DORA –

die Bedeutung der wissenschaftlichen Publikation in der verantwortungsvollen Forschungsevaluation

EMBOpress

Bernd Pulverer
Head – EMBO Press
EiC – *EMBO Reports*

THE EMBO JOURNAL

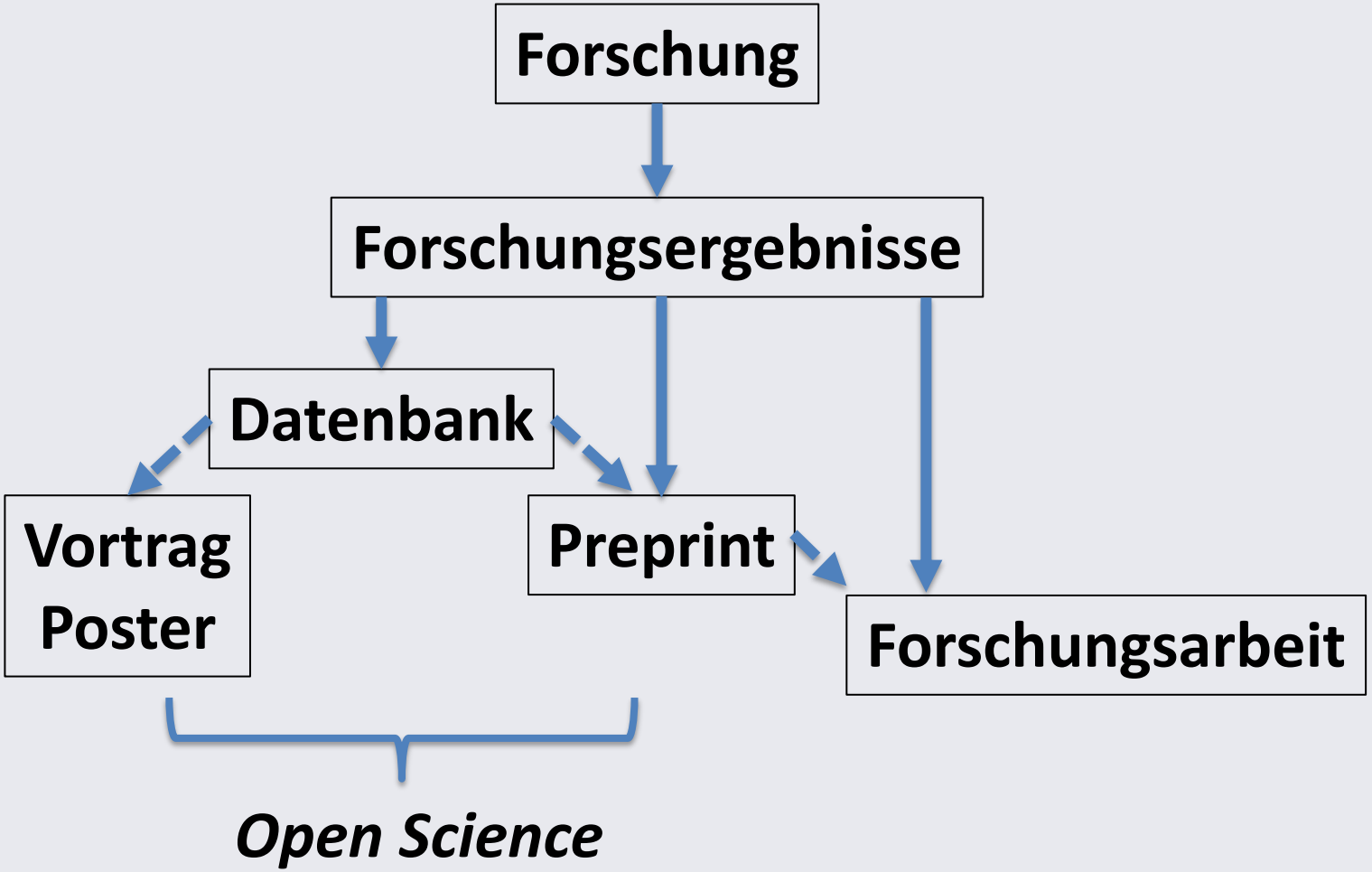
EMBO reports

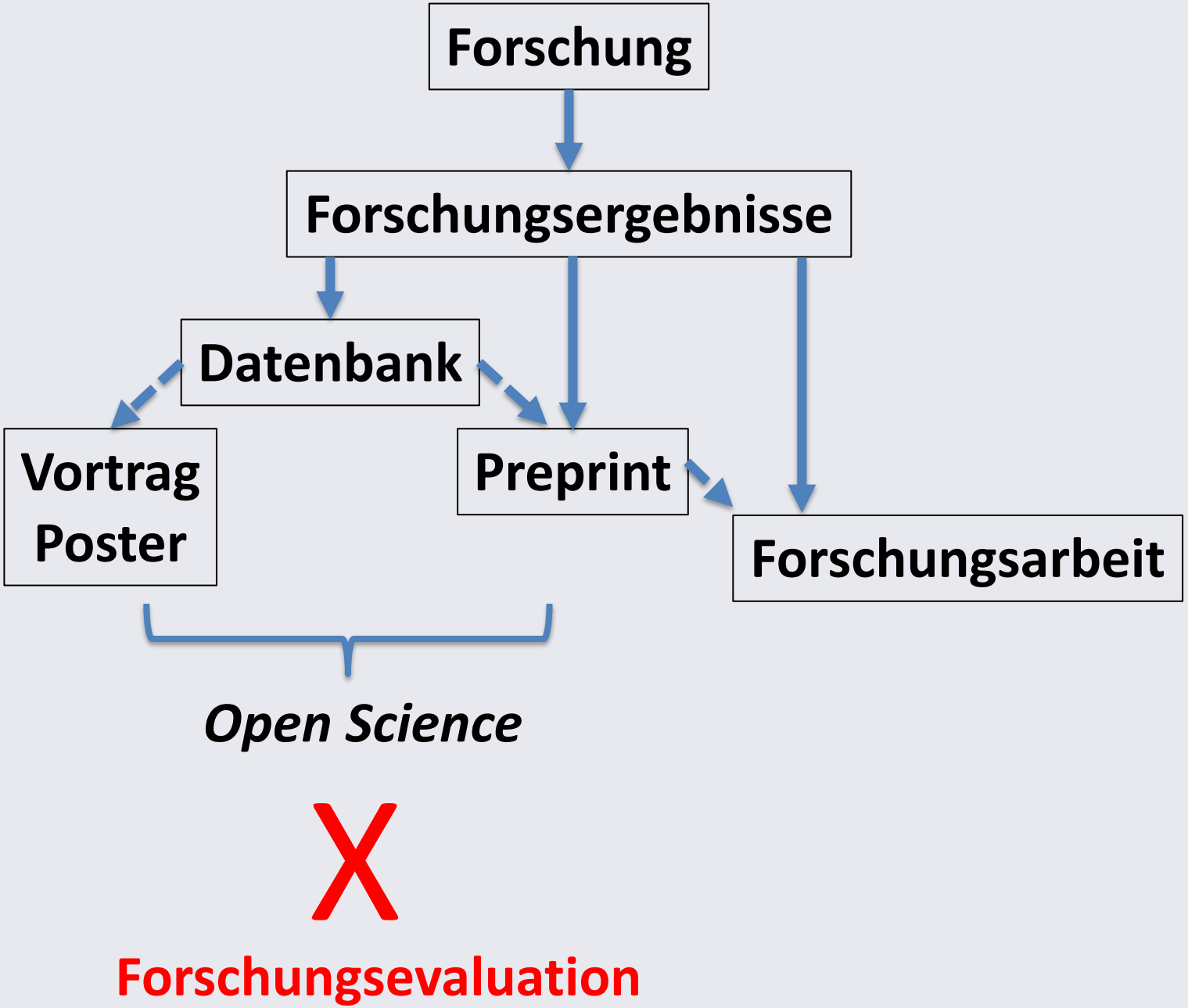
EMBO Molecular Medicine

molecular systems biology

Life Science Alliance

ReVIEW COMMONS


Forschung
Forschungsergebnisse
Datenbank
Vortrag
Poster
Preprint
Forschungsarbeit
Open Science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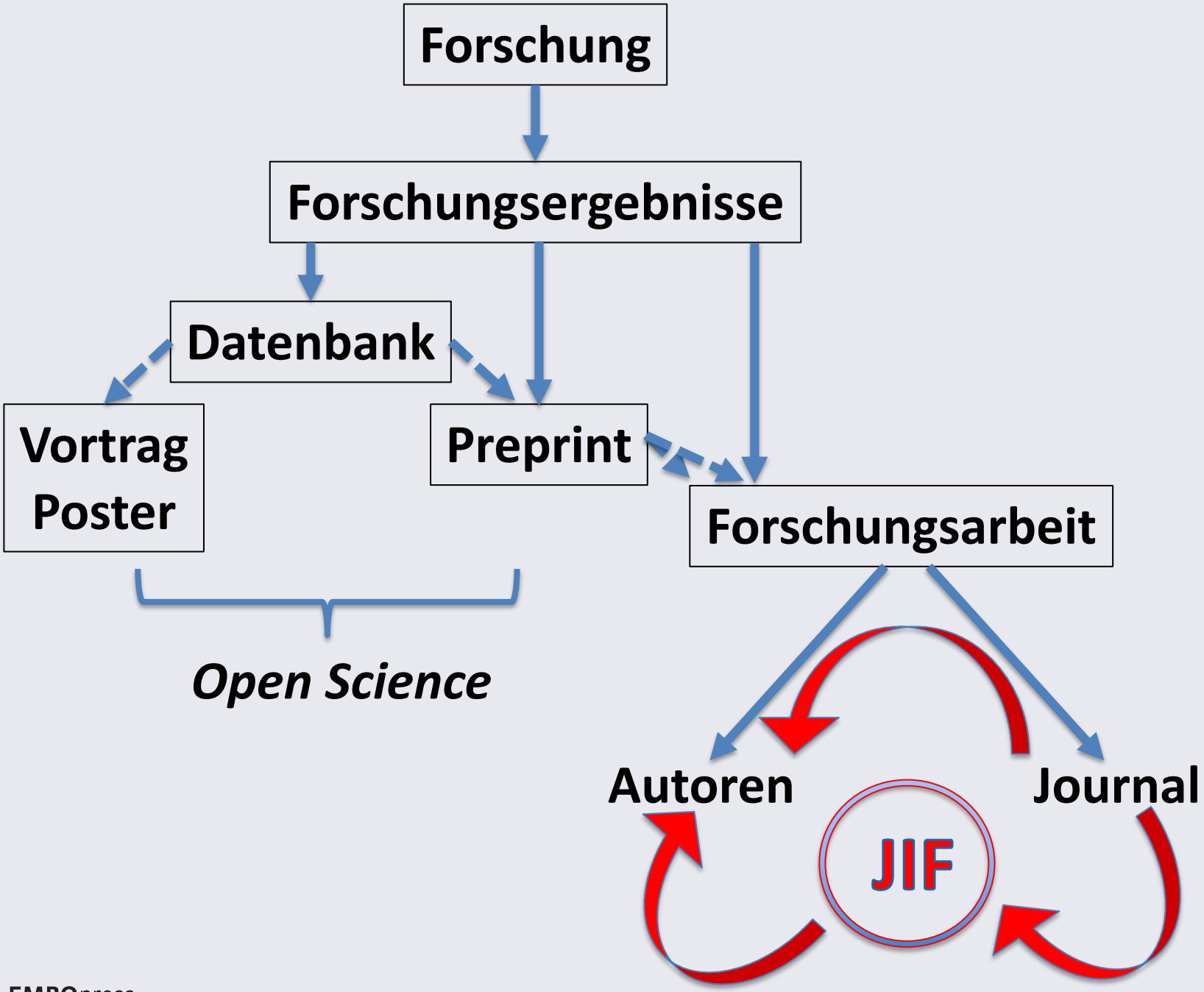
Forschungsevaluation


