



# The significance of preprints and evolving models of peer review

Summer Seminar on Research Integrity

25 August 2021

Michael Willis

WILEY

# About me

- Humanities education
- Peer review
- Research Advocate



# Today's outline

- Context
- The impact of Covid-19
- Three factors
- Preprints and emerging developments
- Peer review and emerging developments
- The future



# Speed and progress



## ! COVID-19 entry restrictions for the Netherlands

Before you travel, [check the 'Entry requirements' section](#) for the Netherlands' current entry restrictions and requirements. These may change with little warning. Monitor this advice for the latest updates and stay in contact with your travel provider.

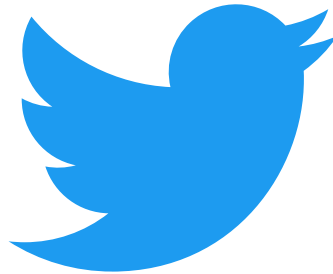
## ! Returning to the UK

Netherlands is on the [amber list for entering England](#). Check what you must do to [enter England, Scotland, Wales or Northern Ireland](#).



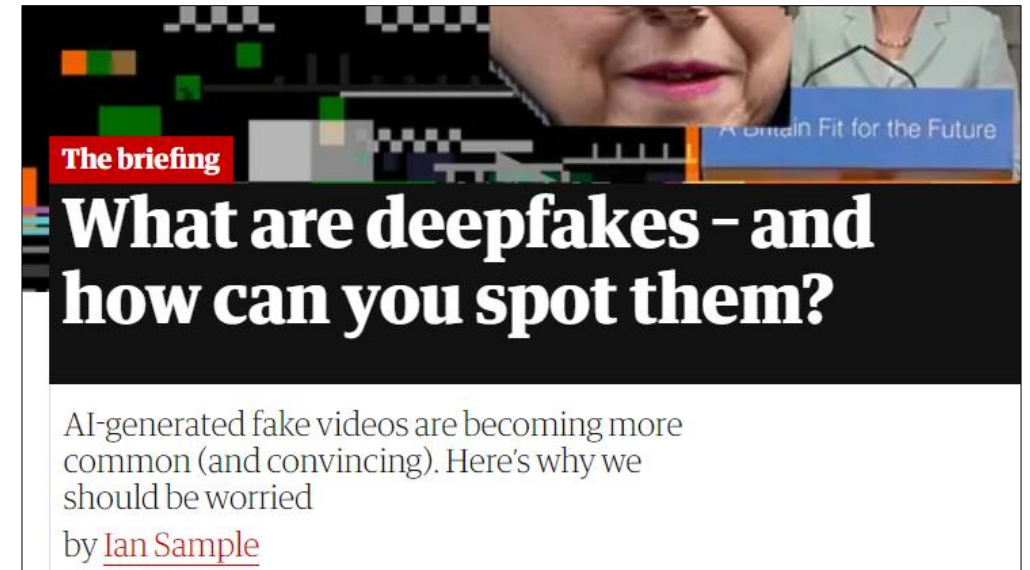
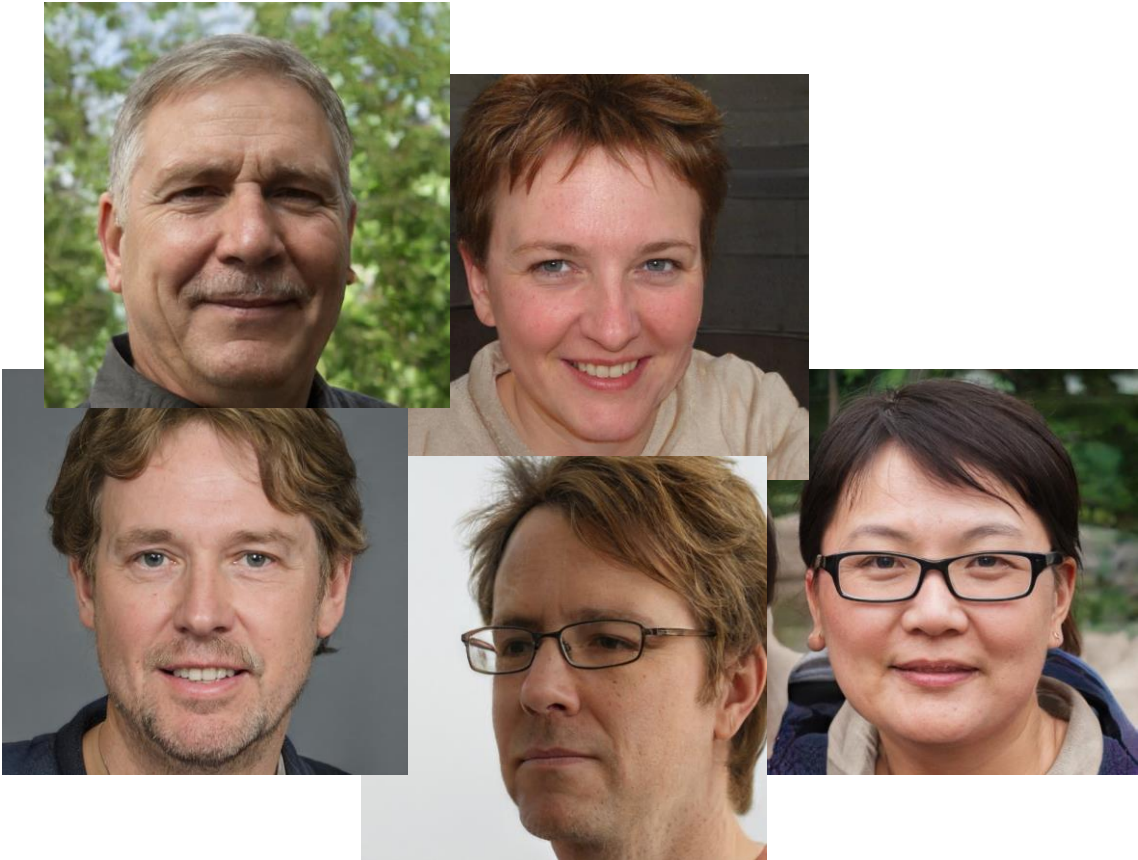
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# 1. An impatient society



