

# Open Research Publishing: supporting a holistic approach to research evaluation

オープンな研究成果出版  
—研究評価への総合的アプローチに向けて—

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At Kyoto University Research Administration Office (KURA)

19 June 2019

F1000

# F1000

COMMUNICATION IN SCIENCE

PRESSES PUBLISHING

## The Seer of Science Publishing

Vitek Tracz was ahead of the pack on open access. Now he wants to rewrite the rules of peer review

**LONDON**—“Nobody reads journals,” says science publisher Vitek Tracz, who has made a fortune from journals. “People read papers.” Tracz sees a grim future for what has been the mainstay of scientific communication, the peer-reviewed print journal. Within the next 10 years, he says, it will cease to exist.

This prophecy ought to carry weight. Over the past 3 decades, Tracz, chairman of a conglomerate called the Science Navigation Group, has helped transform the world of science publishing. His most notable creation to date may be BioMed Central, the first for-profit open-access publisher. The pioneering site, founded in 2000 in London, has grown into an empire with more than 290 biology and medicine journals in its stable.

BioMed Central earned Tracz a reputation as a visionary. “He’s one of the most important publishers of the last decade,” says Michael Eisen, a biologist at the University of California, Berkeley, and co-founder of the Public Library of Science (PLOS), a nonprofit open-access publisher that launched its first journal in 2003.

Tracz “always has many irons in the fire; he likes to experiment. That’s unlike the rest of science publishers who are quite conservative and work on standardizing, consolidating, and reducing costs,” says Matthew Cockrill, managing director of BioMed Central, which Tracz sold in 2009. By contrast, he says, “Vitek doesn’t believe in business plans, but in ideas.”


Now, the revolutionary, who calls himself “shy” and “an-nerd,” is stirring up what could become one of the biggest controversies yet in scientific publishing. Tracz is setting out to shake the very foundations of contemporary science by abolishing anonymous peer review.

**Michelin Guide of science**

Tracz was born in 1949 in a Polish village then occupied by the Soviet Union, and soon afterward his family joined relatives in Siberia, where his father worked in a mine. After the war they made it back to Poland, where Tracz, as an undergraduate at the University of Warsaw, tried his hand at architecture for a year and then switched to mathematics. Before he completed his degree, Tracz’s family emigrated to Israel, where he continued his math studies. A year later, he moved to London and studied cinematography at the Slade School of Art. He put down math and launched Modi-Cine, a company that made educational films for medical doctors. His enthusiasm for filmmaking soon waned, however. Tracz sold Modi-Cine and started up *Gower Medical Publishing*, which printed full-color medical atlases (at a time when most textbooks were in black and white) and anatomical slide collections for lecturers.

Tracz grew bored of textbooks, too. In the early 1980s, he saw an opportunity to create something truly novel. That was the *Career Opinion* journals, publications that offer comprehensive reviews in biology and medicine. Tracz likens them to “Michelin Guides”: “There is a problem with the quantity of literature, just like with the quantity of restaurants available out there. You need some [expert] advice and selection, especially when you’re outside your territory,” he says. He later sold *Career Opinion*’s biology journals to Elsevier, and his clinical journals to Rapid Communications of Oxford, which became part of Thomson.

Tracz was quick to grasp how the rise of the Internet in the 1990s could transform scientific communication. In 1996, he launched BioMedNet, an online club for biomedical researchers that included a library of scientific papers and a news service called HMS Beagle, named after the ship that Charles Darwin sailed on to South America. “We had a community of 1 million scientists, biologists, and doctors. It was incredibly popular,” Tracz recalls. Two years later, at the height of BioMedNet’s popularity, Tracz sold the site for an undisclosed sum to publishing giant Elsevier, which closed the site in 2004.



Downloaded from www.sciencemag.org on October 4, 2013

66 4 OCTOBER 2013 VOL 342 SCIENCE www.sciencemag.org  
Published by AAAS

Science 4 October 2013; Vol. 342 no. 6154 pp. 66-67  
DOI: 10.1126/science.342.6154.66  
<http://www.sciencemag.org/content/342/6154/66.full.pdf>

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研究をマネージ、発見、書くための各種ツール

# Content page

## 1. Shift towards Open Science / Research

オープンサイエンス・  
リサーチへの変遷

## 2. Overcoming barriers to Open Research

オープンリサーチの障害を  
乗り越える

## 3. Open Research publishing

オープンリサーチ出版

## 4. Indicators & tools to support research assessment

研究評価を支援する指標と  
ツール

## 5. Summary

まとめ

Open Science / Research aims at:

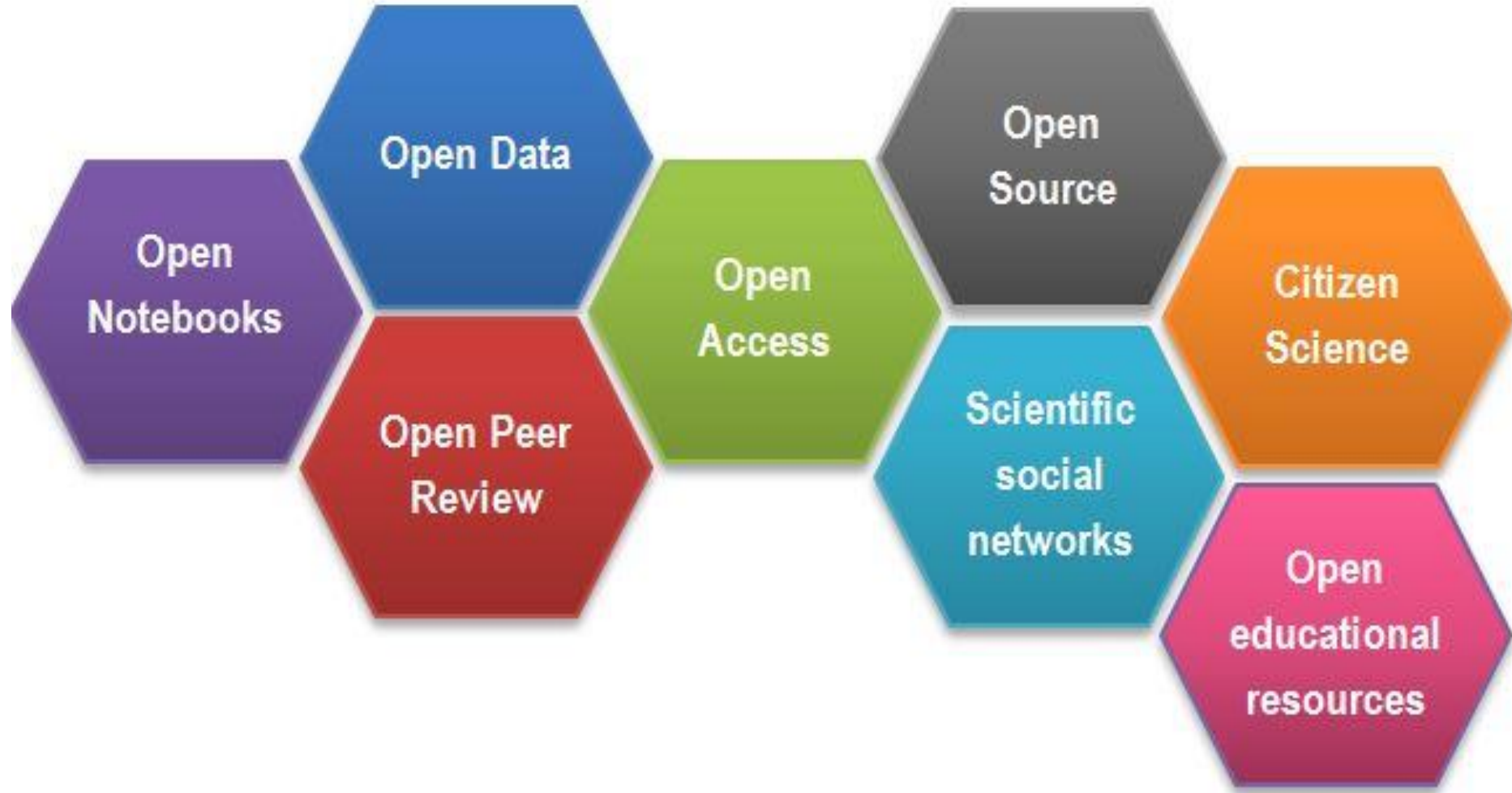
*“increasing research quality, boosting collaboration, speeding up the research process, making the assessment of research more transparent, promoting public access to scientific results, as well as introducing more people to academic research”*

Friesike, S. & Schildhauer, T. (2015). Open Science: many good resolutions, very few incentives, yet. In: Welpel, I.M., et al (Eds.). *Incentives and Performance. Governance of Research Organizations*. Springer.

オープンサイエンス／  
リサーチは、以下を  
目指す。

「研究の質を向上させ、  
共同研究を促し、研究  
プロセスを加速し、研  
究評価の透明性を向上  
させ、科学研究の成果  
への公共のアクセスを  
促し、より多くの人に  
学術研究を紹介するこ  
と」

# What is Open Research?





# EC's 8 areas of Open Science / Research

1. Rewards and Incentives
2. Research Indicators and Next-Generation Metrics
3. Future of Scholarly Communication
4. European Open Science Cloud
5. FAIR Data
6. Research Integrity
7. Skills and Education
8. Citizen Science

## EUのオープンサイエンス・ リサーチの8分野

1. 報酬とインセンティブ
2. 研究指標と次世代指標
3. 学術コミュニケーションの未来
4. ヨーロッパのオープンサイエンスクラウド
5. 公正なデータ
6. 研究公正
7. 能力と教育
8. 市民科学

Major stakeholders:



Research & E-  
Infrastructures



Research Libraries



Universities & Research  
Performing Organisations



Policy Making  
Organisations



Research Funding  
Organisations



Publishers



Researchers



Scientific Societies &  
Academies



Citizen Science & Public  
Engagement Organisations

The Open Syllabus Project

meta

Knowledge Unlatched

KUDOS

研究を共有し、発見し、議論するためのオープンリサーチのツールは急成長

Resource Identification Portal

protocols.io



CODE OCEAN



SCOAP<sup>3</sup>



THE CONVERSATION

bioRxiv beta  
THE PREPRINT SERVER FOR BIOLOGY

publons

Rapid growth in Open Research tools: how we share, discover & talk about research

SOCARXIV  
open archive of the social sciences

EOSC-hub

Earth ArXiv

figshare



arXiv.org

iD

Crossref



PLOS ONE

COS  
CENTER FOR OPEN SCIENCE

eLIFE

Europe PubMed Central

DataCite  
FIND, ACCESS, AND REUSE DATA

F1000 Research

Wellcome Open Research

scienceOPEN

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# Overcoming barriers to Open Research

オープンリサーチの障害を乗り越える



# Main barriers to uptake of Open Research

## オープンリサーチ取り込みへの主な障害

- Lack of incentives
- Still judged by journal Impact Factor/brand of standard research articles
- Researchers often don't know how to do Open Research
- Misconception that Open Research ≠ quality
- Conservatism at senior levels
- Reality on the ground in review panels
- Needs change at all levels e.g. all the way up to university league tables
- インセンティブの欠如
- 未だにインパクトファクター／標準的な研究論文のブランドにより評価
- 研究者がオープンリサーチのやり方を知らない
- オープンリサーチが質の悪いものという誤解
- シニア層が保守主義
- 審査委員の現実
- 大学ランキングまで、すべてのレベルで変わる必要

# How might we overcome these barriers

- **Policies** – develop supportive policies: maximise consistency between organisations and stakeholders; minimise confusion and complexity
- **Tools & infrastructures** – make it easy for the research community to act in an Open Research way
- **Metadata & interoperability** – maximise reporting; minimise duplication of effort
- **Training** – at all levels and across all stakeholders; focus on how and why
- **Rewards & incentives** – rethink how researchers & institutions are evaluated

この障害をどうやって乗り越えるか

- **政策**： 支援的政策の開発、関係機関とステイクホルダー間の統一性を確保し、混乱と複雑さを排除
- **ツールとインフラ**： 研究コミュニティがオープンリサーチ手法を取り入れやすいように。
- **メタデータと相互運用性**： 報告を増やし、労力の重複を減らす
- **研修**： あらゆるレベル、すべてのステイクホルダーに対し、手法と導入理由にフォーカスして。
- **報酬とインセンティブ**： 研究者と研究機関の評価方法の再考

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# Global shift in policy towards Open Research

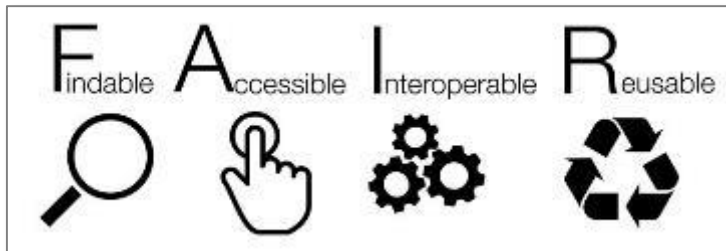
オープンリサーチへのグローバルな政策シフト

OA2020 – initiative for the large-scale transition to open access



## European Open Science Cloud (EOSC)

This is a cloud for research data in Europe. Background, policy information, events and publications related to the EOSC



# Policy development to support Open Research

オープンリサーチを支える  
政策動向



## Part I: The Plan S Principles

"With effect from 2021, all scholarly publications on the results from research funded by national, regional and international research councils and funding agencies must be made available on Open Access Platforms, or made immediately available through Open Access Platforms."

In addition:

**01** Authors or their institutions retain copyright to their publications. All publications must be published under an open license, preferably the Creative Commons Attribution license (CC BY), in order to fulfil the requirements defined by the [Berlin Declaration](#):

**06**

organisa  
strategie



Why Plan S 10 Principles Funders & support Implementation About Contact

## São Paulo Statement on Open Access

01/05/2019

The representatives of [African Open Science Platform](#), [AmELICA](#), [cOAlition S](#), [OA2020](#), and [SciELO](#) – five of the major worldwide Open Access initiatives – met on 1 May 2019 during the annual meeting of the Global Research Council in São Paulo, Brazil. They are united in their common mission of making knowledge available and accessible wherever it can have the greatest impact and help solve humanity's challenges regardless of where it was produced.

The combined effect of the five initiatives has generated a new momentum in the push towards universal, full, and immediate Open Access.



# Policies

- Work together across stakeholder groups to develop policies to shift the whole ecosystem
- Initiate and then gather evidence during Open Research pilots, and then embed what we learn at every level and in every aspect of the scientific endeavour
- Ensure Open Research is not seen as separate from (or in competition with) current practice
- Need a systemic shift in current practices to bring:
  - Greater consistency between policies
  - Foster greater public trust in science.