Forschung
Forschungsergebnisse
Datenbank
Vortrag
Poster
Preprint
Forschungsarbeit
Open Science
Autoren
Journal
JIF

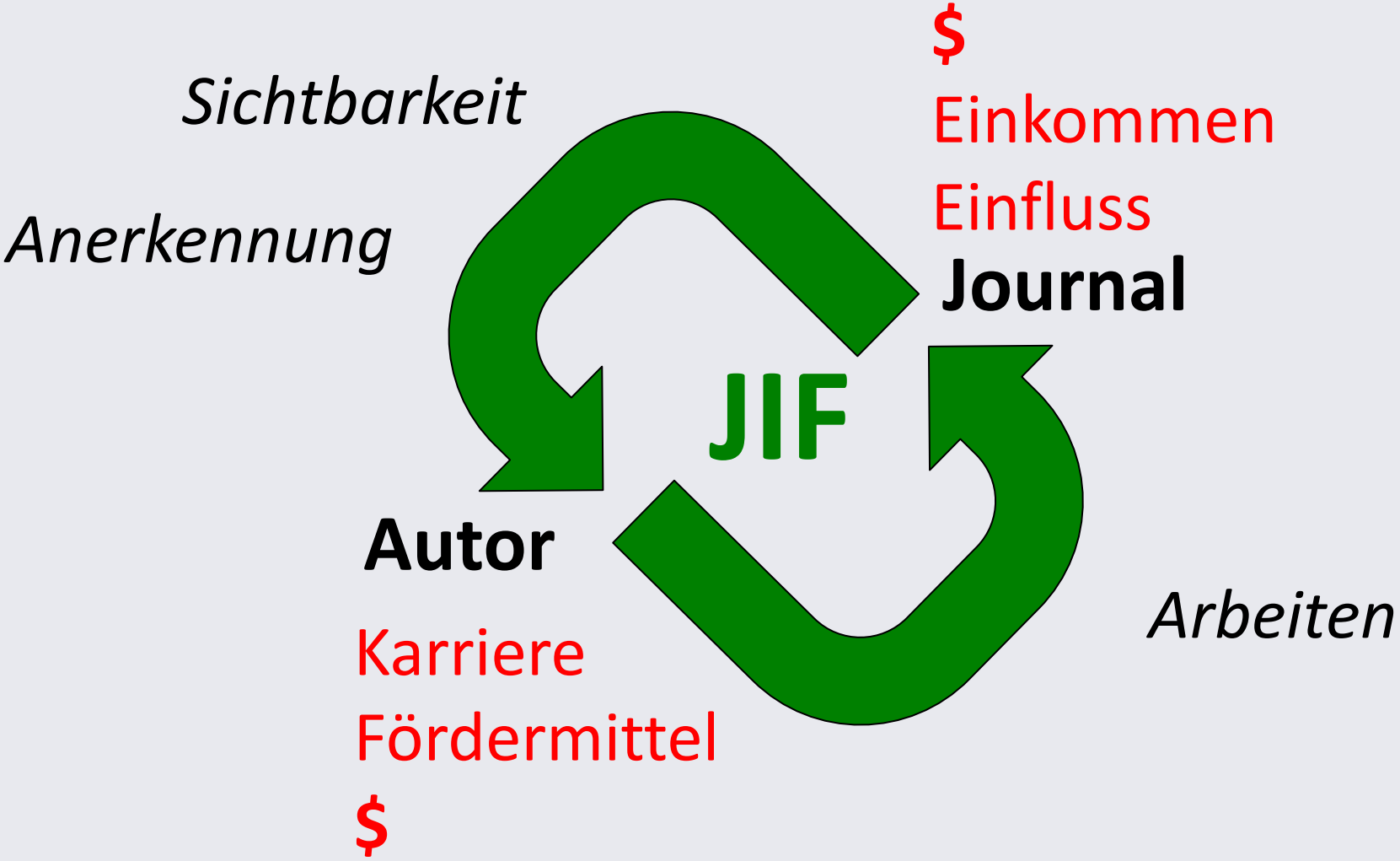
Journal Name + JIF zählen

Journal ‘Marke’ als Proxy für *Impact*:
Selektive Journale suchen Arbeiten, die ihre Leserschaft interessieren

Forschugsevaluation sucht prospektive, quantitative, universelle Metriken:

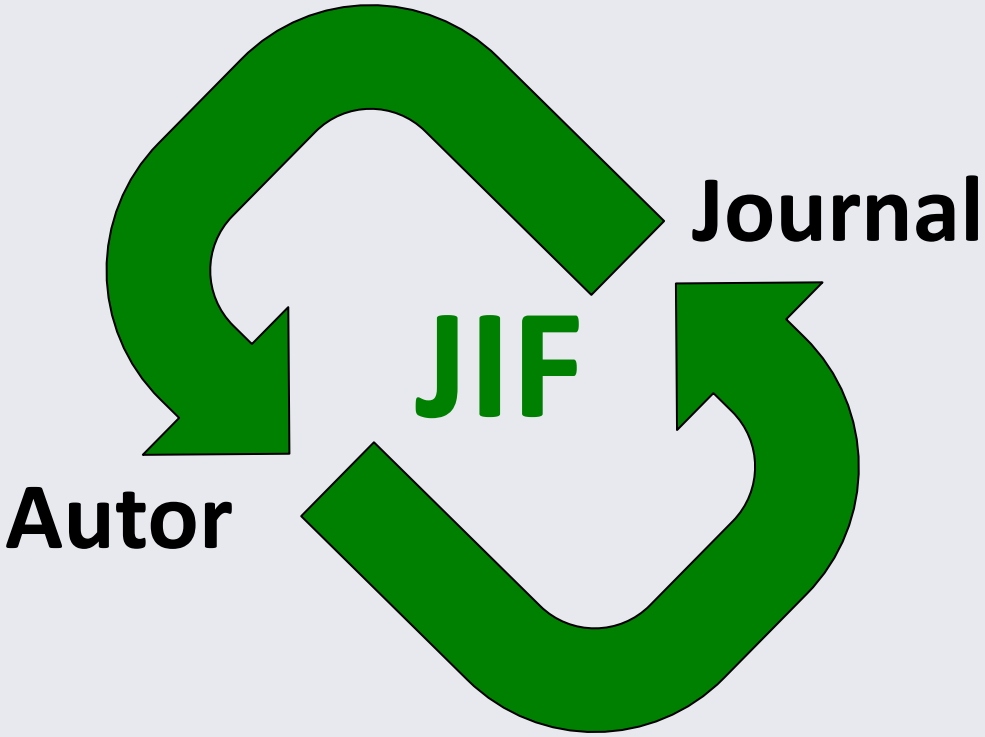
Journal Impact Factor (JIF)

Die Macht des JIF



Die Macht der Journale

Redakteure entscheiden über Forschung und Karriere



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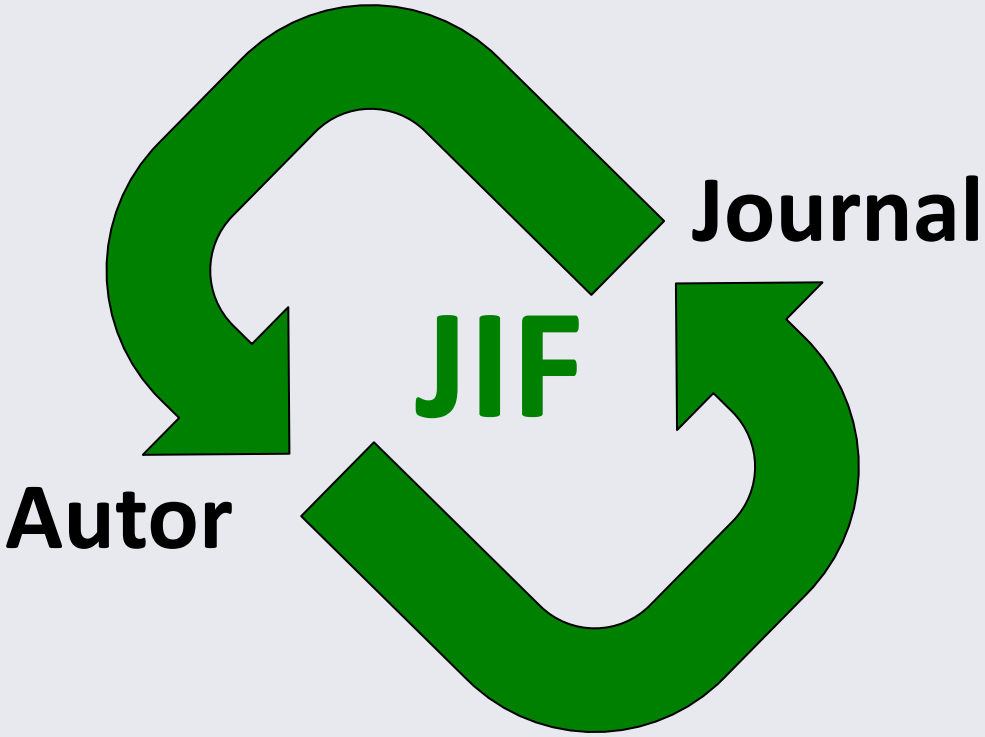


Matthew Effekt

die gleiche Arbeit in einem ’top’ Journal und/oder von einem bekannten Forscher wird mehr zitiert.
Der geiche Effekt tritt bei Forschungsförderung ein

>> berühmte Zeitschriften / Forscher profitieren

>> der Zugang zu Prestige-Zeitschriften ist wichtig um citations zu maximieren.

