

THE DECLARATION ON RESEARCH ASSESSMENT (DORA): OPENING UP THE MEASURES OF SUCCESS



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Improving how research is assessed

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STEPHEN CURRY

IMPERIAL COLLEGE & DORA

NARMA CONFERENCE | OSLO | 05 MAR 2019
THE CHANGING WORLD OF RESEARCH EVALUATION:

The changing (digital) world and the myth of measurement



Tim Berners-Lee at the London Olympics opening ceremony

Measurement has its uses...



...but where are the limits?

The *Times Higher Education* World University Rankings
World University Rankings 2013-2014

1	<u>California Institute of Technology (Caltech)</u>	United States	94.9
2	<u>Harvard University</u>	United States	93.9
2	<u>University of Oxford</u>	United Kingdom	93.9
4	<u>Stanford University</u>	United States	93.8
5	<u>Massachusetts Institute of Technology (MIT)</u>	United States	93.0
6	<u>Princeton University</u>	United States	92.7
7	<u>University of Cambridge</u>	United Kingdom	92.3
8	<u>University of California, Berkeley</u>	United States	89.8
9	<u>University of Chicago</u>	United States	87.8
10	<u>Imperial College London</u>	United Kingdom	87.5

We love numbers

“How do I love thee? Let me count the ways.”

Sonnet 43, Elizabeth Barrett Browning

Marry

1. Children — (if it Please God)
2. Object to be beloved & played with. — better than a dog anyhow.
3. Charms of music & female chit-chat.

...



Charles Darwin

Not Marry

1. Conversation of clever men at clubs
2. Not forced to visit relatives, & to bend in every trifle.
3. To have the expense & anxiety of children — perhaps quarrelling

...

Why do we need research assessment?

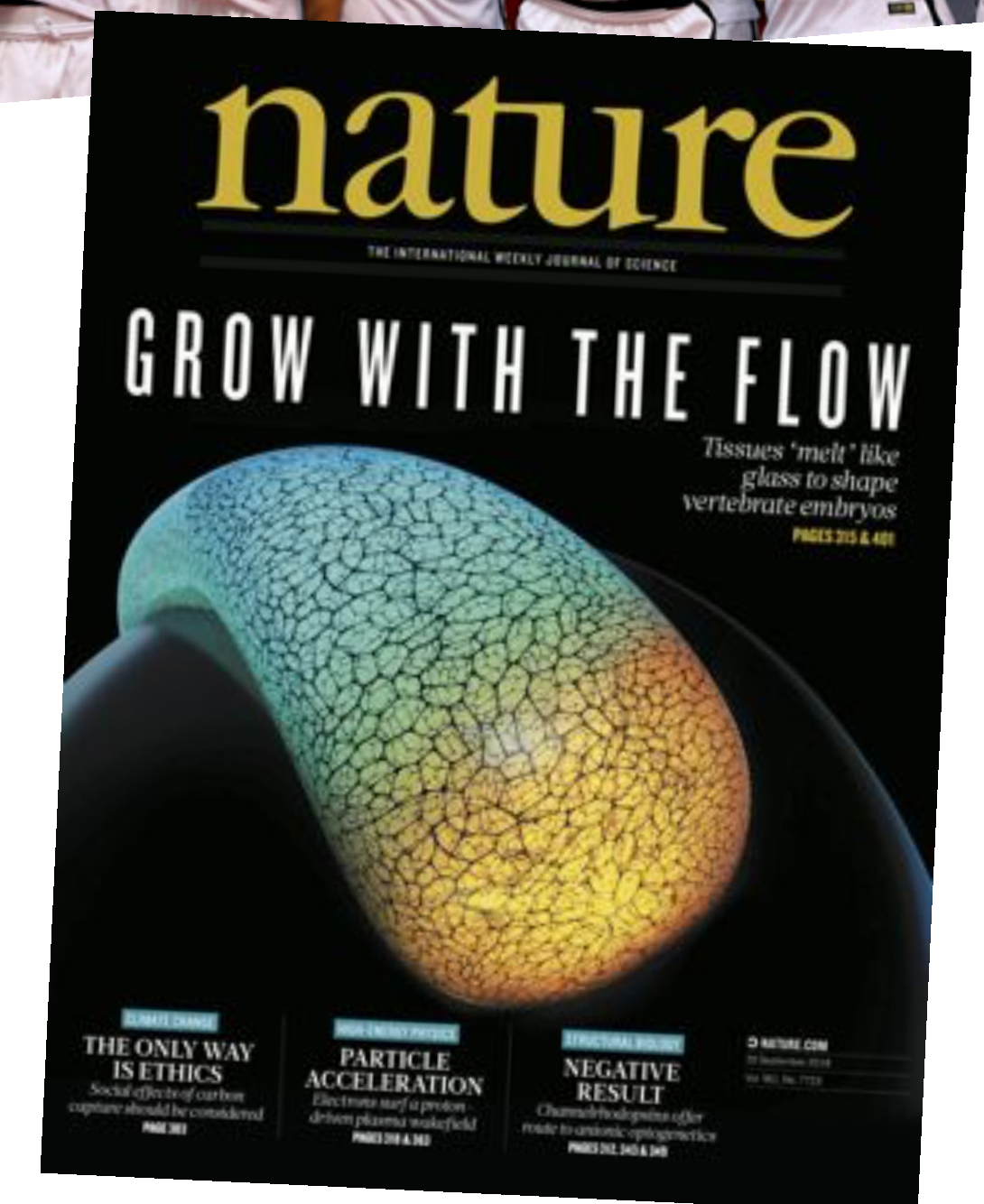
To invest finite resources wisely

To evaluate returns on investment

To support the best science and the best scientists

But what do we mean by 'best'?

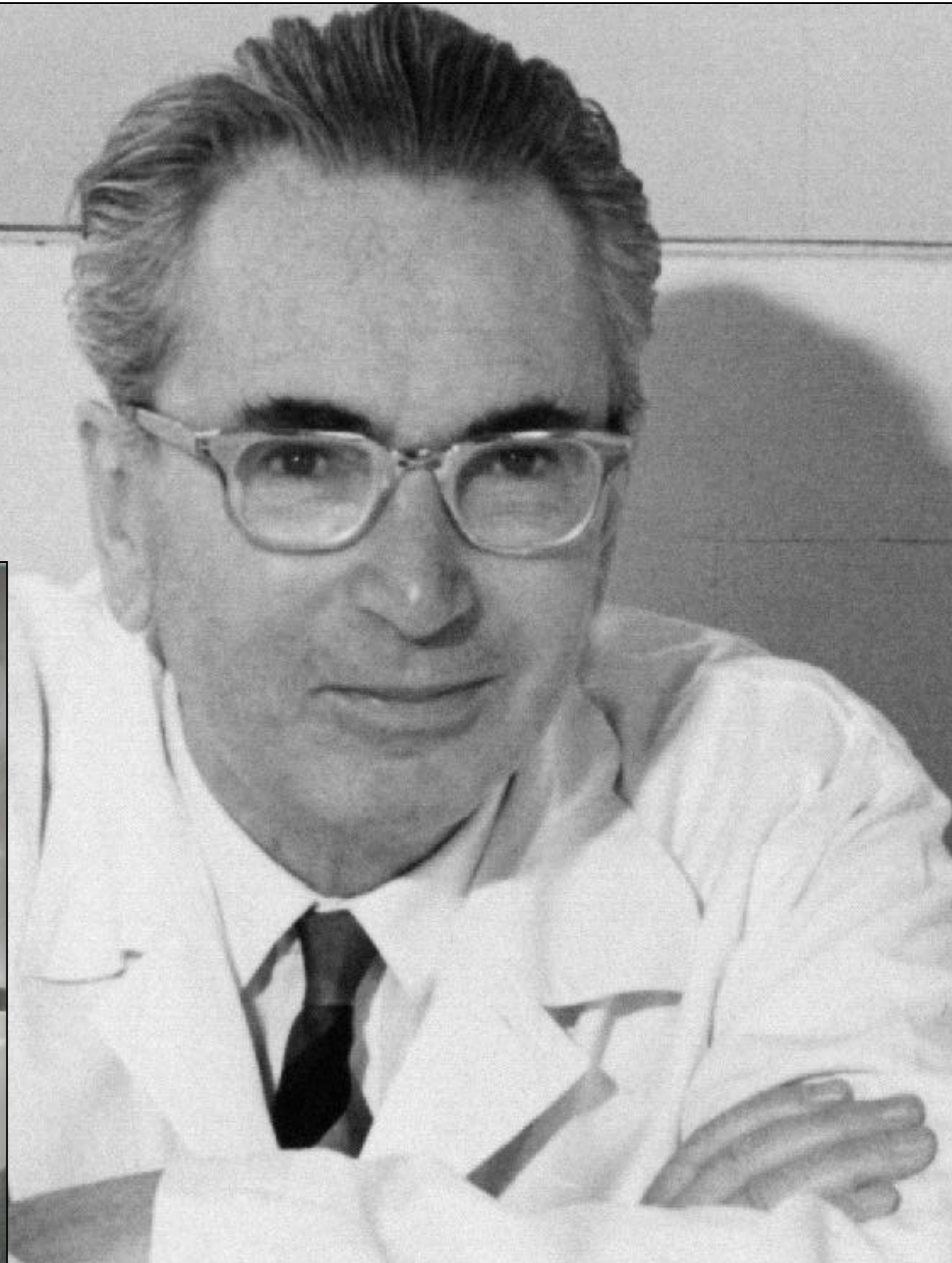
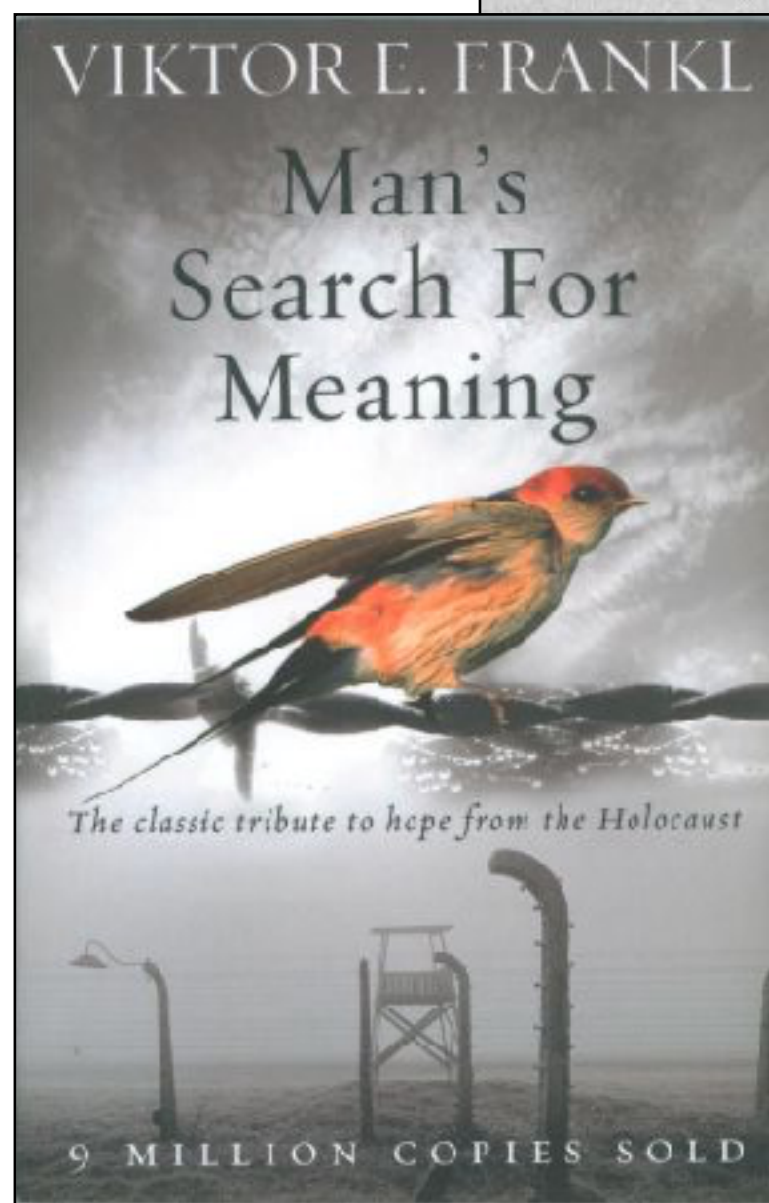
How should we define 'success'?



