

Are we bringing research closer to society?

Challenges and opportunities of science communication & beyond

Let's change
what we value
in research.



Sign
DORA

Is Open Science ready to become the norm in research?

How do we ensure this becomes an equitable transition?

Stephen Curry

Imperial College and DORA

Science Europe Conference on Open Science | Online | 18 Oct 2022



From Sci Comm to DORA...

Stephen Curry

Department of Life Sciences

Professor of Structural Biology

Director of Undergraduate Studies (retd.)

Assistant Provost (Equality, Diversity & Inclusion)

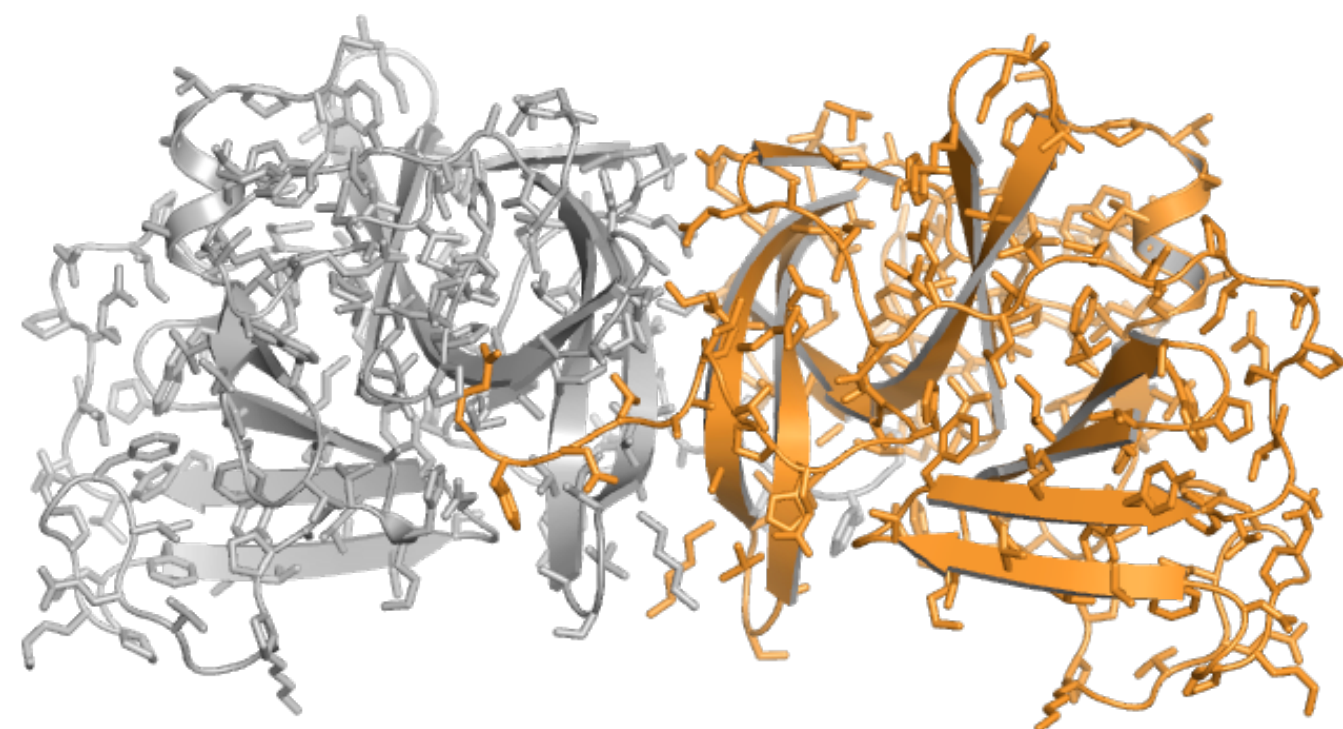
Science blogger/writer

Co-founder, Science is Vital

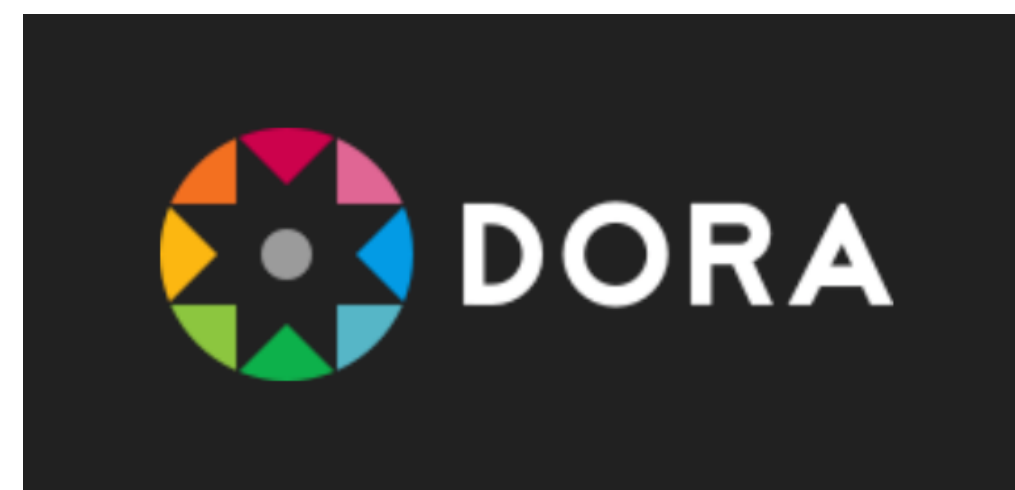
Board member, Campaign for Science & Engineering

Member, HEFCE Metrics Review

Chair, Declaration on Research Assessment (DORA)



<http://occamstypewriter.org/scurry/>



<http://www.theguardian.com/profile/stephen-curry>

The open ethos of science goes back a long way - Merton (1942) quoting Bernal (1939) quoting Réaumur (~1730)

A NOTE ON SCIENCE AND DEMOCRACY

by ROBERT K. MERTON

¹¹ Cf. Bernal, who observes: "The growth of modern science coincided with a definite rejection of the ideal of secrecy." Bernal quotes a remarkable passage from Réaumur (L'Art de convertir le forgé en acier) in which the moral compulsion for publishing one's researches is explicitly related to other elements in the ethos of science. E.g., ". . . il y eût gens qui trouverent étrange que j'eusse publié des secrets, qui ne devoient pas être révélés . . . est-il bien sûr que nos découvertes soient si fort à nous que le Public n'y ait pas droit, qu'elles ne lui appartiennent pas en quelque sorte? . . . resterait il bien des circonstances, où nous soions absolument Maîtres de nos découvertes? . . . Nous nous devons premièrement à notre Patrie, mais nous nous devons aussi au rest du monde; ceux qui travaillent pour perfectionner les Sciences et les Arts, doivent même se regarder comme les citoyens du monde entier." J. D. Bernal, *The Social Function of Science* (New York, 1939), 150-51.

