The University Of Sheffield.

Has the tide turned towards responsible metrics, & will altmetrics help us sink or swim?

James Wilsdon @jameswilsdon

Altmetricon, 4 December 2018

DORA Celebrates Five Years!

May 2, 2018

Since the declaration was published in 2013, it has collected signatures from nearly 500 organizations and 12,000 individuals. DORA has increased awareness about the misuse of the Journal Impact Factor and inspired change in the scientific community. Organizations have started referencing the declaration in research assessment policies that guide hiring, promotion, and funding decisions.

LEIDEN MANIFESTO FOR RESEARCH METRICS

Home Video version Translations Blog

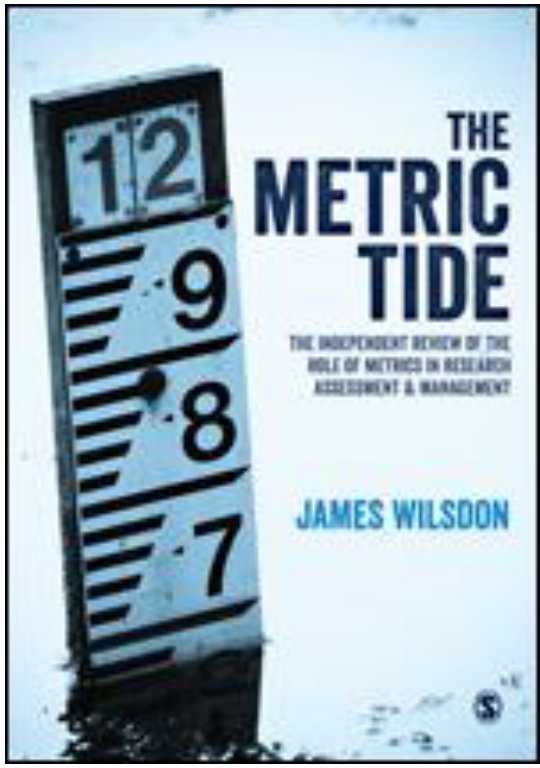
10 principles to guide research evaluation with 9 translations & a video

Research evaluation has become routine and often relies on metrics. But it is increasingly driven by data and not by expert judgement. As a result, the procedures that were designed to increase the quality of research are now threatening to damage the scientific system. To support researchers and managers, five experts led by Diana Hicks, professor in the School of Public Policy at Georgia Institute of Technology, and Paul Wouters, director of CWTS at Leiden University, have proposed ten principles for the measurement of research performance: the Leiden Manifesto for Research Metrics published as a comment in Nature.

Responsible metrics

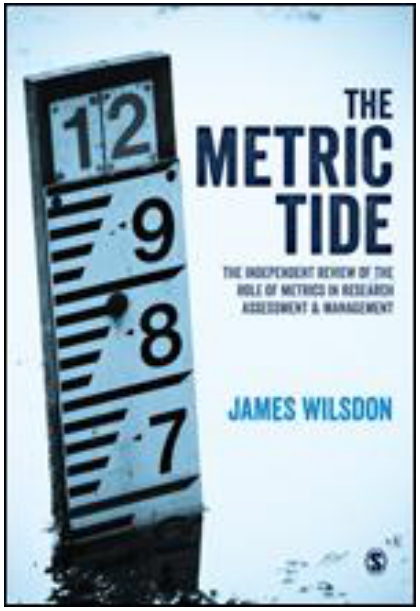
Responsible metrics can be understood in terms of:

- **Robustness**: basing metrics on the best possible data in terms of accuracy and scope;
- **Humility**: recognizing that quantitative evaluation should support – but not supplant – qualitative, expert assessment;
- **Transparency**: keeping data collection and analytical processes open and transparent, so that those being evaluated can test and verify the results;
- **Diversity**: accounting for variation by field, using a variety of indicators to reflect and support a plurality of research & researcher career paths;
- **Reflexivity**: recognizing the potential & systemic effects of indicators and updating them in response.



Concerns over a metric-*based* REF

- ***Coverage & robustness*** – esp across AHSS – but in any field, we need to preserve a role for judgement alongside measurement;
- ***Impact cannot be measured using metrics*** (cf Kings/ Digital Science report);
- ***Equality and diversity considerations*** e.g. gender & citation, ECRs;
- ***Cost savings are exaggerated***; HEIs would still manage research (& most likely purchase additional analytical services);
- ***In the UK, the REF has evolved to be about much more than simply the allocation of QR funding*** – which of those purposes do we want to preserve, and which are we happy to discard?



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Press release

Government launches review to improve university research funding

From: Department for Business, Innovation & Skills and Jo Johnson MP
First published: 16 December 2015
Part of: Research and development

Universities and Science Minister Jo Johnson has launched a UK-wide review of university research funding.

Universities and Science Minister Jo Johnson today (16 December 2015) launched a UK-wide review of university research funding to cut red tape so that universities can focus more on delivering the world-leading research for which the UK is renowned.

Following the decision to protect the £4.7 billion annual science and research budget in real terms during this Parliament, the Research Excellence Framework (REF) review will help ensure the government gets the most return from its investment.

The review will be chaired by the President of the British Academy and former World Bank Chief Economist Lord Nicholas Stern. He will be assisted by a high-level steering group of academic experts, including the Vice-Chancellor of Aston University, Professor Julia King, and the Past President of the Academy of Medical Sciences, Professor Sir John Tooke.

Universities and Science Minister Jo Johnson said:

" Excellent research drives productivity and is vital for delivering a better quality of life for everyone. The government has committed to protect science and research in real terms to the end of the decade, and now we need to make sure we're getting the most from this investment.

" I'm delighted that Lord Stern has agreed to lead this review of the Research Excellence Framework and I look forward to working with the panel to carry out this work. As a renowned academic with experience of working at the highest levels of government, he and the members of the

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Wilsdon review group reconvenes as BIS asks for publishing data

The metrics review group chaired by James Wilsdon is preparing its response to the higher education green paper, as government looks to companies to gather citation data.