## 2. Questioning truth

<https://www.thispersondoesnotexist.com>



### 3. The push for openness



**NHS Health Research Authority**

Home > Planning and improving research > Policies, Standards & Legislation > Research Transparency >

## Make it Public: transparency and openness in health and social care research

Last updated on 3 Sep 2020

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### Public Sector Transparency and the International Investor

OECD

**Exclusive**

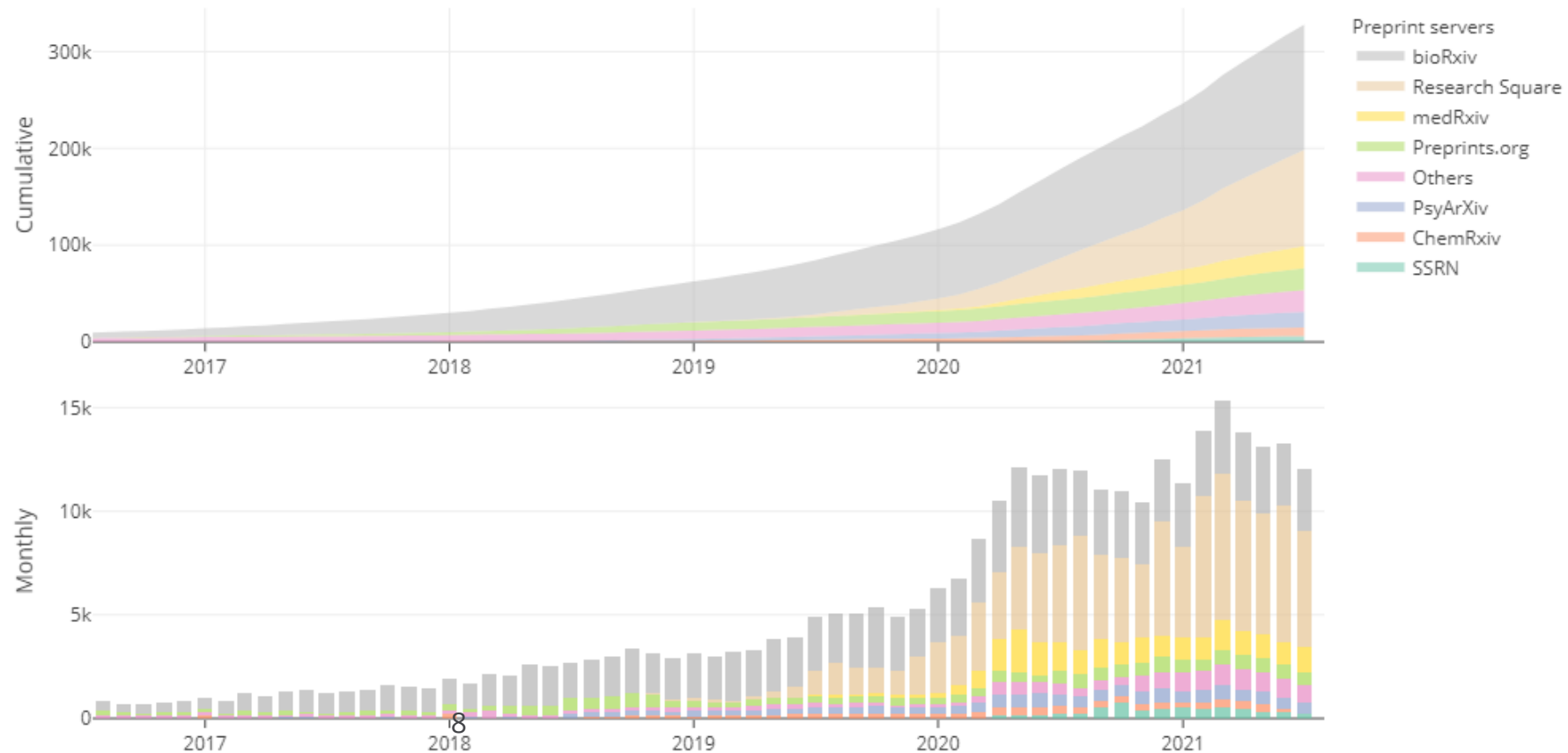
### UK government censured for a lack of transparency and accountability