We need to assess research but how should we define success?

“Don’t aim at success [...] for success, like happiness, cannot be pursued; it must ensue, and it only does so as the unintended side-effect of one’s dedication to a cause greater than oneself...”

Viktor Frankl



https://commons.wikimedia.org/wiki/File:Viktor_Frankl2.jpg

We need to assess research but how should we define success?



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.”*



“People in this country have had enough of experts.”

Michael Gove, MP

Sarewitz's article and responses – <https://www.thenewatlantis.com/publications/must-science-be-useful>

The changing world... last Sunday



Dragon capsule docks with ISS, 03 March 2019

The problem of imagination



Apollo 8 Mission Transcript (24 Dec 1968)

Anders: "Oh, my God, look at that picture over there. There's the Earth coming up. Wow, is that pretty!"

Anders (to Lovell): "You got a color film, Jim? Hand me a roll of color, quick, would you?"

Lovell: "Oh, man, that's great! Where is it?"

Anders: "Hurry. Quick."

Lovell: "Down here?"

Anders: "Just grab me a color. A color exterior. Hurry up. Got one?"

Lovell: "Yeah, I'm lookin' for one. C368."

Anders: "Anything quick."

Anders: "I think we missed it."

Within seconds, Lovell sees the shot again in another window. He asks for the camera.

Anders: "Wait a minute, just let me get the right setting here now, just calm down. Calm down, Lovell!"

Simple metrics: my Google Scholar h-index = 48



Stephen Curry

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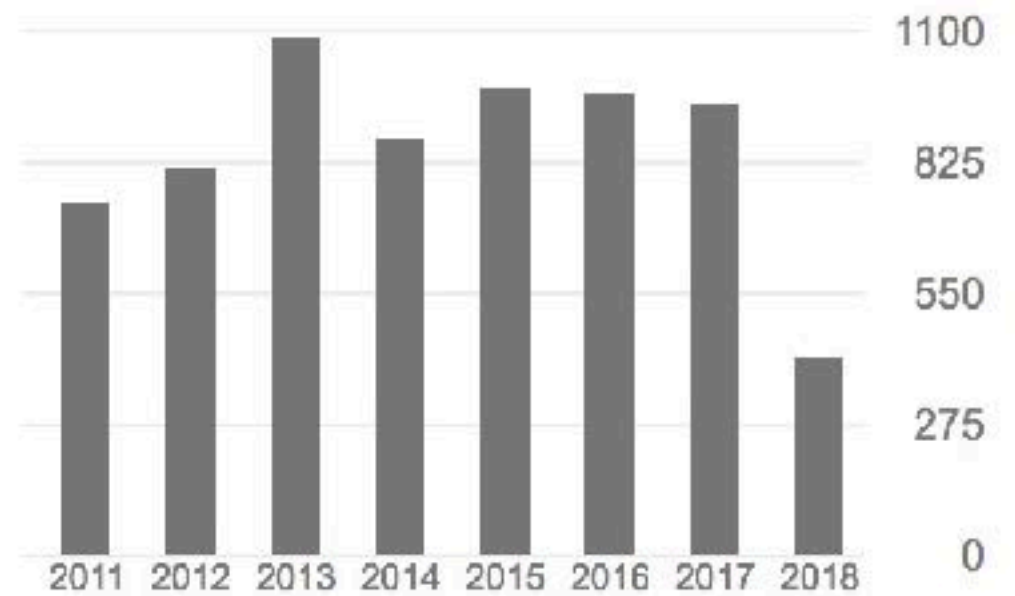
Professor of Structural Biology, [Imperial College](#)
 Verified email at imperial.ac.uk - [Homepage](#)

[protein structure](#) [virology](#) [human serum albumin](#) [fmdv](#) [splicing](#)

Cited by

[VIEW ALL](#)

	All	Since 2013
Citations	11412	5289
h-index	48	33
i10-index	81	67



Co-authors

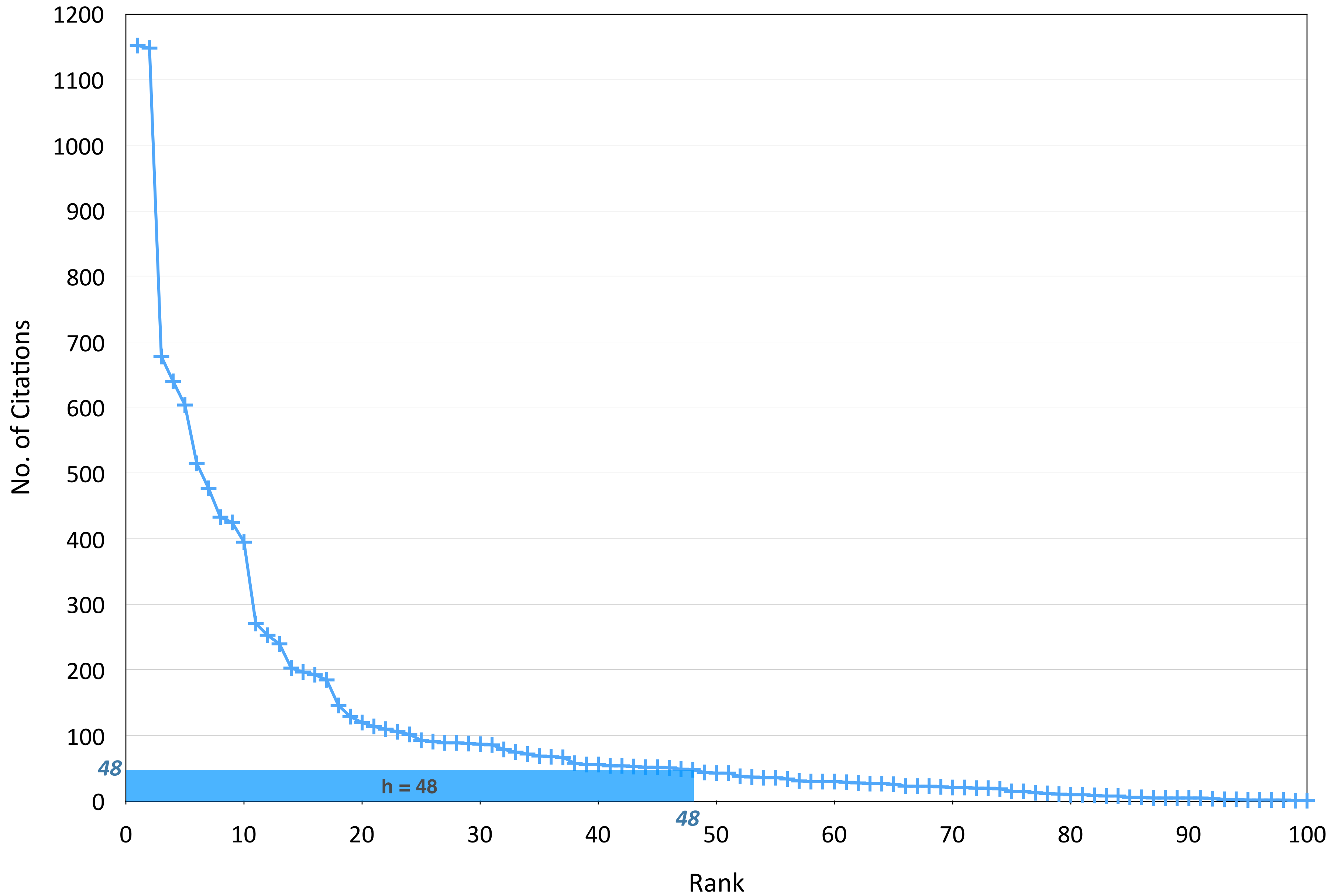
[EDIT](#)