Headlines from Stern Review of the REF

A: Outputs
Recommendation 1: All research active staff should be returned in the REF.
Recommendation 2: Outputs should be submitted at Unit of Assessment level with a set average number per FTE but with flexibility for some faculty members to submit more and others less than the average.
Recommendation 3: Outputs should not be portable.
Recommendation 4: Panels should continue to assess on the basis of peer review. However, metrics should be provided to support panel members in their assessment, and panels should be transparent about their use.

35 years in the evolution of UK research assessment

Date	Exercise	Coordinating body	Key features
1986	Research Selectivity Exercise	Universities Grants Committee	37 cost-centres; 4-part questionnaire on research income, expenditure, planning priorities & output
1989	Research Selectivity Exercise	Universities Funding Council	152 units of assessment; 70 peer review panels; 2 outputs per member of staff
1992	Research Assessment Exercise (RAE)	HEFCE	HEIs select which staff to submit; 5-point scale; 2800 submissions to 72 UoAs; introduction of census date
1996	Research Assessment Exercise (RAE)	HEFCE	Up to four outputs per researcher; 69 UoAs
2001	Research Assessment Exercise (RAE)	HEFCE	2600 submissions to 69 units of assessment; 5 umbrella groups of panel chairs for consistency
2008	Research Assessment Exercise (RAE)	HEFCE	67 subpanels under 15 main panels; results presented as quality profiles
2014	Research Excellence Framework (REF)	HEFCE	4 main panels; 36 subpanels; introduction of 20% impact element
2021	Research Excellence Framework (REF)	UKRI (Research England + devolved FCs)	All research active staff included. Impact 25% weighting. Decoupling.

Clarivate Analytics will provide citation data in REF 2021

The UK's four higher education (HE) funding bodies have awarded Clarivate Analytics' Institute for Scientific Information (ISI) a contract to provide Research Excellence Framework (REF) 2021 assessment panels with citation information.

This information includes data about the number of times a scholarly publication has been cited in other scholarly publications – called citation counts. Eleven of REF 2021's 34 expert panels have said they plan to use citation data to inform the peer review process during the assessment phase of REF 2021.

A team at ISI will match publication records, which higher education institutions (HEIs) will submit to REF 2021, to an online subscription-based scientific citation indexing service called the Web of Science.

They will collaborate with REF 2021's expert panels to work out which additional information will help them make their decisions and make sure the citation counts they provide can be reviewed in a meaningful way.

Panels will use the principles set out in The Metric Tide in their use of the data. The Metric Tide, published in July 2015, looked in detail at the potential uses and limitations of research metrics and indicators, exploring the use of metrics within institutions and acros disciplines. The team at Research England that runs the REF on behalf of the HE funding bodies will also support the panels to make sure the metrics are used responsibly.

> REF Director, Dr Kim Hackett, said:
>
> 'We are pleased to be working with Clarivate Analytics on the provision of citation information for REF 2021. The use of citatior data in this exercise presents a key opportunity to build on the principles of the responsible use of metrics, following the Metri Tide report, and we look forward to working with the ISI team and the panels on this task.'

In the interests of transparency, institutions submitting during REF 2021 will be able to view the citation counts for items they plan to submit to the REF in the relevant units of assessment and confirm that a correct match has been obtained.

Forum for Responsible Research Metrics

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Home > Policy and analysis > Research policy > Open science > The UK Forum for Responsible Research Metrics

Se

The UK Forum for Responsible Research Metrics

A group of research funders, sector bodies, and infrastructure experts are working in partnership to promote the responsible use of research metrics.

The Forum for Responsible Research Metrics, chaired by Professor Max Lu (Vice-Chancellor at the University of Surrey, supports the responsible use of research metrics in higher education institutions and across the research community in the UK. The Forum have a programme of activities, including:

- Advice to the higher education funding bodies on quantitative indicators in the Research Excellence Framework (REF) 2021
- Advice on, and work to improve, the data infrastructure that underpins metric use
- Advocacy and leadership on the use of research metrics responsibly
- International engagement on the use of metrics in research and researcher assessment

The group was established in 2016, on the recommendation of the independent review on the role of metrics in research assessment and management. The review panel, chaired by Professor James Wilsdon, published their final report 'The Metric Tide' which identified 20 specific recommendations for further work and action by stakeholders across the UK research system.

Advice, reports, and meeting papers will be made available on this webpage in due course. Full membership can be found below.

FRRM will champion responsible uses of metrics in the UK HE & research community

As part of this, HEFCE recently undertook a survey of UK HEIs and research organisations to explore the extent to which they are implementing principles outlined in DORA, Leiden Manifesto and *The Metric Tide*.[7]

- 96 institutions responded, of which 20 have a formal policy on metrics and 21 have signed DORA;
- A further 31 institutions said they were now considering signing DORA, and 12 said they had considered it but decided against it;
- 54 institutions said that they agreed with the principles behind the Leiden Manifesto;
- 63 institutions said that they agreed with the framework outlined in *The Metric Tide*.

The survey results were launched on 8 February 2018 at a HEFCE/FRRM event on *The turning tide: a new culture of responsible metrics for research*.[8] In his opening remarks, David Sweeney (Executive Chair, Research England) urged more HEIs to sign DORA and to develop their own responses to this agenda.[9]

The HEFCE survey and linked event appears to have triggered a fresh round of UK signatories to DORA. The day before the event, RCUK announced that it had signed up (and UKRI is expected to follow suit soon after its launch in April).[10] The 466 institutional signatories to DORA now include the following from the UK:

Institutional type	**Signatories to DORA** (as of March 2018)
HEIs	Imperial College, UCL, Kings College London, Birmingham, Newcastle, Liverpool, LSHTM, Goldsmiths, Manchester, Kent, Bristol, Keele, Sussex, Brunel, Birkbeck, Teeside, Aston
Other research bodies	James Hutton Institute, Francis Crick Institute, EMBL, British Library, Research Libraries UK (RLUK), Public Health England, British Pharmacological Society, Royal Society of Biology, Geological Society, John Innes Centre
Funders	RCUK/UKRI, HEFCE, ESRC, EPSRC, MRC, BBSRC, AHRC, STFC, NERC, Wellcome Trust, Cancer Research UK, Royal Society, British Academy, Daphne Jackson Trust, Pharmacy Research UK,

Source: https://sfdora.org/signers/ (accessed 18/03/18)

FRRM will keep abreast of developments in scientometrics & altmetrics, and provide impartial advice to UK HEIs and funders

NEWS IN FOCUS

BIBLIOMETRICS

The quiet rise of the NIH's hot new metric

Biomedical funders worldwide are adopting the US agency's free Relative Citation Ratio to analyse grant outcomes.