# 政策

- 様々なステイクホルダーグループとともに全体のシステムを変える政策を開発
- オープンリサーチを試行し、その間エビデンスを集め、科学的な試みのすべてのレベル、あらゆる側面に学んだことを埋め込む。
- オープンリサーチが現状と競合したり、解離したものと見られないように。
- 政策間の統合性を保ち、科学への市民の信頼を醸成するためには、現状をシステムティックに変える必要性

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# Widening range of research outputs available

研究成果の範囲の広がり



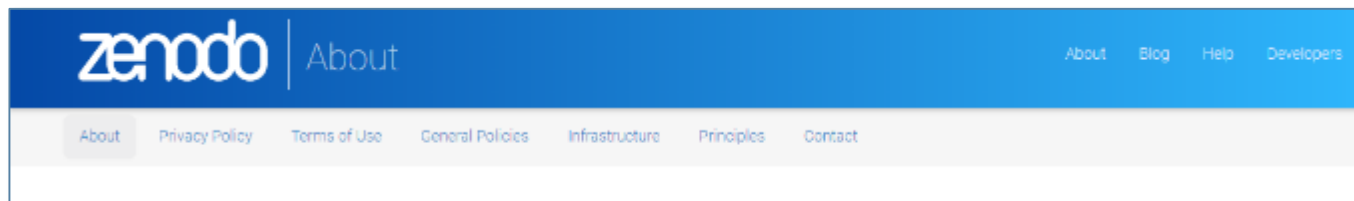
Data

*all with a trackable & persistent DOIs*



Resources

*すべて追跡可能・永続的な識別子 DOI付き*



Software

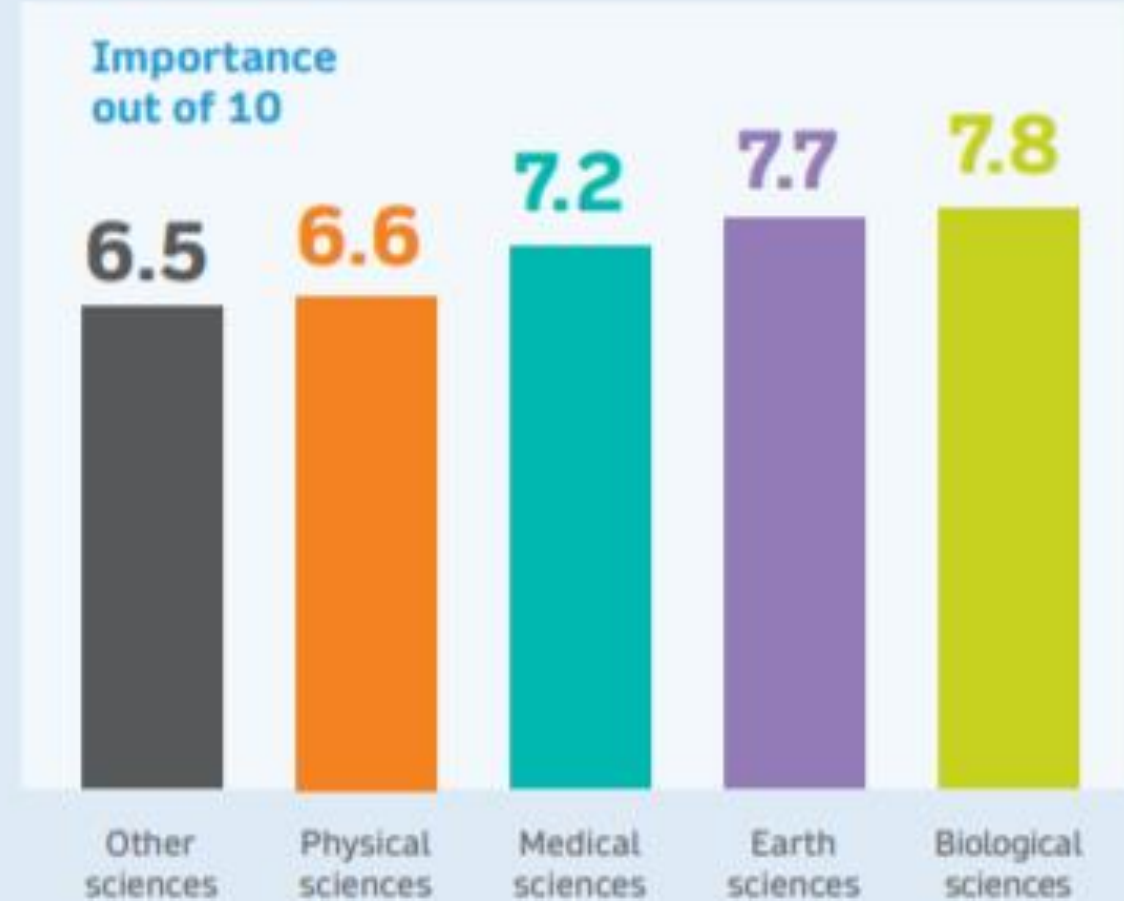
# Practical challenges for researchers in data sharing

Springer Nature have published the results of a survey of >7,700 researchers worldwide, looking at data sharing during publication

Source: Springer Nature (2018) <https://doi.org/10.6084/m9.figshare.5975011>

## Importance of data discoverability

**76%**  
of respondents highly rate the importance of their data being discoverable:  
most popular ranking was 10/10





# Major infrastructures being developed 開発中のインフラ

Services for the European Open Science Cloud



SERVICES ▾

COMMUNITIES ▾

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NEWS & EVENTS ▾

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Thematic Services



Compute



Identity & Security



Operations





# How might we overcome these barriers

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# ORCID integrations

## ORCIDの統合

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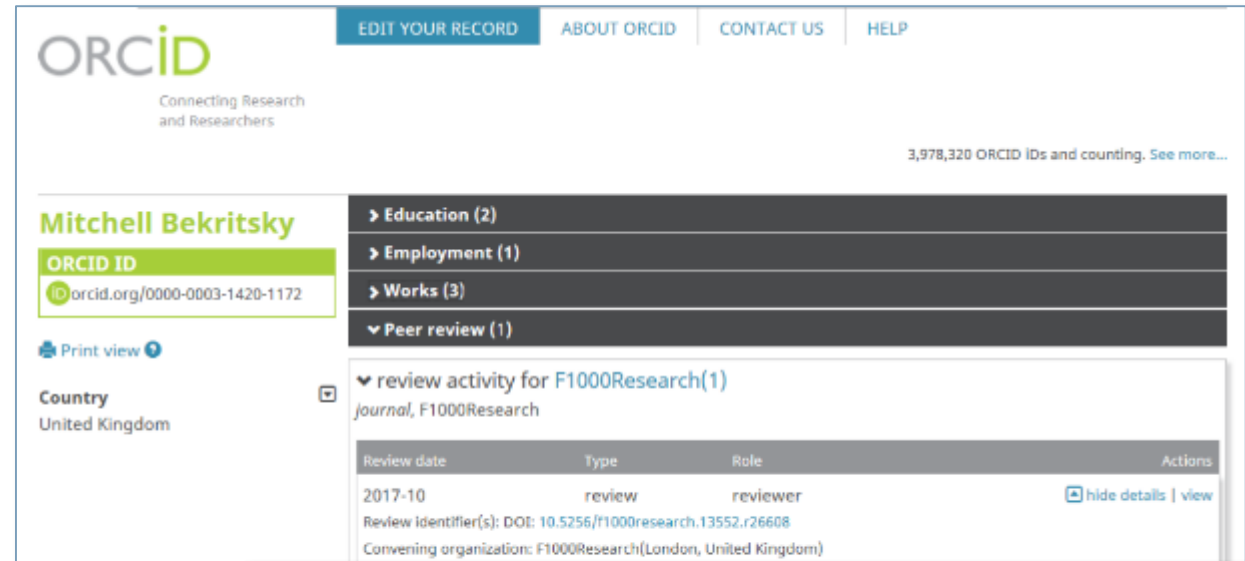
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**Mitchell Bekritsky**

ORCID ID  
orcid.org/0000-0003-1420-1172

Print view

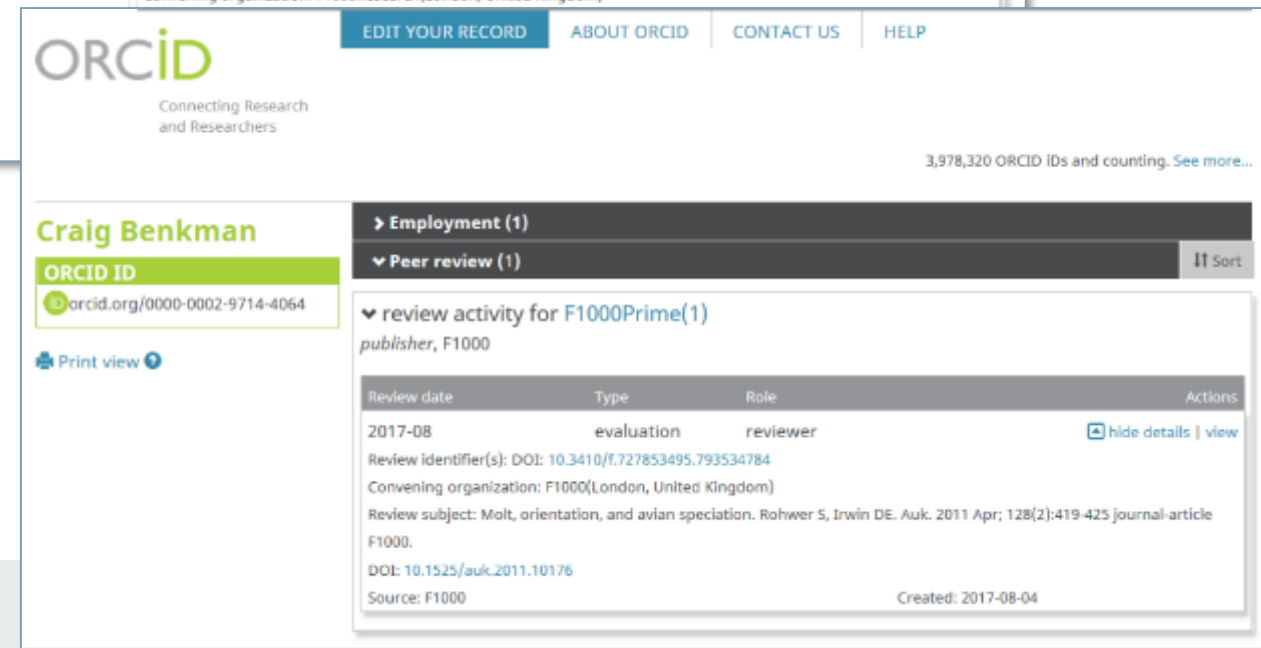
Country  
United Kingdom

- Education (2)
- Employment (1)
- Works (3)
- Peer review (1)

review activity for F1000Research(1)  
journal, F1000Research

Review date	Type	Role	Actions
2017-10	review	reviewer	hide details   view

Review identifier(s): DOI: 10.5256/f1000research.13552.r26608  
Convening organization: F1000Research(London, United Kingdom)



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**Craig Benkman**

ORCID ID  
orcid.org/0000-0002-9714-4064

Print view

- Employment (1)
- Peer review (1)

review activity for F1000Prime(1)  
publisher, F1000

Review date	Type	Role	Actions
2017-08	evaluation	reviewer	hide details   view

Review identifier(s): DOI: 10.3410/f.727853495.793534784  
Convening organization: F1000(London, United Kingdom)  
Review subject: Molt, orientation, and avian speciation. Rohwer S, Irwin DE. Auk. 2011 Apr; 128(2):419-425 journal-article F1000.  
DOI: 10.1525/auk.2011.10176  
Source: F1000  
Created: 2017-08-04

# Major projects to improve metadata & interoperability

メタデータと相互運用性を改善するための主要プロジェクト

# SCHOLIX

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Patents

Search: 110,017,438 Patents

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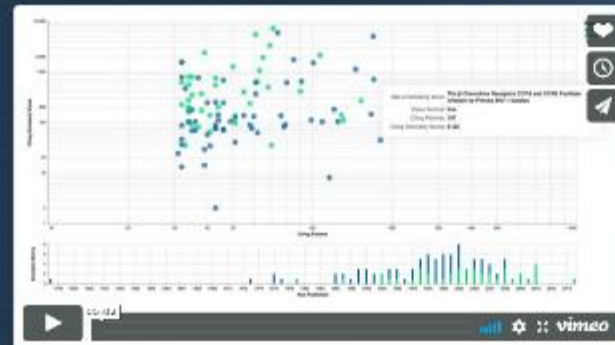
I40C

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# Training programs to support Open Research

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The FOSTER Plus bootcamp in Open Science took place on 18-20 April at CRG, Barcelona

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# Training on Open Research skills

## オープンリサーチ能力 の研修

- All researchers, **at all levels**
  - Embed early – graduate and undergraduate training
  - Tailored to diverse career paths
  - Include research managers and administrators
  - Librarians, repository managers, IT services staff, data stewards so they can support researchers
  - Incentivise and support Open Research mentoring and training
  - Not just what/how, but WHY?
- 「すべてのレベルの」全研究者対象
  - 早めの対応（院生、学部生研修）
  - 多様なキャリアパスに合わせる
  - URA、事務職員を含める
  - 司書、リポジトリ管理者、情報関連スタッフなども含め、研究者を的確に支援できるように。
  - オープンリサーチのメンターと研修を動機付け、支援
  - 「何をどうする」だけでなく「なぜそうするか」も教える

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- **報酬とインセンティブ**：研究者と研究機関の評価方法の再考

# Moving to a more holistic & balanced research evaluation system



sfdora.org



# DORA

より包括的でバランスの取れた  
研究評価システムへの移行



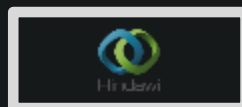
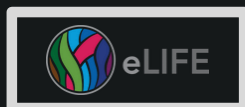
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and >12,500 individuals

世界500以上の組織、12500  
人を超える個人が署名

Supporting organizations

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## Good Practices

Research Institutes



DORA's ultimate aim is not to accumulate signatures but to promote *real* change in research assessment. One of the keys to this is the development of robust and time-efficient ways of evaluating research and researchers that do not rely on journal impact factors. We are keen to gather and share existing examples of good practice in research assessment, including approaches to funding and fellowships, hiring and promotion, and awarding prizes, that emphasize research itself and not where it is published.

If you know of exemplary research assessment methods that could provide inspiration and ideas for research institutes, funders, journals, professional societies, or researchers, [please contact DORA](#).

### University of California, Berkeley

#### Department of Molecular and Cell Biology & Helen Wills Neuroscience Institute

Applications for assistant professor positions were designed to highlight the significance of an applicant's accomplishments rather than default to using journal-based metrics as a substitute for research quality. The [advertisement](#) asked applicants to summarize their major research accomplishments, ongoing and planned research program, and contributions to diversity. Applicants were also asked to select three significant articles from their list of publications and describe the impact of each.