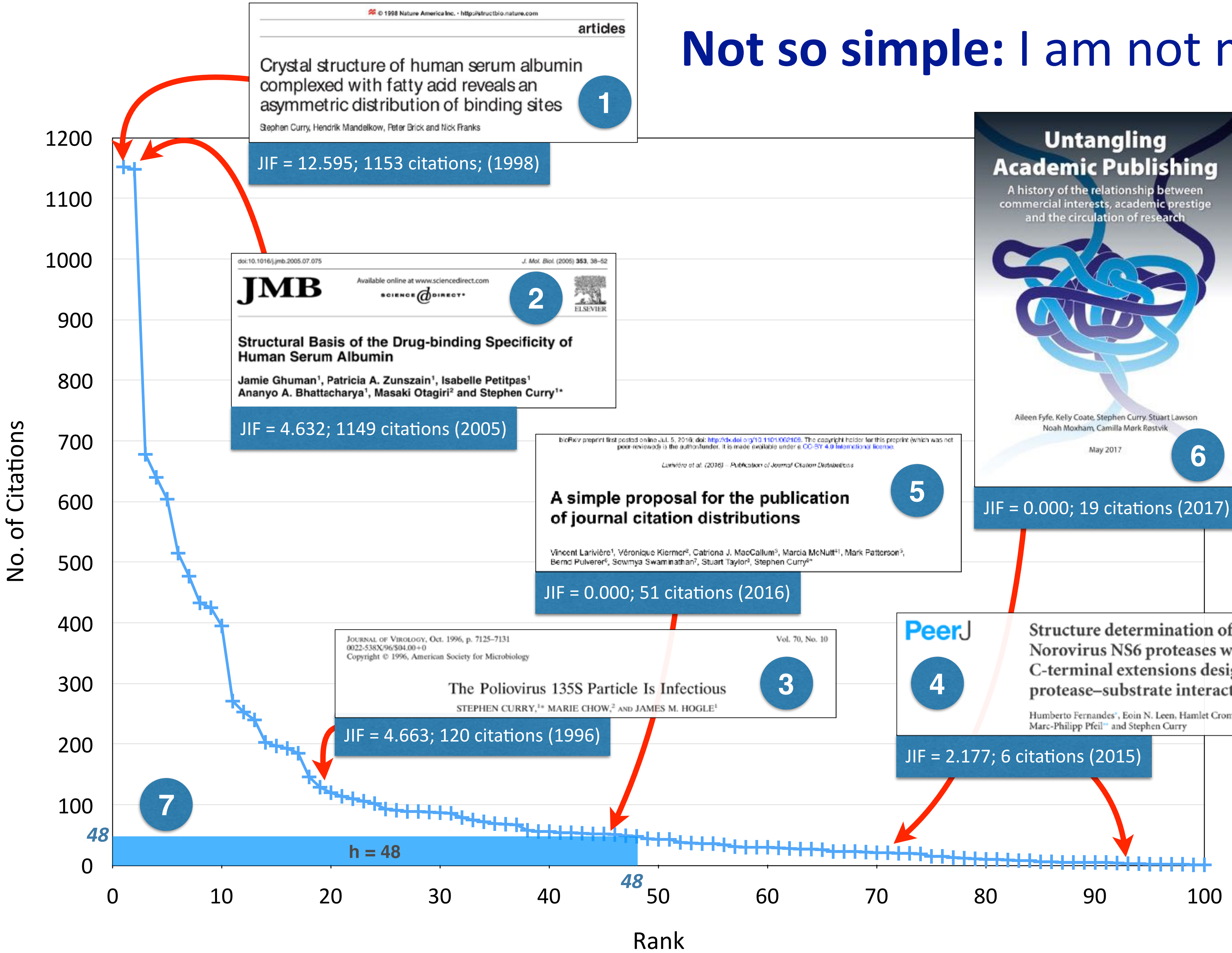
Ian Goodfellow
 University of Cambridge

<input type="checkbox"/>	TITLE	CITED BY	YEAR
<input type="checkbox"/>	Crystal structure of human serum albumin complexed with fatty acid reveals an asymmetric distribution of binding sites S Curry, H Mandelkow, P Brick, N Franks Nature Structural and Molecular Biology 5 (9), 827	1153	1998
<input type="checkbox"/>	Structural basis of the drug-binding specificity of human serum albumin J Ghuman, PA Zunszain, I Petitpas, AA Bhattacharya, M Otagiri, S Curry Journal of molecular biology 353 (1), 38-52	1149	2005
<input type="checkbox"/>	Crystallographic analysis reveals common modes of binding of medium and long-chain fatty acids to human serum albumin1 AA Bhattacharya, T Grüne, S Curry Journal of molecular biology 303 (5), 721-732	678	2000
<input type="checkbox"/>	Crystal structure analysis of warfarin binding to human serum albumin anatomy of drug site I I Petitpas, AA Bhattacharya, S Twine, M East, S Curry Journal of Biological Chemistry 276 (25), 22804-22809	639	2001
<input type="checkbox"/>	The extraordinary ligand binding properties of human serum albumin M Fasano, S Curry, E Terreno, M Galliano, G Fanali, P Narciso, S Notari, ... IUBMB life 57 (12), 787-796	604	2005
<input type="checkbox"/>	Binding of the general anesthetics propofol and halothane to human serum albumin high resolution crystal structures AA Bhattacharya, S Curry, NP Franks Journal of Biological Chemistry 275 (49), 38731-38738	515	2000
<input type="checkbox"/>	Fatty acid binding to human serum albumin: new insights from crystallographic studies S Curry, P Brick, NP Franks Biochimica et Biophysica Acta (BBA)-Molecular and Cell Biology of Lipids ...	477	1999

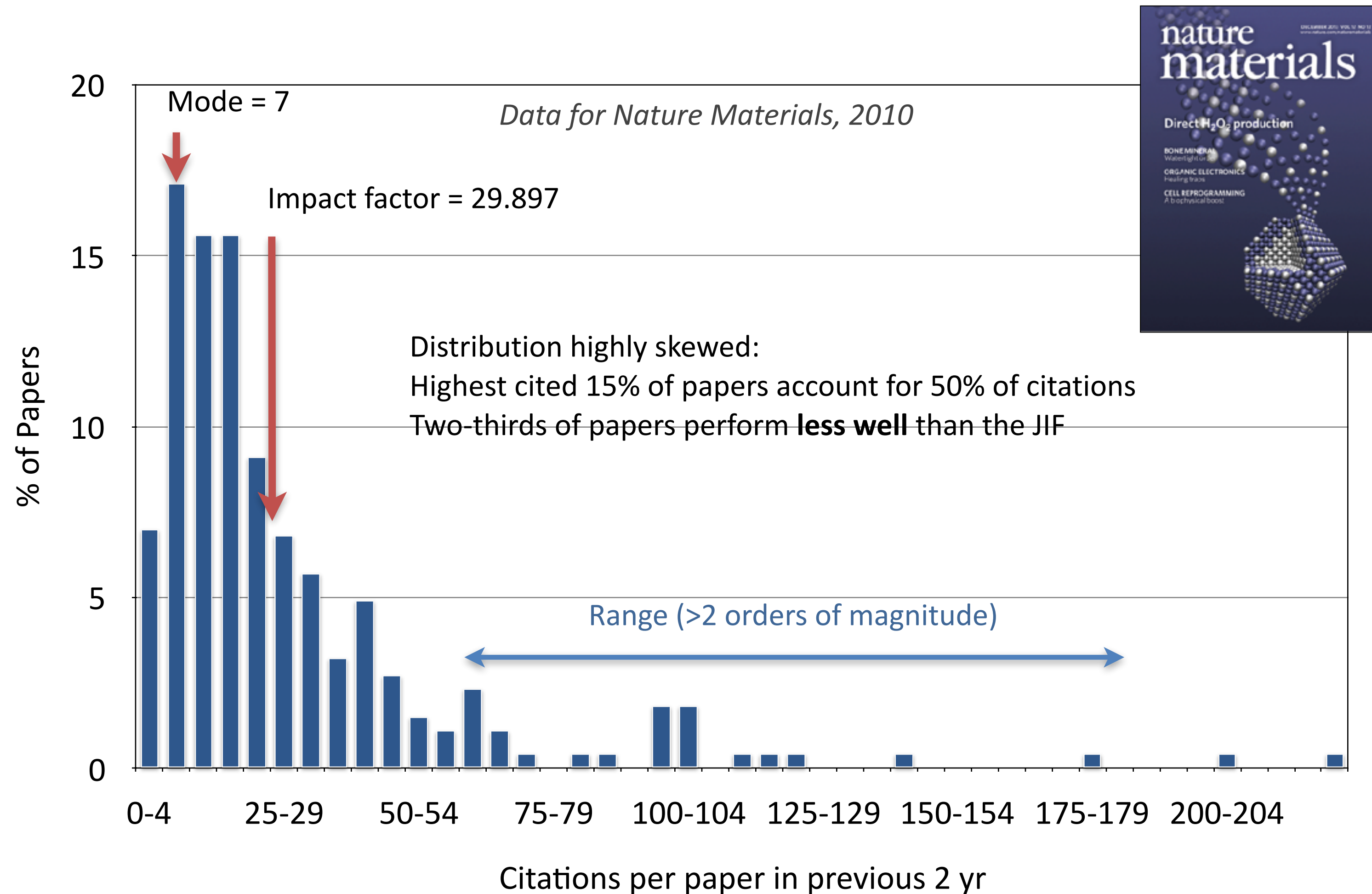
Not so simple: I am not my h-index (or my JIFs)



Not so simple: I am not my h-index (or my JIFs)



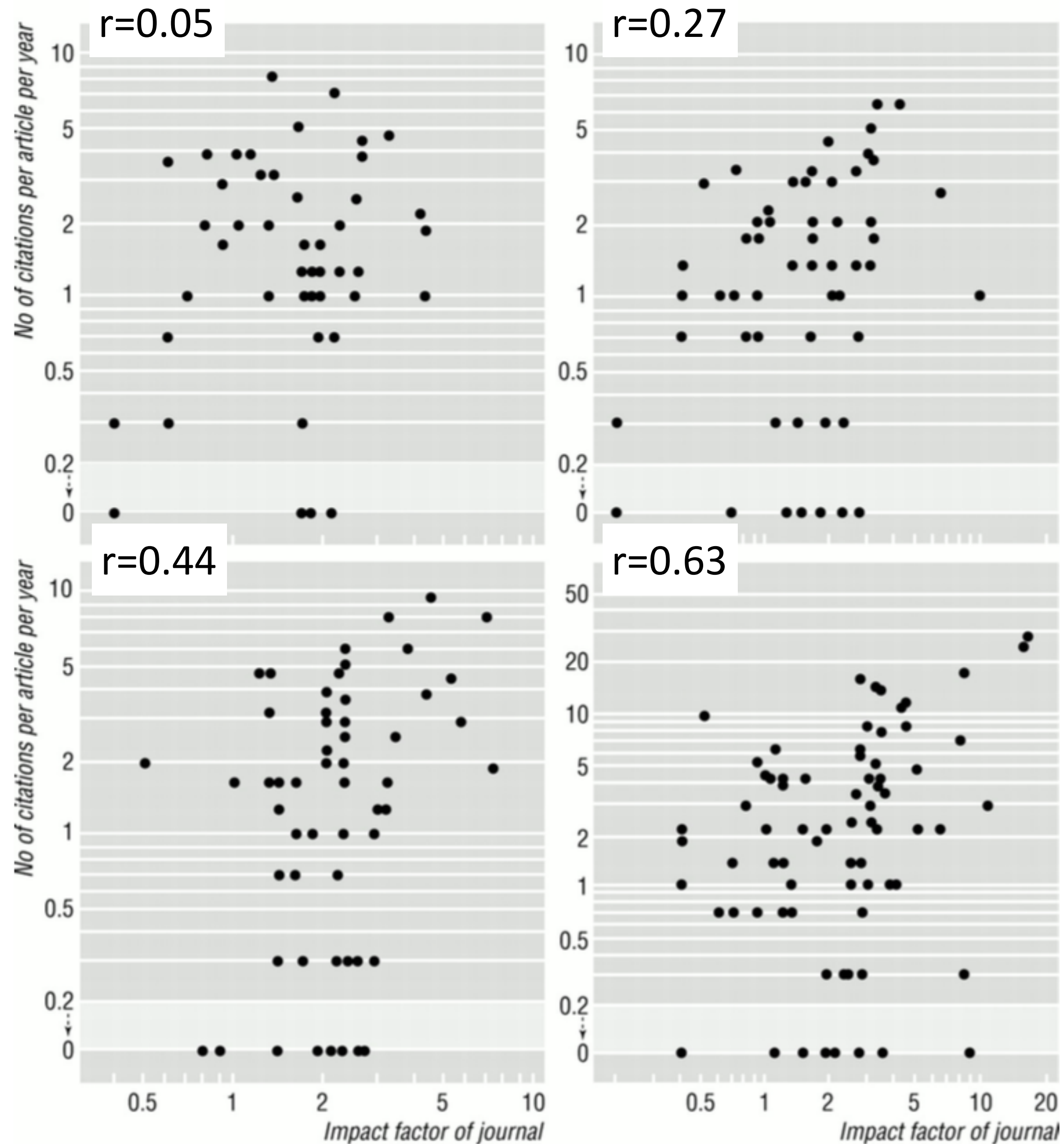
Journal impact factors: so much influence, so little information...