Durch *Open Access* kann dieser Zugang für weniger bekannte Forscher deutlich verschlechtert warden, da zu hohe Kosten für weniger bekannte Autoren anfallen. Dahen wenige Forschungsföderung etc. etc.

Inflation

Authorship: more authors/paper
more co-first and co-senior authors
(up to 5!)

Laboratory size: only total lab output matters for PI's research assessment: the more postdocs the better.
>> Divide papers / academic lab members

One number to rule them all

Citations are a robust metric as the *use-threshold* is high

An unfounded assumption:

JIF is *predictive* of the *impact* (importance + quality) of a given paper

'The JIF is used to estimate the expected count of individual papers, which is rather dubious considering the known skew-ness observed for most journals'

'Granting agencies wish to bypass the work involved in obtaining citation counts for individual articles and authors.
The use of journal impacts in evaluating individuals has its inherent dangers.'

Garfield E. JAMA, 2006. Vol 295

Publish or Perish

Es zählt wo man publiziert, nicht was man publiziert:

- Journalname und/oder JIF
- Primärliteratur vs. Sekundärliteratur >> Reviews for Impact!

Autoren: Inflation & Politik

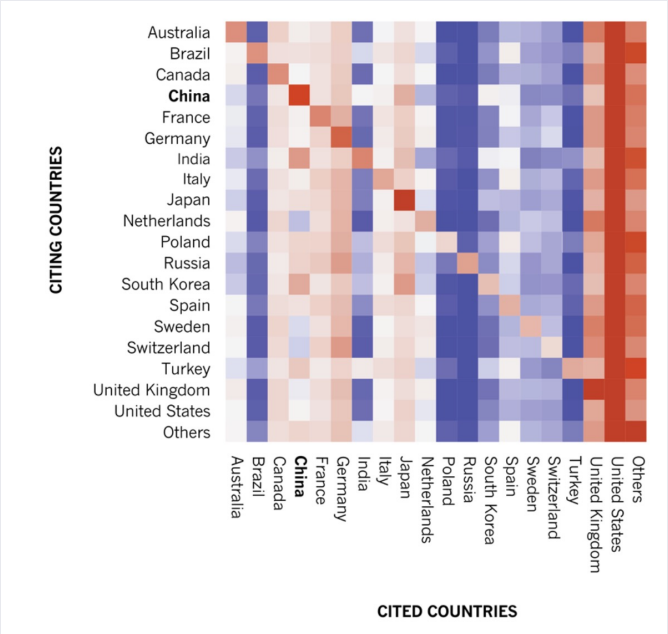
Erstautor1, Erstautor2, Erstautor(n).....

nicht evaluationsrelevante Autoren....

Korrespondenzautor 1, Korrespondenzautor 2, Korrespondenzautor (n)

Zitations-bubbles

- Individuen
- Thematik
- Länder



Nature **564**, S70-S71 (2018)

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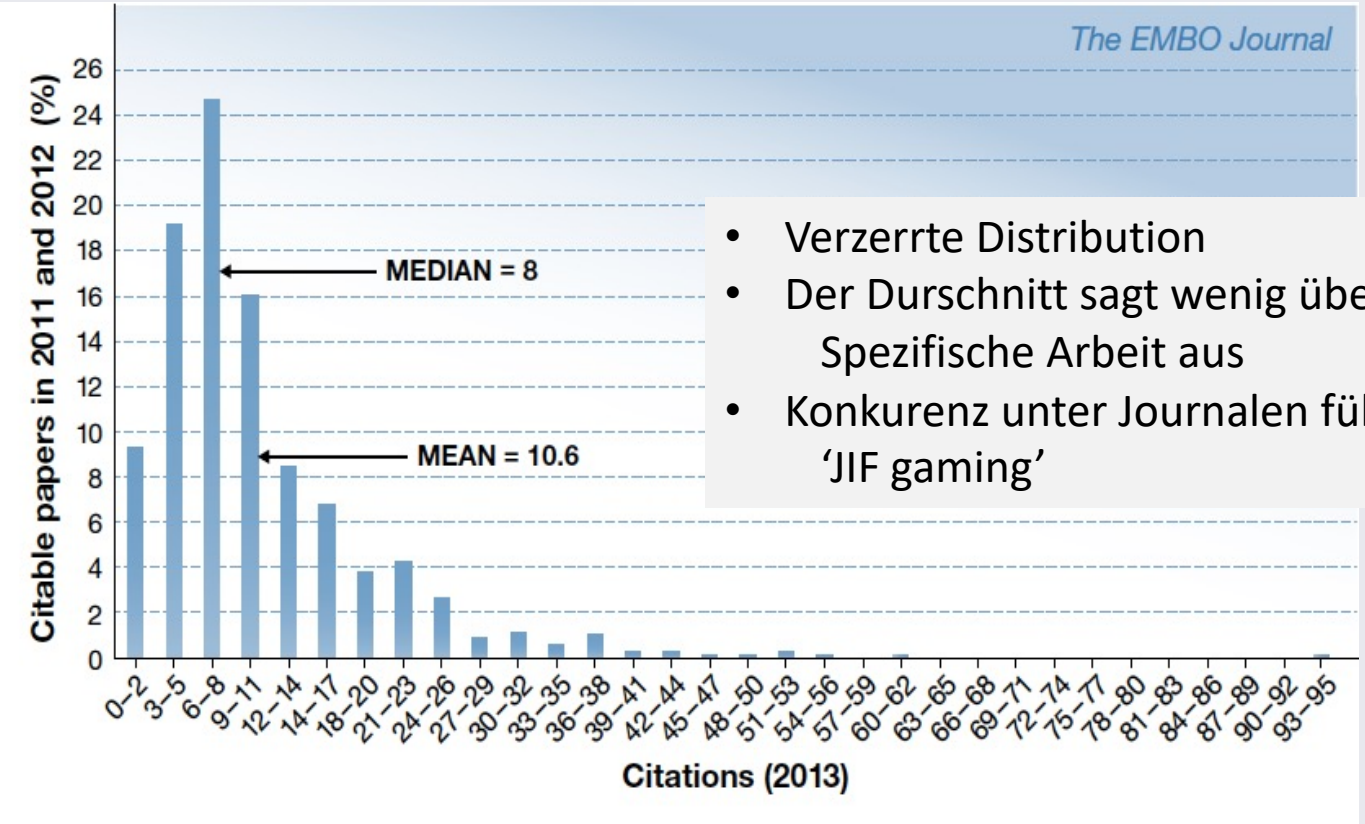
Das JIF Problem