The Open Government Partnership says the government failed to live up to its pledges to improve transparency and accountability.

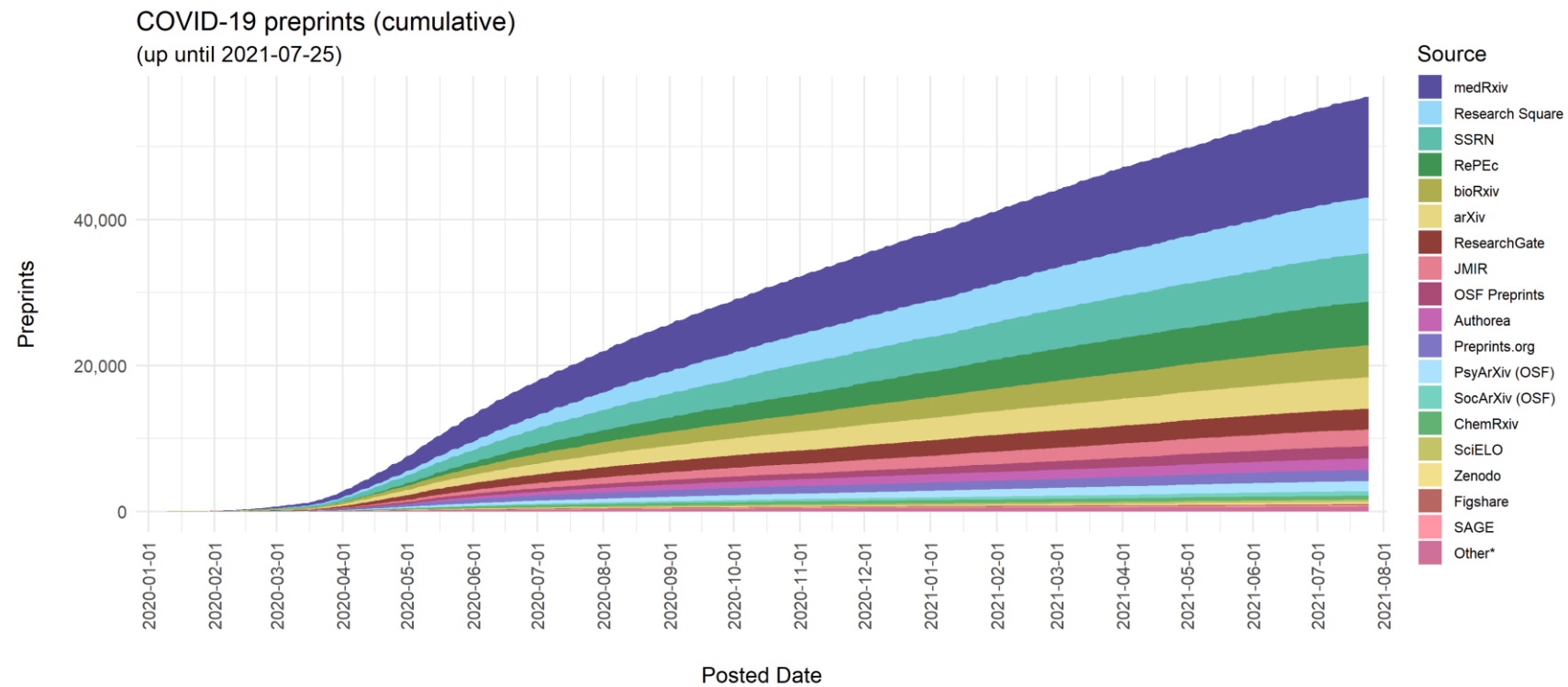
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<https://dx.doi.org/10.31222/osf.io/ezfsk>