- Huge range of citation performance in any one journal
- 65-70% of papers have fewer citations than suggested by the JIF
- JIF is a poor predictor of the number of citations of any given paper
- Differences in JIFs of <5 are mostly meaningless

See also: <https://quantixed.wordpress.com/2015/05/05/wrong-number-a-closer-look-at-impact-factors/>, <https://www.natureindex.com/news-blog/whats-wrong-with-the-jif-in-five-graphs> and <http://dx.doi.org/10.1101/062109>

Correlation between JIF and citation rate of articles from individual scientists is poor



4 different researchers

“...authors do not necessarily publish their most citable work in journals of the highest impact, nor do their articles necessarily match the impact of the journals they appear in.”

Seglen, P. O. (1997). Why the impact factor of journals should not be used for evaluating research. *BMJ*, **314**, 498–502.

Even with distributions, we need to ask: what do citations mean?

RESEARCH ARTICLE

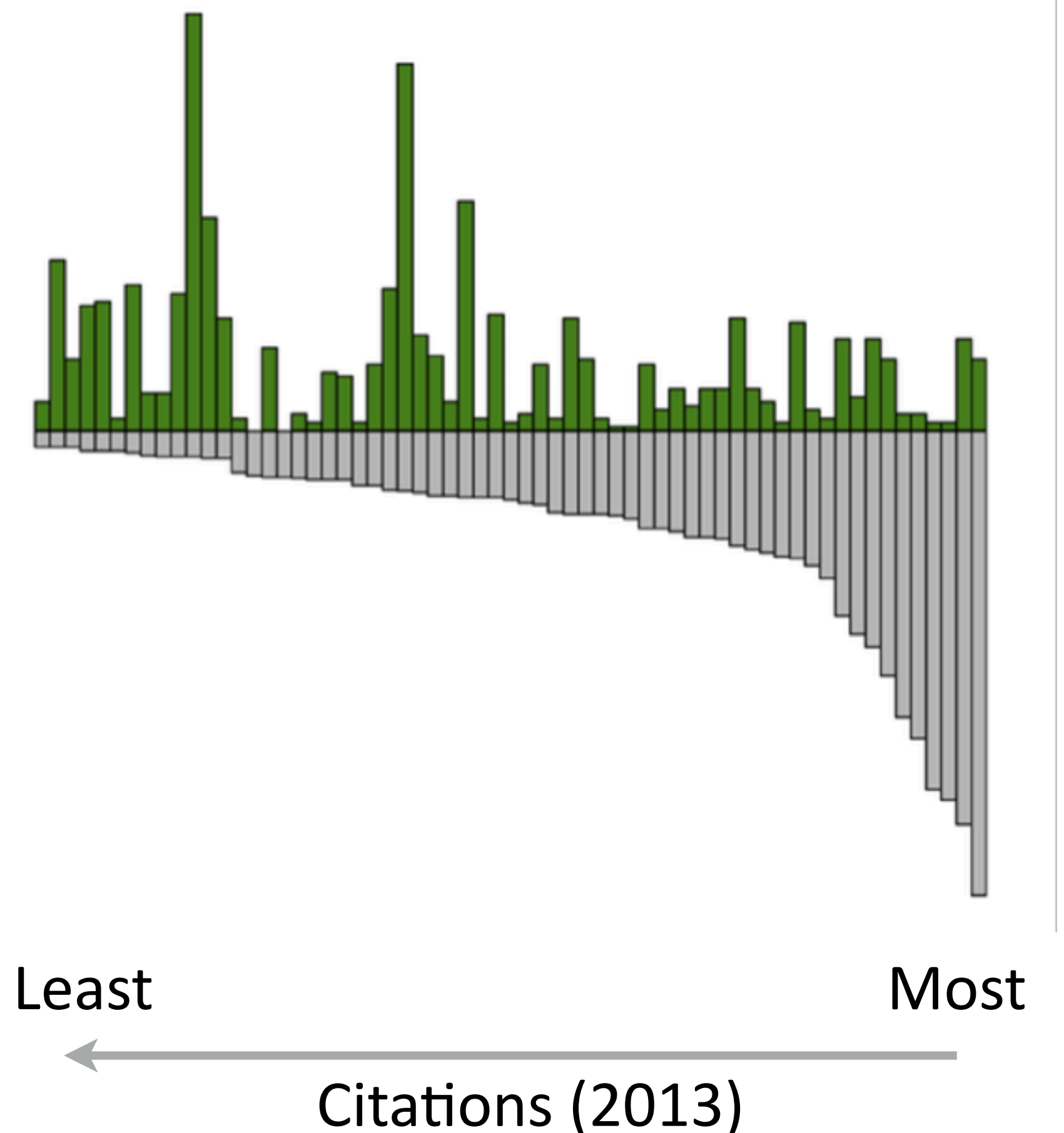
Perception of the importance of chemistry research papers and comparison to citation rates

Rachel Borchardt^{1*}, Cullen Moran¹, Stuart Cantrill², Chemjobber³, See Arr Oh⁴, Matthew R. Hartings^{1*}

¹ American University, NW, Washington, DC, United States of America, ² Nature Chemistry, SpringerNature, London, United Kingdom, ³ Chemjobber, Shell, WV, United States of America, ⁴ Just Like Cooking, Krypton, KY, United States of America

“Respondents view both cited papers and significant papers *differently* than papers that should be shared with chemists. We conclude from our results that **peer judgements of importance and significance differ from metrics-based measurements...**”

Times Chosen in Survey
(Most Significant)



Negative effects of over-reliance on metrics based on academic outputs

Sick of Impact Factors

Posted on August 13, 2012 by Stephen

I am sick of impact factors and so is science.

The impact factor might have started out as a good idea, but its time has come and gone. [Conceived by Eugene Garfield](#) in the 1970s as a useful tool for research libraries to judge the relative merits of journals when allocating their subscription budgets, the impact factor is [calculated](#) annually as the mean number of citations to articles published in any given journal in the two preceding years.



<http://occamstypewriter.org/scurry/2012/08/13/sick-of-impact-factors/>

“Our people know how to get the Nature papers...”

Faculty Dean (University of X)

“I’m really excited. We just had a big paper in Cell... !”

Postdoc (University of Y)

- slows publication & reduces productivity
- positive bias in the literature
- JIF correlates with retraction rate
- impact on reliability & public trust?
- devaluation of other important activities
- stress on the individual
- growing cynicism among academics?

*“Despite personal ideals and good intentions, in this incentive and reward system researchers find themselves pursuing not the work that benefits public or preventive health or patient care the most, but **work that gives most academic credit** and is better for career advancement.”*

Frank Miedema

<https://blogs.bmj.com/openscience/2018/01/24/setting-the-agenda-who-are-we-answering-to/>

Accentuate the positive: how *open* science can be *better* science

Peer review and scientific publishing
Occam's corner

Peer review, preprints and the speed of science

Peer review is often claimed to be the guarantor of the trustworthiness of scientific papers, but it is a troubled process. Preprints offer a way out

Stephen Curry

@Stephen_Curry

Monday 7 September
2015 11.00 BST



Shares 1
Comments 14

Save for later



Subediting skills for writers Photograph

A few weeks ago my collaborator and I submitted a paper to a journal. We have been investing in the machinery of infected cells and in the review, our paper could be published.

Science Occam's corner Zika virus initiative reveals deeper malady in scientific publishing Stephen Curry

Moves to speed up the release of Zika virus research in response to the public health crisis highlight a systemic failure in scientific publishing. Help could be at hand at the ASAPbio meeting today in the USA

Contact author

@Stephen_Curry

Tuesday 16 February
2016 11:54 GMT



Shares 539
Comments 4

Save for later



Too far behind a screen - Zika scientists are set to benefit from the rapid release of research on the virus
Photograph: Victor Moriyama/Getty Images

In response to the rapid spread of Zika virus across Central and South America, now declared to be an international public health emergency by the World Health Organisation, a consortium of research funders, institutes and publishers have committed to sharing data and results relevant to the crisis "as rapidly and openly as possible."

Preprints: faster communication; worldwide access

Focus on the content, not the container (journal)

- Valuable groundwork for journal-indep. evaluation

Largest possible audience (sharing + scrutiny = reliability)

- Same applies to OA papers

Practice encourages **open peer review**

Data sharing: scrutiny benefits (reliability)

Better for changing the world (utility & impact; e.g. Zika crisis)

A brief history of attempts at research assessment reform...