BY GAUTAM NAIK

A little-known algorithm that scores the influence of research articles has become an important grant-management tool at the world's largest biomedical funding agency, the US National Institutes of Health (NIH).

In 2015, the NIH's Office for Portfolio Analysis (OPA) in Bethesda, Maryland, devised the tool to compare the performance of articles from different fields more fairly. Now, one of the NIH's biggest institutes is using the metric — the Relative Citation Ratio, or RCR — to identify whether some types of grant deliver more bang for their buck. Other funders have adopted the RCR, which the agency offers freely online. In the United Kingdom, biomedical charity the Wellcome Trust is using the RCR to analyse its grant outcomes; in Italy, Fondazione Telethon, a charity that supports research into genetic diseases, is testing the RCR as a way to evaluate its funding initiatives

they were published. That approach gives articles in highly cited journals higher scores, but it has acknowledged flaws. An important study might be underestimated because it was not published in an elite journal, for instance. Simply counting citations, meanwhile, fails to capture the idea that articles should be judged relative to similar papers: an algebra paper with a few dozen citations, for example, may have a greater impact in mathematics than a widely cited cancer study would have in oncology.

Algorithms that compare articles with others in their field are offered by commercial analysis firms such as Elsevier, but Santangelo's team argue that its metric is technically as good, if not superior — and, importantly, more accessible. (The NIH has posted help files and its full code online.) "No other metric we've seen is as transparent as RCR," Santangelo says.

The algorithm is complex. It defines an article's research 'field' as the cluster of papers that it has been co-cited with: a dynamic cohort that grows all the time. It then calculates the

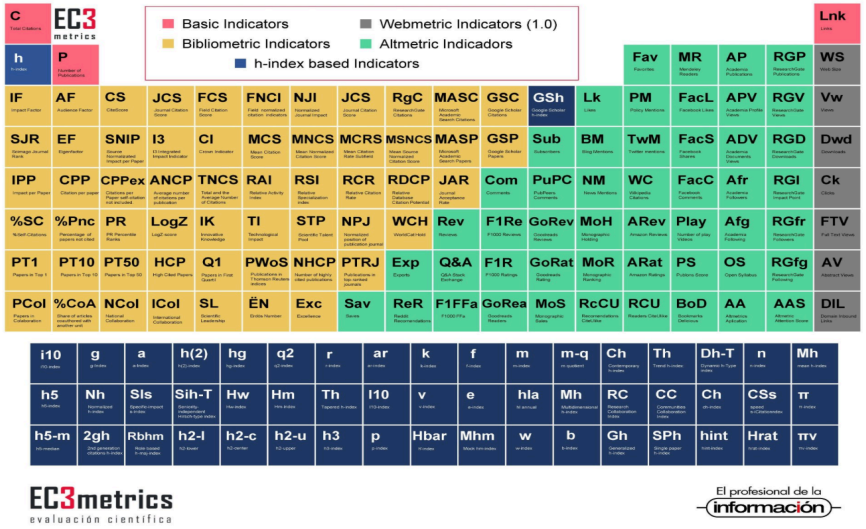
2016). This boils everything down to a simple number, the RCR. An RCR of 1.0 means that an article has had exactly as much influence as the median NIH-funded paper in the same year and field; 2.0 means a paper has had twice as much influence, and so on (see 'A measure of influence'). Anyone can upload PubMed papers at a website called iCite to find out their RCR score (https://icite.od.nih.gov).

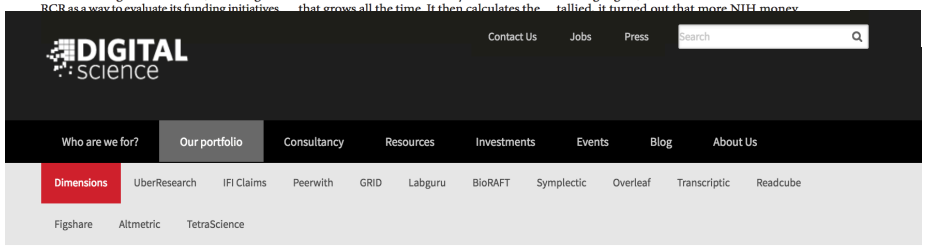
The new metric has critics. "Our analysis shows that it is not better than other indicators," says Lutz Bornmann, a bibliometric specialist at Germany's Max Planck Society in Munich. The society has been using at least three other field-normalized metrics for several years to evaluate its institutions, but has no plans to adopt the RCR. It says that the metric is too complicated and too restrictive because it has been applied only to the PubMed database, which contains largely biomedical papers, so doesn't work for physical-sciences analysis.

The RCR, however, is starting to gain ground as an analysis tool. At the US National Institute of General Medical Sciences (NIGMS) in Bethesda, a team used the metric to compare the impact of large, multimillion-dollar 'programme project' grants — which fund teams of researchers — with smaller grants for individual principal researchers. Papers produced by both grants had similar scores. "It has helped us take a very hard look at our support for team science," says NIGMS director Jon Lorsch.

Another question that the NIGMS asked was whether scientists who get more money produce better outcomes than those who get less funding. Again, when the RCR numbers were tallied, it turned out that more NIH money

Periodic Table of Scientometric Indicators





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Data and expertise that span the research lifecycle from Digital Science's companies ReadCube, Altmetric, Figshare, Symplectic, Digital Science Consultancy and ÜberResearch make up Dimensions.

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CiteScore: a new metric to help you track journal performance and make decisions

Elsevier's new metrics provide comprehensive, transparent, current insights into journal impact

By Hans Zijlstra and Rachel McCullough December 8, 2016

FRRM will work with others towards a next-generation UK research information infrastructure

Jisc

Where are we now – joining the dots?