<https://europepmc.org/Preprints>



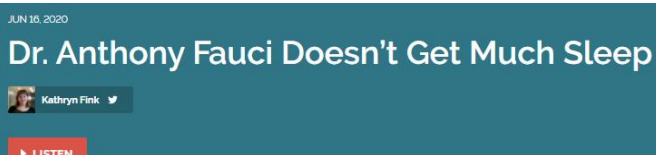
# The state of preprints (2)



\* 'Other' refers to preprint repositories containing <100 total relevant preprints. These include: AfricArXiv (OSF), AgriXiv (OSF), BioHackrXiv (OSF), Cambridge University Press, Copernicus GmbH, EcoEvoRxiv (OSF), EdArXiv (OSF), engrXiv (OSF), ESSOAR, Frenxiv (OSF), INA-Rxiv (OSF), IndiaRxiv (OSF), LawArXiv (OSF), MediArXiv (OSF), MetaArXiv (OSF), NutriXiv (OSF), ScienceOpen, SportRxiv (OSF), Techrxiv (IEEE), WHO.

# Information, information, information

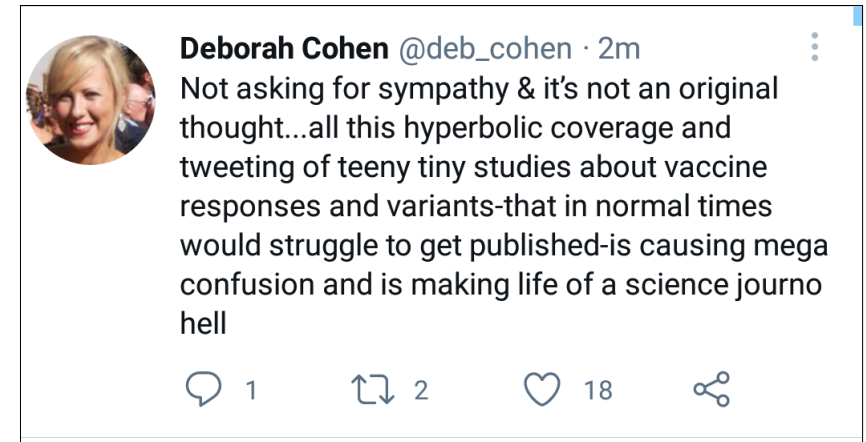
https://the1a.org/segments/dr-anthony-fauci-coronavirus-covid/



Director of the National Institute of Allergy and Infectious Diseases Anthony Fauci speaks during the daily briefing on the novel coronavirus, which causes COVID-19, in the Brady Briefing Room of the White House.  
HANDEL NGAN/AP/VA Getty Images



ITU Pictures from Geneva, Switzerland



# Preprints integrity

## COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv

bioRxiv posts many COVID19-related papers. A reminder: they have not been formally peer-reviewed and should not guide health-related behavior or be reported in the press as conclusive.

**medRxiv**

THE PREPRINT SERVER FOR HEALTH SCIENCES

Search

Advanced Search

Caution: Preprints are preliminary reports of work that have not been certified by peer review. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information.