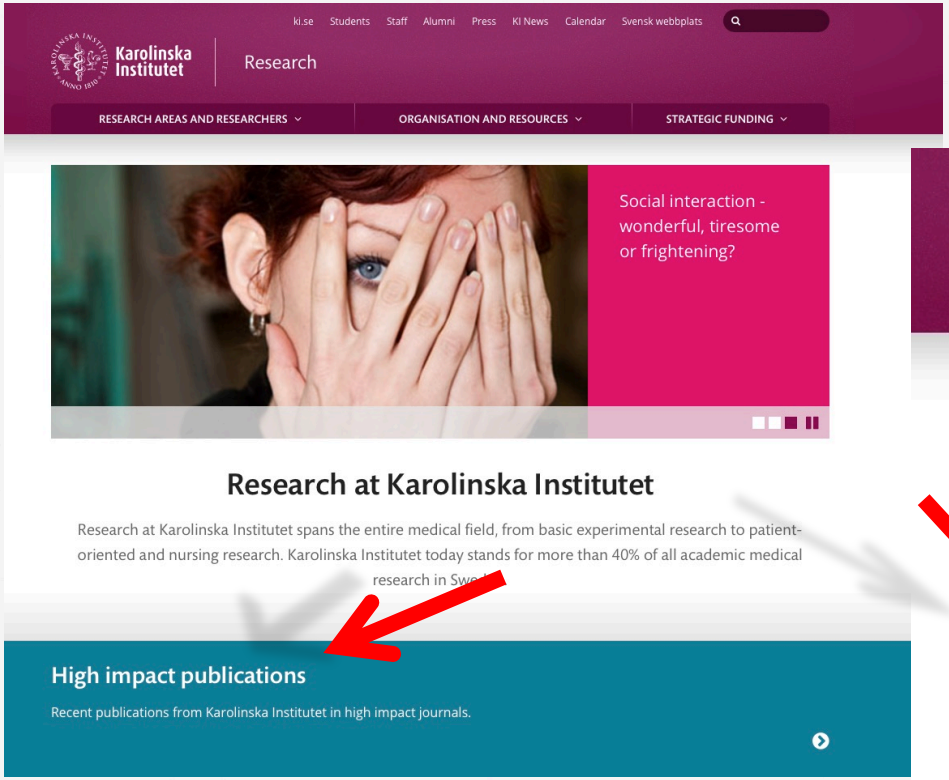


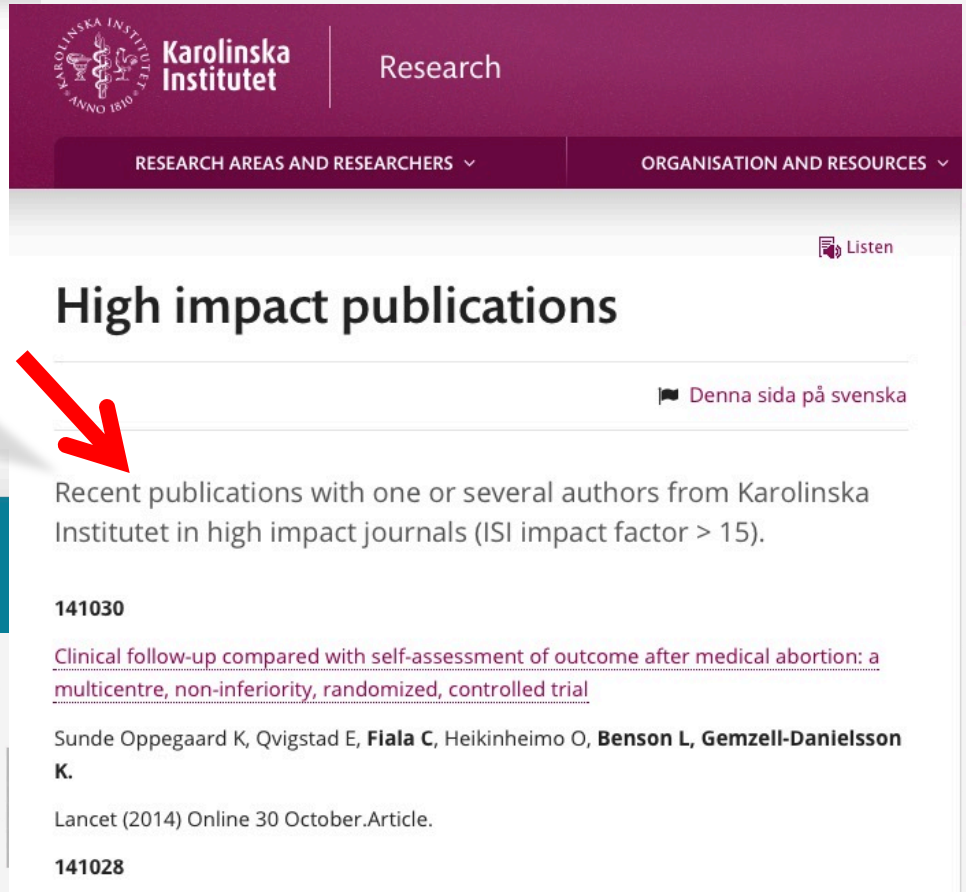
- Verzerrte Distribution
- Der Durschnitt sagt wenig über eine Spezifische Arbeit aus
- Konkurenz unter Journalen führt zu ‘JIF gaming’

DORA the brave
B. Pulverer The EMBO Journal (2015) 34, 1601-1602

…sogar Journale die es nicht nötig haben spielen das Spiel

…Institutionen geben JIF Ziele





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Beispiele…..aus der letzten Woche

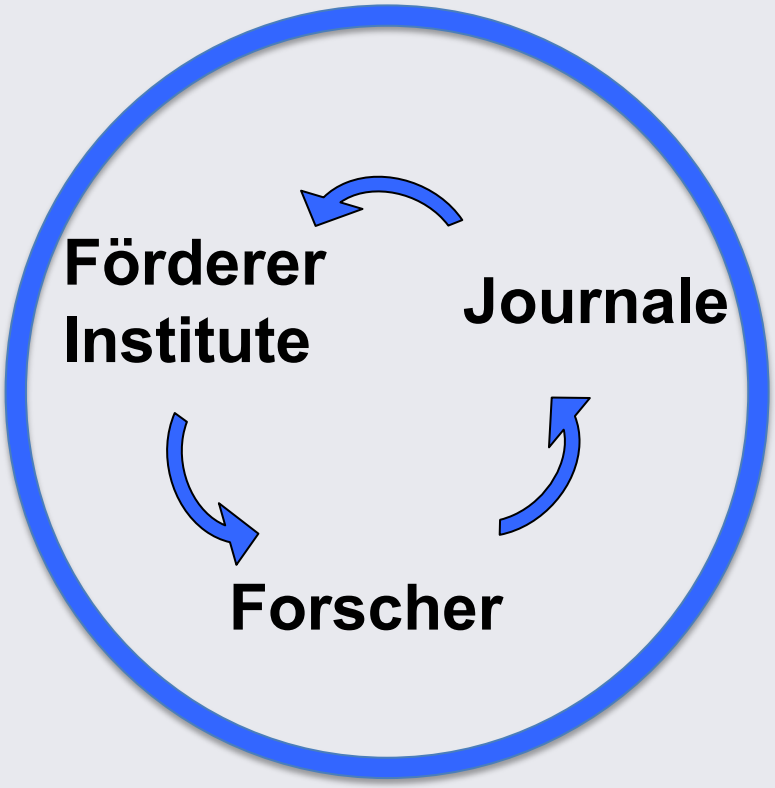
1) ‘the Polish ministry for science awards points for publication in journals - Anything with ‘nature’ in the title gets maximum points, even *Scientific Reports* gets the same score as highly selective journals like *EMBO Reports*’

2) ‘my University in NL instructed me [tenured Professor] to publish only in the top quartile JIF journals, in line with University ranking in the top quartile as a LERU University. I appealed.’

3) Liverpool University (DORA signee):
Applied Field Weighted Citation Impact Indicator (Elsevier) to select 47 staff redundancies
UCU Union: *'research metrics should not be used to sack people’*.
Dean: ‘*revised criteria are in keeping with the principles of DORA*’.

4) ‘Meine Universität in D zahlt mir Forchungszuschüsse basierend auf dem JIF meiner Arbeiten’

Das Forschungsevaluations Ecosystem



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Die neuen JIFs von gestern

Inflation durch Umstellung auf ‘online dates’ von’issues dates’ bei Clarivate:

- Überfällig, aber untergräbt Zeitserien
- EMBO Press Journale +17% bis +38%
- 90% Wiley Journale +27%
- Life Science Alliance +80%, weil letztes Jahr ein ‘vorläufiger’ JIF publiziert wurde

JCI – *field weighed factor*

‘*In the case of academic evaluation for tenure, it is inappropriate to use a journal-level metric as a proxy measure for individual researchers, institutions, or articles.*’