### University College London

University College London (UCL) released its [Academic Careers Framework](#), which

Examples include: [グッドプラクティスの例](#):

- Asking applicants to summarize major research accomplishments, and select 3 significant articles from their publications and describe the impact of each.  
[申請者に業績の中で最も重要なものを3点選んでもらい、そのインパクトを説明させる。](#)
- Asking applicants not to use Impact Factors.  
[申請者にインパクトファクターを使わないように依頼](#)
- Highlighting that all outputs and outcomes generated by research are valued.  
[研究から生まれるあらゆるアウトプットとアウトカムが価値あるものであるということを強調する。](#)
- Using bio-sketches, where scientists summarize the impacts of their contributions.  
[研究者が彼らの貢献のインパクトをまとめたバイオスケッチを使う。](#)
- Involving representatives from multiple career-stages to develop new policies to measure societal impact and research excellence – signifies an agreement to be judged by the criteria.  
[研究の社会的インパクトと卓越性を測るための新たな政策を開発するため、多様なキャリアステージの代表を巻き込む。](#)

Funders

Professio

Research

Preprint

## NOT PEER-REVIEWED

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# Use of the Journal Impact Factor in academic review, promotion, and tenure evaluations

Research article Science Policy

Erin C. McKiernan<sup>1</sup>, Lesley A. Schimanski<sup>2</sup>, Carol Muñoz Nieves<sup>2</sup>, Lisa Matthias<sup>3</sup>,  
Meredith T. Niles<sup>4</sup>, Juan Pablo Alperin<sup>2,5</sup>

April 9, 2019

systems. While faculty reports are useful, information is lacking on how often and in what ways the JIF is currently used for review, promotion, and tenure (RPT). We therefore collected and analyzed RPT documents from a representative sample of 129 universities from the United States and Canada and 381 of their academic units. We found that 40% of doctoral, research-intensive (R-type) institutions and 18% of master's, or comprehensive (M-type) institutions explicitly mentioned the JIF, or closely related terms, in their RPT documents. Undergraduate, or baccalaureate (B-

## ジャーナルインパクトファクターの学術的 審査、昇進、雇用査定への利用

the JIF's use in evaluations. None of the RPT documents we analyzed heavily criticized the JIF or prohibited its use in evaluations. Of the institutions that mentioned the JIF, 63% associated it with quality, 40% with impact, importance, or significance, and 20% with prestige, reputation, or status. In sum, our results show that the use of the JIF is encouraged in RPT





## Evaluation of Research Careers fully acknowledging Open Science Practices

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

### オープンサイエンスの実践を十分に取入れた研究キャリアの評価

オープンサイエンスを実践する研究者に対する報酬、インセンティブ、承認

[https://ec.europa.eu/research/openscience/index.cfm?pg=rewards\\_wg](https://ec.europa.eu/research/openscience/index.cfm?pg=rewards_wg)

Open Science Career Assessment Matrix (OS-CAM)	
Open Science activities	Possible evaluation criteria
<b>RESEARCH OUTPUT</b>	
<b>Research activity</b>	Pushing forward the boundaries of open science as a research topic
<b>Publications</b>	Publishing in open access journals Self-archiving in open access repositories
<b>Datasets and research results</b>	Using the FAIR data principles Adopting quality standards in open data management and open datasets Making use of open data from other researchers
<b>Open source</b>	Using open source software and other open tools Developing new software and tools that are open to other users
<b>Funding</b>	Securing funding for open science activities
<b>RESEARCH PROCESS</b>	
<b>Stakeholder engagement / citizen science</b>	Actively engaging society and research users in the research process Sharing provisional research results with stakeholders through open platforms (e.g. Arxiv, Figshare) Involving stakeholders in peer review processes
<b>Collaboration and Interdisciplinarity</b>	Widening participation in research through open collaborative projects Engaging in team science through diverse cross-disciplinary teams
<b>Research integrity</b>	Being aware of the ethical and legal issues relating to data sharing, confidentiality, attribution and environmental impact of open science activities Fully recognizing the contribution of others in research projects, including collaborators, co-authors, citizens, open data providers
<b>Risk management</b>	Taking account of the risks involved in open science
<b>SERVICE AND LEADERSHIP</b>	
<b>Leadership</b>	Developing a vision and strategy on how to integrate OS practices in the normal practice of doing research Driving policy and practice in open science Being a role model in practicing open science
<b>Academic standing</b>	Developing an international or national profile for open science activities Contributing as editor or advisor for open science journals or bodies
<b>Peer review</b>	Contributing to open peer review processes Examining or assessing open research
<b>Networking</b>	Participating in national and international networks relating to open
<b>RESEARCH IMPACT</b>	
<b>Communication and Dissemination</b>	Participating in public engagement activities Sharing research results through non-academic dissemination channels Translating research into a language suitable for public understanding
<b>IP (patents, licenses)</b>	Being knowledgeable on the legal and ethical issues relating to IPR Transferring IP to the wider economy
<b>Societal impact</b>	Evidence of use of research by societal groups Recognition from societal groups or for societal activities
<b>Knowledge exchange</b>	Engaging in open innovation with partners beyond academia
<b>TEACHING AND SUPERVISION</b>	
<b>Teaching</b>	Training other researchers in open science principles and methods Developing curricula and programs in open science methods, including open science data management Raising awareness and understanding in open science in undergraduate and masters' programs
<b>Mentoring</b>	Mentoring and encouraging others in developing their open science capabilities
<b>Supervision</b>	Supporting early stage researchers to adopt an open science approach
<b>PROFESSIONAL EXPERIENCE</b>	
<b>Continuing professional development</b>	Investing in own professional development to build open science capabilities
<b>Project management</b>	Successfully delivering open science projects involving diverse research teams
<b>Personal qualities</b>	Demonstrating the personal qualities to engage society and research users with open science Showing the flexibility and perseverance to respond to the challenges of conducting open science



## OSPP-REC

Open Science Policy Platform Recommendations

# オープンサイエンス政策プラットフォーム 提言書

Name	Representative organisation and Affiliation	Stakeholder Group
Sergio Andreozzi	The EGI Foundation	Open Science Platforms/Intermediaries
Michela Bertero	EU-LIFE (Alliance of 13 top research centres in life sciences to support and strengthen European research excellence), co-founder; Head of the International and Scientific Affairs Unit, CRG (Centre for Genomic Regulation, Barcelona, Spain)	Research Organisations
Kurt Deketelaere	League of European Research Universities (LERU), Secretary General	Universities
Paul Ayris	LERU co-Chair of the INFO Community (alternate representative)	
Jennifer Edmond	Digital Research Infrastructure for Arts and Humanities (DARIAH), Member of the DARIAH-IE steering committee	
Manuela Epure	The Alliance of Central and East European Universities (ACEU), Vice-President	Publishers
Michele Garfinkel	The European Molecular Biology Organization (EMBO), Manager of the EMBO Science Policy Programme	
Tuija Hirvikoski	European Network of Living Labs (ENoLL), elected President	Publishers
Kristiina Hormia Poutanen	Association of European Research Libraries (LIBER), President	
Matthias Kleiner	Science Europe, Member of Governing Board	Open Science Platforms/Intermediaries
Stephan Kuster	Science Europe, Secretary General (alternate representative)	
Wolfram Koch	European Association for Chemical and Molecular Sciences (EUCHEMS), Member of Executive Board	Universities
Ernst Kristiansen	European Association of Research and Technology Organisations (EARTO), Treasurer and Member of Executive Board	
Rebecca Lawrence (OSPP-REC Chair)	F1000, Managing Director	Academies/Learned Societies
Sabina Leonelli (OSPP-REC Rapporteur)	Global Young Academy (GYA), elected Member	

Norbert Lossau	European University Association (EUA), Vice-President of the University of Göttingen	Universities
Karel Luyben	The Conference of European Schools for Advanced Engineering Education and Research (CESAER), Vice-President Research, and Chairman of the Task Force on Open Science	Universities
Michael Mabe	International Association of Scientific, Technical and Medical Publishers (STM), Chief Executive Officer	Publishers
Philip Carpenter	STM Board Member (alternate representative)	
Catriona J. MacCallum (OSPP-REC Rapporteur)	Open Access Scholarly Publishers Association (OASPA), Chair of Policy Committee; Director of Open Science (Hindawi)	Publishers
Paul Peters	OASPA President (alternate representative)	
Natalia Manola	OpenAIRE, an open access infrastructure, Managing Director	Open Science Platforms/Intermediaries
Eva Méndez Rodríguez	Young European Research Universities Network (YERUN); Deputy Vice-President for Scientific Policy, Open Science, Universidad Carlos III de Madrid	Universities
Christophe Rossel	European Physical Society (EPS), Past-President	Academies/Learned Societies
Matthew Scott	GEANT (A pan-European collaboration on e-infrastructure and services for research and education), Chief Programmes Officer	Open Science Platforms/Intermediaries
Steve Cotter	GEANT Chief Executive Officer (alternate representative)	
Jan-Eric Sundgren	Business Europe, Chairman of the Working Group for Research, Technology and Innovation	Open Science Platforms/Intermediaries
Michela Vignoli	Young European Associated Researchers Network (YEAR), Board Member	Academies/Learned Societies
Johannes Vogel (OSPP Chair)	European Citizen Science Association (ECSA), Chair	Citizen Science Organisations
Maike Weisspflug	European Citizen Science Association (alternate representative)	
John Wood	Research Data Alliance (RDA), Co-Chair, and Chair of RDA Europe	Open Science Platforms/Intermediaries

<https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform>

# OSPP-REC – Next-generation indicators

オープンサイエンス政策  
プラットフォーム提言書：  
次世代指標

## 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.



Research & E-Infrastructures



Policy Making Organisations



Researchers



Research Libraries



Research Funding Organisations



Scientific Societies & Academies



Universities & Research Performing Organisations



Publishers



Citizen Science & Public Engagement Organisations

# OSPP-REC – Rewards and Incentives

オープンサイエンス政策  
プラットフォーム提言書：  
報酬とインセンティブ

## Rewards and Incentives

Funders, research institutions and other evaluators of researchers should actively **develop/adjust evaluation practices and routines to give extra credit to individuals, groups and projects who integrate Open Science within their research practice.**

**Studies must be commissioned and funded to propose guidelines for best practice and tools for research assessment** by 2019, together with an **active delivery plan and associated timeline for their implementation.**

These guidelines must take into account career stage and discipline, and be appropriately tailored to their target such as individual, institution and so forth. **Exemplars of innovation and good open science practice must be collated, taking into account** the DORA Declaration, the Leiden Manifesto, the OS-CAM and other relevant initiatives.

Public research performing and funding organisations (RPOs/RFOs) should **provide public and easily accessible information about the approaches and measures being used to evaluate researchers, research and research proposals.**

The traditional academic career structure disincentivises Open Science because of the current focus on tenured positions based solely or largely on publication output. **Institutions need to have a career and reward structure for all researchers, and particularly for Early Career Researchers (ECRs), that values and promotes a diverse range of outputs, activities and career directions.** This should include facilitating a means by which researchers can, for example, move between academia and industry or between national jurisdictions.



Research & E-Infrastructures



Policy Making Organisations



Researchers



Research Libraries



Research Funding Organisations



Scientific Societies & Academies



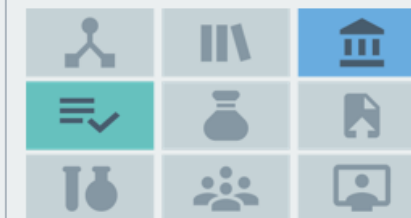
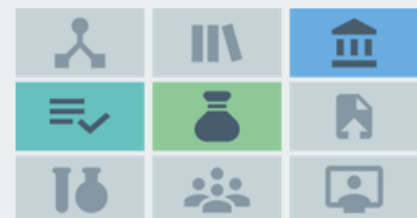
Universities & Research Performing Organisations



Publishers



Citizen Science & Public Engagement Organisations





# Upcoming EC Expert Group report

今後の欧州委員会専門家  
グループ報告

Indicator Frameworks for Fostering Open Knowledge Practices in Science and Scholarship

*Expert Group on Indicators for Researchers' Engagement with Open Science*

*(Paul Wouters, Ismael Ràfols, Alis Oancea, Shina Caroline Lynn Kamerlin, J. Britt Holbrook, Merle Jacob)*

科学と学問におけるオープン  
ナレッジの実践を醸成するた  
めの指標フレームワーク

■ Important to manage and plan for unintended consequences and/or 'steering' effect of any indicators used

■ 利用される指標による意図しない結果や「操縦的な」効果を管理し、それに備えた計画が重要

■ Be careful not to create incentives for behaviours that are tokenistic or superficial rather than truly essential to OS practices

■ OSの実践にとって真に重要なこと以外の些末な行動へのインセンティブを生まないよう留意

■ Important to provide options to tailor suite of indicators used to support OS according to field, project, type of entity measuring etc

■ 分野、プロジェクト、実体のタイプ別にOSを支援する一連の指標を作るための選択肢を提供することが重要



# Areas of focus of report

## 報告書の焦点とされる分野

Three levels for indicator use regarding Open Science オープンサイエンスに関連する指標利用のための三段階

1. scientific system as a whole, including the infrastructures that are required for open science;
  1. オープンサイエンスに必要なインフラを含む科学的システム全体
2. research performing organization and research funding organization; and
  2. 研究機関、研究助成機関
3. individual researcher or research group.
  3. 個別の研究者、研究グループ

Key dimensions of an indicator framework:

- Goal of monitoring/evaluation
  - Mission of research
  - Level of assessment
  - Disciplinary structures, epistemic cultures and research approaches
  - Stakeholders, audiences and beneficiaries
  - Research environment
- 指標枠組みのカギとなる側面
- モニタリング／評価の目標
  - 研究の使命
  - 評価のレベル
  - 分野ごとの構造、認識的文化と研究アプローチ
  - ステイクホルダー、受け手、受益者
  - 研究環境

# 4 open indicator toolboxes – described in Report

- 1. Infrastructure indicators of scientific system at national, international and disciplinary levels –** measure development of open knowledge infrastructures
- 2. Indicators of open knowledge capabilities in research communities –** monitoring levels of open knowledge capabilities (including support personnel).
- 3. Indicators of pioneering open knowledge practices –** mainly qualitative, case-study based– critical to garner support from research communities.
- 4. Individual level indicators for careers –**based on the principles of responsible metrics based on Metric Tide, Leiden Manifesto, and DORA declaration.

+ 149 indicators and associated information on tools to measure and when to use.