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**kitchen**  
What's Hot and Cooking In Scholarly Publishing

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## Guest Post – The 10,000-watt Bulb: How Preprints Shine a Light on Misconduct

By MICHELE AVISSAR-WHITING | JUN 2, 2021 | 17 COMMENTS

# Speed: good or bad?



The Wellcome Trust



© Keith Weller



<https://www.ama-assn.org/delivering-care/public-health/qa-why-jamas-editor-finds-pandemic-answers-conversation>

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# Preprints: emerging developments

- COVID 19 Rapid Review: <https://oaspa.org/covid-19-rapid-review-collaboration-initiative/>
- Review Commons: <https://www.reviewcommons.org/>
- Rapid Reviews: Covid-19 (RR:C19): <https://rapidreviewscovid19.mitpress.mit.edu/>
- Prelights: <https://prelights.biologists.com/>
- PREreview: <https://prereview.org/>
- ASAPBio Crowd Preprint: <https://asapbio.org/join-crowd-preprint-review>
- ASAPBio Preprint Reviewer Recruitment Network: <https://asapbio.org/preprint-reviewer-recruitment-network>
- Peer Community In: <https://peercommunityin.org/>
- Sciety: <https://sciety.org/>

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# The state of peer review (1)

It's always  
been this  
way!

There's only one  
form of peer  
review!

Peer review  
is  
unpopular!

There aren't  
enough peer  
reviewers!

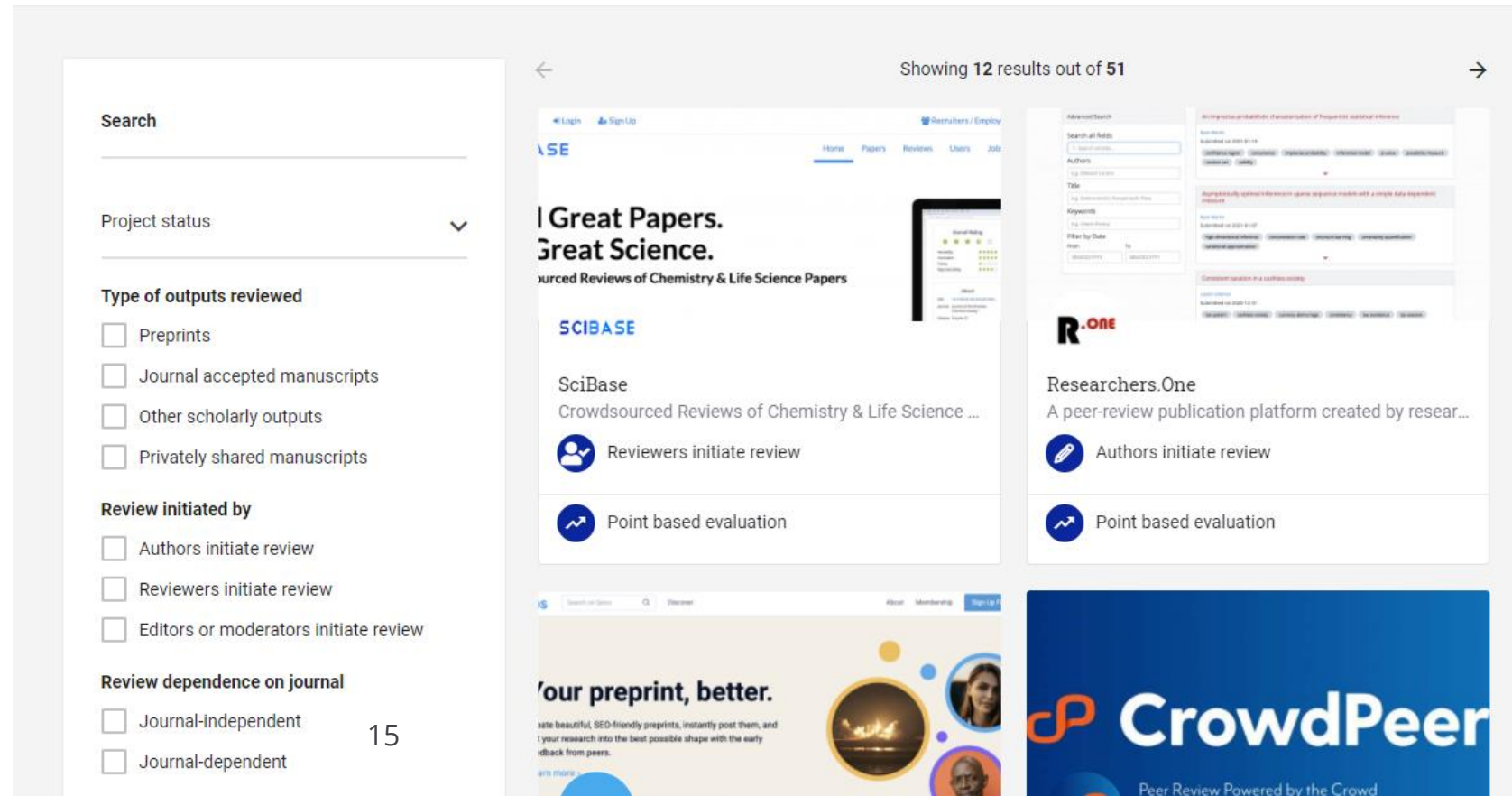
# The state of peer review (2)