- *Universalism* – claims rest on evidence not identity
- *Communism* (common ownership) – science belongs to the community
- *Disinterestedness* – commitment to the testing of hypothesis; integrity
- *Organised scepticism* – claim to be independent of political/institutional power

Réaumur (1683-1757): "Our first duty is to our country, but we also have a duty to the rest of the world; those who work to perfect the Arts & Sciences should even regard themselves as **citizens of the world.**"

Science's new social contract with society

Michael Gibbons

Under the prevailing contract between science and society, science has been expected to produce 'reliable' knowledge, provided merely that it communicates its discoveries to society. A new contract must now ensure that scientific knowledge is 'socially robust', and that its production is seen by society to be both transparent and participative.

Open science: good for the academy & good for the world

Preprints: faster communication

Focus on the content, not the container

Encourages **open peer review**

Questions of reliability and misuse?

More informed discussion about value of peer review & journals?

Open Access, Data & Code sharing: a global audience

Maximising a public good within & beyond the academy

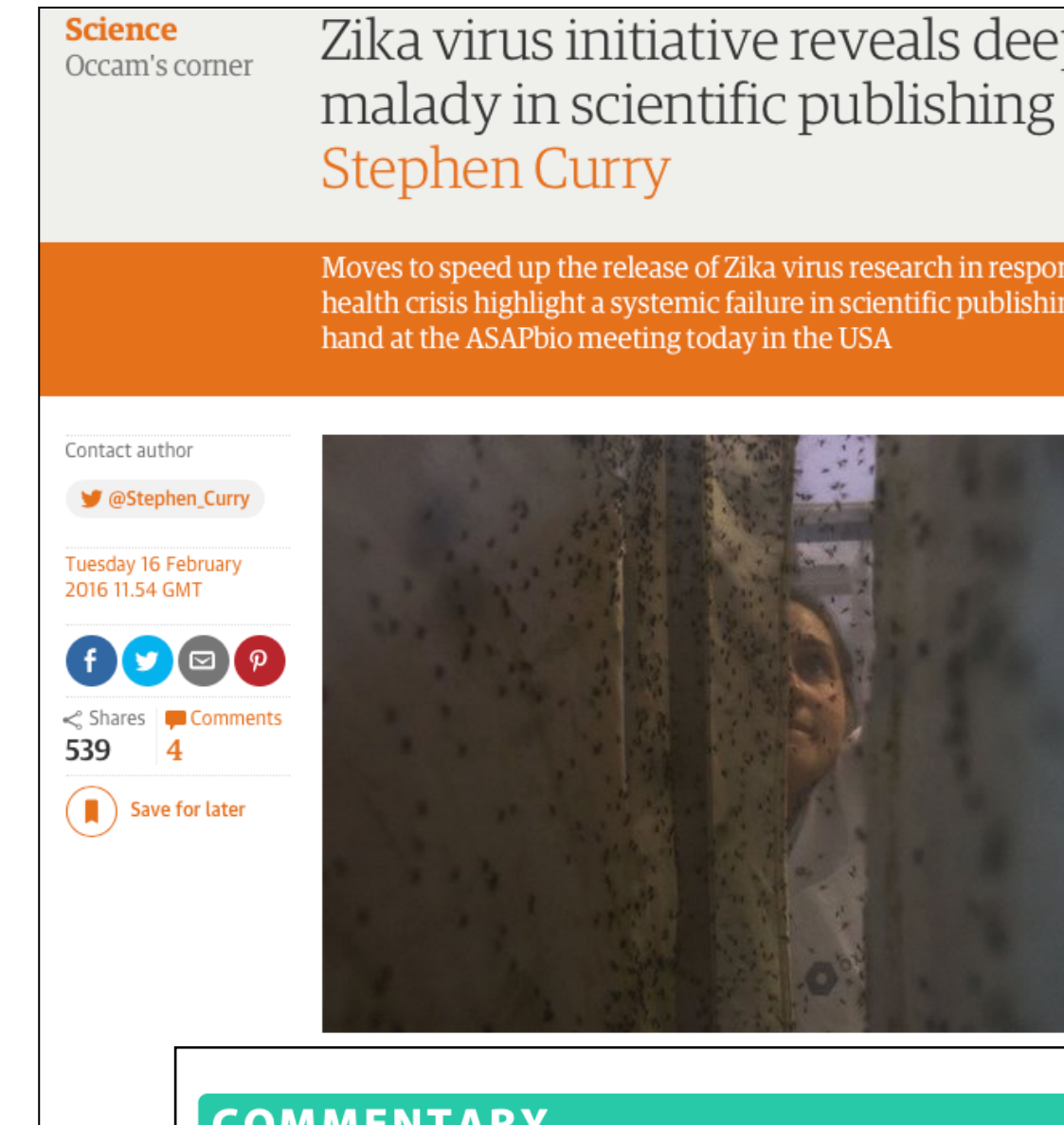
Sharing + Scrutiny = Reliability

How to ensure equitable access for authors?

Open science: better for changing the world

e.g. Zika crisis, Covid-19, global challenges

But how open are we to the demands, needs & participation of society?



COMMENTARY

Open science saves lives: lessons from the COVID-19 pandemic

Lonni Besançon^{1,2*}, Nathan Peiffer-Smadja^{3,4}, Corentin Segalas⁵, Haiting Jiang⁶, Paola Masuzzo⁷, Cooper Smout⁷, Eric Billy⁸, Maxime Deforet⁹ and Clémence Leyrat^{5,10}

Abstract

In the last decade Open Science principles have been successfully advocated for and are being slowly adopted in different research communities. In response to the COVID-19 pandemic many publishers and researchers have sped up their adoption of Open Science practices, sometimes embracing them fully and sometimes partially or in a sub-optimal manner. In this article, we express concerns about the violation of some of the Open Science principles and its potential impact on the quality of research output. We provide evidence of the misuses of these principles at different stages of the scientific process. We call for a wider adoption of Open Science practices in the hope that this work will encourage a broader endorsement of Open Science principles and serve as a reminder that science should always be a rigorous process, reliable and transparent, especially in the context of a pandemic where research findings are being translated into practice even more rapidly. We provide all data and scripts at <https://osf.io/renxy/>.

