THE ROYAL SOCIETY

24 April 2019

RAND Europe study on the future of the research landscape

Introduction

1. The Royal Society welcomes the opportunity to submit views to this RAND Europe study on how the research landscape in the UK might change in the next ten years. The Society is the National Academy of Science for the UK and the Commonwealth. It is a self-governing Fellowship of many of the world's most distinguished scientists working across a broad range of disciplines in academia and industry. The Society draws on the expertise of its Fellows and Foreign Members to provide independent and authoritative scientific advice to UK, European and international decision makers.

2. This short submission to your survey seeks to highlight relevant content from established Society work – in particular findings from our 'Changing expectations' programme[1]. However, this survey asks very important and wide-reaching questions and the Society would welcome the opportunity to contribute further to this work.

The Royal Society's 'Changing expectations' programme provides insights into how research culture may change in future

3. The Royal Society initiated a programme of work, 'Changing expectations', to explore how the UK can promote the cultural conditions that will best enable excellent research and researchers here and elsewhere to flourish in the future. The focus of this programme is on the assessment of research and researchers, researcher career development, and open science. One output of this programme of work is the report, *Research culture: embedding inclusive excellence*[2]. This document summarises ideas about what research culture might look like in future. The following content is drawn from this report.

Recognition and esteem

4. There is widespread recognition that quantitative metrics such as grant income, citation counts and the impact factor of the journals do not adequately capture research excellence, and many leading organisations, including the Royal Society, have signed the San Francisco Declaration on Research Assessment (DoRA) which sets out good practice in this area.

5. Narrow approaches to assessment based on publication metrics risk promoting an environment in which systemic pressures may incentivise individuals to compromise on the rigour and integrity of their research.

6. The Royal Society has called for an institutionally-focussed REF, where a portfolio of outputs from the institution would be submitted. This portfolio, along with examples of research impact, would provide evidence of the quality of the research environment created by the institution and its contribution to the health of the discipline as a whole, including the development of a scientifically skilled workforce. The uncoupling of publications from individuals might reduce pressure on individuals to produce 'REF-able' outputs, benefitting ambitious, longer-term and collaborative research. It would also emphasise the productivity of the institution as a whole, valuing the contributions of support staff and technical specialists as well as Principal Investigators (PIs).

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[1] https://royalsociety.org/topics-policy/projects/research-culture/changing-expectations/

[2] https://royalsociety.org/topics-policy/publications/2018/research-culture-embedding-inclusive-excellence/

Open Science

7. A global push to make science more open is underway, driven both by demand for publicly-funded research to be publicly available and by the increasing ease with which individuals can share information digitally.
8. Research is also being carried out in new environments and in new ways. This often does not align with traditional publishing models. The Royal Society is helping to drive change in open science by publishing two fully open access journals, with strong data sharing policies and the use of open peer review.

Research workspaces

9. Research is an inherently creative endeavour. There are excellent examples of how large and central facilities such as DIAMOND, ISIS and CERN have supported staff to undertake ground-breaking research, to benefit from planned and serendipitous meetings with others from the same and different disciplines, and to build on the findings and approaches of current and future leaders in their fields.
10. Workspace design plays an important role in driving creativity and innovation. The academic and industrial laboratories where research has traditionally taken place will continue to dominate, but the growth of interdisciplinarity and emergence of new and highly-specialised skills and resources mean that workspace design is evolving to support researchers to perform all aspects of the work they undertake across an increasingly diverse research community.

Fostering scientific leadership

11. The primary function of higher education and research institutions will always be excellent teaching and research. However, organisations are rightly embracing a broader agenda that includes, for example, enterprise and outreach. This means that scientific leadership often extends beyond an institution's borders. The Society has previously called for institutions to have strategies that enable their staff to connect and share their research with a variety of audiences, including the public, schools, industry and policymakers.

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