- Most universities have research output repositories, Current Research Information Systems (CRIS) and databases of staff, research students, finance information systems *etc*
- Research Councils and grant holders record information about grants and outputs using systems such as ResearchFish and Gateway to Research (GtR) as well as in subject specific repositories
- Various organisations maintain regional/national systems of equipment (eg Kit-Catalogue), people (HESA HEIDI), and expertise (NCUB Konfer)
- There is widespread adoption of open access publication and a searchable repository system is in full operation (Jisc CORE [COnnecting REpositories])
- There is a varied array of metrics for performance measurement (but many are proprietary, and there are concerns about uncertain definitions and their utility as alternatives to expensive peer review)
- Piecemeal adoption of standards and identifiers which is enabling more automation eg ORCID, DOIs, RIOXX,

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UK Research and Innovation

Operating across the whole of the UK with a combined budget of more than £6 billion, UK Research and Innovation will bring together the seven Research Councils, Innovate UK and a new organisation, Research England. Research England will work closely with its partner organisations in the devolved administrations.

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1h

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The research councils are pleased to announce the cross-disciplinary #mentalhealth network plus call:

UK Progress towards the use of metrics responsibly

Three years on from The Metric Tide report

10 July 2018

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Has the tide turned towards responsible metrics in research?

James Wilsdon

James Wilsdon is professor of research policy at the University of Sheffield and was chair of The Metric Tide review.

@jameswilsdon

Tue 10 Jul 2018 15.11 BST

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A new report takes stock of how metrics are being used and abused in research management across UK universities

Horizon Europe & Next Generation Metrics

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Expert Group on Altmetrics

NEW: Final Report of the Expert Group on Altmetrics is available

Publication date: 20 March 2017

The Expert Group on Altmetrics outlines in this report how to advance a next-generation metrics in the context of Open Science and delivers an advice corresponding to the following policy lines of the Open Science Agenda: Fostering Open Science, Removing barriers to Open Science, Developing research infrastructures and Embed Open Science in society.

The report will be presented and discussed at the Open Science Policy Platform on 20 March 2017

The report can be downloaded here 796 KB

DG Research and Innovation has established an Expert Group on Altmetrics which will conduct its work over the whole of 2016.

The Expert Group will, among other:

- Categorise and review different altmetrics and their relationship to more established scientometrics
- Define the features of a 'responsible metrics' aimed at a responsible use of altmetrics to advance open science, able to track desirable impacts, and qualities of scientific research
- Develop an agenda for the development of such a 'responsible metrics'

European Commission

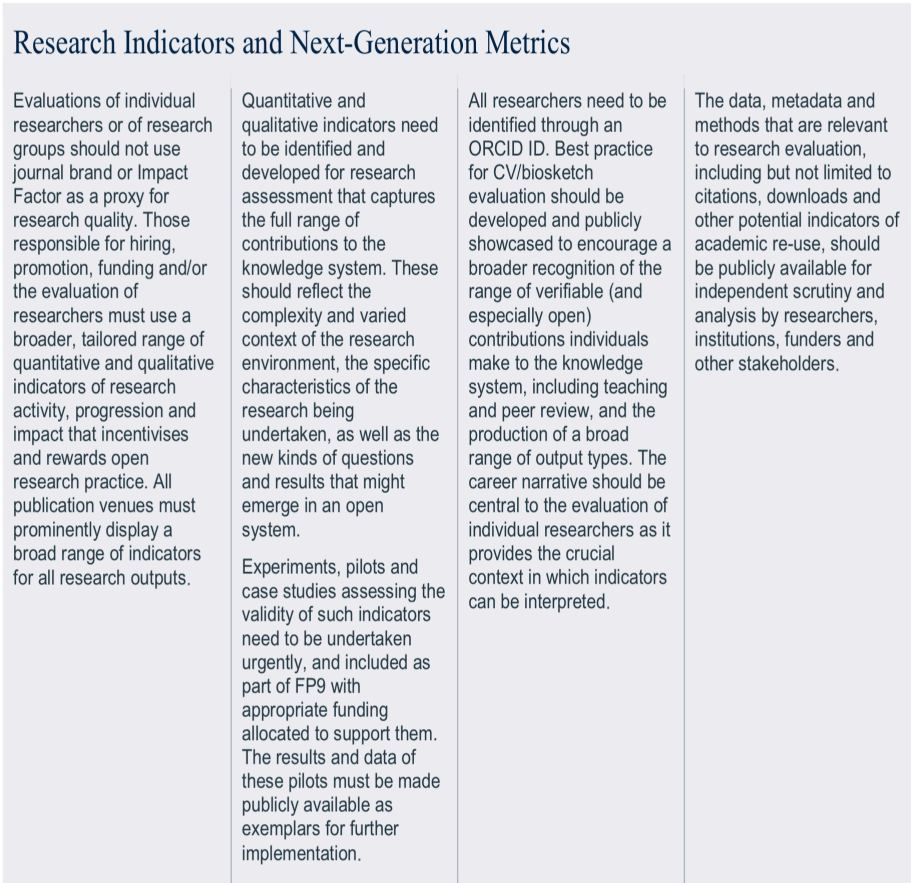
Next-generation metrics:

Responsible metrics and evaluation for open science

Integrated advice of the Open Science Policy Platform on 8 prioritised Open Science ambitions

The Open Science Policy Platform (OSPP) adopted on the 22nd of April 2018 a set of prioritised actionable recommendations concerning the eight Open Science ambitions of Commissioner Moedas. These recommendations constitute an integrated advice on all Open Science ambitions of Commissioner Moedas.

These actionable recommendations from the OSPP are the next step towards the longer-term vision articulated by Open Science consultations and expert groups set up by the EC and other organisations in Europe and worldwide. The recommendations have been split up into the eight



Research Indicators and Next-Generation Metrics

Evaluations of individual researchers or of research groups should not use journal brand or Impact Factor as a proxy for research quality. Those responsible for hiring, promotion, funding and/or the evaluation of researchers must use a broader, tailored range of quantitative and qualitative indicators of research activity, progression and impact that incentivises and rewards open research practice. All publication venues must prominently display a broad range of indicators for all research outputs.

Quantitative and qualitative indicators need to be identified and developed for research assessment that captures the full range of contributions to the knowledge system. These should reflect the complexity and varied context of the research environment, the specific characteristics of the research being undertaken, as well as the new kinds of questions and results that might emerge in an open system.