Keywords: Open science, Peer review, Methodology, COVID-19



Check for updates

Who runs science? An provocative critique of science by Dan Sarewitz...



Saving Science

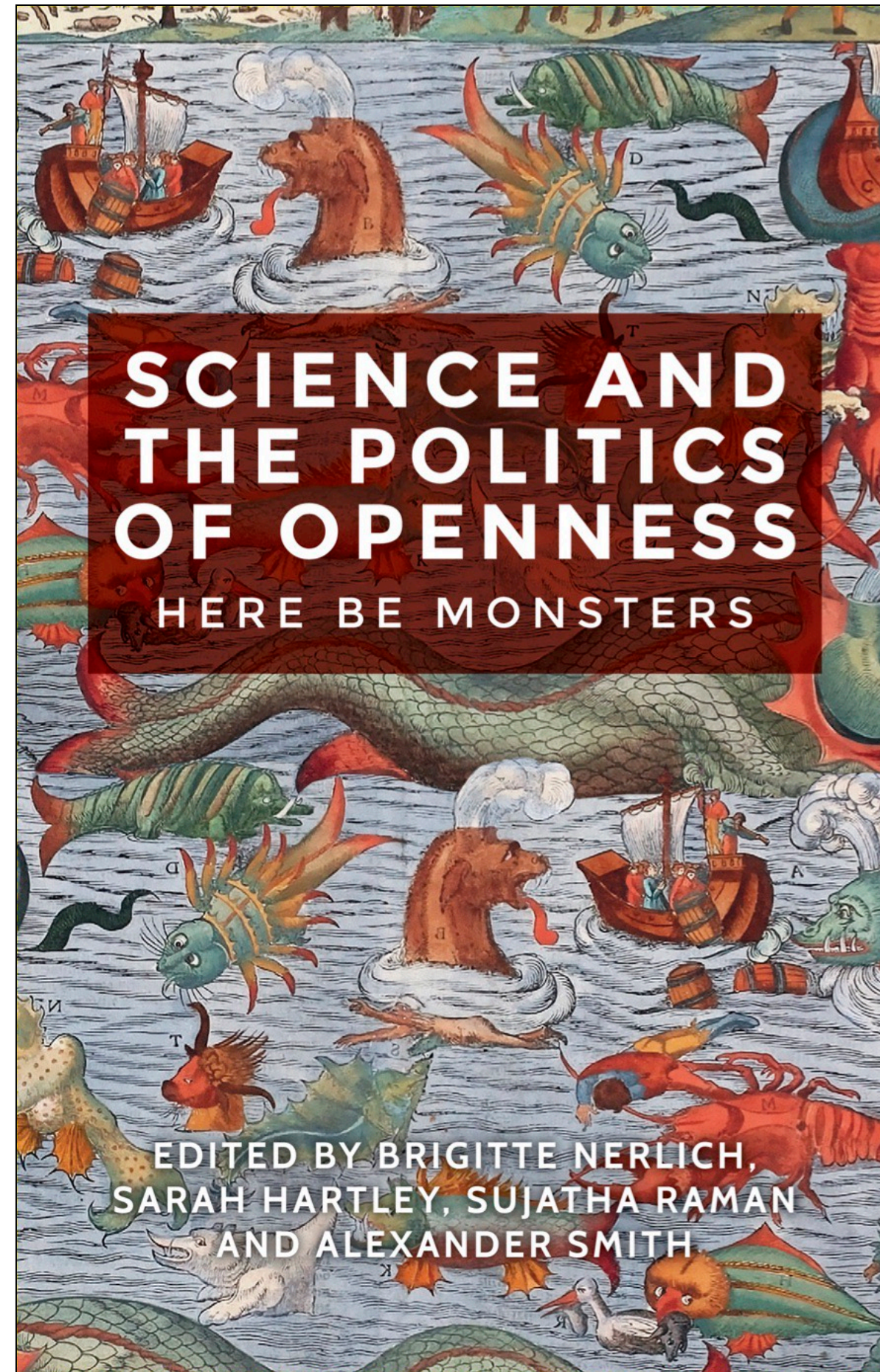
Science isn't self-correcting, it's self-destructing. To save the enterprise, scientists must come out of the lab and into the real world.

Daniel Sarewitz

“much of the problem can be traced back to a **bald-faced but beautiful lie** upon which rests the political and cultural power of science. [...] It goes like this:

*Scientific progress on a broad front results from the **free play of free intellects**, working on **subjects of their own choice**, in the manner dictated by their **curiosity** for exploration of the unknown.”*

Who runs science? Open access raises questions of freedom *and* responsibility – and involvement



Open access: the beast that no-one could – or should – control?

Stephen Curry

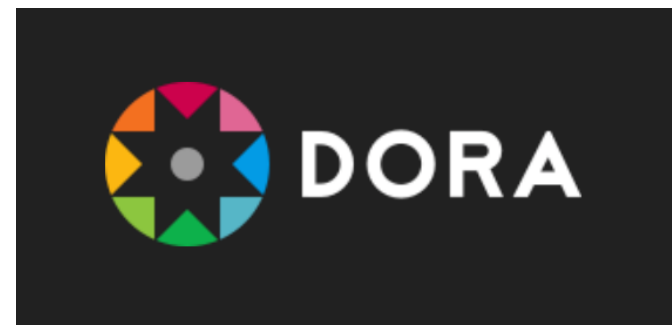
‘The main thing, it seems to me, is to remember that technology manufactures not gadgets, but social change,’ declared science historian and broadcaster James Burke in a lecture given in 1985 (Burke, 2005). This was several years before the rise of the personal computer and the internet. But history’s knack of repeating itself means that the words are no less true of the digital transformation of the world in the last two decades. The recasting of information into digital forms that can be replicated and transmitted instantly across the globe has changed our relationship with it in myriad ways. This poses commercial challenges in some industries – music, film and newspapers, for example – but at the same time has given rise to whole new businesses such as search engines, social networking and online retailing. It has also created opportunities for the public to access public information, which is changing the provision of government services and opening up new avenues for democratic dialogue.

Rick Anderson: Does academic freedom include the right to choose *where* to publish?

Richard Poynder: Is the linkage of OA policy to the REF “coercive”?