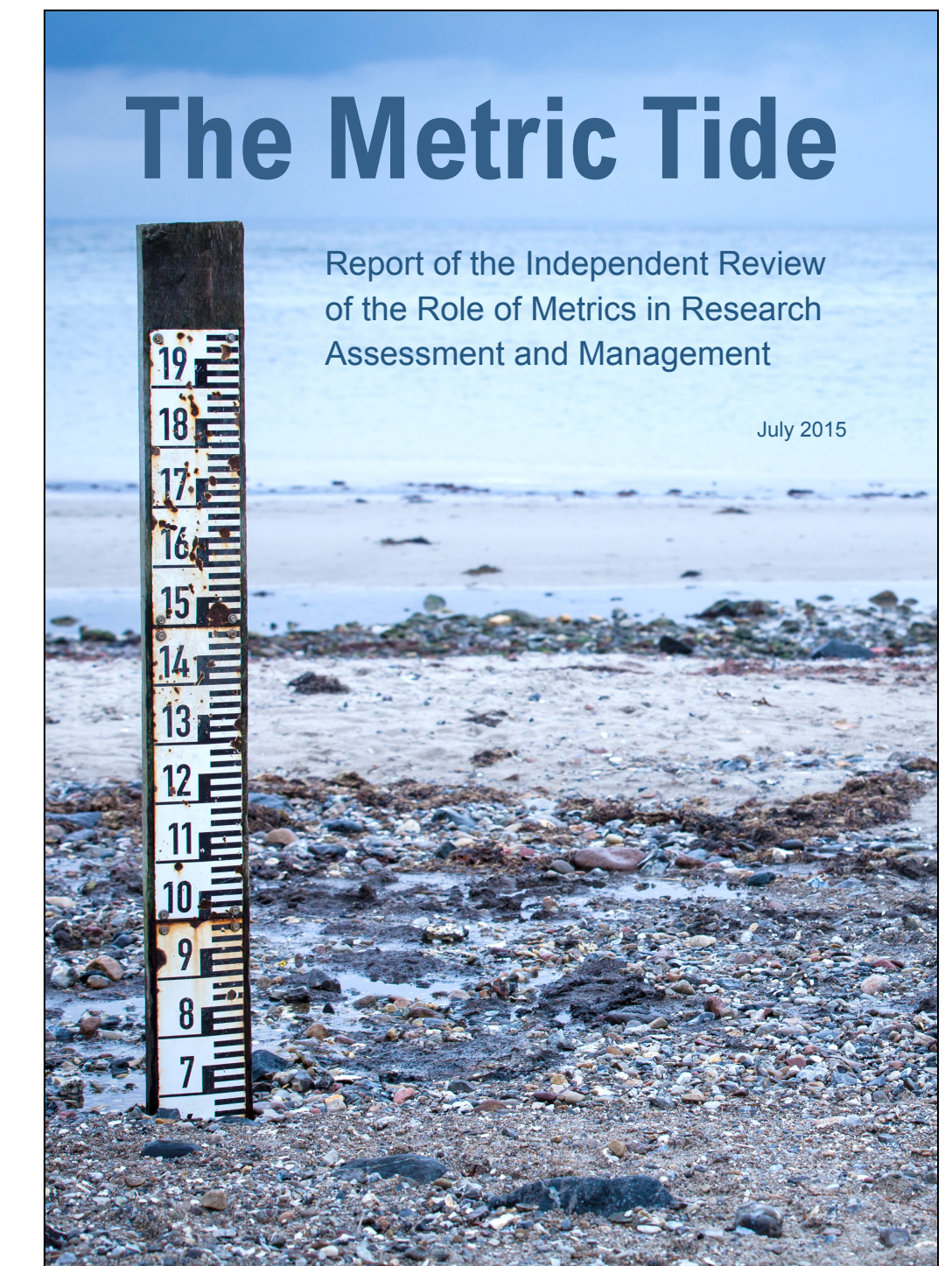


Mar 2015



<http://www.leidenmanifesto.org>

Jul 2015



UK Forum for Responsible Research Metrics

DORA: the declaration

San Francisco Declaration on Research Assessment

One generate recommendation:

Do not use journal-based metrics, such as Journal Impact Factors, as a **surrogate measure** of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions.

17 positive recommendations for different stakeholders:

- funders
- institutions
- publishers
- data providers
- researchers

For institutions:

Be explicit about the criteria used to reach hiring, tenure, and promotion decisions, clearly highlighting, especially for early-stage investigators, that the **scientific content of a paper is much more important than publication metrics** or the identity of the journal in which it was published.

For the purposes of research assessment, **consider** the value and impact of **all research outputs** (including datasets and software) in addition to research publications, and **consider a broad range of impact measures** including qualitative indicators of research impact, such as influence on policy and practice.



DORA, the Leiden Manifesto and responsible metrics: friends on the same journey



Influencing the changing world of research evaluation

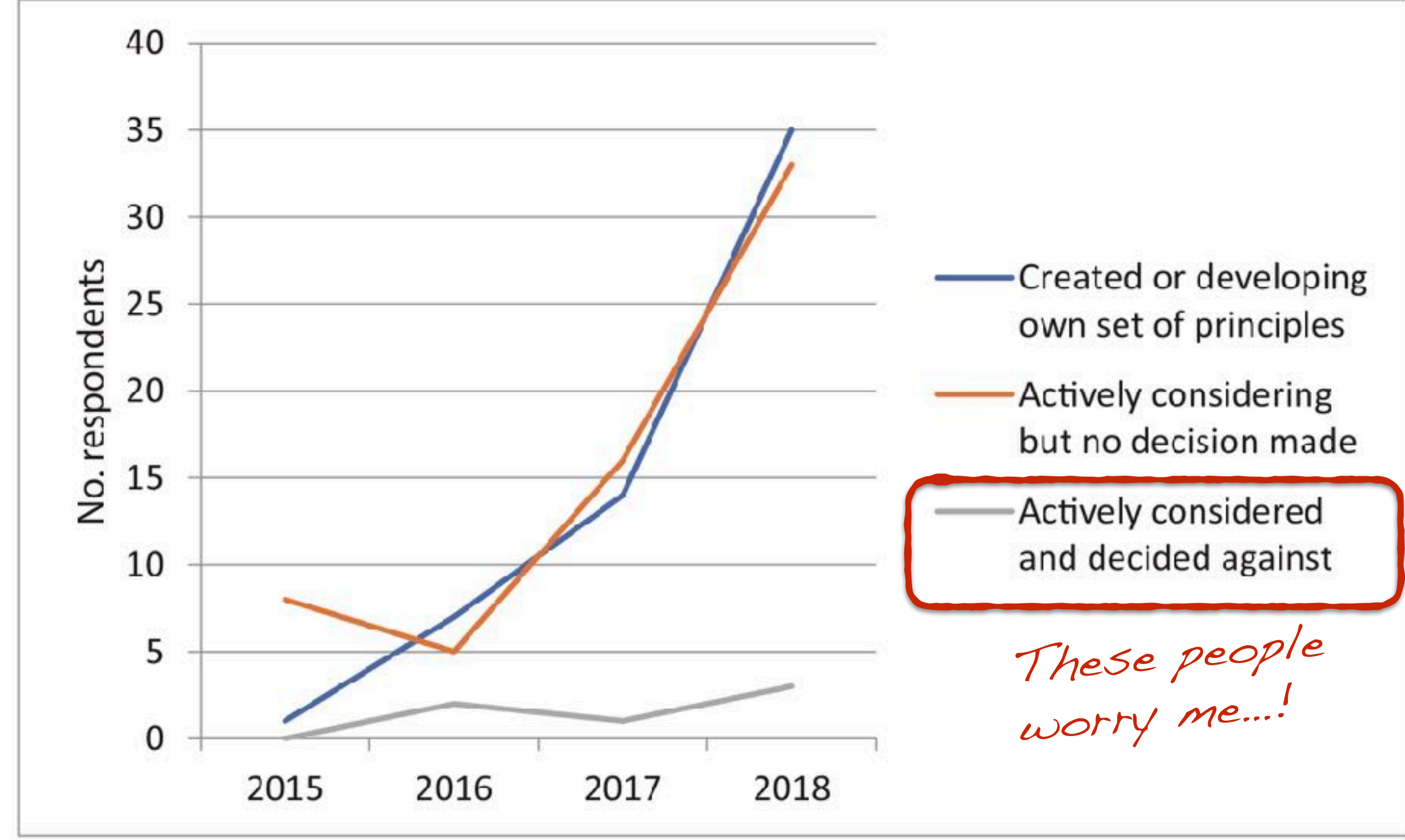
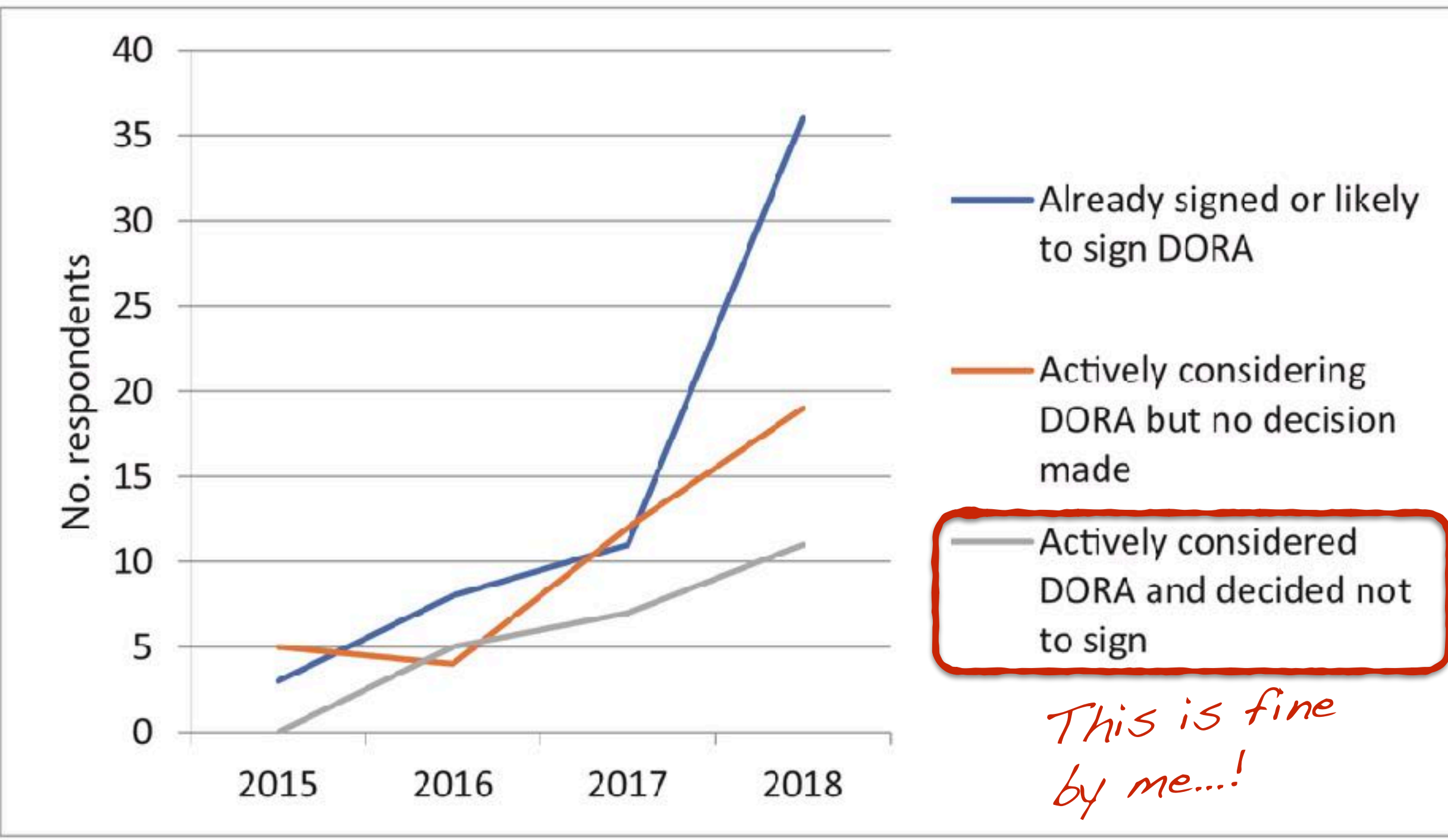


Figure 1. Engagement by HEIs with DORA over time

Figure 2. HEI development of responsible metrics principles over time

DORA: the campaign

San Francisco Declaration on Research Assessment

- 5 years old; >13,000 individuals & >700 organisations signed
- New funding, new steering group, new URL - [sfdora.org](https://www.sfdora.org)
- New Roadmap:
 - Increase awareness of the need to develop alternatives to the JIF
 - Research and promote best practice in research assessment.
 - Extend the global and disciplinary impact of DORA
- New international advisory board – a truly global initiative

https://www.nature.com/articles/d41586-018-01642-w

WORLD VIEW A personal take on events



Words were a good start — now it is time for action

Five years ago, the Declaration on Research Assessment was a rallying point. It must now become a tool for fair evaluation, urges Stephen Curry.