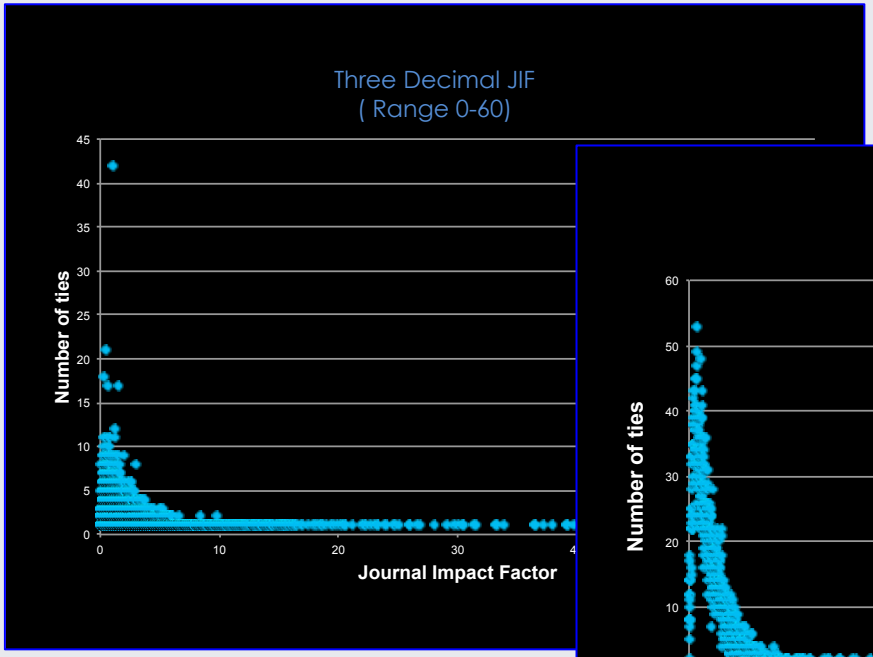
Clarivate, 2021

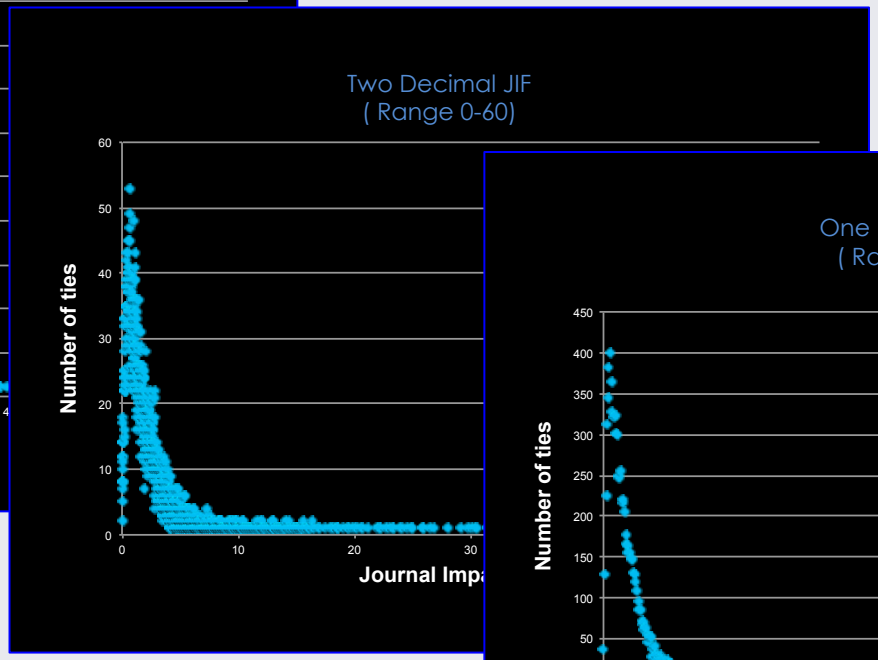
Best practices when using the JIF

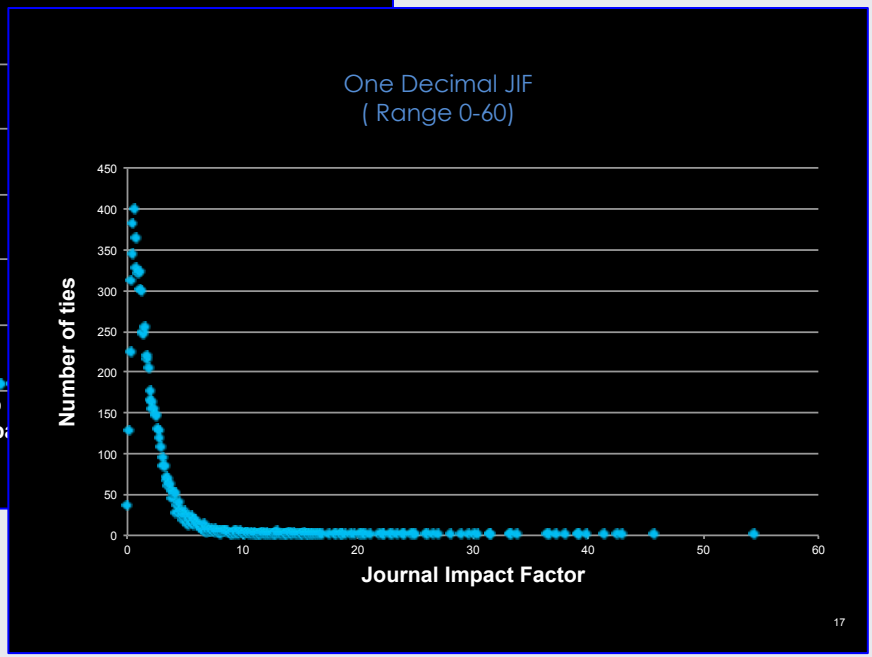
- Citation patterns, and therefore the range of JIF values, vary by discipline. The JIF is not normalized to account for those differences. It is best to compare journals within the same category.
- JIF is most useful when considered through the category percentile or quartile data which aid in comparison of relative citation impact across different fields.
- JIF is a journal-level metric. It does not measure the contribution of individual papers or authors.

Clarivate verkauft Rankings

DORA







statistically significant numbers or using median instead of mean would collapse journal rankings

S. Betuzzi, ASCB blog, 2015
"A False Sense of Precision"

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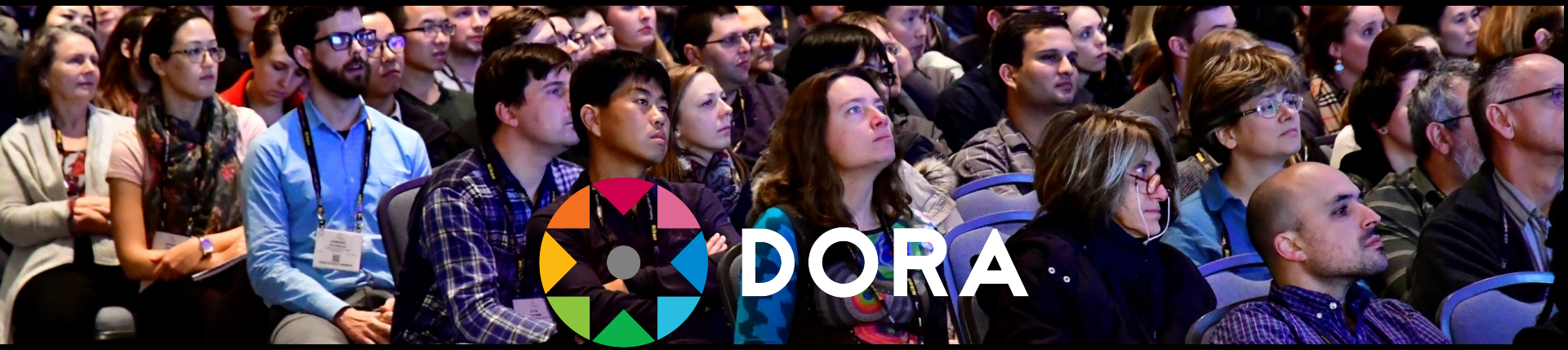


Declaration On Research Assessment

sfdora.org

@DORAssessment

Signed by >1,975 organizations and >16,000 individuals

Supporting organizations

hhmi Howard Hughes Medical Institute
FNSNF Swiss National Science Foundation
ascb an international forum for cell biology
CANCER RESEARCH UK
eLIFE
EMBO excellence in life sciences
wellcome
PLOS
Hindawi
The Research Council of Norway
The Company of Biologists
F1000Research Open for Science
NWO
Iowa State University University Library

DORA's vision

Advance practical and robust approaches to improve how research globally and across all scholarly disciplines

The declaration provides recommendations to stimulate positive action by:

- Funders
- Research institutions
- Publishers
- Metrics providers
- Researchers

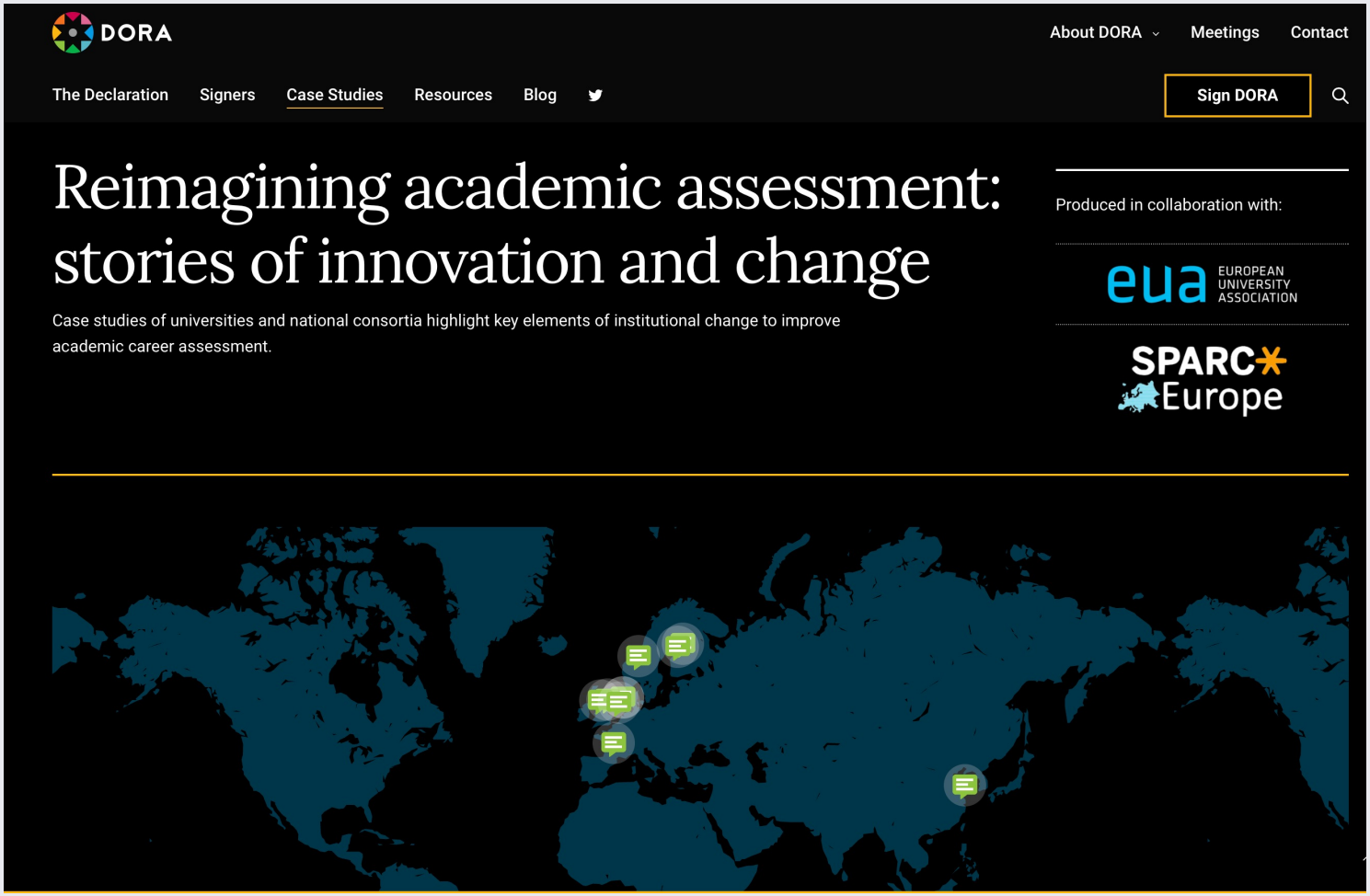
DORA

Counting other outputs & other publishing attributes

- Open Science: data depositon/preprints
- Mentoring
- Teaching
- Peer Review (!)
- Collaborative science/core facilities
- Reproducibility/methods/reagents/software

DORA Resources

- Case studies
- Tools
- Reports



DORA Resources

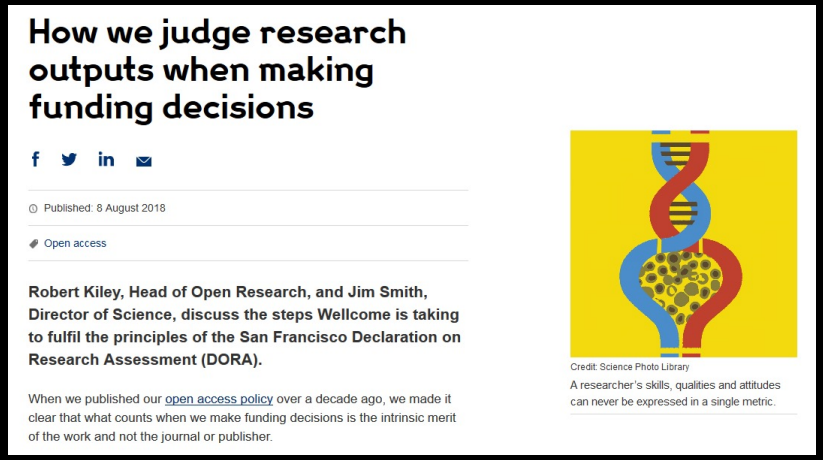
- Case studies
- Tools
- Reports

Leiden University 2021 position paper "Academia in Motion: Recognition & Rewards at Leiden University". 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 committee are to:

- Redefine rewards for research, education, societal relevance and 'service to the organisation'
- Place less emphasis on individual performance and more on team performance
- Find a new way to use metrics & rankings in decision-making about the careers of academics
- Strengthen academic leadership
- Formulate a plan to implement Recognition & Rewards reform at Leiden University.