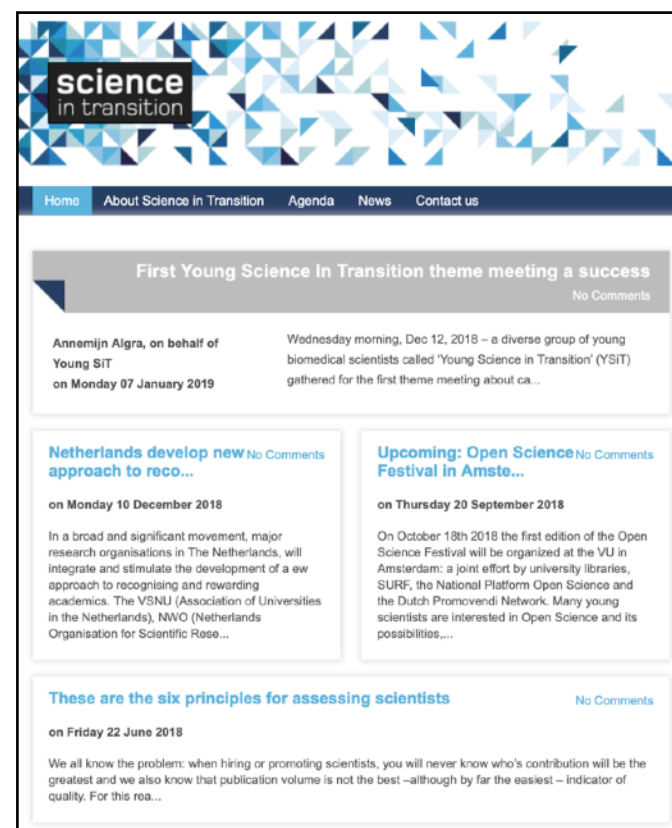
A brief history of research assessment reform – and its links to open science