## 4つのオープン指標ツールボックスー 報告書より

1. 国、国際、学問分野レベルでの学術体系のインフラ指標： オープンナレッジインフラの開発を測る
2. 研究コミュニティにおけるオープンナレッジ能力の指標： オープンナレッジ能力のレベルをモニター（支援要員も含む）
3. 先駆的オープンナレッジ実践の指標： 研究コミュニティの支持を得るのに重要な、主に量的、ケーススタディベースの指標。
4. キャリアのための個人レベルの指標： Metric Tide報告書に基づく「責任ある評価・査定」、ライデン声明、DORA宣言の原則に基づいたもの

測定のためのツールと使うタイミングについての情報付きの149の指標

Indicator	OS Dimension indicated	Infrastructure	Capabilities	Champions	Career assessment	Data source	Strengths	Weaknesses	Potential	Risks	Literature references	Current availability
Types of data usage	A typology of different kinds of data	Y	N	EXEMPLARY CASES	N	Surveys among data	Identifies develop	Must be done with	Insight into actual data use		"Open Science Monitor. Met	Open Science Monitor
Accessibility of open data or code	Accessibility	Y	N	EXEMPLARY CASES	N	Researchers, Univer	Encourages open	Privileges groups	Tracks open data infrastruc		Lampert et al., fteval Journal	Not yet available
Nr Funders requiring TOP Guidelines	Adoption of TOP Guidelines	Y	N	EXEMPLARY CASES	N	Cos.io	Monitors OA and	Survey required			"Open Science Monitor. Met	Open Science Monitor
Attitudes of researchers to data	Attitudes of researchers to data	N	Y	EXEMPLARY CASES	Y	Surveys	Qualifies types of	Not clear categori	Inspiring examples may lead		"Open Science Monitor. Met	Open Science Monitor

# Recommendations from Finland フィンランドからの提言

<https://avointiede.fi/fi/luonnos-tutkijan-vastuullinen-arviointi>

The screenshot shows the AVOIN TIEDE website with a navigation menu and a main content area. The main content area is titled "Comment on DRAWING A recommendation for a responsible assessment of the researcher". It includes a sub-header "TRANSPARENCY OF MATERIAL" and a paragraph of text. The text discusses the Scientific Society's delegation to a working group to prepare a recommendation for a responsible assessment of the researcher. It mentions that the first draft of the recommendation is now complete and can be commented on by May 31, 2019. It also lists the draft recommendation for a Responsible Assessment of the Researcher - a draft of the proposal for a review of the research and development of a researcher (in Finnish, Swedish and English) and a comment on the draft - comment on the draft - commentary/feedback (in Finnish, Swedish or English). The text further explains that researcher evaluation (recruitment, personal performance, bonus systems, project finance, expert assignments) significantly directs the direction of research through funding, merit and structural processes of research organizations. Recommendations for evaluation have been produced both internationally (eg DORA and London Manifesto) and nationally (for example, the Publication Forum Classification Manual and the Professor Association's Fair Establishment Path criteria). However, there is no body in Finland or internationally that would guide the implementation, ethics and transparency of investigator evaluations on a broad basis. There is a lack of responsibility at national and international level to assess the researcher. This draft recommendation responds to this lack of responsibility. Promoting a responsible assessment of the researcher also supports Finland's profiling and leads to international responsibility. The draft to be commented on has been prepared by the following working group:

- Strategy Manager Merja Pitkanen (Hilmeen AMK / Aneoni)
- Professor Janna Hakkarinen (University of Helsinki / Professor Association)
- Postdoctoral Researcher Tommi Elomaa (Aalto University / Academy of Young People)

## General principles: 一般原則

■ Transparency

透明性

■ Integrity 公正性

■ Fairness 公平性

■ Competence

研究力

Ten areas of focus:

1. Transparent definition of the objectives and criteria of the evaluation
2. The researcher is primarily evaluated qualitatively
3. Evaluation materials must be comprehensive
4. Evaluators must be unbiased
5. Equality of the evaluation process: field, career phase, gender/ethnicity
6. Significance and quality of research is evaluated broadly – desired balance between research and societal impact
7. Researcher's activity in communities, scholarly or other is taken into account
8. Researcher evaluated as part of their research community/research group
9. Consider the researcher's own objectives and opportunity to self-evaluate
10. Take into account the benefit of the evaluation to the evaluated party

重点10分野:

1. 評価の目的と指標を明示的に定義
2. 研究者は第一に質的に評価される
3. 評価材料は包括的でなければならない
4. 評価者は公平に
5. 評価プロセスの平等
6. 研究の重要性と質は、研究と社会的インパクトの望ましいバランスを取りつつ広範に評価
7. 研究者の学術、その他コミュニティにおける活動も考慮に
8. 研究者は研究コミュニティ/研究グループの一員として評価される
9. 研究者自身の目的や自己評価の機会も考慮
10. 評価される側に対する評価の便益を考慮

# OSPP coordinating series of pilots OSPP連携試行シリーズ

- Key elements of OSPP working with other major initiatives to help coordinate set of pilots using new approaches to assessment at:
  - Stakeholder level e.g. university associations
  - Institutional level
  - National level
  - Domain-specific level
- Then ensure open evaluation of these pilots and dissemination of results
- Use successes to support uptake and broader adoption by others, including work required by other stakeholders
- 以下各レベルの評価のための新しいアプローチを使った連携試行シリーズを助けるイニシアティブとともにOSPPのキーとなる要素：
  - ステイクホルダーレベル（大学協会など）
  - 機関レベル
  - 国家レベル
  - 領域特定レベル
- そしてこれらの試行のオープンな評価と結果の普及を保証する。
- 成功をより広く採り入れてもらうために使う。



# Open research publishing

オープンリサーチ出版



# Need to move away from 'publish or perish'

## 出版至上主義から の脱却の必要性

“The whole outdated enterprise is kept alive for one main reason: the fact that employers and funders of researchers assess researchers primarily by where they publish.”

「研究者がどこに出版するかによって、研究者の雇用主と資金配分者が研究者を評価する、というたった一つの理由のために、時代遅れの事業が生かされている」

**Richard Smith, former Editor of BMJ**

<http://blogs.bmj.com/bmj/2016/07/12/richard-smith-another-step-towards-the-post-journal-world/>

Key to shifting the system: separate publication from  
evaluation

システムを変えるためには、  
出版と評価を切り離す必要

# Key desirable features of a communication system

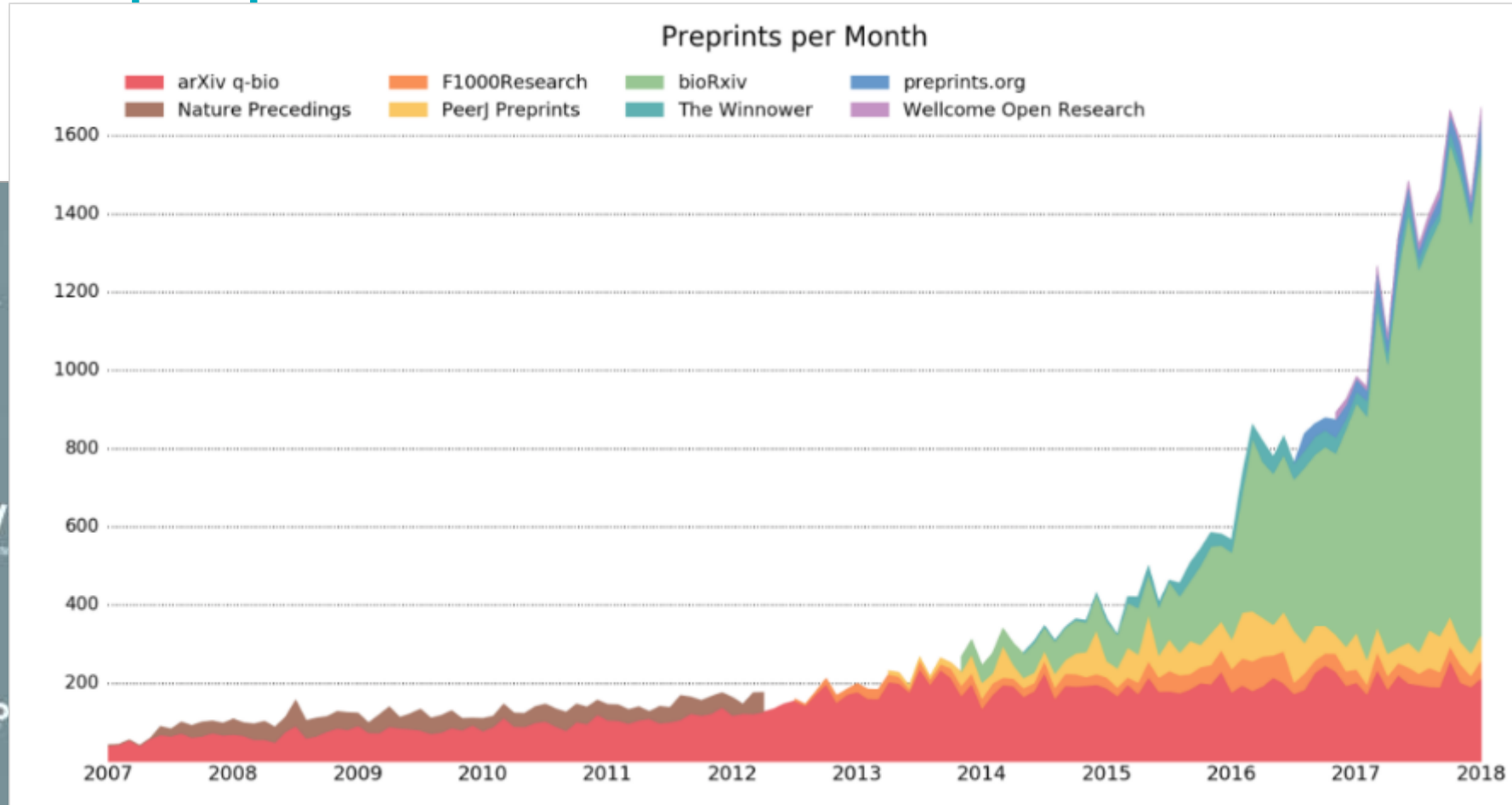
- **Access and reuse:** Findings should *be openly accessible*; text and data mineable
- **Rapid access to new knowledge:** Research community should be able to access & view new discoveries *without delay*
- **Reduce reporting and publication bias, & research waste:** Researchers should be able to *share all research findings*
- **Support verification and reuse:** Data underpinning findings should be *FAIR*: as open as possible, as closed as necessary
- **Transparency, fairness and accountability of reviewers:** *Peer review should be transparent*, & reviewers receive credit for their contribution
- **Research judged according to intrinsic value:** A *range of quantitative and qualitative indicators* should be provided and used

## コミュニケーションシステムの望ましい特徴

- **アクセスと再利用:** 研究成果は公開され、テキストとデータもアクセス可能であるように
- **新しい知識へのいち早いアクセス:** 研究コミュニティは遅滞なく新しい発見にアクセスし、見ることができるように
- **報告・出版バイアスと研究の無駄の削減:** 研究者はすべての研究上の発見を共有できるように
- **実証と再利用を支援:** 研究成果の根拠となるデータはFAIR公正であり可能な限りオープンで必要な限り非公開とすべき
- **査読者の透明性、公正性、説明責任:**ピアレビューは透明性を担保し、査読者の貢献も認められること
- **研究は本質的な価値によって判断されるべき:** さまざまな量的・質的指標が提供され、使用されること

# Rapid publication models: growth of preprints

迅速な出版モデル:  
プレプリントの成長



AfricArXiv

ECS arXiv

LIS Scholarship Archive

E<sup>CO</sup>VO<sup>R</sup>XIV

LawArXiv

paleoRxiv

Ψ  
A X PsyArXiv

SOC  
ARXIV

SportRxiv

THESIS  
COMMONS

# F1000Research: Preprints + Journal-like model

# F1000リサーチ: プレプリント+ジャーナル的モデル

Submission and preprint-like stage  
Open Access

投稿とプレプリント的  
オープンアクセス



投稿

Article Submission

7 days  
average time  
to publication



Publication &  
Data Deposition  
出版と  
データ預託

Formal *invited* peer review  
Indexing in bibliographic databases

正式な招へいピアレ  
ビュー  
書誌情報データベース  
へのインデックス化



オープンピアレビュー  
とユーザーコメント

Open Peer Review  
& User Commenting



論文修正

Article Revision

Broad range of article types:  
広範な論文形式

Research Articles/研究論文

Data Notes/データ注釈

Software Tools/ソフトウェアツール

Methods Articles/方法論論文

Systematic Reviews etc/系統的レビュー

Data accessible  
データアクセス可能

Attention & usage  
metrics available

注目 & 利用指標もあり

Referees:査読者

Approved / 承認・受理



Approved with reservations /  
条件つき受理



Not approved / 掲載拒否



# Transparent peer review and discussion

## 透明性の高いピアレビューと議論

The screenshot displays the Wellcome Open Research interface for a method article. The article title is "A CRISPR/Cas9-based method and primer design tool for seamless genome editing in fission yeast". A red box highlights the text "[version 3; referees: 2 approved]". A central box shows three circular metrics: 14 days to 1st referee (median), 27 days to 2nd referee (median), and 34.5 days to indexed (median). On the right, the "Open Peer Review" section is circled in red, showing a "Referee Status" of two green checkmarks. Below this is a table of invited referees with columns for "Version(s)", "1", and "2". The table lists three versions: Version 3 (published 05 May 2017, status UPDATE), Version 2 (published 03 Jan 2017, status REVISED), and Version 1 (published 23 Nov 2016). Each version has a "read report" link with a green checkmark or a question mark. At the bottom of the review section, the names and affiliations of the referees are listed: Silke Hauf (Virginia Tech, USA), Damien Hermand (The University of Namur, Belgium), Carlo Yague-Sanz (The University of Namur, Belgium), and Olivier Finet (The University of Namur, Belgium). Links for "All reports (4)" and "Responses and comments (2)" are also visible.

Wellcome Open Research

METHOD ARTICLE

**UPDATE** A CRISPR/Cas9-based method and primer design tool for seamless genome editing in fission yeast

[version 3; referees: 2 approved]

Check for updates

METRICS

1722 VIEWS

473 DOWNLOADS

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Cite

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Open Peer Review

Referee Status: ✓✓

Version(s)	1	2
<b>UPDATE</b> Version 3 published 05 May 2017		
<b>REVISED</b> Version 2 published 03 Jan 2017	✓ read report	✓ read report
Version 1 published 23 Nov 2016	✓ read report	? read report

1 Silke Hauf, Virginia Tech, USA

2 Damien Hermand, The University of Namur, Belgium

Carlo Yague-Sanz, The University of Namur, Belgium

Olivier Finet, The University of Namur, Belgium

All reports (4), Responses and comments (2)

Wellcome Open Research

14 days to 1st referee (median)

27 days to 2nd referee (median)

34.5 days to indexed (median)

Abstract

In the fission yeast *S. pombe*, a selectable marker is used for gene deletions. This approach is based on homologous recombination between a selectable marker and a target sequence, which allows for seamless genome editing without integration of a selection marker or leaving any other genomic 'scars'. The published method involves manual design of the single guide RNA (sgRNA), and digestion of a large plasmid with a problematic restriction enzyme to clone the sgRNA. To increase the efficiency of this approach, we have established and optimized a PCR-based system to clone the sgRNA without restriction enzymes into a plasmid with a dominant *natMX6* (nourseothricin) selection marker. We also provide a web-tool, CRISPR4P, to support the design of the sgRNAs and the primers required for the entire process of seamless DNA deletion. Moreover, we report the preparation of G1-synchronized and cryopreserved *S. pombe* cells, which greatly increases the efficiency and speed for transformations, and may also facilitate standard gene manipulations. Applying this optimized CRISPR/Cas9-based approach, we have successfully deleted over 80 different non-coding RNA genes, which are generally lowly expressed, and



# Transparent peer review and discussion 透明性の高い ピアレビューと議論

Referee Report 05 Dec 2016

**Damien Hermand**, Namur Research College, The University of Namur, Namur, Belgium  
**Olivier Finet**, Namur Research College, The University of Namur, Namur, Belgium  
**Carlo Yague-Sanz**, Namur Research College, The University of Namur, Namur, Belgium

? Approved with Reservations

The implementation of the CRISPR/Cas9 system in fission yeast by the Zaratiegui laboratory created a large interest within the community and many laboratories have tried to set up the method with apparently low success. Therefore, the present work by the ... [Continue reading](#)

REPORT A CONCERN

Views  
96  
Cite

Author Response 03 Jan 2017

**Jürg Bahler**, Department of Genetics, Evolution and Environment, University College London, UK  
We thank the reviewers for their helpful and constructive comments. Below we provide a point-by-point response to the specific issues raised (pasted in italic).