 ASAPbio  
ReimagineReview

<https://reimaginereview.asapbio.org/>

Explore

Home · Explore



The screenshot displays the ReimagineReview search interface. On the left, a sidebar contains search filters: 'Project status' (dropdown), 'Type of outputs reviewed' (checkboxes for Preprints, Journal accepted manuscripts, Other scholarly outputs, Privately shared manuscripts), 'Review initiated by' (checkboxes for Authors initiate review, Reviewers initiate review, Editors or moderators initiate review), and 'Review dependence on journal' (checkboxes for Journal-independent, Journal-dependent). The main area shows 'Showing 12 results out of 51'. The first result is 'SciBase', described as 'Crowdsourced Reviews of Chemistry & Life Science ...', with features like 'Reviewers initiate review' and 'Point based evaluation'. Below this, another result snippet for 'Your preprint, better.' is visible. On the right, a 'Researchers.One' sidebar is partially visible, showing a search bar and filters.

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# Peer review: emerging developments (1)

'Peer review takes too long'

- Post-publication peer review
- Crowd-sourced peer review

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# Peer review: emerging developments (2)

‘The quality of peer review is poor’

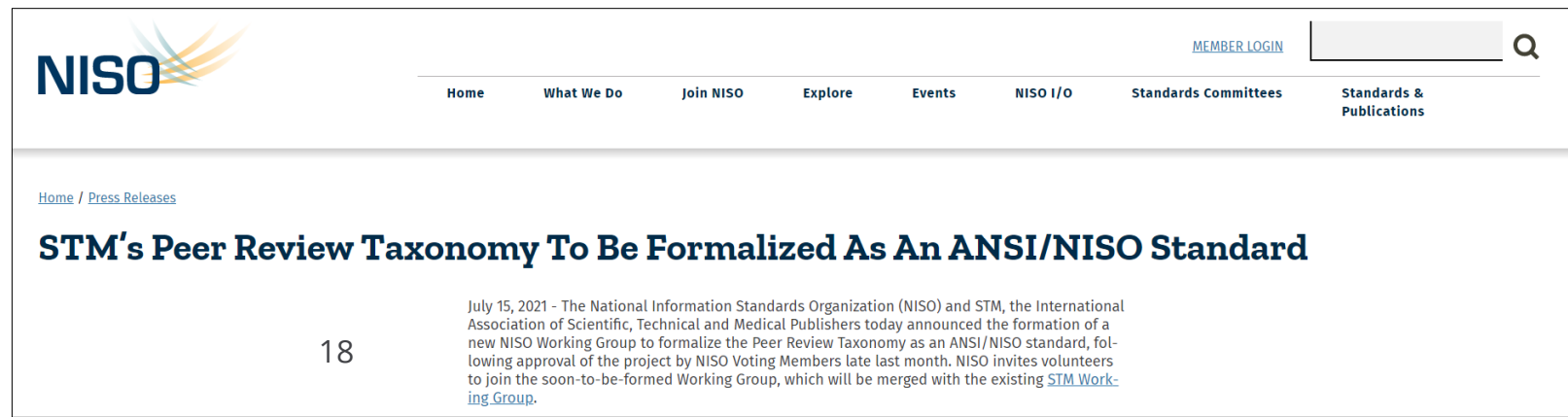
- ‘Better Peer Review’ at Wiley  
<https://secure.wiley.com/better-peer-review>
- Academic kindness



# Peer review: emerging developments (3)

‘Peer review is a black box’

- Transparent peer review
- STM Peer review taxonomy
- Standardised reviewer scoresheet



The screenshot shows the NISO website header with the NISO logo and a navigation menu. The main content area features a press release titled "STM's Peer Review Taxonomy To Be Formalized As An ANSI/NISO Standard". The text of the press release is partially visible, mentioning the formation of a new NISO Working Group to formalize the Peer Review Taxonomy as an ANSI/NISO standard.