May 2013



<https://sfdora.org>

Nov 2013



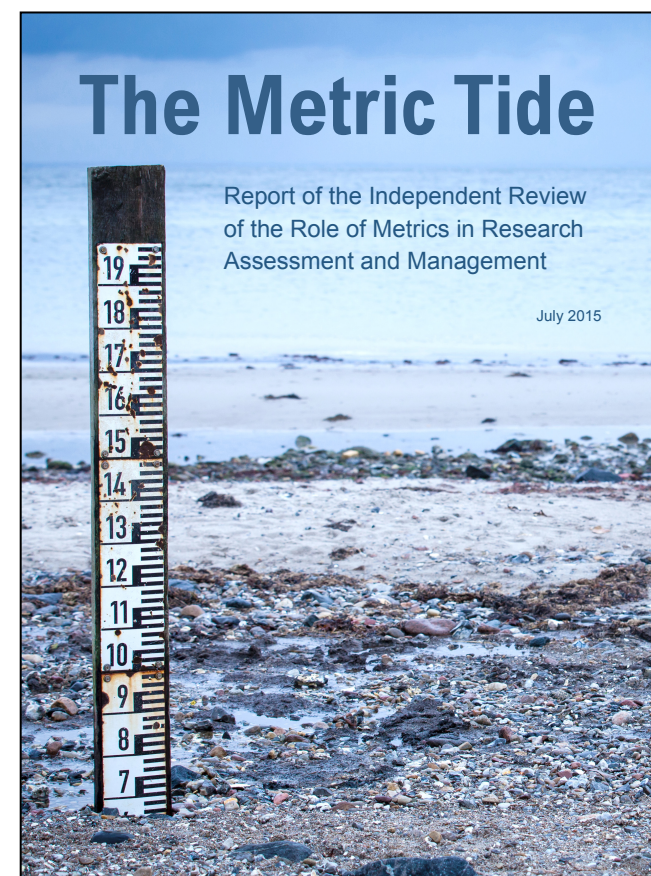
Science in Transition

Mar 2015



Leiden Manifesto

Jul 2015



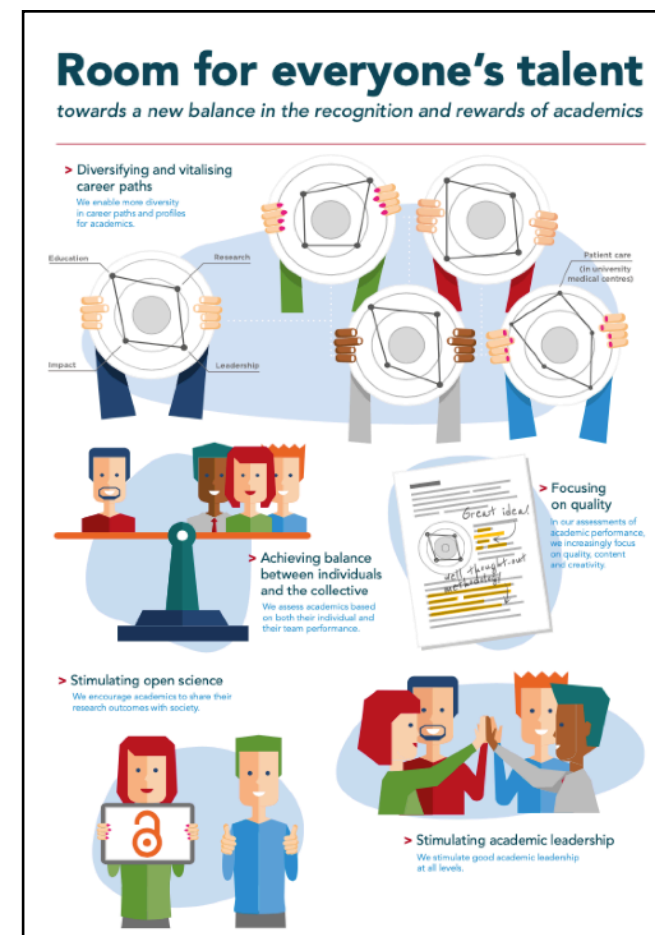
Metric Tide Report

Sept 2018



Plan S

Nov 2019



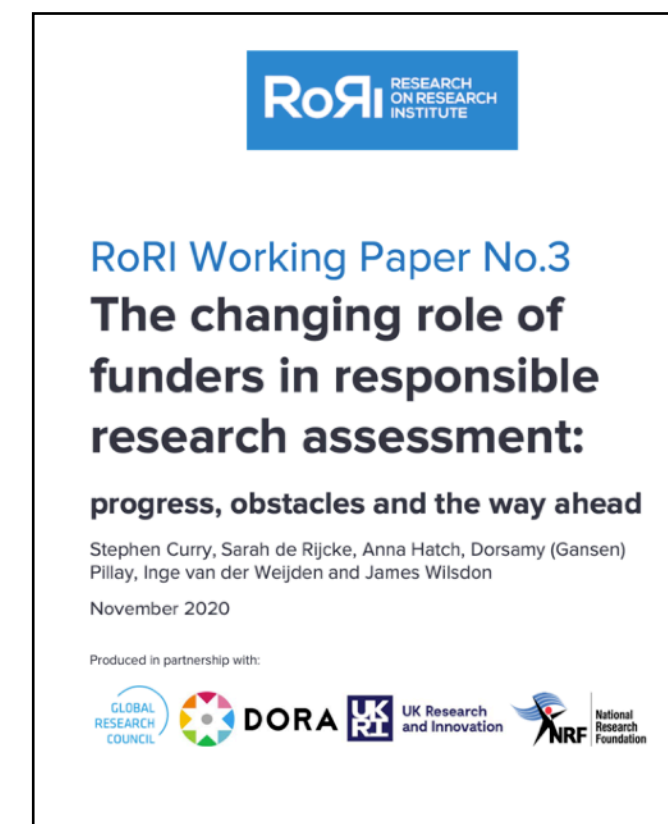
Netherlands initiative

Jul 2020



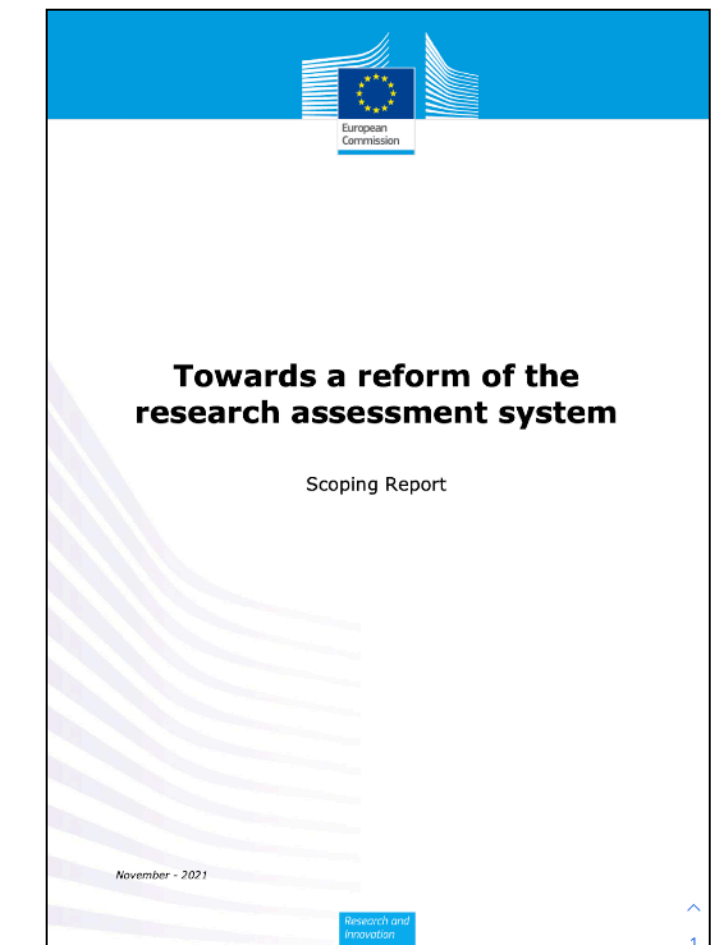
Hong Kong Principles

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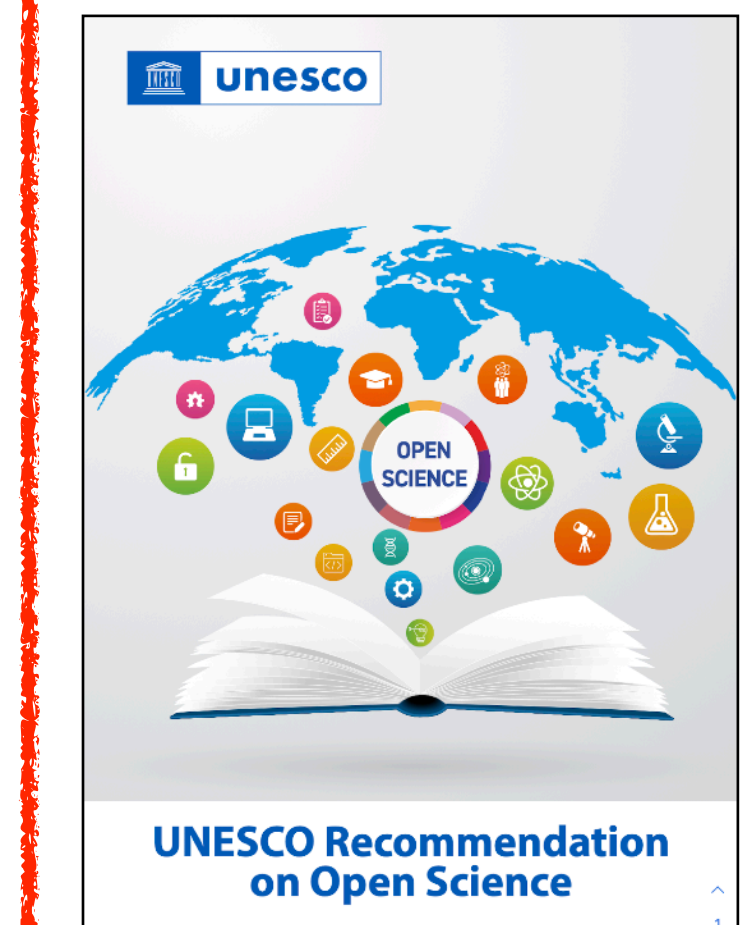
Report for GRC meeting