Declarations are bound to fall short. The 240-year-old United States Declaration of Independence holds it self-evident that “all men [sic] are created equal”, but equality remains a far-off dream for many Americans.

The San Francisco Declaration on Research Assessment (DORA; <https://sfdora.org>) is much younger, but similarly idealistic. Conceived by a group of journal editors and publishers at a meeting of the American Society for Cell Biology (ASCB) in December 2012, it proclaims a pressing need to improve how scientific research is evaluated, and asks scientists, funders, institutions and publishers to forswear using journal impact factors (JIFs) to judge individual researchers.

DORA’s aim is a world in which the content of a research paper matters more than the impact factor of the journal in which it appears. Thousands of individuals and hundreds of research organizations now

agree and have signed up. Momentum is building, particularly in the United Kingdom, where the number of university signatories has trebled in the past two years. This week, all seven UK research councils announced their support.

Impact factors were never meant to be a metric for individual papers, let alone individual people. They’re an average of the skewed distribution of citations accumulated by papers in a given journal over two years. Not only do these averages hide huge variations between papers in the same journal, but citations are imperfect measures of quality and influence. High-impact-factor journals may publish a lot of top-notch science, but we should not outsource evaluation of individual researchers and their outputs to seductive journal metrics.

Most agree that yoking career rewards to JIFs is distorting science. Yet the practice seems impossible to root out. In China, for example, many universities pay impact-factor-related bonuses, inspired by unwritten norms of the West. Scientists in parts of Eastern Europe cling to impact factors as a crude bulwark against cronyism. More worryingly, processes for JIF-free assessment have yet to gain credibility even at some institutions that have signed DORA. Stories percolate of research managers demanding high impact factors. Job and grant applicants feel that they can’t compete unless they publish in prominent journals. All are fearful of shunning off the familiar harness.

So, DORA’s job now is to accelerate the change it called for. I feel the need for change whenever I meet postdocs. Their curiosity about the world and determination to improve it burns bright. But their desires to pursue the most fascinating and most impactful questions are subverted by our systems of evaluation. As they apply for their first permanent positions, they are already calculating how to manoeuvre within the JIF-dependent managerialism of modern science.

There have been many calls for something better, including the Leiden Manifesto and the UK report ‘The Metric Tide’, both released in

2015. Like DORA, these have changed the tenor of discussions around researcher assessment and paved the way for change.

It is time to shift from making declarations to finding solutions. With the support of the ASCB, Cancer Research UK, the European Molecular Biology Organization, the biomedical funder the Wellcome Trust and the publishers the Company of Biologists, *eLife*, F1000, Hindawi and PLOS, DORA has hired a full-time community manager and revamped its steering committee, which I head. We are committed to getting on with the job.

Our goal is to discover and disseminate examples of good practice, and to boost the profile of assessment reform. We will do that at conferences and in online discussions; we will also establish regional nodes across the world, run by volunteers who will work to identify and address local issues.

IT’S WORTH DOING THE EXPERIMENT TO PROPERLY EVALUATE EVALUATION.

This week, for example, DORA is participating in a workshop at which the Forum for Responsible Metrics — an expert group established following the release of ‘The Metric Tide’ — will present results of the first UK-wide survey of research assessment. This will bring broader exposure to what universities are thinking and doing, and put the spotlight on instances of good and bad practice.

We have to get beyond complaining, to find robust, efficient and bias-free assessment methods. Right now, there are few compelling options. I favour concise one- or two-page ‘bio-sketches’, similar to those rolled out in 2016 by the University Medical Centre Utrecht in the Netherlands. These let researchers summarize their most

important research contributions, plus mentoring, societal engagement and other valuable activities. This approach could have flaws. Perhaps it gives too much leeway for ‘spin’. But, as scientists, surely we can agree that it’s worth doing the experiment to properly evaluate evaluation.

This is hard stuff: we need frank discussions that grind through details, with researchers themselves, to find out what works and to forestall problems. We need to be mindful of the damage wrought to the careers of women and minorities by bias in peer review and in subjective evaluations. And we need to join in with parallel moves towards open research, data and code sharing, and the proper recognition of scientific reproducibility.

Declarations such as DORA are important; credible alternatives to the status quo are more so. True success will mean every institution, everywhere in the world, bragging about the quality of their research-assessment procedures, rather than the size of their impact factors. ■

Stephen Curry is a professor of structural biology and assistant provost for equality, diversity and inclusion at Imperial College London. He is also chair of the DORA steering group. e-mail: s.curry@imperial.ac.uk

8 FEBRUARY 2018 | VOL 554 | NATURE | 147

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DORA SIGN DORA READ THE DECLARATION SIGNERS BLOG GO

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Improving how research is assessed
Join the organizations and individuals who have signed the Declaration on Research Assessment.

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[Read the full declaration >](#)

New tools and processes for assessment

<http://www.nature.com/news/fewer-numbers-better-science-1.20858>



Fewer numbers, better science

Scientific quality is hard to define, and numbers are easy to look at. But bibliometrics are warping science – encouraging quantity over quality. Leaders at two research institutions describe how they do things differently.

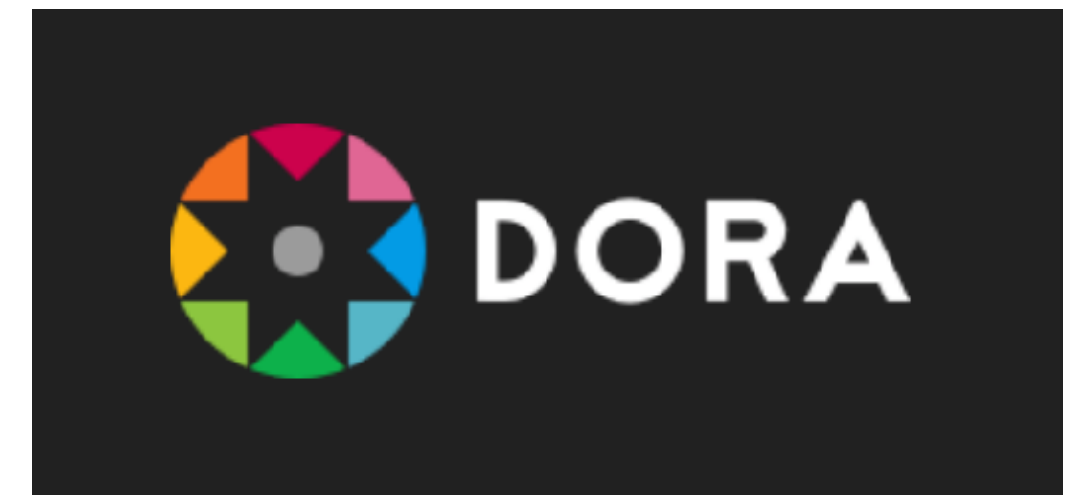
Researcher assessment at UMC Utrecht

1. Research, publications, grants
2. Managerial & academic duties
3. Mentoring & teaching
4. Clinical work (if applicable)
5. Entrepreneurship & community outreach

Charité University Hospital, Berlin

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

More examples at:
<https://sfdora.org/good-practices/>



DORA session at AAAS (Feb 2019)

REGISTRATION WHAT'S NEW PROGRAM E-POSTERS ATTEND SPONSORS & EXHIBITS

HOME SEARCH SCIENTIFIC SESSION

Academic Research Assessment: Reducing Biases in Evaluation

The future...

<https://publications.europa.eu/en/publication-detail/-/publication/47a3a330-c9cb-11e7-8e69-01aa75ed71a1/language-en>