◦ *In Figure 2, in*

... [Continue reading](#)

REPORT A CONCERN

+ Respond or Comment

Referee Report 05 Dec 2016

**Silke Hauf**, Department of Biological Sciences and Biocomplexity Institute, Virginia Tech, Blacksburg, VA, USA

✓ Approved

Rodriguez-Lopez and colleagues report improvements on CRISPR/Cas9-mediated genome editing in *S. pombe* (fission yeast). Their work builds on a previous paper by Jacobs, Zaratiegui *et al.* (2014). In this earlier paper, Jacobs *et al.* describe an expression vector for Cas9 ... [Continue reading](#)

REPORT A CONCERN

Views  
63  
Cite

Author Response 03 Jan 2017

**Jürg Bahler**, Department of Genetics, Evolution and Environment, University College London, UK  
We thank the reviewer for her helpful, constructive comments. Our response to the specific issues raised (pasted in italic) is presented below.

◦ *The authors change the auxotrophic selection*

... [Continue reading](#)

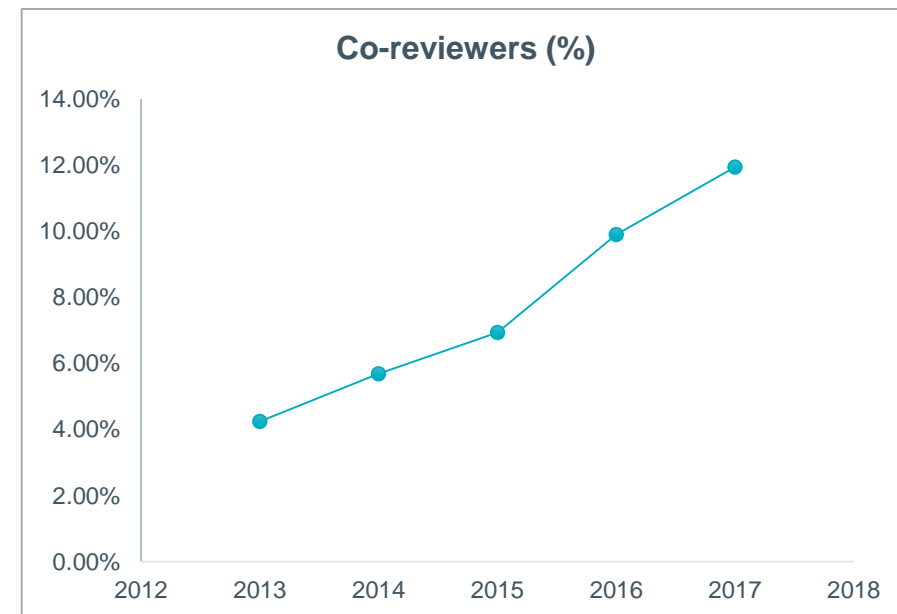
Reviewers:

→ get credit for contributing to discussion

21. Schwarzkopf S: Referee report for: Brain-to-brain (mind-to-mind) interaction at distance: a confirmatory study [v2; ref status: approved 1, not approved 1, <http://f1000r.es/4en>]. *F1000Res.* 2014; **3**: 182. [Publisher Full Text](#)

→ focus on helping authors improve their work

→ good training for Early Career Researchers



# Funder-/institution-controlled platforms 助成機関・研究機関ごとのプラットフォーム



Wellcome Open Research

W  
wellcome

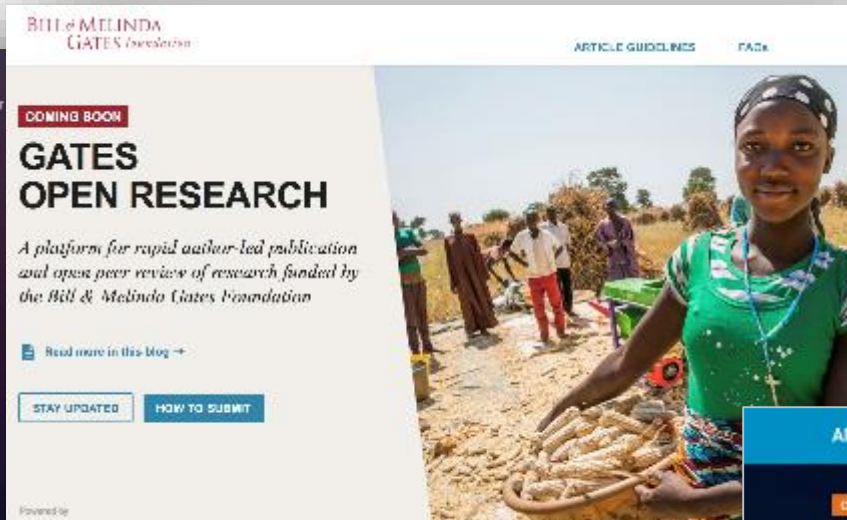
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- Evaluation of the Lumihex xTAG Respiratory Viral Panel FAST v2 assay to
- Geographic Plasmodium



BILL & MELINDA GATES Foundation

ARTICLE GUIDELINES PAGE

COMING SOON

## GATES OPEN RESEARCH

A platform for rapid author-led publication and open peer review of research funded by the Bill & Melinda Gates Foundation

[Read more in this blog →](#)

[STAY UPDATED](#) [HOW TO SUBMIT](#)

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Health Research Board

COMING SOON

## HRB Open Research

A platform for HTRB-funded researchers to publish their research outputs in an open and accessible way

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AAS Open Research

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## Immediate & Transparent Publishing

AAS Open Research is a platform for rapid publication and open peer review for researchers supported by AAS and programs supported through its funding platform, AESA.

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AMRC Open Research

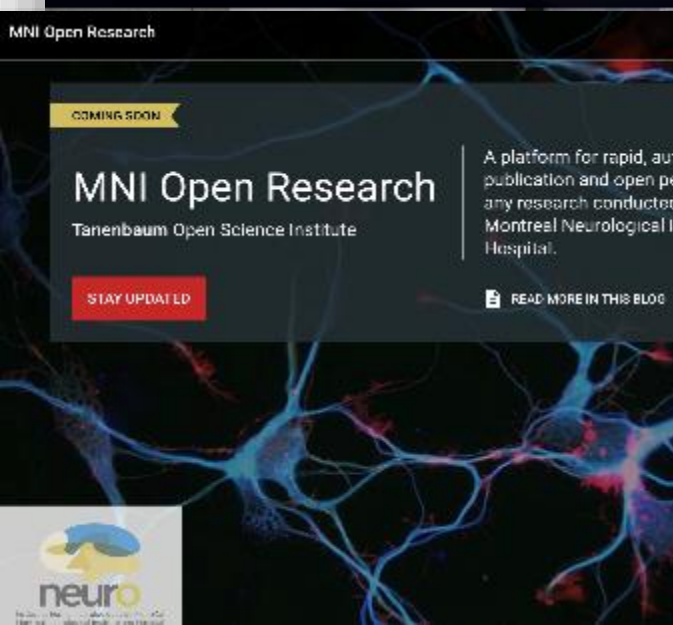
COMING SOON

## AMRC Open Research

A platform for rapid author-led publication and open peer review of research funded by AMRC member charities

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MNI Open Research

COMING SOON

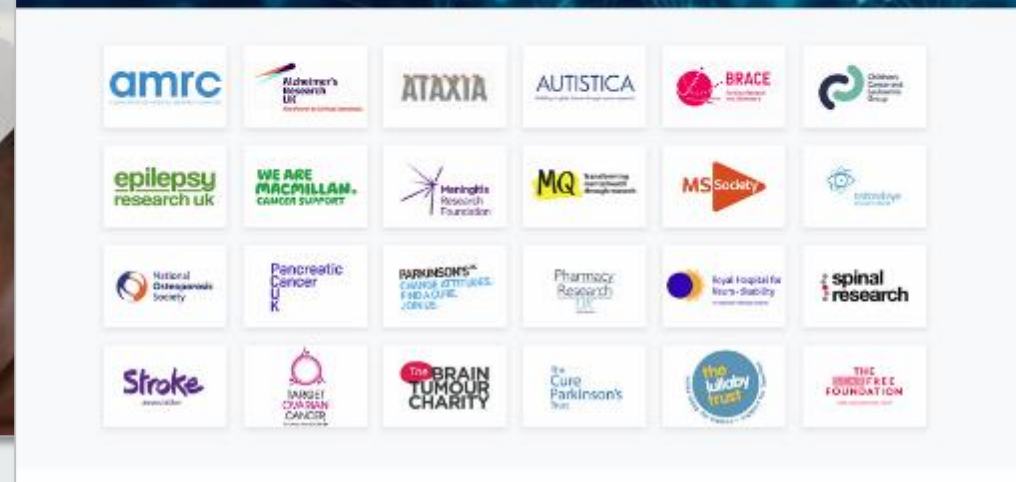
## MNI Open Research

Tanenbaum Open Science Institute

A platform for rapid, author-led publication and open peer review of any research conducted at Montreal Neurological Institute Hospital.

[STAY UPDATED](#) [READ MORE IN THIS BLOG →](#)

neuro



amrc	Alzheimer's Research UK	ATAXIA	AUTISTICA	BRACE	Children's Charities Group
epilepsy research uk	WE ARE MACPHILLAN. CANCER SUPPORT	Menings Research Foundation	MQ	MS Society	neuroscience
National Osteoporosis Society	Pancreatic Cancer UK	PARKINSON'S CANCER & STROKE FUNDING FORUM	Pharmacy Research	Royal Hospital for Neuro-Disability	spinal research
Stroke	THE BRISTOL CANCER CENTRE	THE BRAIN TUMOUR CHARITY	The Curo Parkinson's Team	The Lady's Trust	THE WELLS F&EE FOUNDATION

# Why do institutions and funders set these up?

- To **reduce research waste** – to provide a venue to enable researchers to share *all* their findings (in a Plan S-compliant way)
- To enable a **more holistic assessment** of their researchers' outputs
- To **reduce costs** (Wellcome's assessment shows 64% reduction in cost compared to what they pay to other Open Access publications)
- To **simplify the process** of publication for their researchers so they can spend more time doing the actual research
- To support efforts to shift their organisation to more **open knowledge practices**
- **Fully customizable and controlled by the organisation**

## 助成機関・研究機関にとってのメリット

- 研究の無駄を減らす：研究者がすべての研究成果を公開できる場所を提供（Plan Sにも対応）
- 研究者の成果のより包括的な評価を可能にする
- コストを削減する（ウェルカム財団の評価では、他のオープンアクセス出版に支払うのと比較して64%のコスト削減）
- 研究者にとって出版のプロセスを簡素化—それにより実際の研究時間を確保
- 機関をオープンナレッジの実践へと移行を促す
- 機関のニーズに合わせて完全カスタマイズ、機関単位でマネージ可能



# Launched Nov 2016

2016年11月スタート

Wellcome Open Research



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BLOG

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# Progress after 2 years

# 2年後の進展



## Speed

Median time from submission to publication



Median time to passing peer review



## Research outputs



## Top article types





# Wellcome-attributed articles published in

ウェルカム財団の資金を得た  
研究成果論文の投稿先の変化

2018

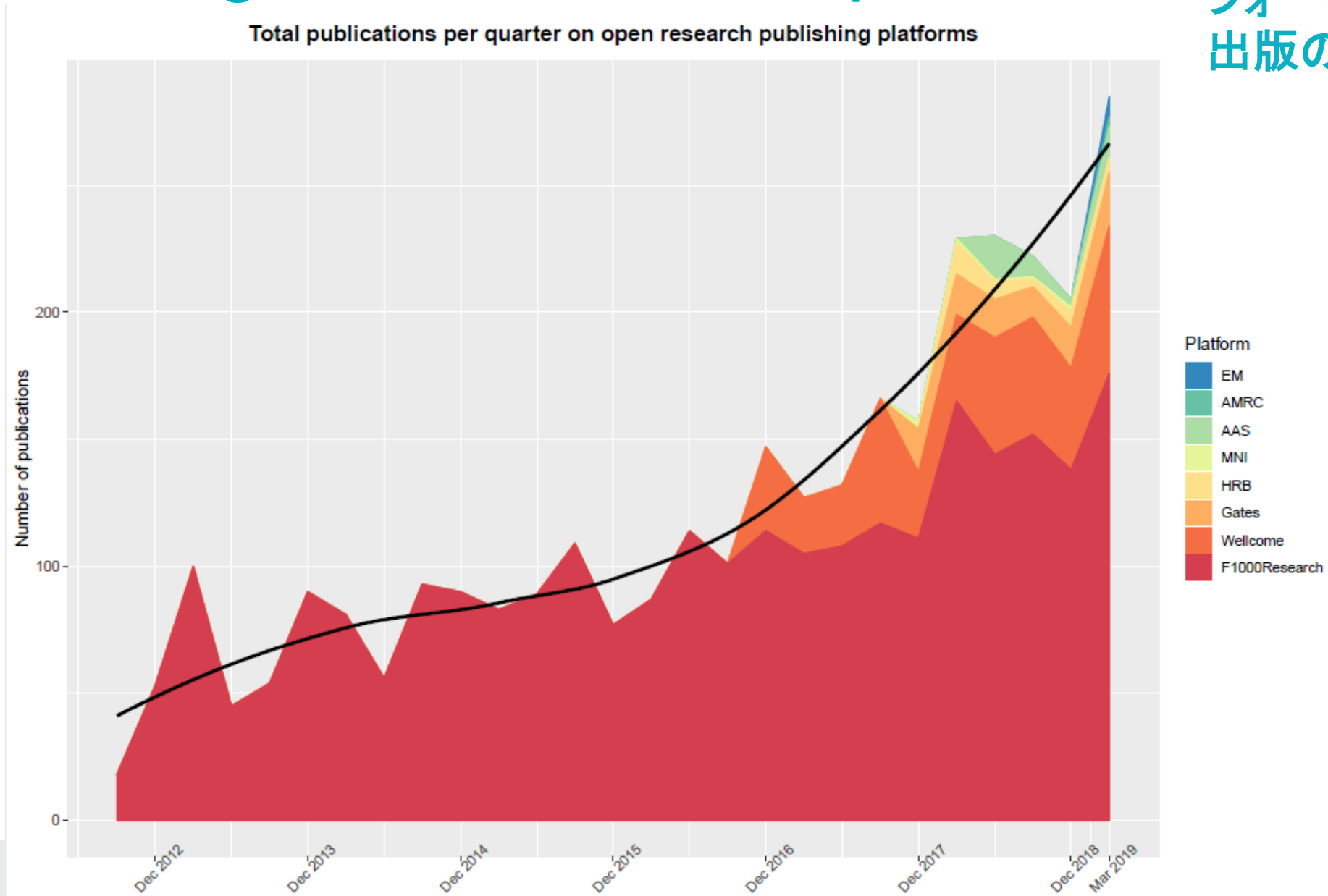
1	Scientific Reports	<a href="#">248</a>
2	Nature Communications	<a href="#">238</a>
3	Plos One	<a href="#">212</a>
4	Wellcome Open Research	<a href="#">166</a>
5	eLife	<a href="#">101</a>
6	PNAS	<a href="#">97</a>
7	Frontiers in Immunology	<a href="#">83</a>
8	Cell Reports	<a href="#">73</a>
9	BMJ Open	<a href="#">67</a>
10	Nucleic Acids Research	<a href="#">64</a>