Nov 2021



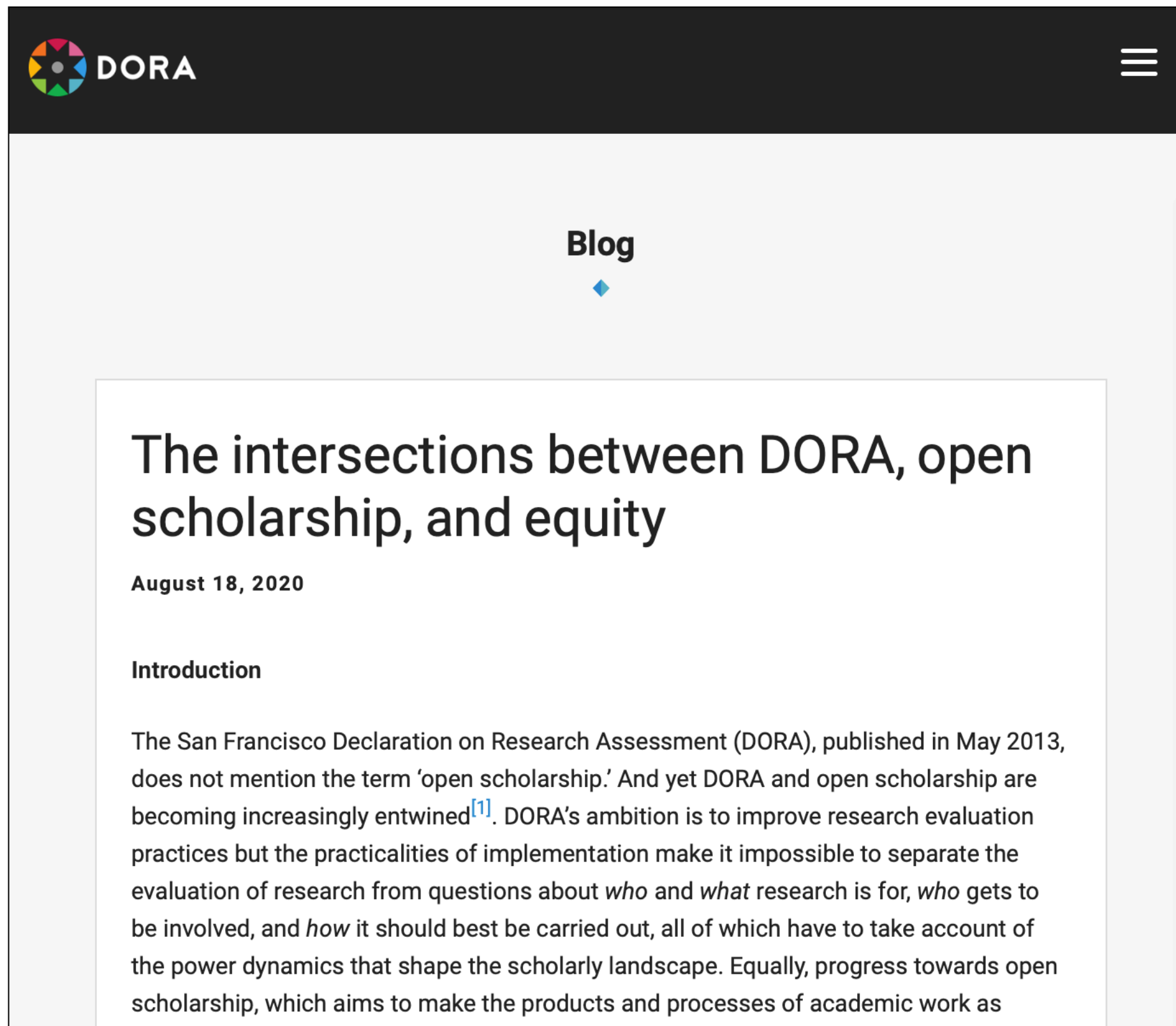
EC Scoping Report

Nov 2021



UNESCO Recommendations

The intersections between DORA, open scholarship and equity



DORA

Blog

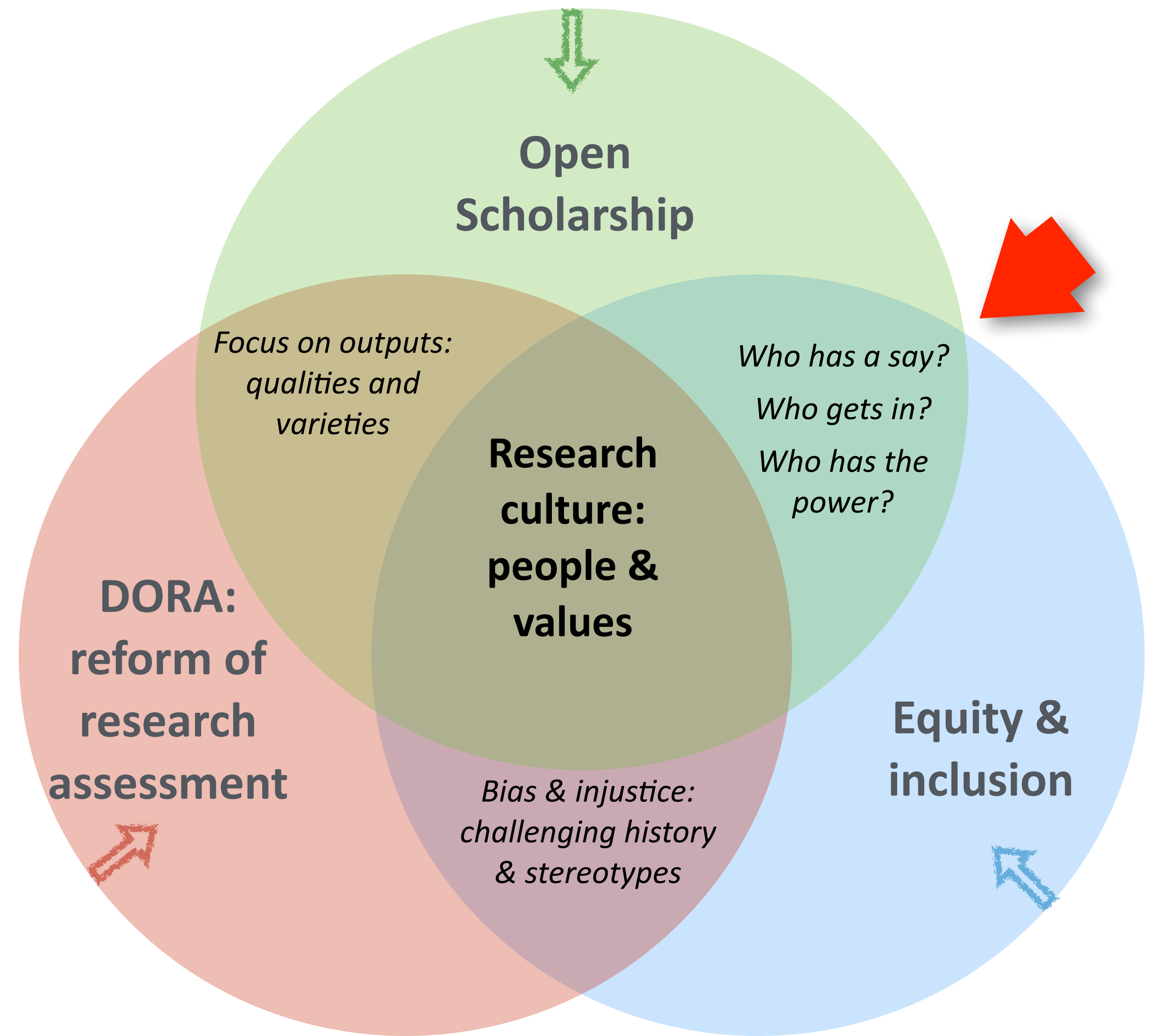
The intersections between DORA, open scholarship, and equity