Evaluation of Research Careers fully acknowledging Open Science Practices

Rewards, incentives and/or recognition for researchers practicing Open Science

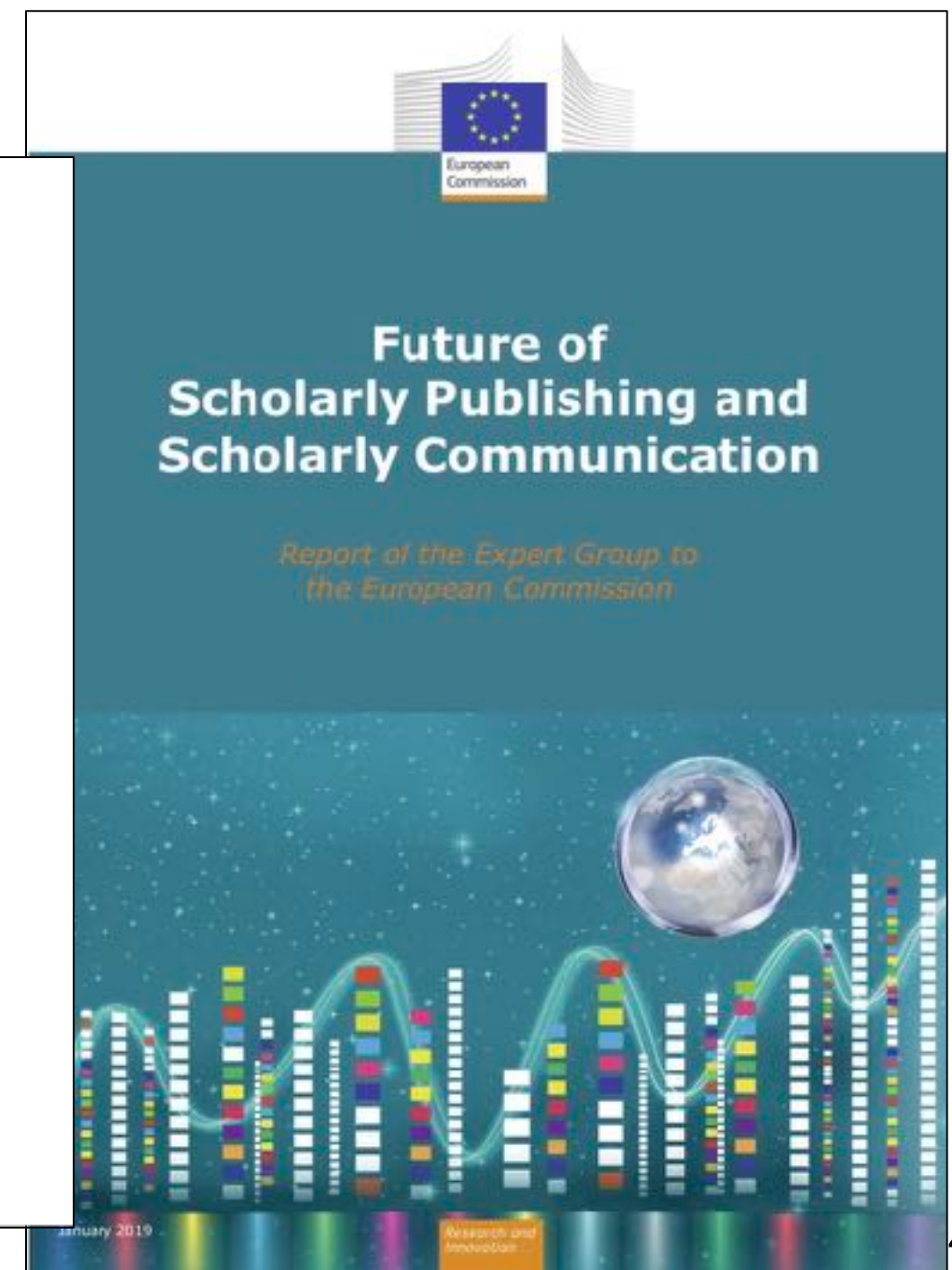
EXECUTIVE SUMMARY

Open Science represents an approach to research that is collaborative, transparent and accessible¹. There are a wide range of activities that come under the umbrella of Open Science that include open access publishing, open data, open peer review and open research. It also includes citizen science, or more broadly, stakeholder engagement, where non specialists engage directly in research. Open Science goes hand in hand with research integrity and requires legal and ethical awareness on the part of researchers. A driver for Open Science is improving the transparency and validity of research as well as in regards to public ownership of science, particularly that which is publicly funded.

The conclusion is actually simple: the evaluation of research is the keystone, and it has already been identified by scholars around the world, and by various expert groups within the European Commission, as structuring a global research architecture characterised by an unlimited quest for rankings. The ranking imperative affects all levels of the research structure, and it tends to constrain change for nearly all actors. This is true of individual researchers, of research groups, of whole research institutions, and even of whole countries. Symmetrically, publishers design their marketing strategies around journal rankings. But they too have become prisoners of this strategy, even though they benefit from it, and they have difficulties seeing beyond it.

Funding agencies also use rankings, sometimes abundantly. However, unlike the other actors, private funding charities are not ranked, and public, national, funders are ranked only indirectly, through their own country. As a result, funders in general enjoy more latitude than the other actors in scholarly communication and publishing. The European

<https://publications.europa.eu/en/publication-detail/-/publication/464477b3-2559-11e9-8d04-01aa75ed71a1>



Plan S: the debate

A Response to Plan-S from Academic Researchers: Unethical, Too Risky!

Summary

Open access (OA) publishing in general has many advantages over traditional subscription, or toll access (TA), publishing: it not only makes science accessible to a larger public, but also expands the reach of individual researchers and the potential impact of their research. Plan S is a noble effort

Academic freedom and responsibility: why Plan S is not unethical

Posted on [October 1, 2018](#) by [Stephen](#)

Since its [announcement](#) on 4th September the European Commission's plan to make a radical shift towards open access (OA) has caused [quite a stir](#). Backed by eleven* national funding agencies, the plan aims to make the research that they support free to read as soon as it is published. This is a major challenge to the status quo, since the funders are effectively placing subscription journals off limits for their researchers, even if the journals allow green OA (publication of the author-accepted manuscript) after cases where journals are "admirably strong" in certain aspects. Others [academics](#) is the is published and

On Academic Freedom and Responsibility

Posted on [October 1, 2018](#) by [jbrittholbrook](#)

Today, Stephen Curry published a piece on his [blog](#) on "[Academic freedom and responsibility: why Plan S is not unethical](#)," and I want to offer a response to some of his arguments here.

The first thing to say is that I think Curry and I agree on quite a few points. We especially agree that to speak of academic freedom means we should also to speak of academic responsibility.

For six years (2012-2018), I was a member of the American Association for the Advancement of Science (AAAS) Committee on Scientific Freedom and Responsibility. I fully support the [AAAS Statement on Scientific Freedom and Responsibility](#), which the Committee co-authored:

Reaction of Researchers to Plan S; Too far, too risky?

An Open Letter from Researchers to European Funding Agencies, Academies, Universities, Research Institutions, and Decision Makers

We support open access (OA) and Plan S is probably written with good intentions. However, Plan S¹, as currently presented by the EU (and several national funding agencies) goes too far, is unfair for the scientists involved and is too risky for science in general. Plan S has far-reaching consequences, takes insufficient care of the desires and wishes of the individual scientists and creates a range of unworkable and undesirable situations:



The Open Letter: Reaction of Researchers to Plan S: too far, too risky.

A response of the Fair Open Access Alliance

We write to provide a counter view to the recent open letter ("Plan S: Too Far, Too Risky"),¹ partly based on our FOAA recommendations for the implementation of Plan S.² We are glad to note that the researchers who have signed the open letter support open access as their very first principle. However, the letter itself goes on to make a number of highly problematic and logically fallacious statements with which we strongly disagree and here contest.

Plan S and research evaluation

The screenshot shows the top of a Nature news article. The header includes the Nature logo and navigation icons for search, alerts, submit, and login. The article title is "Radical open-access plan could spell end to journal subscriptions" by Holly Else, dated 04 September 2018. A sub-headline reads: "Eleven research funders in Europe announce 'Plan S' to make all scientific works free to read as soon as they are published." Below the text are social media sharing icons for Twitter, Facebook, and Email. A large photo of Robert-Jan Smits is on the left. On the right, there is a "PDF version" link and a "LATEST NEWS ARTICLES" section with three items: "Ice-tracking satellite launches after 10 years in the works", "Stand back, Aquaman: Harpoon-throwing satellite takes aim at space junk", and "AI helps unlock 'dark matter' of bizarre superconductors".

<https://www.nature.com/articles/d41586-018-06178-7>

“We also understand that researchers may be driven to do so by a misdirected reward system which puts emphasis on the wrong indicators (e.g. journal impact factor). **We therefore commit to fundamentally revise the incentive and reward system of science**, using the San Francisco Declaration on Research Assessment (DORA) as a starting point.

<https://www.scienceeurope.org/coalition-s/>

News | 5 November 2018

Wellcome is updating its open access policy

Following a six-month review, we're updating our open access (OA) policy. The changes will apply from 1 January 2020. Robert Kiley, Head of Open Research, explains what will be different and why.

“5. Wellcome-funded organisations must sign or publicly commit to the San Francisco Declaration on Research Assessment (DORA), or an equivalent. We may ask organisations to show that they're complying with this as part of our organisation audits. This is a new requirement to encourage organisations to consider the intrinsic merit of the work when making promotion and tenure decisions, not just the title of the journal or publisher.”

Plan S and research evaluation

The screenshot shows the top of a Nature news article. The header includes the Nature logo and navigation icons for search, email alerts, submit, and login. Below the header, there are navigation tabs for 'News & Comment' and 'Research'. The main article title is 'Radical open-access plan could spell end to journal subscriptions', dated 04 SEPTEMBER 2018. A sub-headline reads: 'Eleven research funders in Europe announce 'Plan S' to make all scientific works free to read as soon as they are published.' The author is Holly Else. There are social media sharing icons for Twitter, Facebook, and Email. A large image of Robert-Jan Smits is shown on the left. On the right, there is a 'PDF version' link and a 'LATEST NEWS ARTICLES' section with three items: 'Ice-tracking satellite launches after 10 years in the works', 'Stand back, Aquaman: Harpoon-throwing satellite takes aim at space junk', and 'AI helps unlock 'dark matter' of bizarre superconductors'.

<https://www.nature.com/articles/d41586-018-06178-7>

“We also understand that researchers may be driven to do so by a misdirected reward system which puts emphasis on the wrong indicators (e.g. journal impact factor). **We therefore commit to fundamentally revise the incentive and reward system of science**, using the San Francisco Declaration on Research Assessment (DORA) as a starting point.

<https://www.scienceeurope.org/coalition-s/>

News | 5 November 2018

Wellcome is updating its open access policy

Following a six-month review, we're updating our open access (OA) policy. The changes will apply from 1 January 2020. Robert Kiley, Head of Open Research, explains what will be different and why.

“5. Wellcome-funded organisations must sign or publicly commit to the San Francisco Declaration on Research Assessment (DORA), or an equivalent. **We may ask organisations to show that they're complying with this as part of our organisation audits.** This is a new requirement to encourage organisations to consider the intrinsic merit of the work when making promotion and tenure decisions, not just the title of the journal or publisher.”

We need to assess research but how should we define success?



<http://www.newyorker.com/magazine/2013/07/29/slow-ideas>

“We yearn for frictionless, technological solutions. But people talking to people is still how the world’s standards change.”

Atul Gawande

What should success look like?

Reliable, rapidly communicated, accessible, high-quality **research** that transforms our understanding of the world and can change it for the better.

Researchers who collaborate, who feel a duty of care to group members & colleagues, and to the societies of which they are an integral part.

A **research system** that values the people within it, that considers their quality of life, their mental health, and that provides the training and processes to seek out the creative vigour of diversity.

