



# Open Science accelerating during a pandemic

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## Scientific Editor and Research Communicator @ UAntwerp



- Write/edit grants & manuscripts
- Identify new sources of funding
- Organize science outreach activities
- Make scientific content for our faculty's web and social media pages





# Head of Metabolism Lab at National Institutes of Health



- Systems biology approach to study metabolic alterations during the aging process.
- New treatments for aging-related diseases with underlying metabolic dysfunction.

**Aging is highly complex. We need better ways to study aging! – Open Access will help.**





# Overview

My personal experiences with Open Access



Pre-prints and Open Access during the pandemic



Peer review process during the pandemic



The future of Open Access?



# My personal experience with lack of Open Access



My mother was diagnosed with **Cholangiocarcinoma** in **2006**.

**Difficult to access latest medical findings** due to journal paywalls.



# Personal experience: Paywalls still hurt patients in 2020

## Adjuvant and neoadjuvant therapy for biliary tract cancer: a review of clinical trials

Satoshi  
Tatsuyuki  
Japan  
Publicis

### Short-term Access

To purchase short term access, please sign in to your Oxford Academic account above.  
Don't already have an Oxford Academic account? [Register](#)

Adjuvant and neoadjuvant therapy for biliary tract cancer: a review of clinical trials - 24 Hours access

EUR €27.00    GBP £20.00    USD \$35.00

> Eur Radiol. 2020 Oct 8. doi: 10.1007/s00034-020-01444-4. Epub 2020 Feb 14.

## Radiomics using CT in prediction of futile resection in cholangiocarcinoma

### Access options

Buy article PDF

42,29 €

Price includes VAT for Belgium

> J Gastroenterol Hepatol. 2020 Oct 1. doi: 10.1111/jgh.15289. Online ahead of print.

## Enhanced Gemcitabine Cytotoxicity with Inhibition of Expression of Multidrug Resistance Protein Genes in Cholangiocarcinoma Cell Lines

> Future Oncol. 2020 Oct 9. doi: 10.2217/fon-2020-0726. Online ahead of print.

## Pemigatinib, a potent inhibitor of FGFRs for the treatment of cholangiocarcinoma

### Access content

To read the fulltext, please use one of the options below to sign in or purchase access.

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Single article from Future Medicine

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> J Clin Exp Hepatol. Sep-Oct 2020;10(5):442-447. doi: 10.1016/j.jceh.2020.02.002. Epub 2020 Feb 14.

## Good Long-Term Outcomes in Patients With Sclerosing Cholangitis Undergoing Living Donor Liver Transplantation

Purchase PDF \$31.50

### Purchase Instant Access

- 48-Hour online access \$8.00  
Details
- Online-only access \$18.00  
Details
- PDF download and online access \$49.00  
Details



# Personal experience: students & educators need access

On Sun, Nov 24, 2019 at 6:19 PM

Respected madam,

Sorry to bother you again and again. I would like to have access to a few more articles, but it's quite a lot. I apologize for bothering you with these.

Sorry again and thanks a lot

Yours sincerely,

<https://www.ncbi.nlm.nih.gov/pubmed/24512748>

<https://link.springer.com/article/10.1007/s00431-012-1809-2>

<https://www.ncbi.nlm.nih.gov/pubmed/22709419>



On Tue, Nov 12, 2019 at 4:19 AM

Respected madam,

Apologies for bothering you again and again. Is it possible if I could have access to some more articles for which I have attached the links below? Thank you very much.

Class 12

<https://link.springer.com/article/10.1007/s00431-012-1809-2>

<https://www.ncbi.nlm.nih.gov/pubmed/22709419>





# Moving towards Open Access

## PLOS MEDICINE

### Science Without Publication Paywalls: cOAlition S for the Realisation of Full and Immediate Open Access

Marc Schiltz 

Published: September 4, 2018 • <https://doi.org/10.1371/journal.pmed.1002663>

“The chain, whereby new scientific discoveries are built on previously established results, can only work optimally if all research results are made openly available to the scientific community.”