**NISO**

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## STM's Peer Review Taxonomy To Be Formalized As An ANSI/NISO Standard

July 15, 2021 - The National Information Standards Organization (NISO) and STM, the International Association of Scientific, Technical and Medical Publishers today announced the formation of a new NISO Working Group to formalize the Peer Review Taxonomy as an ANSI/NISO standard, following approval of the project by NISO Voting Members late last month. NISO invites volunteers to join the soon-to-be-formed Working Group, which will be merged with the existing [STM Working Group](#).

# Peer review: emerging developments (4)

‘There is a shortage of reviewers’

- Discoverability
- Diversity, equity and inclusion
- Journal transfer networks

MB&C | PERSPECTIVE

## How to bring peer review ghostwriters out of the dark

Gary S. McDowell<sup>a</sup>, Caroline A. Niziolek<sup>b</sup>, and Rebekkah S. Lijek<sup>c,\*</sup>














<sup>a</sup>Lightoller LLC, Chicago, IL, 60603; <sup>b</sup>Department of Communication Sciences and Disorders, University of Wisconsin–Madison, Madison, WI 53706; <sup>c</sup>Department of Biological Sciences, Mount Holyoke College, South Hadley, MA 01075

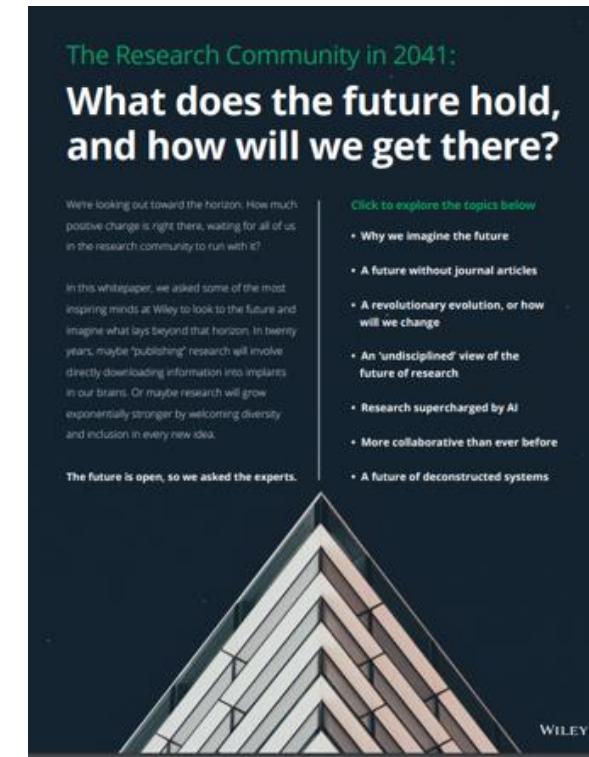
**ABSTRACT** Early career researchers are frequent and valuable contributors to peer review. Systemic changes that acknowledge this fact would result in ethical co-reviewing, peer reviews of greater quality, and a reduction in peer reviewer burden.

Monitoring Editor  
Doug Kellogg  
University of California,  
Santa Cruz

# Look to the future

## 1. Expect greater breadth

Journals 400 years ago	Journals today	Journals in the future
 Printed and shipped to the scientific elite.	 Digital with the start of interactive and enriching features.	 Digital with rich data for easy collaboration and reproducibility.
 Text	 Text	 Text  Video Methods
 Images	 Images	 Images  Materials
		 Code  Data



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# Look to the future

## 2. Expect greater specialisation

*data, methods, ethics, coding...*



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# Look to the future

## 3. Expect greater diversity

<https://www.peoplesmattersglobal.com/article/leadership/leading-with-cognitive-diversity-in-the-face-of-covid-19-25621>



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# Look to the future

## 4. Expect more technology

Microsoft stock image



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# Look to the future

## 5. Expect more power to the author

Microsoft stock image





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# Thank you for listening.

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