Experiments, pilots and case studies assessing the validity of such indicators need to be undertaken urgently, and included as part of FP9 with appropriate funding allocated to support them. The results and data of these pilots must be made publicly available as exemplars for further implementation.

All researchers need to be identified through an ORCID ID. Best practice for CV/biosketch evaluation should be developed and publicly showcased to encourage a broader recognition of the range of verifiable (and especially open) contributions individuals make to the knowledge system, including teaching and peer review, and the production of a broad range of output types. The career narrative should be central to the evaluation of individual researchers as it provides the crucial context in which indicators can be interpreted.

The data, metadata and methods that are relevant to research evaluation, including but not limited to citations, downloads and other potential indicators of academic re-use, should be publicly available for independent scrutiny and analysis by researchers, institutions, funders and other stakeholders.

Expert Group on Indicators

Indicators for Researchers' Engagement with Open Science and its Impacts

How can the responsible engagement of the scientific communities with open knowledge practices be stimulated? In what way may current evaluation protocols hinder the development of open science and scholarship? Which new indicators can be developed to ensure that

Six priorities

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Responsible metrics: One size doesn't fit all

Ludo Waltman

March 29th, 2018 — No comments

responsible metrics, scientometrics, indicators, research evaluation, micro level, mac...

Responsible use of scientometrics in research evaluations is heavily debated. In recent years, a number of high-profile statements on 'responsible metrics' were published, most notably the San Francisco Declaration on Research Assessment (DORA), the Leiden Manifesto (of which I am one of the co-authors), and the Metric Tide report. Each of these statements presents a number of principles for responsible use of scientometrics in research evaluations. These principles have been widely discussed, and they have inspired several organizations to develop guidelines for the use of scientometrics in the evaluations they perform. At the same time, the principles presented in the above-mentioned statements are quite general, and it is therefore not always clear how they can be applied in a specific evaluative setting.

My aim in this blog post is to draw attention to the importance of distinguishing between

Priority 1: We need to build links & extend the international debate about responsible metrics

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San Francisco Declaration on Research Assessment

MAY 16, 2013—An ad hoc coalition of unlikely insurgents—scientists, journal editors and publishers, scholarly societies, and research funders across many scientific disciplines—today posted an international declaration calling on the world scientific community to eliminate the role of the journal impact factor (JIF) in evaluating research for funding, hiring, promotion, or institutional effectiveness.

The *San Francisco Declaration on Research Assessment*, or DORA,was framed by a group of journal editors, publishers, and others convened by the American Society for Cell Biology (ASCB) last December in San Francisco, during the Society's Annual Meeting. The San Francisco group agreed that the JIF, which ranks scholarly journals by the average number of citations their articles attract in a set period, has become an obsession in world science. Impact factors warp the way that research is conducted, reported, and funded. Over five months of discussion, the San Francisco declaration group moved from an "insurrection," in the words of one publisher, against the use of the prominent two-year JIF to a wider reconsideration of scientific assessment. The DORA statement posted today makes 18 recommendations for change in the scientific culture at all levels—individual scientists, publishers, institutions, funding agencies, and the bibliometric services themselves—to reduce the dominant role of the JIF in evaluating research and researchers and instead to focus on the content of primary research papers, regardless of publication venue. The DORA coalition calls on all individuals and

San Francisco DORA
Declaration on Research Assessment

RELATED LINKS

The complete "San Francisco Declaration on Research Assessment" and an updated list of signees

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The Metric Tide

Report of the Independent Review of the Role of Metrics in Research Assessment and Management

July 2015

LEIDEN MANIFESTO FOR RESEARCH METRICS

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10 principles to guide research evaluation with 9 translations & a video

Research evaluation has become routine and often relies on metrics. But it is increasingly driven by data and not by expert judgement. As a result, the procedures that were designed to increase the quality of research are now threatening to damage the scientific system. To support researchers and managers, five experts led by **Diana Hicks**, professor in the School of Public Policy at Georgia Institute of Technology, and **Paul Wouters**, director of CWTS at Leiden University, have proposed ten principles for the measurement of research performance: the Leiden Manifesto for Research Metrics published as a comment in Nature.

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Expert Group on Altmetrics

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- Develop an agenda for the development of such a 'responsible metrics'

The Expert Group on Altmetrics advices DG Research and Innovation. Altmetrics is a main topic of the European Open Science Agenda which will be further developed and implemented with support of the Open Science Policy Platform (see **Open Science Policy Platform**)

Call for Evidence

Please send responses to **RTD-Open-Science@ec.europa.eu** by **16:00 on 13 July 2016**

A Vision for Europe

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- Open Science
- Open to the World

Social Corner

Tweets (#eosc and #opensciencecloud)

Priority 2: Universities, institutes & funders should develop their own policies & frameworks, drawing on DORA, Leiden & Metric Tide

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From University of Bath

Principles of research assessment and management

The principles that outline our approach to research assessment and management, including the responsible use of quantitative indicators.

Code of practice

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In an increasingly competitive external environment, research assessment and management is a necessary activity. The University of Bath undertakes research assessment and management at various levels including: whole university, department/school, research group, and individual researchers. These assessment and management activities require expert judgement and we believe that quantitative indicators can frequently inform but never replace this expert judgement.

Senate

Loughborough University

Paper Title: Responsible use of bibliometric indicators - the Leiden Manifesto in a Loughborough context

Author: Lizzie Gadd (Research Office) and Steve Rothberg PVC(R)

1. Specific Decision Required by Committee	**Senate is asked to ENDORSE the adoption c the Loughborough context.**
2. Relevance to University Strategy	Research is a core activity in the University s
3. Executive Summary	The quality of our research clearly affects th environmental impact it has. Maximising the part of delivering that impact and we recogr helpful tool in monitoring progress against t that external assessments of our research qu as a proxy and we might reasonably expect s While seeking to establish an agreed set of i review at the personal and institutional leve bibliometric indicators sensibly and responsi Metrics outlines ten principles for responsib proposes the formal adoption of these princ context.