Concluding remarks

However busy we are, let's not lose sight of our values

Work with

Challenge indicator providers:

Show us the data: distributions and profiles, not metrics

Work with

Challenge publishers:

Open citations please

Publish your citation distributions

Work with

Challenge rankers:

Come clean about your lack of precision

Profiles, not meaningless aggregate scores

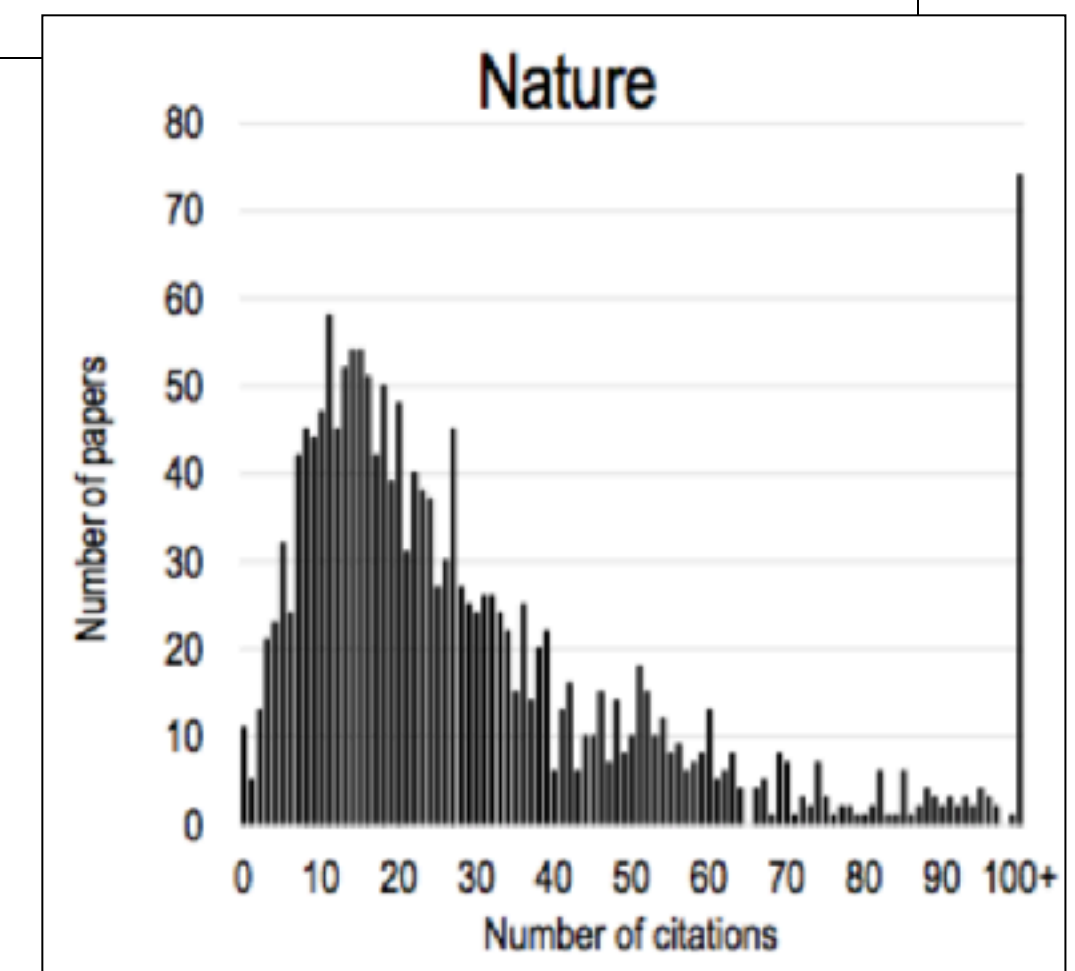
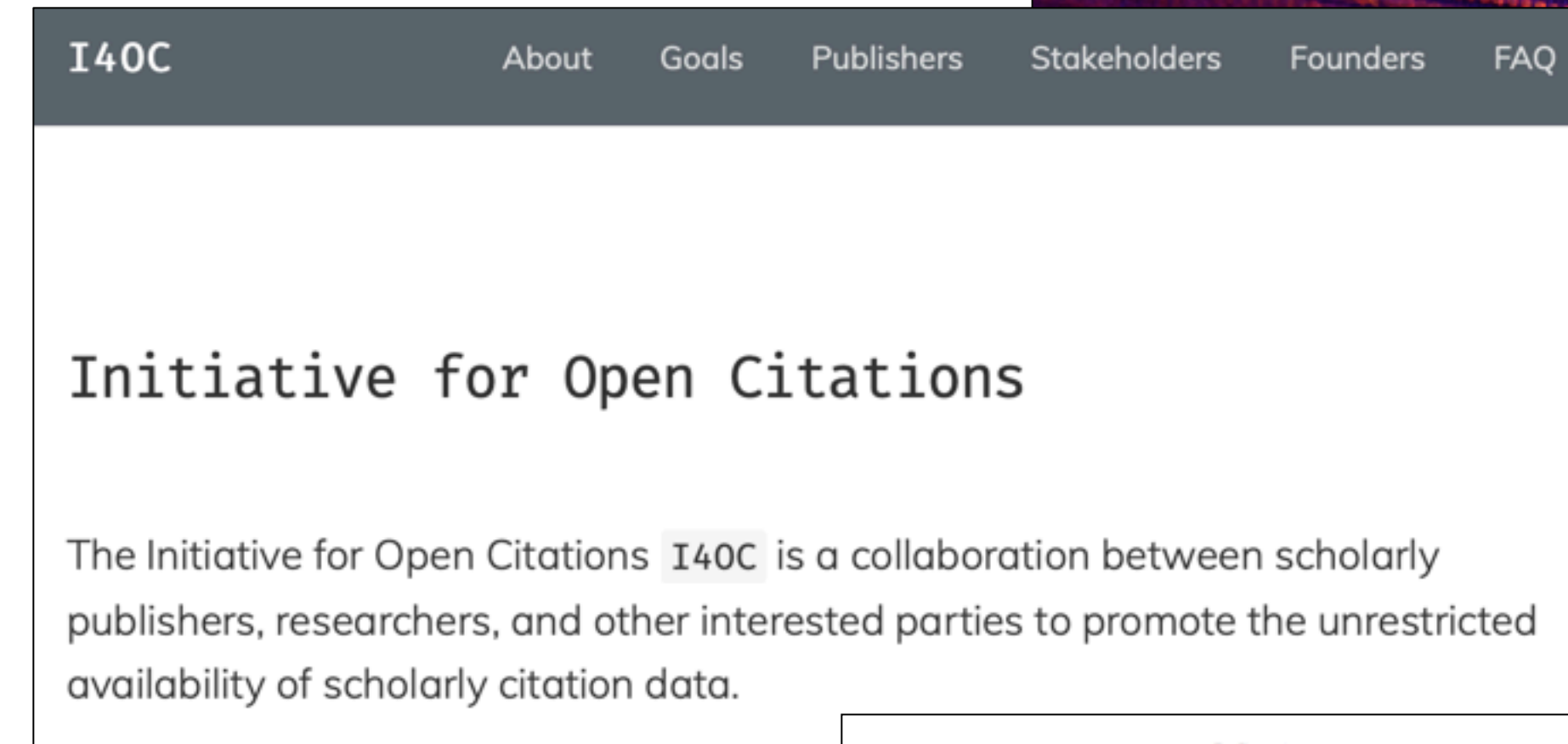
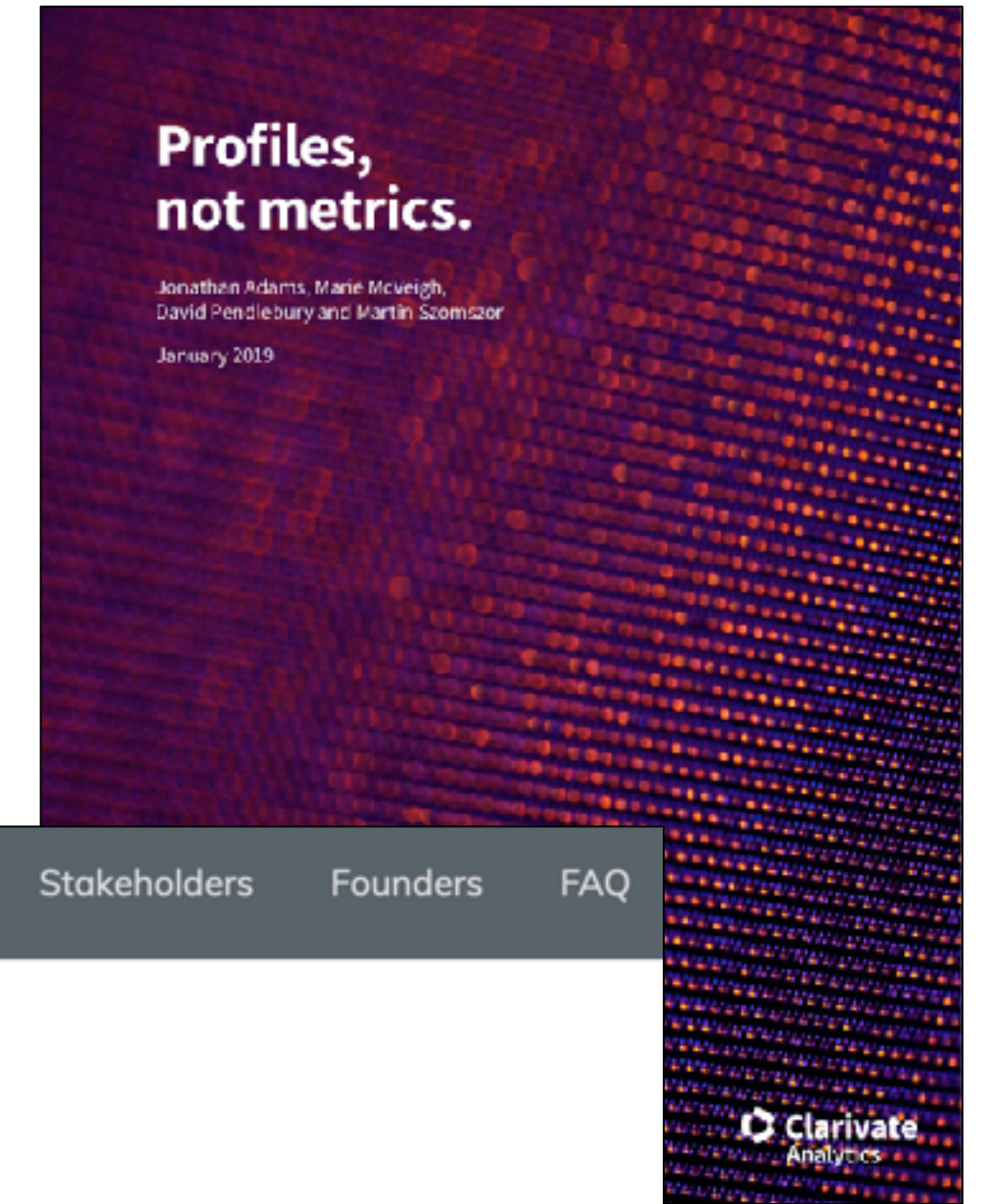
Tell us the important things that you don't/can't measure

Work with

Challenge researchers:

Look to your responsibilities as well as your freedoms

Help us to develop new tools for evaluation



Thank you

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@Stephen_Curry