August 18, 2020

Introduction

The San Francisco Declaration on Research Assessment (DORA), published in May 2013, does not mention the term 'open scholarship.' And yet DORA and open scholarship are becoming increasingly entwined^[1]. DORA's ambition is to improve research evaluation practices but the practicalities of implementation make it impossible to separate the evaluation of research from questions about *who* and *what* research is for, *who* gets to be involved, and *how* it should best be carried out, all of which have to take account of the power dynamics that shape the scholarly landscape. Equally, progress towards open scholarship, which aims to make the products and processes of academic work as

<https://sfdora.org/2020/08/18/the-intersections-between-dora-open-scholarship-and-equity/>



DORA: developing and promoting good practice (check out our website)

- Briefings
- Articles
- Webinars
- Conferences
- Workshops
- Curated resource library
- Case studies
- Community grants
- Collaborative work (e.g. policy discussions)
- Tools development (e.g. TARA)

RETHINKING RESEARCH ASSESSMENT IDEAS FOR ACTION

5 COMMON MYTHS ABOUT EVALUATION

- Hiring, promotion, and tenure decisions are largely made on "merit."
- Quality research is easy to recognize and rises to the top
- JIF and other similar journal-based indicators measure research quality
- Researchers mostly care about journal reputation
- Assessment practices will naturally improve over time

RETHINKING RESEARCH ASSESSMENT UNINTENDED COGNITIVE BIASES

Judgment and decision-making biases that impact how we weigh options and make choices have been shown to result in inequitable review, promotion, and hiring practices. While recognizing these biases at a personal level is important, creating new structural and institutional conditions to reduce bias can be even more valuable.

5 DESIGN PRINCIPLES to help institutions experiment with and develop better research assessment practices

Incumbent processes and perceptions have the advantage

Many institutions have deep legacy traditions that become normalized over time, but these organizational habits can also keep new ideas and people out.

What can institutions do?

- Make the benefits of new behaviors concrete, salient, and easy to grasp
- Recognize where old assumptions may overly reward those who are more traditionally successful, at the expense of new or more diverse talent
- Set, publicize, and adhere to measurable goals that lock beyond traditional norms

Tackling these infrastructural and institutional implications of common biases can help promote and support more equitable practices:

- Confirmation
- Anchoring
- Matthew effect
- Campbell's law
- Status quo bias

"Objective" comparisons are not necessarily equitable

Qualities that can be measured or ranked are tempting because they feel less subjective, but can feed a false sense of precision.

What can institutions do?

- Balance the use of quantitative metrics with qualitative inputs, like narrative CVs, that capture more intangible qualities
- Select standards based on a wide set of inputs rather than a narrow or anecdotal set
- Recognize where setting specific, quantifiable goals may be reinforcing some behaviors at the expense of others

DORA

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The Declaration Signers Case Studies Resources Blog

Resource Library

A collection of materials to facilitate the development of responsible research and researcher assessment policies and practices.

Search and Filter

Keywords

Per page 1 2 3 >>

Resource type

- Advocacy resources (7)
- Case studies (11)
- Good practices (31)
- Initiatives (9)
- Journal articles (13)
- Policies and guidance (10)
- Position papers (11)
- Tools (12)

DORA-produced (17)

Intended audience

- Funders (30)
- Journals and publishers (3)
- Professional societies (9)
- Research institutes (37)

Academia In Motion: Recognition & Rewards at Leiden University

In support of the Dutch Recognition and Rewards Programme, Leiden University published a position paper "Academia in Motion: Recognition & Rewards at Leiden University" in 2021. In 2020, Leiden University's Executive Board established a Recognition & Rewards steering committee made up of staff from a variety of positions and roles. The goals of the Recognition...

Academic criteria for promotion and tenure in biomedical sciences faculties: cross sectional analysis of international sample of universities

To improve research assessment research quality for scientists for promotion and tenure scientists emphasizes tra

eLife

HOME MAGAZINE INNOVATION

ABOUT COMMUNITY SUBMIT MY RESEARCH

Research Culture: Changing how we evaluate research is difficult, but not impossible

Anna Hatch, Stephen Curry

DORA, United States; Imperial College, United Kingdom

Feature Article · Aug 12, 2020

DORA

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The Declaration Signers Case Studies Resources Blog

Reimagining academic assessment: stories of innovation and change

Produced in collaboration with:

eua EUROPEAN UNIVERSITY ASSOCIATION

SPARC Europe

Case studies of universities and national consortia highlight key elements of institutional change to improve academic career assessment.

<https://sfdora.org/>

DORA: incentivising openness by assessing it

THE ROYAL SOCIETY Venu

Home Fellows Events Grants, Schemes & Awards Topics & policy Journals

Résumé for Researchers

Opening up conversations about researcher evaluation

Contributions to:

- the generation of knowledge
- the development of individuals?
- the wider research community?
- to broader society?