UCL

UCL Home / Library Services / Research Support / Bibliometrics / UCL bibliometrics policy

UCL bibliometrics policy and the wider context

UCL's policy

UCL is currently developing a policy on the responsible use of bibliometrics. The policy will take into account a number of existing developments and best practices: the needs of UCL authors, researchers and colleagues and their use of current bibliometric tools; the San Francisco Declaration on Research Assessment (DORA); and the Leiden Manifesto for research metrics.

UCL was one of the first universities to sign DORA, which challenges the use of the Journal Impact Factor as a surrogate for the quality of individual research outputs. Along more general lines, the Leiden Manifesto identifies 10 principles to guide research evaluation.

UCL will use all these insights in the development of an institutional policy on the use and management of bibliometric approaches to research outputs.

It is recognised that bibliometrics are generally focussed on citation data from journal articles and may therefore be less relevant in disciplines that are less reliant on journal publishing, such as the arts, humanities, social sciences, computing science and engineering.

Priority 3: Need to join dots across research, teaching & learning & links to wider work on algorithmic accountability

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References

Research article | Open Access

The hidden architecture of higher education: building a big data infrastructure for the 'smarter university'

Ben Williamson

International Journal of Educational Technology in Higher Education 2018 **15**:12
https://doi.org/10.1186/s41239-018-0094-1 | © The Author(s) 2018
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Abstract

Universities are increasingly organized and managed through digital data. The collection, processing and dissemination of Higher Education data is enabled by complex new data infrastructures that include both human and nonhuman actors, all framed by political, economic and social contingencies. HE data infrastructures need to be seen not just as

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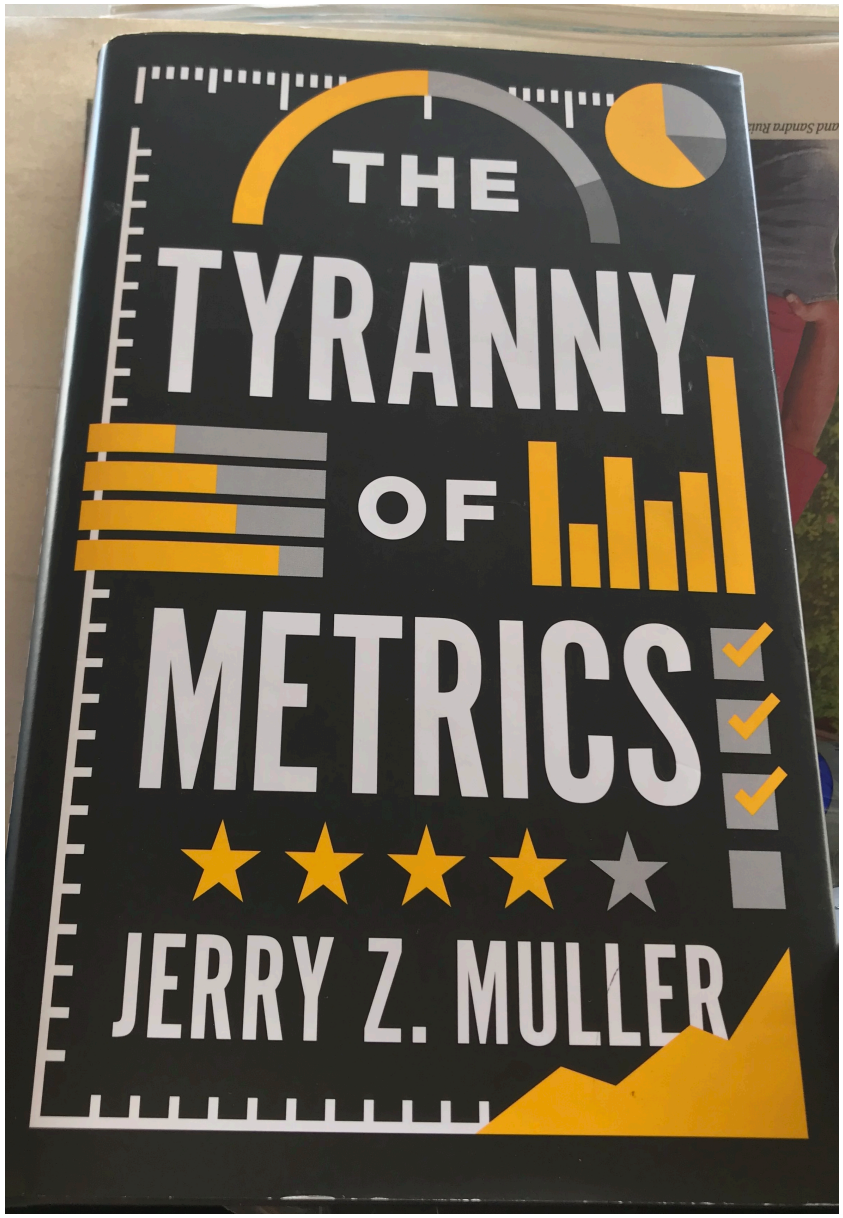
Algorithmic Accountability, Trustworthiness and the Need to Develop new Frameworks

Farida Vis, Research Fellow in the Information School at the University of Sheffield, investigates the issue of trust in the debate about algorithmic accountability, arguing that we should instead focus on 'trustworthiness' and that now is the time for a considered debate about algorithmic governance and accountability frameworks.

For 2016 the Oxford English Dictionary word of the year may very well turn out to be 'algorithm'. I have, along with many others, noticed how this word had started to seep into everyday language more and more, but this year feels like a turning point (see for example this recent article in Slate).



Priority 4: Need to expand notions of research leadership & the criteria & indicators we use in hiring, promotion & assessment

Annex 1: Core leadership characteristics derived from existing research base

Leadership	Meaning
Disciplinary leadership	Provide foresight, vision and direction to advance and transform knowledge and methods within research disciplines, through both individual and collective efforts.
Inter-disciplinary leadership	Engage across disciplinary boundaries with both confidence and humility to develop new ways of thinking and working, often to address major societal challenges.
Complex project leadership	Manage large, complex projects, programmes and research infrastructures effectively, including some element of financial management and oversight.
Leading generational change	Provide inspiration and guidance to the next generation of social scientists.
Leadership in impact generation	Spur innovation in the delivery of impact from social science research, including building close relationships with senior figures among potential research users. High-profile advocacy and promotion of the social sciences.
Leadership in public engagement	Engage the wider public in understanding and appreciating the value of social science to their lives and communities. High-profile advocacy and promo of the social sciences.
International leadership	Work internationally to raise the profile of UK soci science and strengthen international collaborations.