Forschungsförderer



How we judge research outputs when making funding decisions

Published: 8 August 2018

Open access

Robert Kiley, Head of Open Research, and Jim Smith, Director of Science, discuss the steps Wellcome is taking to fulfil the principles of the San Francisco Declaration on Research Assessment (DORA).

When we published our open access policy over a decade ago, we made it clear that what counts when we make funding decisions is the intrinsic merit of the work and not the journal or publisher.

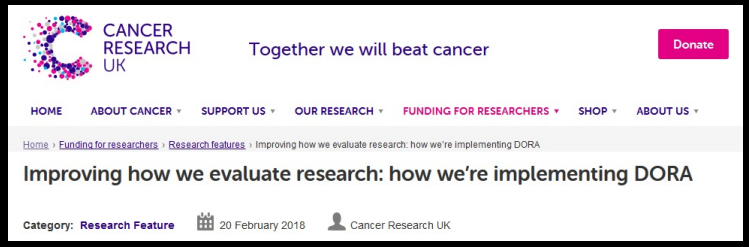
Credit: Science Photo Library

A researcher's skills, qualities and attitudes can never be expressed in a single metric.

Wellcome
London, United Kingdom

Application includes:
- List of research outputs
- Contributions to mentorship
- Output sharing plan to advance potential health benefits
- Plans for public engagement

Guidance provided to advisory panel members



CANCER RESEARCH UK

Together we will beat cancer

Donate

HOME ABOUT CANCER SUPPORT US OUR RESEARCH FUNDING FOR RESEARCHERS SHOP ABOUT US

Home › Funding for researchers › Research features › Improving how we evaluate research: how we're implementing DORA

Improving how we evaluate research: how we're implementing DORA

Category: Research Feature 20 February 2018 Cancer Research UK

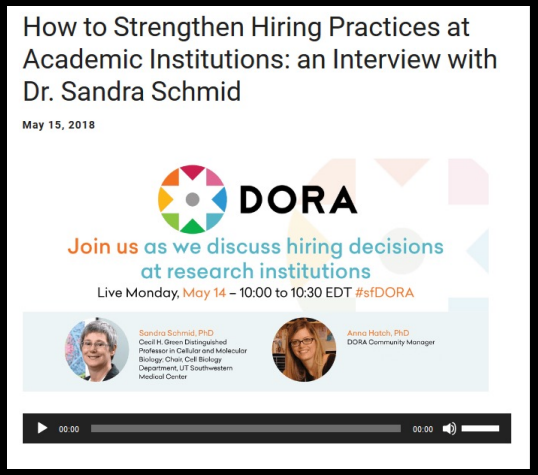
Cancer Research UK
London, UK

Application includes:
- List of research outputs
- Summary of 3-5 achievements
- Space to describe other measures of impact

Reminds peer reviewers and committee members of DORA principles throughout funding process

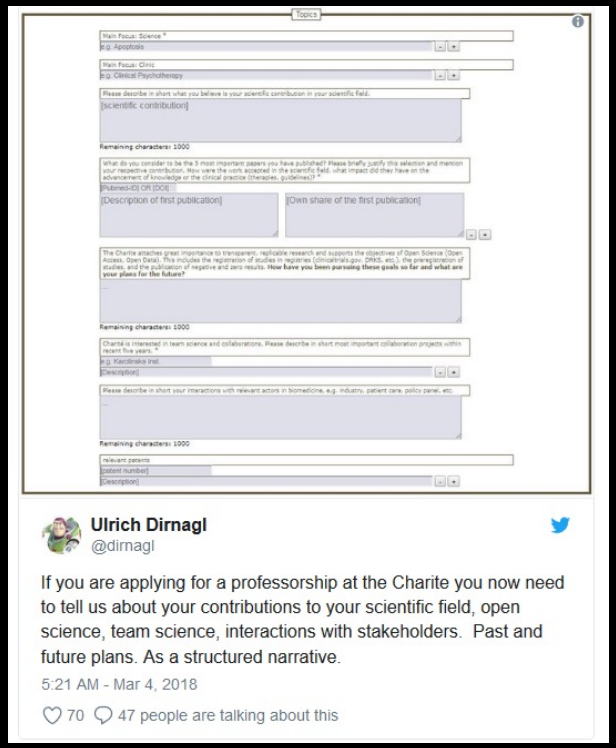
DORA

Akademische Einrichtungen



UT Southwestern Medical Center
Dallas, Texas

Candidates receive questions before Skype interviews, so they have time to reflect. The goal is to identify thoughtful individuals, in addition to candidates who process information quickly.



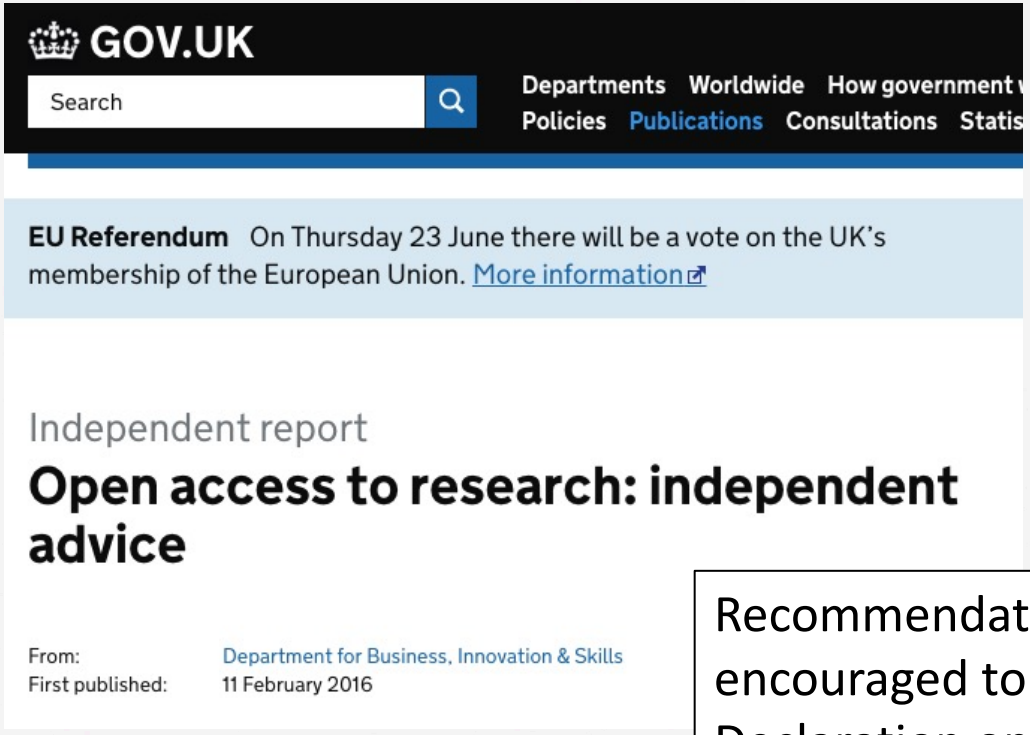
Charité University Hospital
Berlin, Germany

Application includes:

- Contribution to research field
- Open Science
- Team Science
- Interactions with stakeholders

Staff member sits on hiring deliberation meetings as a neutral party to promote balanced discussions

DORA



Recommendation: universities should be encouraged to sign-up to the San Francisco Declaration on Research Assessment.
This requires that metrics are used appropriately in the evaluation of individual researchers in order to remove distortion in the market by privileging certain publication routes.

https://www.gov.uk/government/publications/open-access-to-research-independent-advice

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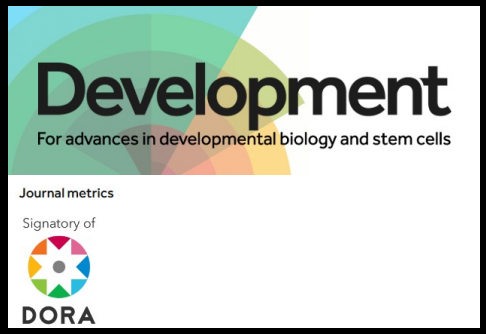
THE EMBO JOURNAL | EMBO reports | EMBO Molecular Medicine | molecular systems biology

Journale

PLOS
San Francisco, California

Dedicated page on website describing how its journals comply with DORA recommendations



The Company of Biologists
Cambridge, UK
"Development uses a number of metrics that together provide a rich view of the journal's performance"

