of skills and knowledge from a global pool, with timely access regardless of where in the world these skills are found.** It is overly simplistic to consider an immigration system for science and innovation that centres on plugging skills gaps in the labour market. We acknowledge that there is a skills gap in STEM⁷ but also note that, due to the very nature of scientific endeavour, some jobs will exist in 6 months that do not exist now, some skills are extremely rare, with no guarantee they will be found in the UK⁸, whilst other chemistry skills are notoriously hard to locate.⁹ UK scientists benefit from exposure to other scientists and their ideas, and this is vital to the UK remaining internationally competitive. Creating a flexible immigration system that is open to the international science community will have positive impact on economic growth, progress in innovation, domestic UK scientists of the future and would greatly increase the ability to achieve goals set out in the UK Government’s Industrial Strategy⁴.
- 4. Recognise the value of international collaboration: it is essential.** It is increasingly the case that science is best done in collaboration and across borders¹⁰, not only through knowledge exchange but also through scientists working alongside each other, bringing their expertise to wherever it is most needed. This not only includes long-term/permanent employment but also short-term projects in which collaboration enables diverse teams of world-class researchers to meet global challenges. The future visa system must allow for scientists and researchers to move in and out of the UK for short-term research and collaboration. This also makes it far more likely that UK scientists will be able to use reciprocal arrangements in order to partake in collaboration in other countries.

“I may be happy playing in the English Premier League but really, I want to be part of the UEFA Champion’s League. We need to be able to work alongside the best.”¹¹

- 5. Be low cost, reflecting that employers and employees often do not have the resources to deal with high admin costs.** Larger companies with the necessary infrastructure are better able to cope with the extra administration that comes with being a visa sponsor but, like SMEs, consider the current system expensive. The initial costs to an employer for a scientist on a Tier 2 visa could exceed £7,419¹². This is compared with a Researcher specific permit for four years in Denmark at c.£400, France at c.£245, or c.£175 for a 3-5 year essential skills visa in New Zealand. More comparable is Switzerland’s at c.£785 for a one-year visa, extendable to two years.¹³ For many SMEs, these costs would be more achievable. The future visa system should be low cost so that *all* companies are capable of becoming visa sponsors. This will also ensure so that UK is internationally competitive in attracting world-class talent and remains a global leader in science and innovation.

6. **Be light-touch in regulation, mitigating the limited resources many employers have to access visa processes.** SMEs are an important driver of innovation. However, these companies often lack the resources and infrastructure required to become a licenced sponsor for visas. Those that do hold a licence find that the application process is burdensome, with long lead times resulting in innovation stalling while companies wait for visa approvals. We therefore welcome the UK Government's commitment to reforming and streamlining the system to cater for SMEs. To do this, a change in focus is needed. Costs and barriers such as numbers caps and salary thresholds should be reduced, and instead the focus should be on welcoming the talented people who drive innovation and discovery. A future immigration system should enable scientists to move easily in and out of the UK for research purposes, but should also encourage talented scientists to build a life here and build a business in the UK.

96% of the companies in chemical sciences are SMEs.¹⁴

A third of UK start-ups were founded by non-UK nationals whilst 51% of UK start-up employees come from outside the UK.¹⁵

About us

With around 50,000 members in over 100 countries and a knowledge business that spans the globe, the Royal Society of Chemistry is the UK's professional body for chemical scientists, supporting and representing our members and bringing together chemical scientists from all over the world.

Our members include those working in large multinational companies and small to medium enterprises, researchers and students in universities, teachers and regulators.

Contact

The Royal Society of Chemistry would be happy to discuss any of the issues raised in our response in more detail. Any questions should be directed to Ciaran Myles, policy@rsc.org, 01223 432350.

¹ RSC Policy Survey, February 2019. See Footnote 3. The same survey cited 'access to collaborative networks across countries' as the top reason to associate with EU funding frameworks [add link to RSC survey]

² Rand, https://www.rand.org/pubs/research_reports/RR2690.html

³ Professor Andy Cooper of Liverpool University needed to recruit rare specialisms such as crystal structure prediction for his ERC funded work to improve the development of new materials. https://www.rsc.org/globalassets/04-campaigning-outreach/policy/international-collaborations-create-chemistry/rsc_internationalcollaborationcreateschemistry_2018.pdf, January, 2019

⁴ UK Government Industrial Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf, November 2017

⁵ [Annual Scaleup Review 2018](https://www.scaleupinstitute.com/annual-scaleup-review-2018), Scaleup Institute, November 2018

⁶ Government Immigration White Paper: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766672/The-UKs-future-skills-based-immigration-system-accessible-version.pdf

⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650447/LifeSciencesIndustrialStrategy_acc2.pdf, Life Sciences Industrial Strategy: A report to the Government from the life science sector, 2018,

⁸ From Prof. Andy Cooper, University of Liverpool, https://www.rsc.org/globalassets/04-campaigning-outreach/policy/431716_v18_vo_sciencepolicycasesstudies.pdf, December 2018

⁹ A recent salary Survey states 'For yet another year, the hardest skillset to hire for in the UK is chemistry' at 25% (2018: 21%), SRG, March 2019: <https://www.srg.co.uk/news-and-insights/salary-survey-2019>

¹⁰ <https://royalsociety.org/~media/policy/projects/eu-uk-funding/phase-2/eu-role-in-international-research-collaboration-and-researcher-mobility.pdf>, Royal Society, May, 2016. Also, Dr Hugo Macedo, founder of Smart Separations hosts an international team with members from the EU and beyond: https://www.rsc.org/globalassets/04-campaigning-outreach/policy/431716_v18_vo_sciencepolicycasesstudies.pdf, December 2018

¹¹ Professor Peter Coveney, CompBioMed https://www.rsc.org/globalassets/04-campaigning-outreach/policy/international-collaborations-create-chemistry/rsc_internationalcollaborationcreateschemistry_2018.pdf, January, 2019

¹² Campaign for Science and Engineering <http://www.sciencecampaign.org.uk/resource/immigrationfreshstart.html>, December 2018

¹³ <https://medium.com/together-science-can/international-movement-report-554a02f7bfc7>, Together Science Can, July 2018

¹⁴ <https://www.parliament.uk/documents/commons-committees/Exiting-the-European-Union/17-19/Sectoral%20Analyses/7-Sectoral-Analyses-Chemicals-Report.pdf>, House of Commons Committee on Exiting the European Union, 2017

¹⁵ <https://www.parliament.uk/documents/commons-committees/Exiting-the-European-Union/17-19/Sectoral%20Analyses/7-Sectoral-Analyses-Chemicals-Report.pdf>, House of Commons Committee on Exiting the European Union, 2017