Jan-Apr 2019

1	Scientific Reports	<a href="#">99</a>
2	Nature Communications	<a href="#">76</a>
3	Wellcome Open Research	74
4	Plos One	<a href="#">40</a>
5	eLife	<a href="#">34</a>
6	PNAS	<a href="#">30</a>
7	Nucleic Acids Research	<a href="#">28</a>
8	Cell Reports	<a href="#">23</a>
9	BMJ Open	<a href="#">21</a>
10	Frontiers in Immunology	<a href="#">16</a>

# Publication growth across the platforms

各種プラットフォームにおける出版の伸び



# Breadth of topics

トピックの広がり

## ECONOMICS

### Gates Open Research

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RESEARCH ARTICLE EDIT VERSION

Modelling credit and savings behaviour of chit fund participants [version 1; referees: 1 approved, 1 approved with reservation]

Praethi Rao, Sharon Buteau

Author details

## SCIENCE POLICY

### F1000Research

Open for Science

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RESEARCH ARTICLE EDIT VERSION

Turning the tables: A university league-table based on quality not quantity [version 1; peer review: 1 approved]

Adrian G. Barnett, David Moher

Author details

## AGRICULTURE

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RESEARCH ARTICLE EDIT VERSION

Optimization of nutrient media for sweetpotato (*Ipomoea batatas* L.) vine multiplication in sandponics: Unlocking the adoption and utilization of improved varieties [version 1; referees: 1 approved]

Phabian Makokha, Lexa G. Matasyoh, Reuben T. Ssali, Oliver K. Kiplagat, Bramwel W. Wanjala, Jan Low

75 VIEWS

14 DOWNLOADS

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## EDUCATION

### Wellcome Open Research

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RESEARCH ARTICLE

Stage 2 Registered Report: There is no appreciable relationship between strength of hand preference and language ability in 6- to 7-year-old children [version 1; peer review: awaiting peer review]

Verena E. Pritchard, Stephanie A. Malone, Dorothy V.M. Bishop, Charles Hulme

Check for updates

METRICS

155 VIEWS

## TOWN PLANNING / CLIMATE CHANGE

### Emerald Open Research

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OPINION ARTICLE EDIT VERSION

Reconnecting with nature: Developing urban spaces in the age of climate change [version 1; peer review: 2 approved]

Steffen Le

Author details

Check for updates

METRICS

680 VIEWS

77 DOWNLOADS

## ENERGY

### Gates Open Research

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RESEARCH NOTE EDIT VERSION

Improving energy efficiency of electrochemical blackwater disinfection through sequential reduction of suspended solids and chemical oxygen demand [version 2; referees: 2 approved]

Brian T. Hawkins, Tale W. Rogers, Christopher J. Davey, Mikayla H. Stoner, Ewan J. McAdam, Brian R. Stoner

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METRICS

403 VIEWS

48 DOWNLOADS

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## SOCIOLOGY

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RESEARCH ARTICLE EDIT VERSION

Trends and factors associated with child marriage in four Asian countries [version 1; peer review: 1 approved]

Kerry L. D. MacQuarrie, Christina Juan

Author details

Check for updates

# Central repository

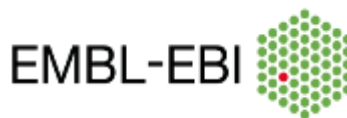
## 中心のリポジトリ

Open Research Central (ORC):

- Not-for-profit organisation
- Will be an Open source repository
- For all research outputs published according to a set for open research publishing
- Directed by ORC Board comprising research funders and stakeholders

オープンリサーチセントラル(ORC):

- 非営利組織
- オープンソースリポジトリ
- オープンリサーチ出版に従うあらゆる研究成果出版に対応
- 助成機関とステイクホルダーからなるORC委員会が主導





# Indicators & tools to support research assessment

研究評価をサポートする  
指標とツール



# Range of outputs and associated metrics

さまざまな成果とそれに  
連動した指標

**F1000Research**  
Open for Science

BROWSE GATEWAYS HOW TO PUBLISH ABOUT

RESEARCH ARTICLE [EDIT VERSION](#)

## A reanalysis of mouse ENCODE comparative gene expression data [version 1; referees: 3 approved with reservations]

Yoav Gilad, Orna Mizrahi-Man

### METRICS

VIEWS	DOWNLOADS
26018	2502

CITATIONS  
PubMed 21

Blogged by 11  
Mentioned in 3 Google+ posts  
On 3 Facebook pages  
Picked up by 2 news outlets  
Tweeted by 278

### Open Peer Review

Referee Status: ? ✓ ✓ ✓

Version(s)	Invited Referees			
	1	2	3	4
Version 1 published 19 May 2015	? read report	✓ read report	✓ read report	✓ read report

- Rafael Irizarry, Harvard School of Public Health, USA
- Michael Eisen, University of California, Berkeley, USA
- Mick Watson, University of Edinburgh, UK
- Lior Pachter, University of California, Berkeley, USA

All reports (4), Responses and comments (1)

### Comments on this article

All comments (33)  
[Add a Comment](#)

All comments (33)

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Tracking  
Email  
Share

## Data availability

All data are available from the Mouse ENCODE consortium; see [Table S1](#) for specific source URLs and accession numbers.

## Software availability

We provide supplementary files of the python codes used to process and prepare the data for analysis with R, and the data files for the python codes. We also provide the R codes we used to perform the different analyses as supplementary files, as well as the input for the R codes.

## Archived software files as at the time of publication

Zenodo. Data files and codes used in the reanalysis of the mouse encode comparative gene expression data. DOI: [10.5281/zenodo.17606](https://doi.org/10.5281/zenodo.17606)

## License

These codes are provided under the MIT license.

# Article-level metrics

## 論文レベルの指標






**Leishmaniasis Worldwide and Global Estimates of Its Incidence**  
Jorge Alvar, Iván D. Vélez, Caryn Bern, Mercé Herrero, Philippe Desjeux, Jorge Cano, Jean Jannin, Margriet den Boer, ...

Viewed ?



		HTML Page Views	PDF Downloads	XML Downloads	Totals
Total Article Views <b>104,026</b> May 31, 2012 (publication date) through May 12, 2019 *	PLOS	70,783	14,899	258	85,940
	PMC	13,377	4,709	n.a.	18,086
	Totals	84,160	19,608	258	104,026

23.30 % of article views led to PDF downloads





Cited ?

 2128	 1884	 23	 493	 Search
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Saved ?

 1	 1441
--	---

Discussed ?

 1	 12	 1	 1
--	---	--	--

Valuing the output itself

成果そのものの評価

Valuing broader output types

より広範な成果の形態を評価

Using broad range of indicators

広範な指標を利用

Change rewards and incentives system

報酬とインセンティブのシステムを変更

# CrediT: from authorship to contributorship

# CrediT: 著者性から貢献度へ

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RESEARCH ARTICLE

**REVISED** The age of heterozygous *telomerase* mutant parents influences the adult phenotype of their offspring irrespective of genotype in zebrafish [version 2; referees: 2 approved]

Catherine M. Scahill<sup>1</sup>, Zsafia Digby<sup>1,2</sup>, Ian M. Sealy<sup>1</sup>, Richard J. White<sup>1</sup>, Neha Wali<sup>1</sup>, John E. Collins<sup>1</sup>, Derek L. Stemple<sup>1</sup>, Elisabeth M. Busch-Nentwich<sup>1,3</sup>

**Open Peer Review**

Referee Status: ✓✓

Version(s)	1	2
<b>REVISED</b> Version 2 published 22 Feb 2018	need report	need report
Version 1 published 04 Sep 2017	read report	read report

1 Noriyoshi Sakai<sup>1</sup>, National Institute of Genetics, Japan  
2 Karl-Lenhard Rudolph, Leibniz Institute For Age Research, Germany

All reports (4), Responses and comments (2)

**Comments on this article**

All comments (0)  
Add a Comment

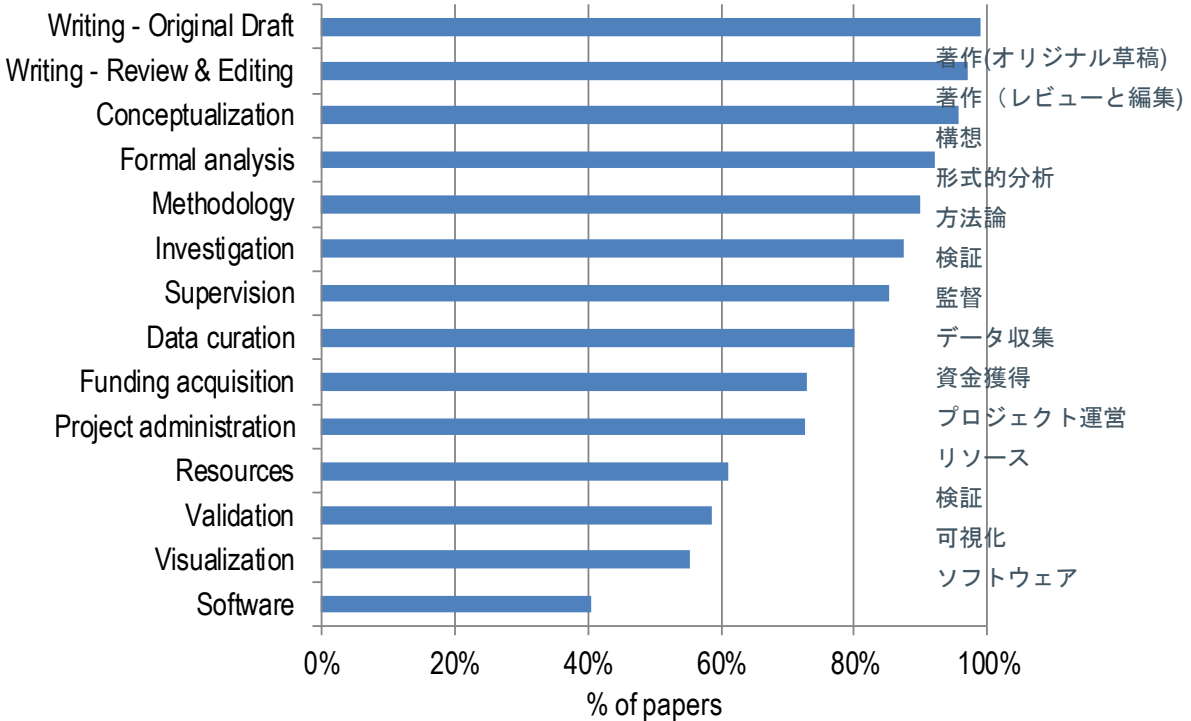
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**Author Roles (highlighted in red box):**

- Catherine M. Scahill: Roles: Conceptualization, Investigation, Visualization, Writing - Original Draft Preparation, Writing - Review & Editing
- Zsafia Digby: Roles: Investigation, Visualization
- Ian M. Sealy: Roles: Data Curation, Formal Analysis, Visualization
- Richard J. White: Roles: Data Curation, Formal Analysis, Visualization
- Neha Wali: Roles: Investigation
- John E. Collins: Roles: Conceptualization
- Derek L. Stemple: Roles: Funding Acquisition, Resources
- Elisabeth M. Busch-Nentwich: Roles: Conceptualization, Funding Acquisition, Resources, Supervision, Writing - Original Draft Preparation, Writing - Review & Editing

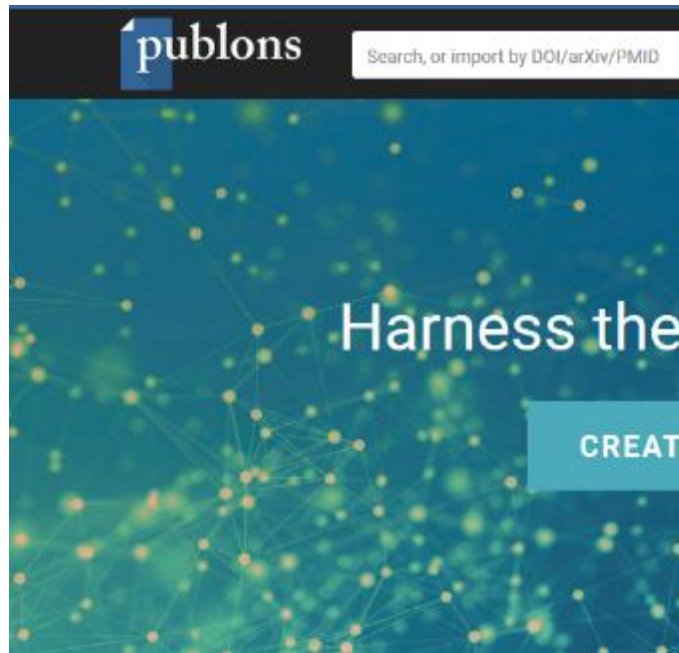
% PLOS papers with specific CRediT role (out of >15,000 articles)



Vincent Larivière, Cassidy Sugimoto, preliminary results

# Recognising Peer Review

## ピアレビュー行為の評価

The screenshot shows the ORCID iD profile for Mitchell Bekritsky. The profile includes the ORCID logo, the name "Mitchell Bekritsky", and the ORCID ID "0000-0003-1420-1172". The profile is categorized as "United Kingdom". The "Peer review (1)" section is expanded, showing a review activity for F1000Research(1) journal. The review details are as follows:

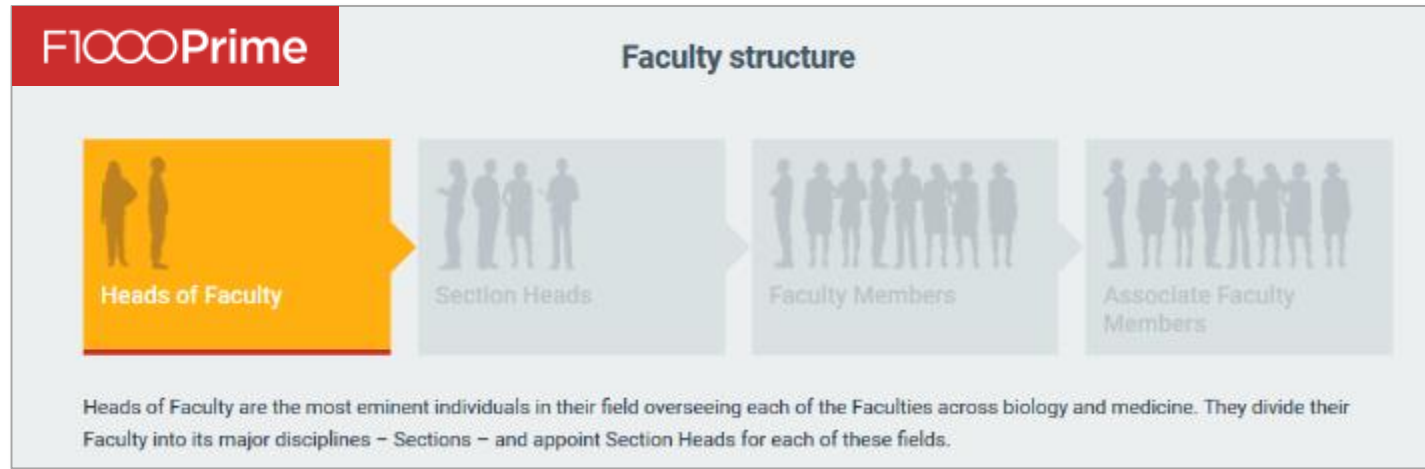
Review date	Type	Role	Actions
2017-10	review	reviewer	<a href="#">hide details</a>   <a href="#">view</a>

Review identifier(s): DOI: 10.5256/f1000research.13552.r26608  
Convening organization: F1000Research(London, United Kingdom)  
Review subject: Tools for annotation and comparison of structural variation [version 1; referees: 1 approved, 1 approved with reservations] journal-article F1000Research.  
DOI: 10.12688/f1000research.12516.1  
Source: F1000  
Created: 2017-10-16

# F1000Prime

## F1000Prime: 論文ベースの専門家評価

### – article-based expert assessment



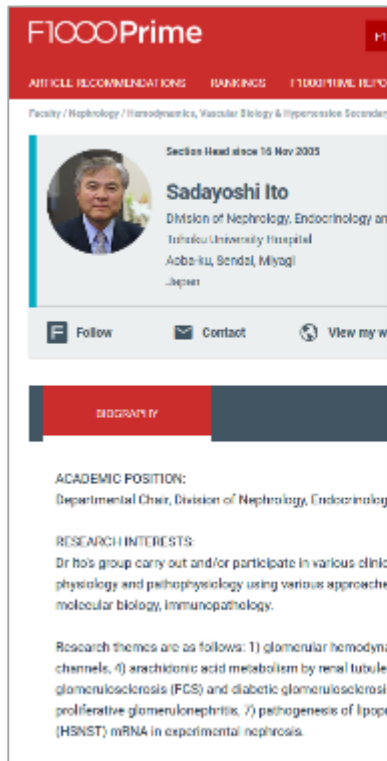
- Over 8000 experts across biology and medicine
  - Faculty include 10 Nobel Laureates, 16 Lasker Award winners, >150 NAS members, etc
  - >200,000 recommendations, across >4000 journals
  - Now adding Physics and other fields
- 生物学と医学において、8000人以上の専門家が参加
  - ノーベル賞受賞者10名、ラスカー賞受賞者16名、NASメンバー150名以上を含む
  - 4000以上のジャーナルの20万本以上の論文が推薦される
  - 物理学その他の分野も開始予定

Anesthesiology & Pain Management	Biochemistry	Bioinformatics, Biomedical Informatics & Computational Biology	Biotechnology
Cancer Biology	Cardiovascular Biology	Cardiovascular Disorders	Cell Biology
Chemical Biology	Critical Care & Emergency Medicine	Dermatology	Developmental Biology
Diabetes & Endocrinology	Ecology	Evolutionary Biology	Gastroenterology & Hepatology
Gastrointestinal Biology	Genomics & Genetics	Hematology	Immunology
Infectious Diseases	Metabolic & Endocrine Science	Microbiology	Molecular Biology
Molecular Medicine	Nephrology	Neurological Disorders	Neuroscience
Obstetrics, Gynecology & Women's Health	Oncology	Ophthalmology	Otolaryngology
Pharmacology & Drug Discovery	Physiology	Plant Biology	Psychiatry
Public Health & Epidemiology	Renal Biology	Research Methodology	Respiratory Biology
Respiratory Disorders	Rheumatology & Clinical Immunology	Structural Biology	Urology



# Example F1000 Faculty

## F1000Facultyの例



**F1000Prime** F1000 Faculty

ARTICLE RECOMMENDATIONS RANKINGS F1000PRIME REPORTS F1000 FACULTY BLOG

Faculty / Nephrology / Hemodynamics, Vascular Biology & Hypertension Secondary

Section Head since 16 Nov 2005

**Sadayoshi Ito**  
Division of Nephrology, Endocrinology and  
Tobacco University Hospital  
Aoba-ku, Sendai, Miyagi  
Japan

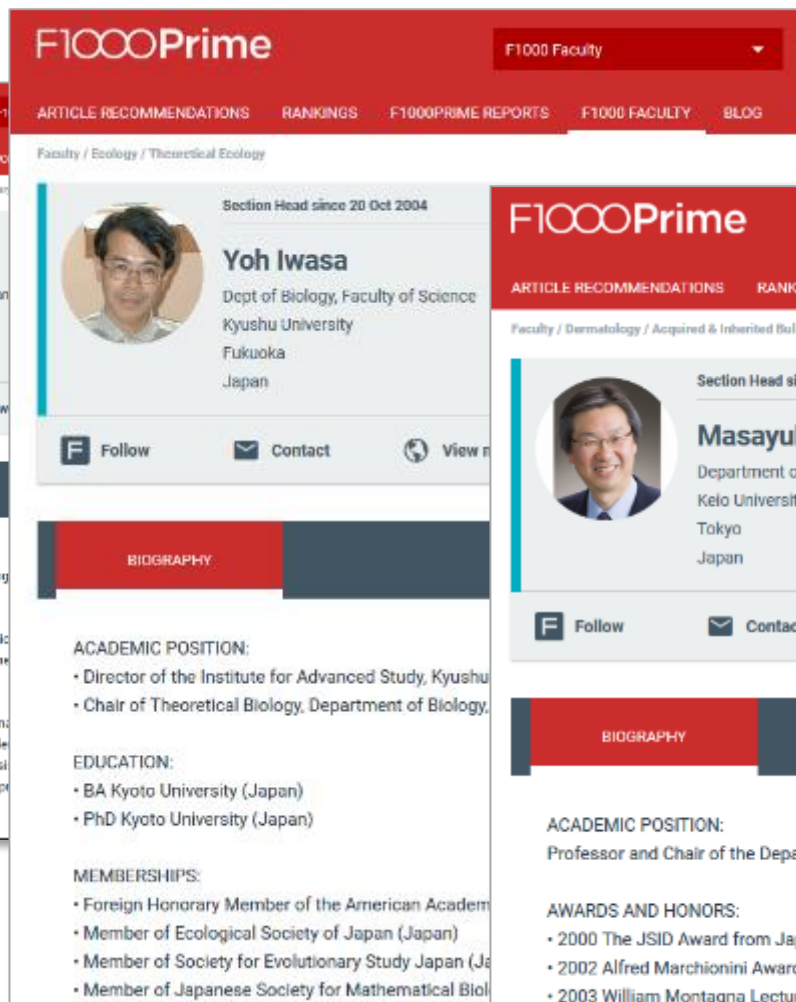
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**BIOGRAPHY**

**ACADEMIC POSITION:**  
Departmental Chair, Division of Nephrology, Endocrinology and Tobacco University Hospital, Sendai, Japan.

**RESEARCH INTERESTS:**  
Dr Ito's group carry out and/or participate in various clinic physiology and pathophysiology using various approaches: molecular biology, immunopathology.

Research themes are as follows: 1) glomerular hemodynamic channels, 2) arachidonic acid metabolism by renal tubule glomerulosclerosis (FGS) and diabetic glomerulosclerosis proliferative glomerulonephritis, 3) pathogenesis of IgA nephropathy (HSN1) mRNA in experimental nephrosis.



**F1000Prime** F1000 Faculty

ARTICLE RECOMMENDATIONS RANKINGS F1000PRIME REPORTS F1000 FACULTY BLOG

Faculty / Ecology / Theoretical Ecology

Section Head since 20 Oct 2004

**Yoh Iwasa**  
Dept of Biology, Faculty of Science  
Kyushu University  
Fukuoka  
Japan

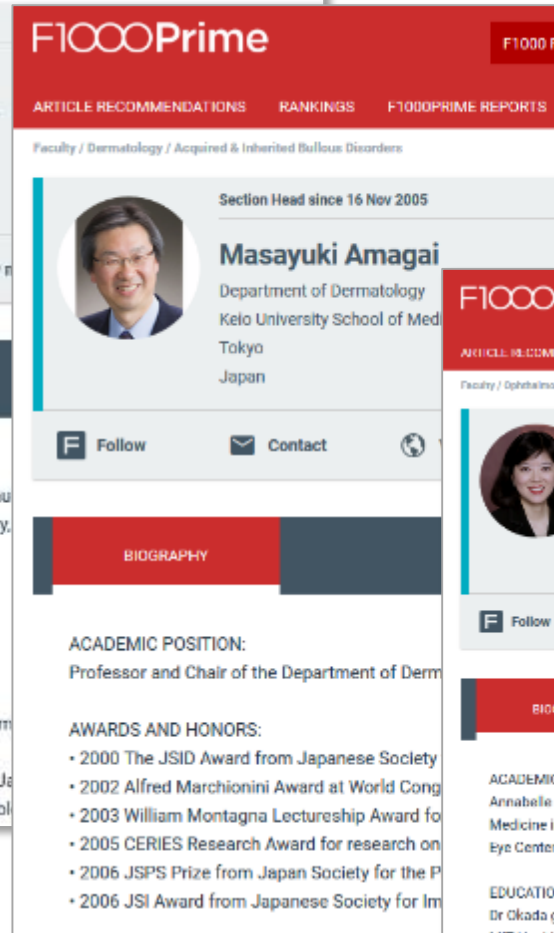
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**BIOGRAPHY**

**ACADEMIC POSITION:**  
• Director of the Institute for Advanced Study, Kyushu University  
• Chair of Theoretical Biology, Department of Biology, Kyushu University

**EDUCATION:**  
• BA Kyoto University (Japan)  
• PhD Kyoto University (Japan)

**MEMBERSHIPS:**  
• Foreign Honorary Member of the American Academy of Naturalists  
• Member of Ecological Society of Japan (Japan)  
• Member of Society for Evolutionary Study Japan (Japan)  
• Member of Japanese Society for Mathematical Biology



**F1000Prime** F1000 Faculty

ARTICLE RECOMMENDATIONS RANKINGS F1000PRIME REPORTS

Faculty / Dermatology / Acquired & Inherited Bullous Disorders

Section Head since 16 Nov 2005

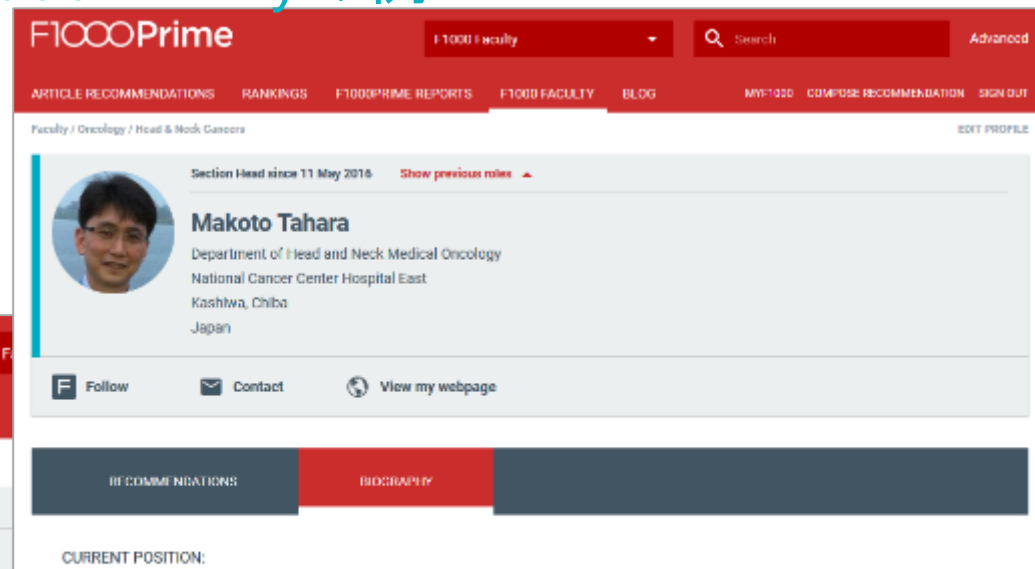
**Masayuki Amagai**  
Department of Dermatology  
Kelo University School of Medicine  
Tokyo  
Japan

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**BIOGRAPHY**

**ACADEMIC POSITION:**  
Professor and Chair of the Department of Dermatology, Kelo University School of Medicine, Tokyo, Japan.