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PERSPECTIVE

Assessing scientists for hiring, promotion, and tenure

David Moher, Florian Naudet, Ioana A. Cristea, Frank Miedema, John P. A. Ioannidis, Steven N. Goodman

Version 2 Published: March 29, 2018 • https://doi.org/10.1371/journal.pbio.2004089

Article | Authors | Metrics | Comments | Related Content

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Methods
Results
Supporting information
Acknowledgments
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Media Coverage (3)
Figures

Abstract

Assessment of researchers is necessary for decisions of hiring, promotion, and tenure. A burgeoning number of scientific leaders believe the current system of faculty incentives and rewards is misaligned with the needs of society and disconnected from the evidence about the causes of the reproducibility crisis and suboptimal quality of the scientific publication record. To address this issue, particularly for the clinical and life sciences, we convened a 22-member expert panel workshop in Washington, DC, in January 2017. Twenty-two academic leaders, funders, and scientists participated in the meeting. As background for the meeting, we completed a selective literature review of 22 key documents critiquing the current incentive system. From each document, we extracted how the authors perceived the problems of assessing science and scientists, the unintended consequences of maintaining the status quo for assessing scientists, and details of their proposed solutions. The resulting table was used as a seed for participant discussion. This resulted in six principles for assessing scientists and

Priority 5: Need to engage and increase pressure on publishers and providers of metrics

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Pursuing a multidimensional path to research assessment – Elsevier's approach to metrics

The Metric Tide report calls for the responsible use of metrics. As a supplier of data and metrics to the scholarly community, Elsevier supports this approach and agrees that metrics should support human judgment and not replace it, writes **Peter Darroch**. *To be used effectively, there needs to be a broad range of metrics generated by academia and industry which can be generated automatically and for any entity of interest.*

This is part of a series of blog posts on the HEFCE-commissioned report investigating the role of metrics in research assessment. For the full report, supplementary materials, and further reading, visit our HEFCEmetrics section.

Following the publication of the report '*The Metric Tide: Independent Review of the Role of Metrics in Research Assessment and Management*', Elsevier would like to show its support for the review. We find it a balanced and sensible perspective on the value metrics can bring to merit systems. As highlighted in our response to HEFCE's call for evidence, it has been our consistent position that quantitative data inform, but do not and should not ever replace, peer review judgments of research quality – whether in the REF, or for any other purpose. Metrics can support human judgment and contribute to a fully rounded view on a research question being asked.

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June 19, 2018

Metaphor and Metrics

Science Research Connect

Instead of a basket, or a tide, let's talk about metrics as mosaic.

Images influence how we think. That's why metaphors matter. They can clarify and improve our understanding of complex concepts. They can both reflect and shape our attitudes.

The metaphors of journal metrics started with "impact."

Impact[1]: a : to have a direct effect or impact on : impinge on

b : to strike forcefully; also : to cause to strike forcefully

Altmetric

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Standards in Altmetrics

Find out more about altmetrics best practice

Introduction Development of standards What they cover Altmetric's Compliance Community Engagement Further reading

Why is there a need for standards?

As more and more publishers, funders and institutions start to look to altmetrics to provide additional insights about the reach and influence of their work, it's important that everyone can understand where these data come from and how they are maintained.

The impetus to be transparent about how the data are collected and presented sits with altmetrics providers, of which Altmetric is one. Beyond supporting best practices (such as those laid out in the Leiden Manifesto) we're committed to providing the best possible quality data, and to being transparent about how it is collected and displayed.

Priority 6: Need to invest more in 'meta-research' or 'research on research'

Research Advertise

The value of evaluating

Why we need a What Works Centre for Meta-Research.

Evaluation frameworks are rarely a page-turner, but for me the most compelling aspect of UK Research and Innovation's **strategic prospectus**, published last month, is its pledge to create an evidence-informed "culture of evaluation" at the heart of the organisation. A dedicated team headed by Jo Peacock, deputy director for data and analysis, will lead this work through a "UKRI Data Hub".

This is long overdue. For a country that channels in excess of £6 billion a year in public f UKRI—soon rising to £8bn and far more by 2027, if we believe the **prime minister's re commitment** to investing 2.4 per cent of GDP in R&D—we spend an infinitesimally sma analysing how effectively our research system is working, testing different approaches a from innovations elsewhere. Peanuts doesn't come close.

This is not to say that no effort has been made. The individual research councils have al these issues, and some have built serious in-house capacity. Ian Viney at the Medical Re Council, Alex Hulkes at the Economic and Social Research Council and Steven Hill's tean England are three impressive examples. Outside of government, Nesta's deep pockets a policy wonks (now commandeered by Kirsten Bound) have transformed our ability to m make sense of the UK's innovation landscape.

And the Research Excellence Framework is, of course, a large and resource-intensive pr evaluation, although it has many other purposes and mostly operates at a micro scale, application to more systemic questions. To use an example close to home, the REF will

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COMMUNITY PAGE

Meta-research: Evaluation and Improvement of Research Methods and Practices

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Abstract

As the scientific enterprise has grown in size and diversity, we need empirical evidence on the research process to test and apply interventions that make it more efficient and its results more reliable. Meta-research is an evolving scientific discipline that aims to evaluate and improve research practices. It includes thematic areas of methods, reporting, reproducibility, evaluation, and incentives (how to do, report, verify, correct, and reward science). Much work is already done in this growing field, but efforts to-date are fragmented. We provide a map of ongoing efforts and discuss plans for connecting the multiple meta-research efforts across science worldwide.

OPEN ACCESS

Citation: Ioannidis JPA, Fanelli D, Dunne DD, Goodman SN (2015) Meta-research: Evaluation and

Why Perform Research on Research?