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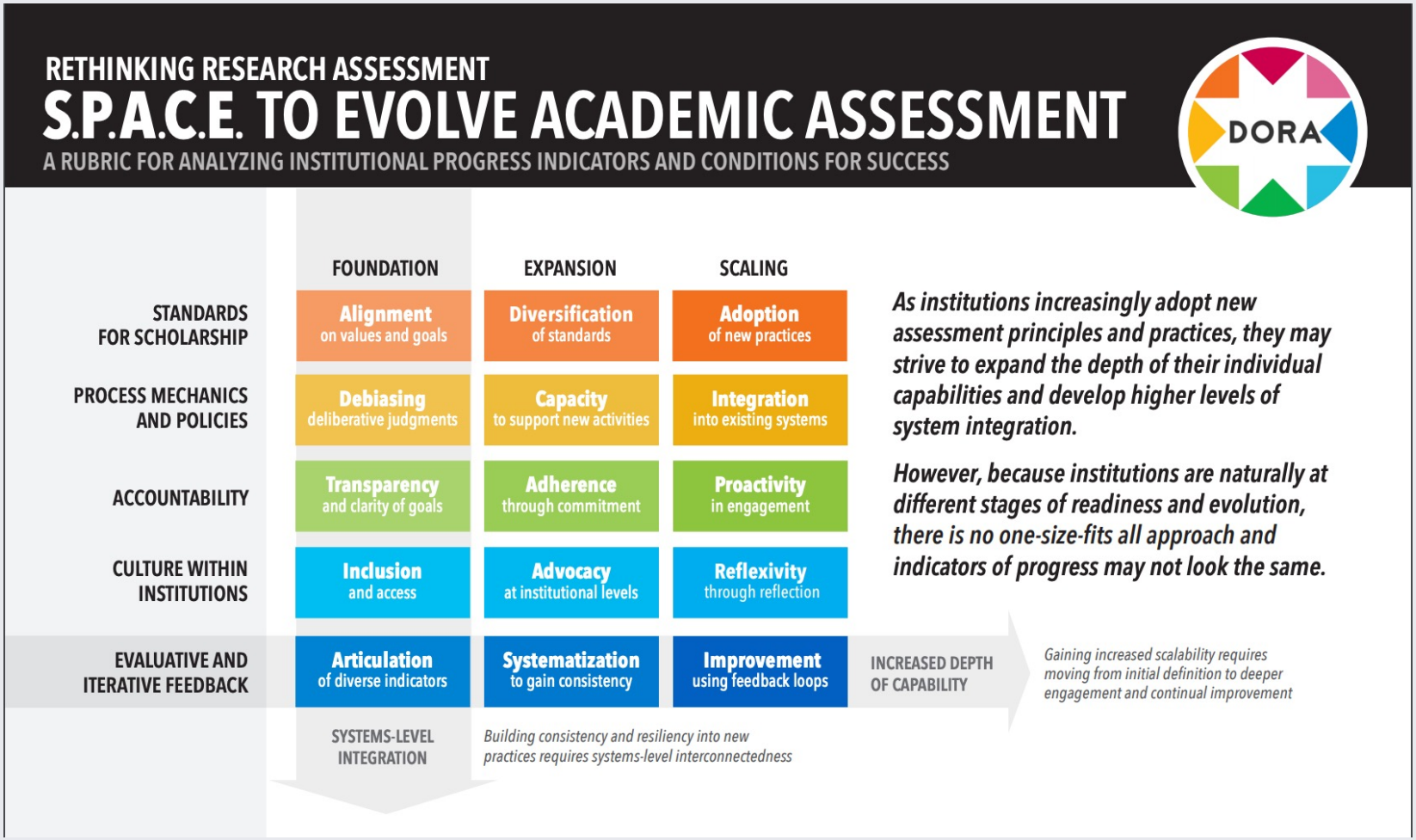
Impact Factor (2017): 10.6 (Thomson Reuters)
5-year Impact Factor (2016): 9.9 (Thomson Reuters)
Immediacy Index (2016): 2.9 (Thomson Reuters)
Eigenfactor (2017): 0.08 (eigenfactor.org)
Article Influence (2016): 5.2 (eigenfactor.org)
SJR (2016): 6.6 (JournalM3trics)
SNIP (2016): 1.5 (JournalM3trics)
h5 (2012-2016): 95 (Google Scholar)

EMBO Press
Heidelberg, Germany

- Acknowledges DORA signature
- Shows citation distributions for its journals
- Presents all available metrics side-by-side and rounded to single digits

DORA

SPACE: A rubric for institutional conditions & progress indicators



https://sfdora.org/2021/06/24/dora-newsletter-june-2021/
https://zenodo.org/record/4927605#.YNyPyhMzbUN

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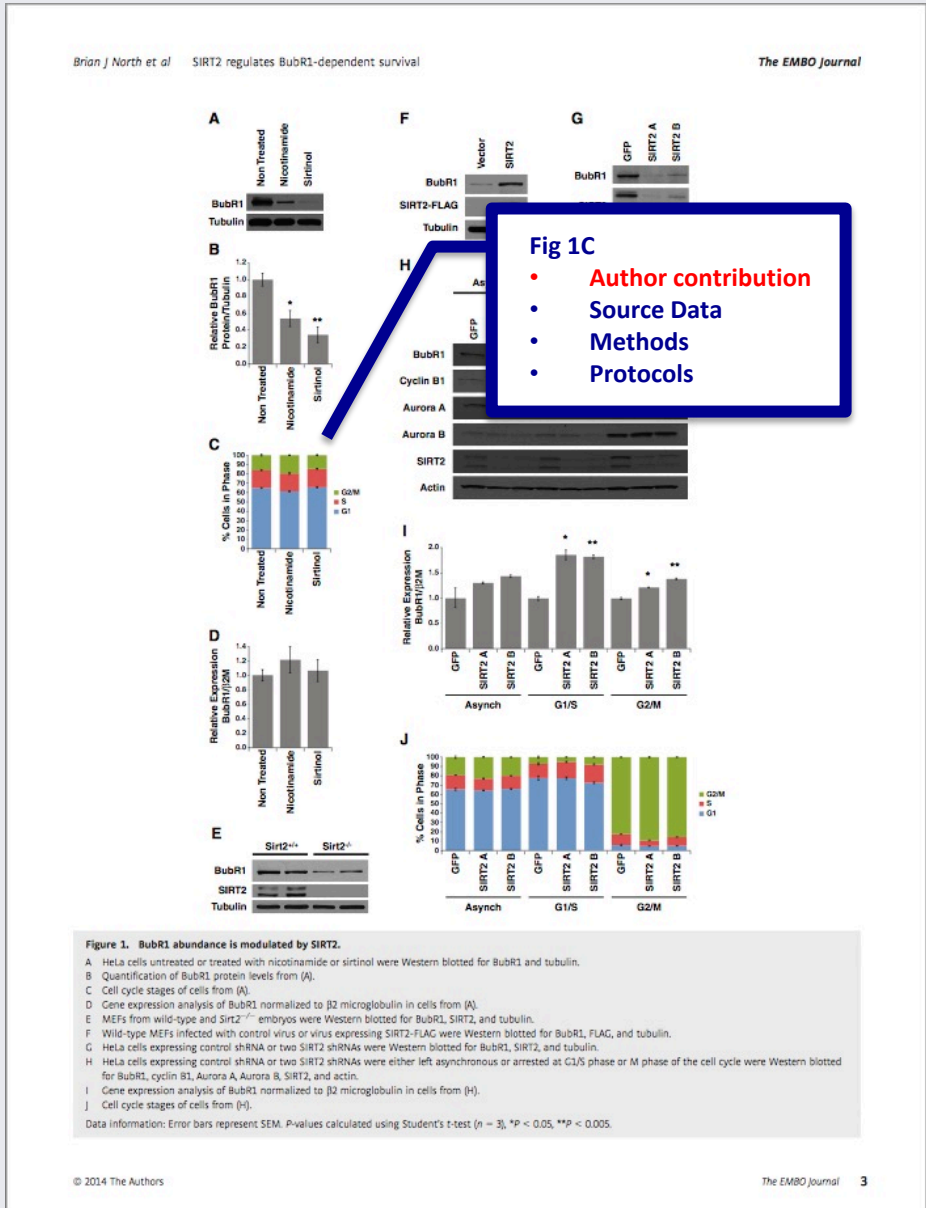
Authorship

‘credit where credit is due’

- Authorship taxonomy
- Microattribution
  (figure level authorship)
- Digital identifiers
- Balanced co-first authorship

ORCID
Connecting Research and Researchers



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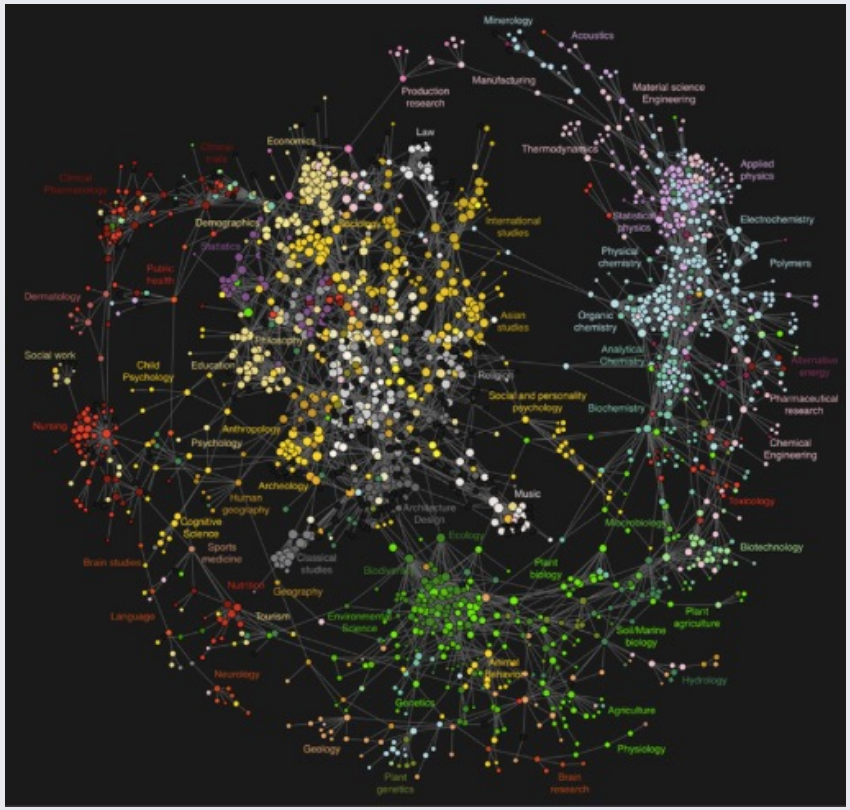
Alternative Metrics