**AWARDS AND HONORS:**  
• 2000 The JSID Award from Japanese Society for Immunodermatology  
• 2002 Alfred Marchionini Award at World Congress of Dermatology  
• 2003 William Montagna Lectureship Award from the American Society for Dermatopathology  
• 2005 CERES Research Award for research on the pathogenesis of pemphigus vulgaris  
• 2006 JSPS Prize from Japan Society for the Promotion of Science  
• 2006 JSI Award from Japanese Society for Immunodermatology



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Faculty / Oncology / Head & Neck Cancers

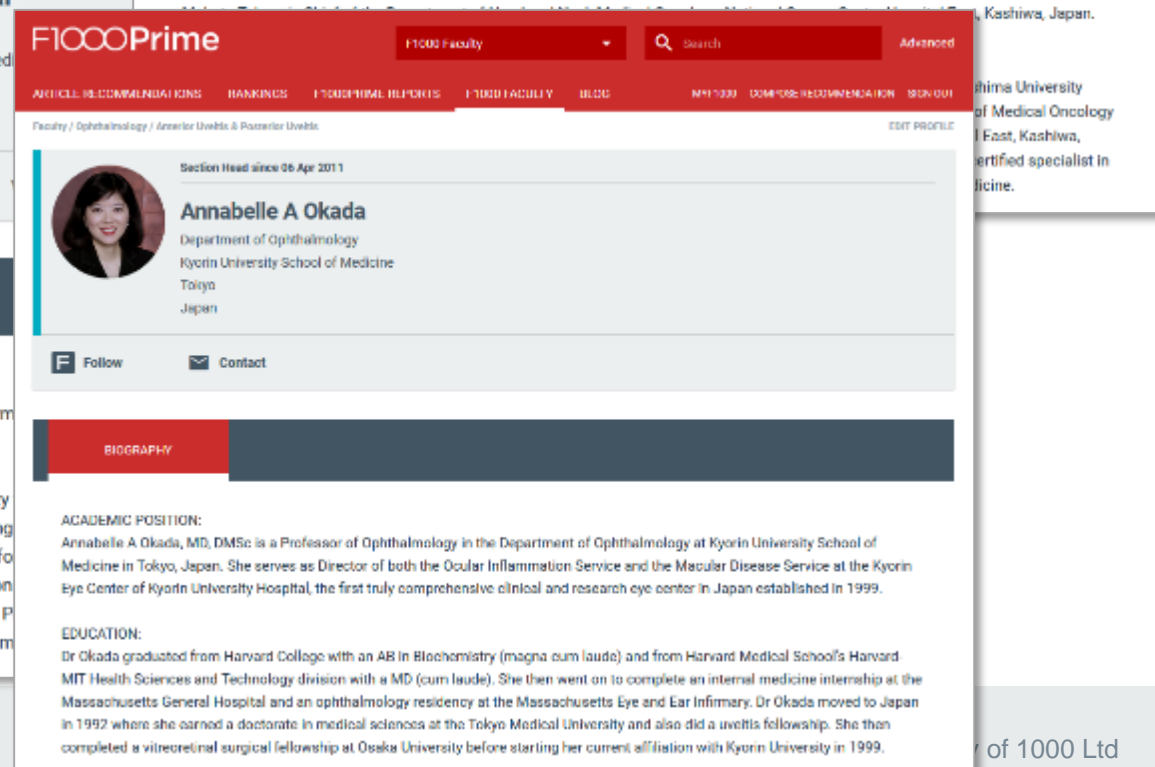
Section Head since 11 May 2016 Show previous roles

**Makoto Tahara**  
Department of Head and Neck Medical Oncology  
National Cancer Center Hospital East  
Kashiwa, Chiba  
Japan

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**BIOGRAPHY**

**ACADEMIC POSITION:**  
Professor and Section Head of the Department of Head and Neck Medical Oncology, National Cancer Center Hospital East, Kashiwa, Japan.



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Faculty / Ophthalmology / Anterior Uveitis & Posterior Uveitis

Section Head since 06 Apr 2011

**Annabelle A Okada**  
Department of Ophthalmology  
Kyorin University School of Medicine  
Tokyo  
Japan

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**BIOGRAPHY**

**ACADEMIC POSITION:**  
Annabelle A Okada, MD, DMSc is a Professor of Ophthalmology in the Department of Ophthalmology at Kyorin University School of Medicine in Tokyo, Japan. She serves as Director of both the Ocular Inflammation Service and the Macular Disease Service at the Kyorin Eye Center of Kyorin University Hospital, the first truly comprehensive clinical and research eye center in Japan established in 1999.

**EDUCATION:**  
Dr Okada graduated from Harvard College with an AB in Biochemistry (magna cum laude) and from Harvard Medical School's Harvard MIT Health Sciences and Technology division with a MD (cum laude). She then went on to complete an internal medicine internship at the Massachusetts General Hospital and an ophthalmology residency at the Massachusetts Eye and Ear Infirmary. Dr Okada moved to Japan in 1992 where she earned a doctorate in medical sciences at the Tokyo Medical University and also did a uveitis fellowship. She then completed a vitreoretinal surgical fellowship at Osaka University before starting her current affiliation with Kyorin University in 1999.

5 Recommendations

New Finding

- Classified as
- New Finding 4
- Interesting Hypothesis 3
- Novel Drug Target 3
- Good for Teaching 2
- Confirmation 1

# Coupling of bone resorption and formation by RANKL reverse signalling.

Ikebuchi Y Aoki S Honma M Hayashi Y Kato G Tabata Y Penninger JM Udagawa N

Aoki K Suzuki H Author affiliations

PUBLISHED: 2018 09 CITE AS: Nature. 2018 09; 561(7722):195-200 <https://doi.org/10.1038/s41586-018-0482-7>

RECOMMENDATIONS ABSTRACT COMMENTS

Rated ★★★ Exceptional

25 Sep 2018 EDIT



**Subburaman Mohan** F1000 Faculty Member

Physiology / Endocrinology

Loma Linda VA Healthcare Systems  
Loma Linda, CA  
USA

Classified as

- Interesting Hypothesis
- New Finding
- Novel Drug Target
- Good for Teaching

The importance of coupling of bone formation to resorption in the maintenance of bone homeostasis has been well established for over three decades. Under conditions of metabolic bone disease or menopausal bone loss, the rate of resorption is greater than the

More

Rated ★★ Very Good

05 Oct 2018 EDIT



**Alvin M Matsumoto** F1000 Faculty Member

Pharmacology & Drug Discovery / Endocrine & Metabolic Pharmacology

University of Washington School of Medicine  
Seattle, WA  
USA

## Recommend this article



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### Relevant Sections

Obstetrics, Gynecology & Women's Health  
Menopause & Post-Reproductive Women's Health

Pharmacology & Drug Discovery  
Endocrine & Metabolic Pharmacology  
Musculoskeletal Pharmacology

### Online attention

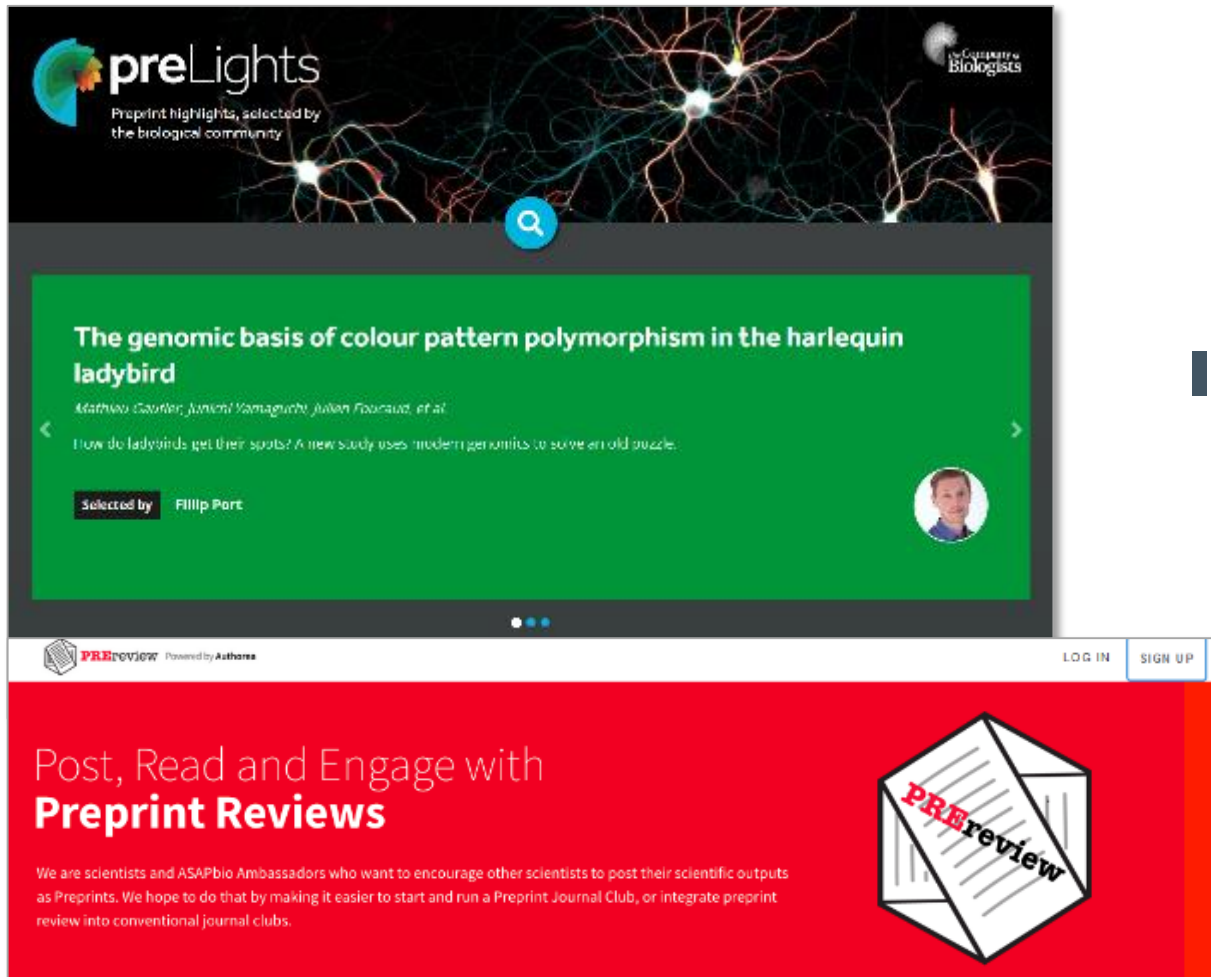


Altmetric score (what's this?)

- Tweeted by 78
- On 1 Facebook pages
- Picked up by 2 news outlets
- 5 F1000
- 112 readers on Mendeley

# Other indicators of quality being developed

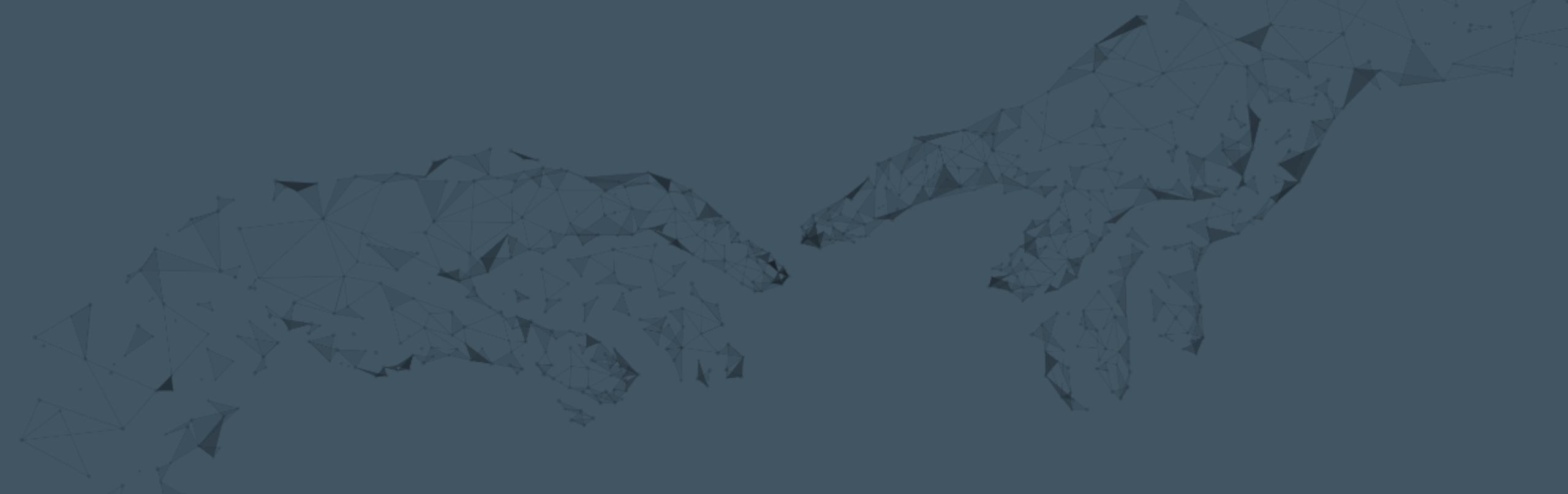
## その他質的評価指標も開発中



The screenshot shows the preLights website interface. At the top, there's a navigation bar with the preLights logo and the text "Preprint highlights, selected by the biological community". Below this, a featured preprint is displayed with a green background. The title is "The genomic basis of colour pattern polymorphism in the harlequin ladybird" by Mathieu Jaurin, Junichi Yamaguchi, Julien Foucaud, et al. The text below the title reads "How do ladybirds get their spots? A new study uses 'modern genomics' to solve an old puzzle." It is selected by Philipp Port, whose profile picture is shown. At the bottom of the screenshot, there's a red banner for PreReview, which says "Post, Read and Engage with Preprint Reviews" and includes a logo for PreReview. The banner text continues: "We are scientists and ASAPbio Ambassadors who want to encourage other scientists to post their scientific outputs as Preprints. We hope to do that by making it easier to start and run a Preprint Journal Club, or integrate preprint review into conventional journal clubs."

- **Expert recommendations** (e.g. F1000Prime, PreLights, PreReview, Research Highlights)
- **Journals & societies** could move from publishing new findings to instead providing curation across all published findings (not just what is sent to them)

- **専門家の推薦** (F1000Primeのほかにも、PreLights, PreReview, Research Highlights など)
- **ジャーナルと学会は** 新たな成果を出版するのではなく、すでに出版された成果 (単に彼らが受け取ったものではなく) を整理、提供すべき。



# | Summary

# Summary



- **The tools and technologies exist** to resolve many issues with the traditional way of communicating new discoveries
- Little will change unless we **tackle the rewards & incentives structure** head-on
- Researchers should be able to **communicate all types of new findings** when ready
- **New models exist** and have been thoroughly tested to enable a better way of communicating research
- **Publishers should shift from gatekeepers to service providers**
- **Research funders, governments and institutions are crucial** to embracing and enabling researchers to change to such a system
- 新たな発見を伝えるための伝統的な方法にともなう多くの問題を解決できる、ツールと技術が存在。
- 報酬とインセンティブの構造に真正面から取り組まなければ、何も変わらない。
- 研究者が、いつでもあらゆる形の新たな成果を伝えることができるように
- 新たなモデルは存在。研究を伝えるためのより良い手段となるべく十分に試されてきている。
- 出版社は、門番ではなくサービス提供者となるべき。
- 助成機関、政府、研究機関は、そのようなシステムへと変えられるよう研究者を尊重し、支援することが肝要



# Questions?

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