Throughout the history of science, leading scientists have endeavoured to theorize and conduct research on fundamental aspects of the scientific method and to identify ways to implement it most efficiently. While focused subject matter questions and discoveries attract attention and

Exciting possibilities of some altmetrics & data platforms

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PUBLICATION YEAR

2018	262,733
2017	287,816
2016	271,242
2015	268,473
2014	257,532
2013	243,488
2012	212,457
2011	203,600
2010	181,789
2009	162,364

More

RESEARCHER

FIELDS OF RESEARCH

PUBLICATION TYPE

SOURCE TITLE

JOURNAL LIST

PUBLICATIONS 4,355,639 | GRANTS 46,366 | PATENTS 12,298 | CLINICAL TRIALS 1,049 | POLICY DOCUMENTS 168,270

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Title, Author(s), Bibliographic reference - About the metrics

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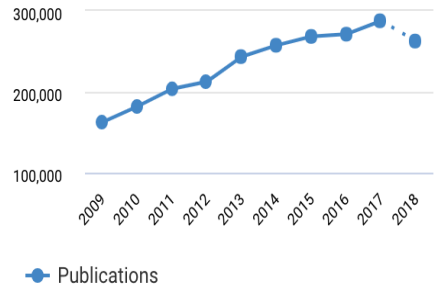
ANALYTICAL VIEWS

FIELDS OF RESEARCH

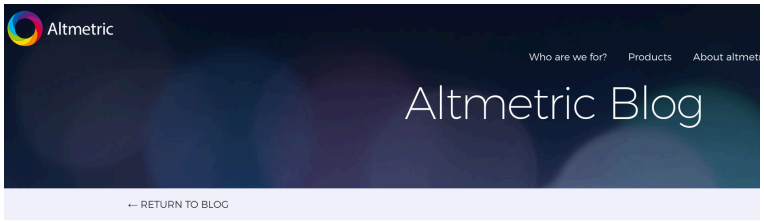
1117 Public Health and Health Services	534,269
1402 Applied Economics	350,084
1701 Psychology	256,597
1608 Sociology	230,553
2103 Historical Studies	204,694

OVERVIEW

RCR Mean 1.26 | FCR Mean 1.57

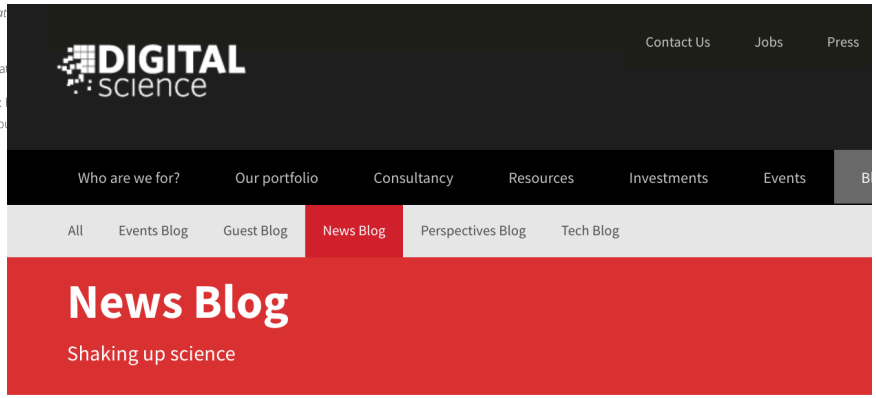


RESEARCHERS



Altmetrics (& Altmetric.com) are engaging with these agendas in a proactive & thoughtful way

But big questions persist about robustness, additionality, diversity and reflexivity

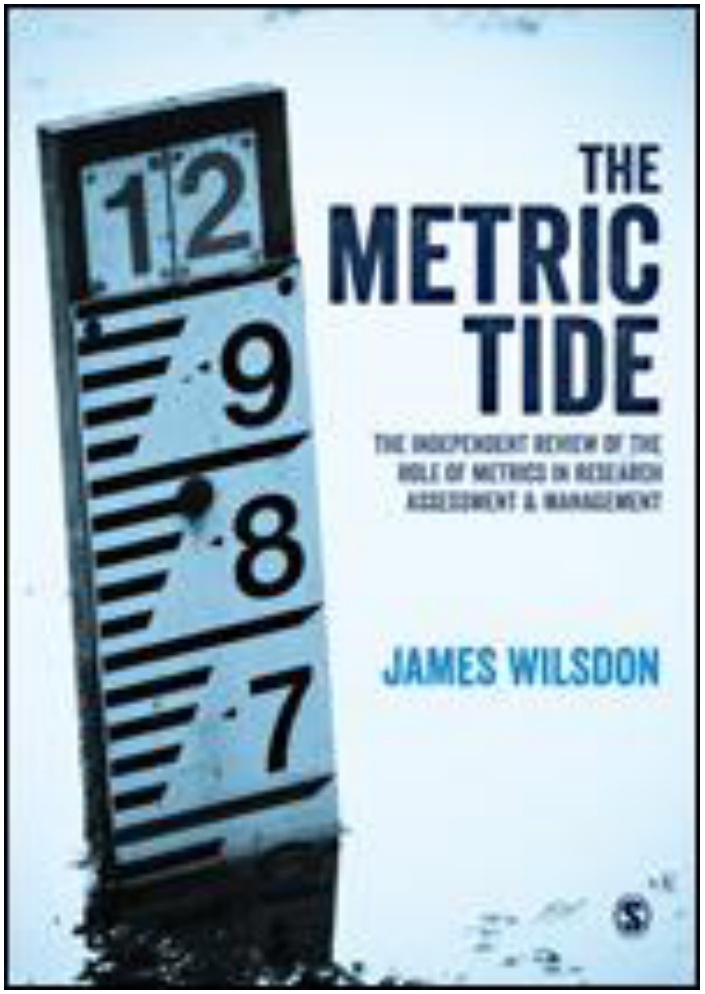


Digital Science Joins DORA: A Commitment to Community and an Invitation to Innovate

28th August 2018

By Daniel Hook & Christian Herzog.

Our team has been involved in thinking about research metrics since before Digital Science itself came into existence in 2010. Besides the two authors of this piece, who have spent a significant portion of their professional lives developing tools to support and inform the academic community, Digital Science comprises more like-minded people who have been, and continue to be, driven to contribute positively to the cultural changes happening in the higher education information sector.



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