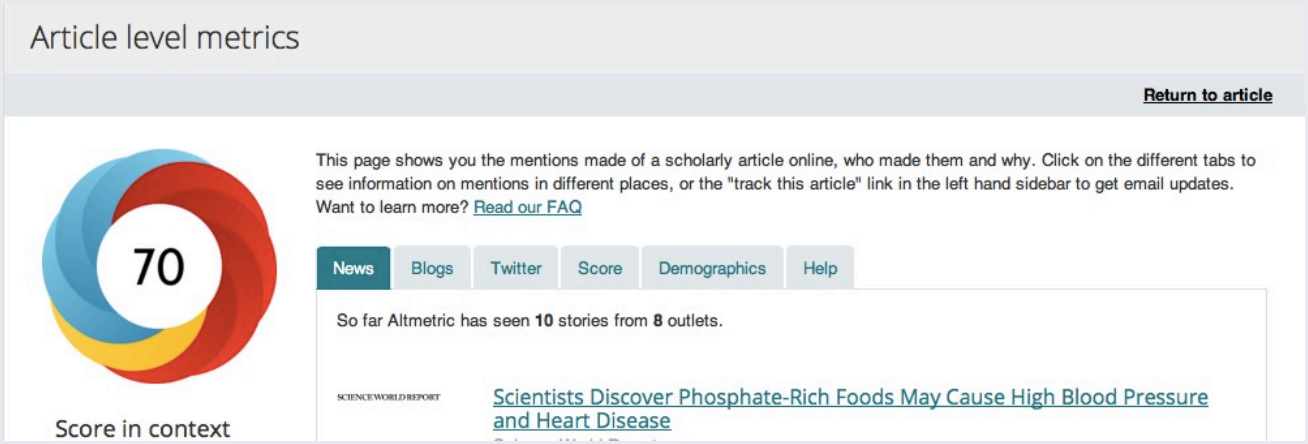
- Webstats
- Social media
- Reference sharing



MENDELEY

Article level metrics

- Balance journal metrics
- ‘Real time’
- Risk developing additional flawed metrics



A more meaningful JIF

- Eliminating three decimal places
- Assigning the same rank to journals with the same value
- Displaying a distribution of citations for each journal
- Median values
- Separate metrics for research articles and reviews
- Transparency
- Subject based binning of journals.

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Four things that can change now

Citation culture

- cite primary literature where appropriate
- unlimited, OA reference lists

Report diverse metrics, Improve JIF

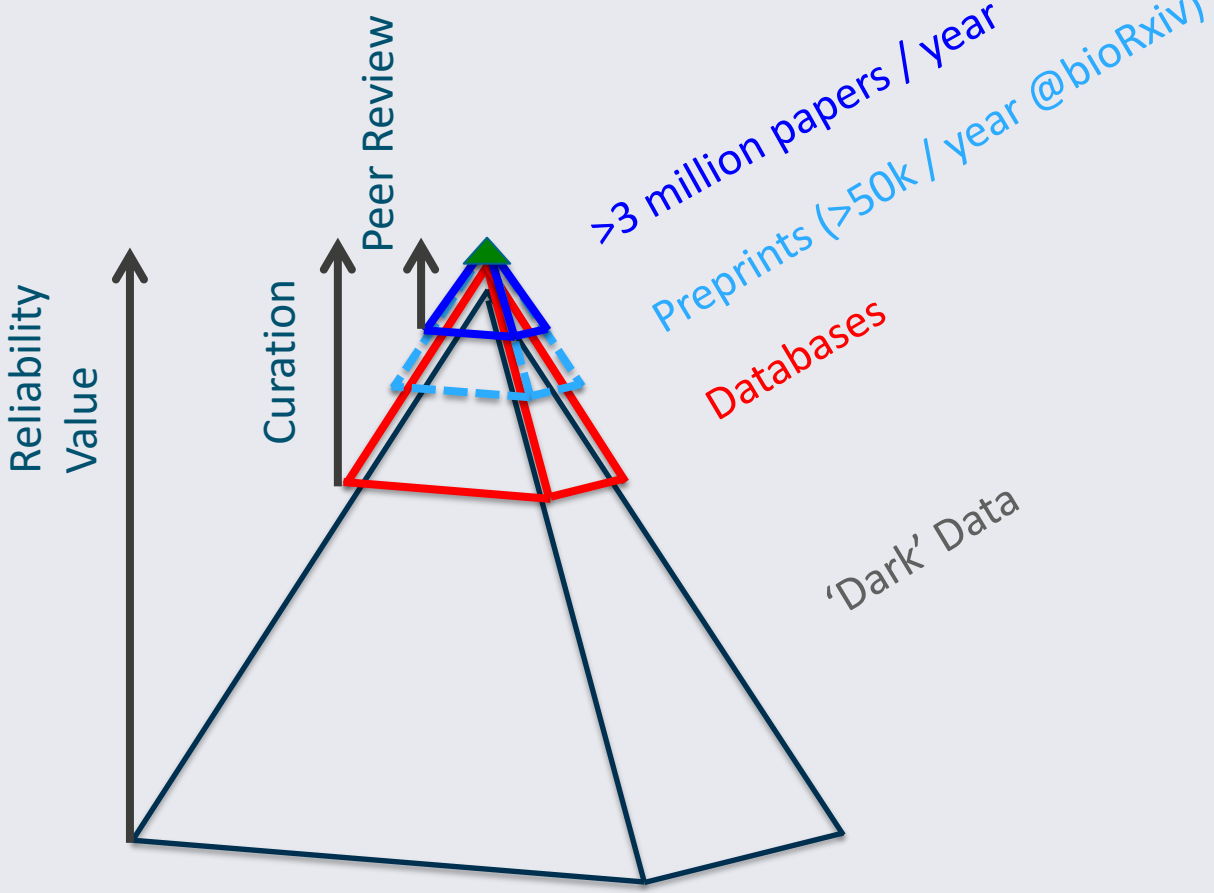
Assess research output irrespective of journal name or JIF

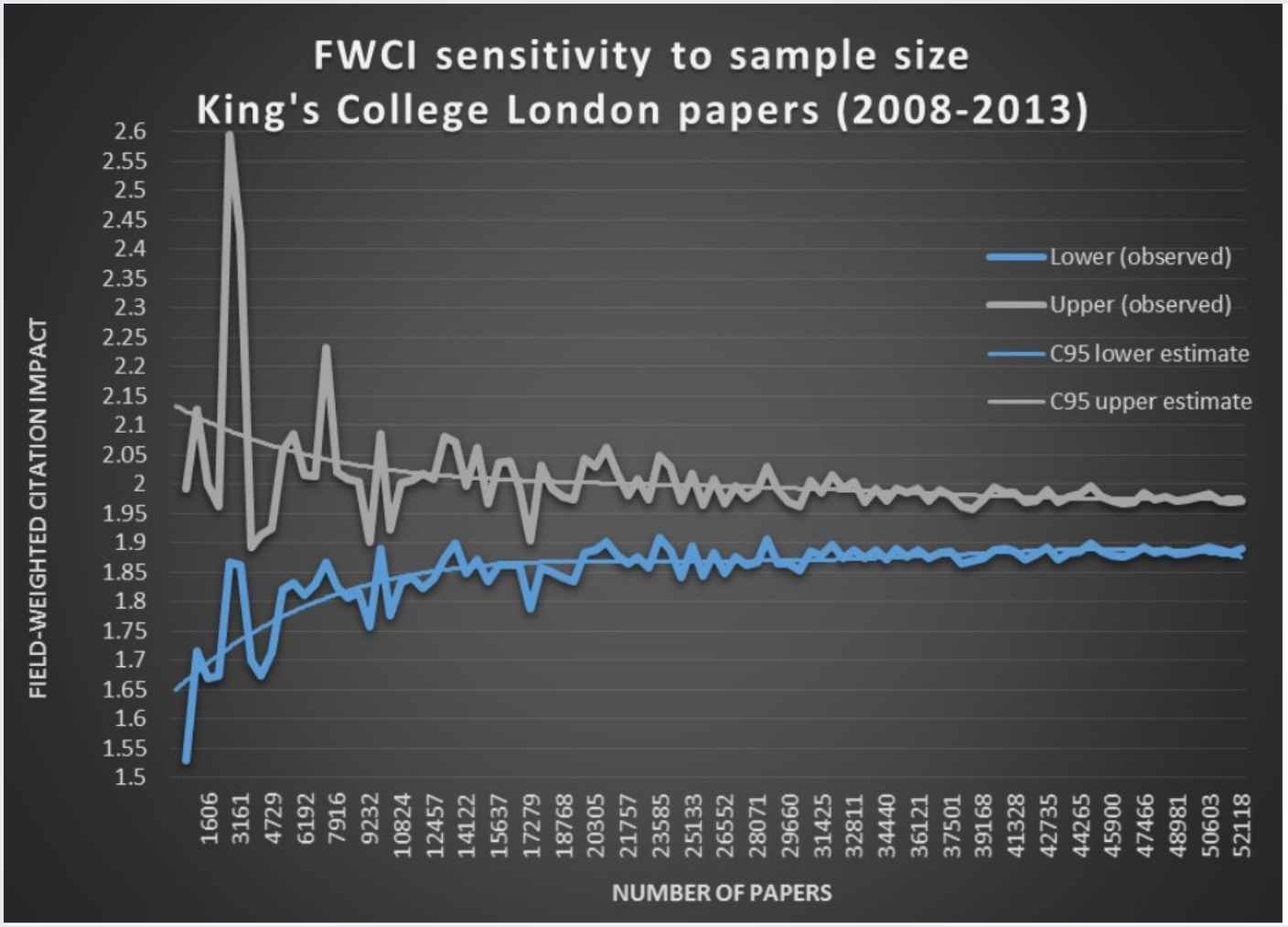
- scientists nominate their 5 most significant papers
- scientists describe their contributions

Incentivize peer review

- reduce reviewing load > portable peer review
- ‘academic credit’
- funders mandate review

Sustainable Open Science





https://thebibliomagician.wordpress.com/2017/05/11/scivals-field-weighted-citation-impact-sample-size-matters-2/