# Is the pandemic changing scientific publishing?

Published: 28 August 2020

## Publishing volumes in major databases related to Covid-19

[Jaime A. Teixeira da Silva](#) ✉, [Panagiotis Tsigaris](#) ✉ & [Mohammadamin Erfanmanesh](#) ✉

[Scientometrics](#) (2020) | [Cite this article](#)

Major databases have been flooded with research articles, reviews, notes, and editorials related to COVID-19.

This study estimates that **23,634** unique published articles have been indexed in Web of Science and Scopus between January 1<sup>st</sup> and June 30<sup>th</sup>, 2020.

BMJ, Journal of Medical Virology and The Lancet published the most papers related to coronavirus.

# Free access during the pandemic...



The NEW ENGLAND  
JOURNAL of MEDICINE

All Journal content related to the Covid-19 pandemic is freely available.



Browse the JAMA Network **COVID-19 collection** below, including **Q&A's** with NIAID's Anthony Fauci, an interactive **map of the outbreak** courtesy of The Johns Hopkins Center for Systems Science and Engineering, and past publications on vaccine development, infection control, and public health preparedness.



To assist health workers and researchers working under challenging conditions to bring this outbreak to a close, *The Lancet* has created a Coronavirus Resource Centre. This resource brings together new 2019 novel coronavirus disease (COVID-19) content from across *The Lancet* journals as it is published. All of our COVID-19 content is free to access.

THE LANCET

Wiley is using this site to highlight newly published content – all free of access - related to the current COVID-19 outbreak. The most recent articles can be found below. From the navigation menu above, you will find links to archived content from the past few months, as well as Special Collections compiled by several individual journals and organizations. In addition to this site, Wiley is also making a collection of **journal articles** and our **book chapters** on coronavirus research freely available to the global scientific community.

Wiley Online Library



ELSEVIER

Welcome to Elsevier's Novel Coronavirus Information Center.

All resources are free to access and include guidelines for clinicians and patients.

# COVID-19 preprints from medRxiv and bioRxiv



**bioRxiv**

THE PREPRINT SERVER FOR BIOLOGY

[HOME](#) | [ABOUT](#) | [SUBMIT](#) | [NEWS & NOTES](#) | [ALERTS / RSS](#) | [CHANNELS](#)

bioRxiv is receiving many new papers on coronavirus SARS-CoV-2. A reminder: these are preliminary reports that have not been peer-reviewed. They should not be regarded as conclusive, guide clinical practice/health-related behavior, or be reported in news media as established information.

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

9672 Articles (7595 medRxiv, 2077 bioRxiv)

Most recent first

Page 1: Articles 1-10 | Next

Targeting androgen regulation of TMPRSS2 and ACE2 as a therapeutic strategy to combat COVID-19

Deng, Q., Rasool, R. u., Russell, R. M., Natesan, R., Asangani, I. A.

10.1101/2020.10.16.342782 — Posted: 2020-10-16

### Subject Areas

#### All Articles

Animal Behavior and Cognition

Biochemistry

Bioengineering

Bioinformatics

# COVID-19 preprints and trust in science

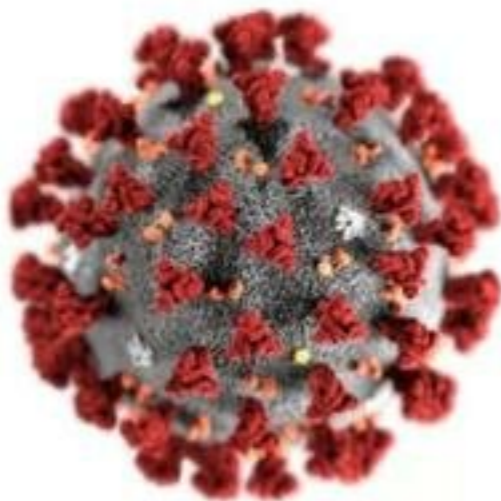
## THE LANCET

EDITORIAL | VOLUME 396, ISSUE 10254, P799, SEPTEMBER 19, 2020

### COVID-19: a stress test for trust in science

The Lancet

Published: September 19, 2020 • DOI: [https://doi.org/10.1016/S0140-6736\(20\)31954-1](https://doi.org/10.1016/S0140-6736(20)31954-1)