Resume for Researchers

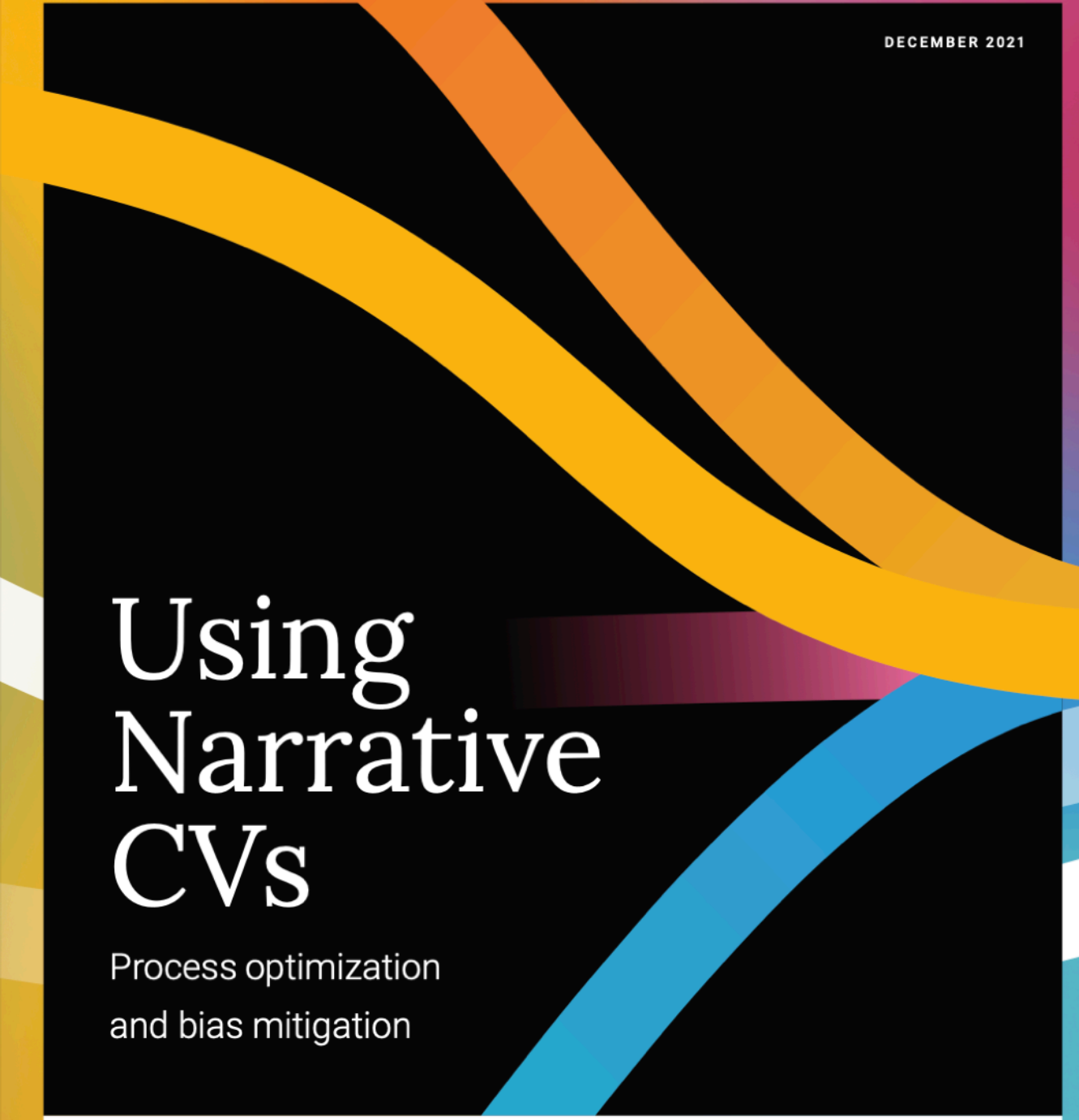
Charité University Hospital, Berlin



- Scientific contribution to your field
- Your 5 most important papers
- Contribution to open science
- Your most important collaborations

DECEMBER 2021


Using Narrative CVs

Process optimization and bias mitigation



 **DORA** |  **FORGEN**
Funding Organisations for Gender

By Rochelle Fritch (FORGEN COP / Science Foundation Ireland), Anna Hatch (DORA), Haley Hazlett (DORA), and Claartje Vinckenburg*



DORA & FORGEN report

We should reward science communication (and teach it!)

<https://www.theguardian.com/science/occams-corner/2015/mar/08/on-the-importance-of-being-negative>

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Occam's corner
Open access scientific publishing

On the importance of being negative

The 'publish or perish' culture within science skews the research literature towards positive results. But negative findings matter too and new open access publications are helping researchers to give a fuller account of themselves

Stephen Curry
@Stephen_Curry
Sun 8 Mar 2015 11.52 GMT

f t e 26



Imperial College
London

Science Communication

Course Introduction

Stephen Curry
Steve Cook

March & May 2022

...and engagement

https://www.imperial.ac.uk/white-city-campus/community/programmes/enterprise/

Imperial College London

£95 million investment for Imperial Biomedical Research Centre

Imperial researchers chosen as Royal Academy of Engineering Enterprise Fellows

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- Events
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- Education and skills
- Research and discovery
- Enterprise and development**
- Agents of Change
- Health and wellbeing
- Employment and training
- The Invention Rooms
- For staff and students

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Enterprise and development

We offer development opportunities and business skills training for local entrepreneurs and community leaders.

Current

Programmes



White City Innovators Programme

A programme for entrepreneurs and start-up companies working on a tech-enabled service or an innovative product. You'll get access to free work space, Imperial's expertise, and enterprise workshops to help you grow your business.

[Find out more](#)



Agents of Change

A network for local women who are passionate about change in their communities. Become a member and gain access to an empowering six-month development programme.

[Find out more](#)

But how good are our universities at being **open** to society – and engines of social mobility (*i.e.* inclusion)?

We have to EARN public (and political) trust



“People in this country have had enough of experts.”
Michael Gove, MP

the guardian
website of the year

home > science UK world politics sport football opinion culture busin all

Science
Political science

Why science needs progressive voices more than ever

Amid the row over Brexit, the sector must loosen links to society's elite and speak up for those who have been marginalised

Scientists were among those who participated in the People's Climate March in New York and cities around the world in September 2014. Photograph: Jason DeCrow/AP

Alice Bell

Wednesday 6 July 2016 16.00 BST

Save for later

Shares 153 Comments 29

Brexit has thrown British science [into a mess](#). During this period of political upheaval, it might be tempting to duck the challenge of picking sides, and instead

“too often [public engagement initiatives] fail to build meaningful relationships between science and the public, preferring instead to act as fluffy PR agents for the scientific establishment. **We badly need more projects [...] that share the benefits of expertise and lets people feel part of driving science and engineering.”**

Alice Bell

<https://www.theguardian.com/science/political-science/2016/jul/06/why-science-needs-progressive-voices-more-than-ever>

Thank you

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Let's change
what we value
in research.



Sign
DORA

Imperial College
London