“Preprints have been subject to particularly **polarised discussion** during the COVID-19 pandemic, with both **positive and negative aspects brought to light.**”

“**Preprints enable researchers to disseminate important research quickly and accessibly** so that others can build on their findings and perhaps collaborate.”

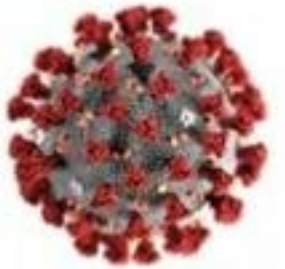
“However, without peer review and editorial scrutiny, **some findings might be entirely unreliable** and even dangerous for public health.”

“**Preprints are an important part of the move to Open Science.** *The Lancet* will continue to offer Preprints, but stresses the importance of explaining their preliminary nature.”

<https://phil.cdc.gov/Details.aspx?pid=23312>

# Peer review during the pandemic: processing times?

The WHO described the current deluge of information about COVID-19 as an 'infodemic', expressing serious **concern about the amount of misinformation** and disinformation to which we are exposed.



<https://www.un.org/en/un-coronavirus-communications-team/un-tackling-'infodemic'-misinformation-and-cybercrime-covid-19>

## A recent study looking at 14 medical journals found that:

“Compared to articles published in the same journals before the pandemic, **turnaround times have decreased on average by 49%**. The largest decrease in number of days between submission and publication of articles was due to a decrease in the number of days required for peer review.”

“For articles not related to COVID-19, no acceleration of the publication process was found.”

<https://www.biorxiv.org/content/10.1101/2020.04.18.045963v1>

## Peer review is often too slow for 'normal' research

My co-authors and I submitted a manuscript on July 31<sup>st</sup>, 2020....

*It hasn't even been sent out for review yet.*



In my opinion, the peer review process is often too slow and lacks quality.

A **faster, simpler, more effective** peer review system is now required.

# Open Science and data sharing during a pandemic

NEW ARTICLE

We Can Do Better: Lessons Learned on Data Sharing in COVID-19 Pandemic Can Inform Future Outbreak Preparedness and Response

By Jonathan LoTempio, D'Andre Spencer, Rebecca Yarvitz, Arthur Delot Vilain, Eric Vilain, Emmanuèle Délot - 08/19/2020

SCIENCE & DIPLOMACY

An online publication from the AAAS Center for Science Diplomacy

**Most countries keep track of confirmed cases and deaths.** But they differ widely how they report other types of data, such as number of tests conducted, patient demographics, hospitalizations.

**Data are presented in many different formats** (plain text, HTML, PDF), often with a lack of information about the source data, making it difficult for researchers to access and analyze the data.



# What can we learn from this pandemic?

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- Open Access [sharing of data is essential](#) for accelerating our understanding of the biology and spread of SARS-CoV-2 virus.
- We have enhanced international partnerships and have built robust data-sharing infrastructure. For example, the European COVID-19 Data Platform is a model for how to share infectious disease data in the future, enabling [collaboration between countries and disciplines](#).
- We now have a model not just for times of crisis, but for how we do science in the future.
- [Let's make collaboration and Open Access "The New Normal"!](#)



# What should the future look like?



**Paul G. Allen**  
1953-2018

Our scientists within each division collaborate in a *team science* approach, tackling *big science* projects. And everything learned within our walls is shared publicly across the world in what we call *open science*.

**Thank you to everyone that is working towards  
making Science more Open!**



End of slide show, click to exit.

