# The Shift Toward Open Research: Drivers, Recent Developments, & the Future of Scholarship

MARCH 5, 2020 | TEXAS STATE UNIVERSITY

Nick Shockey

@nshockey



# bit.ly/texasstate2020

case sensitive!





#### #WHATSHOULDWECALLGRADSCHOOL

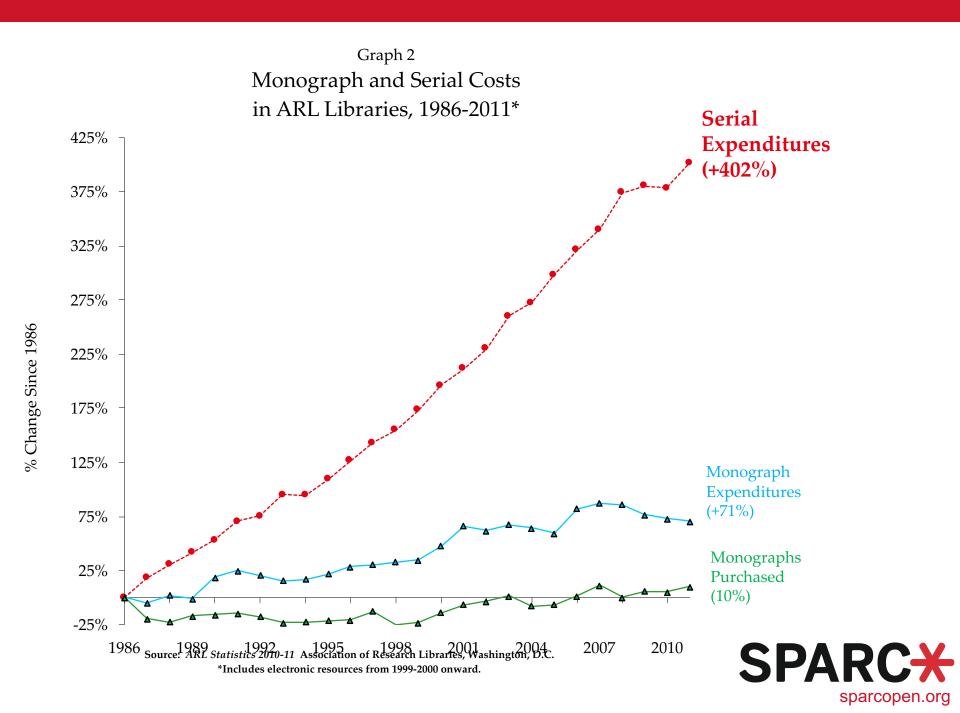
PEER REVIEWED. IMPACT FACTOR: TO INFINITY AND BEYOND

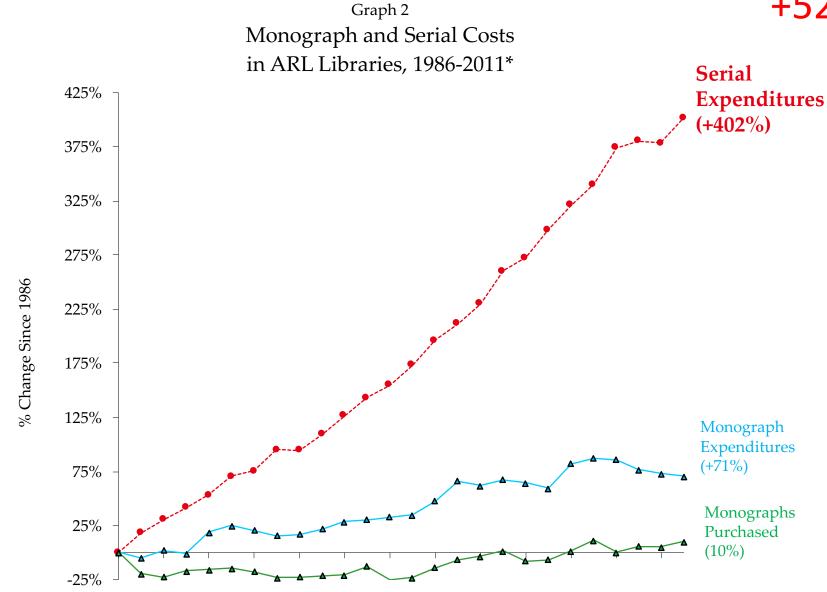
11TH JUN 2012 | 162 NOTES -

# WHEN THE PAPER I NEED ISNT AVAILABLE THROUGH MY UNIVERSITYS SUBSCRIPTION









\*Includes electronic resources from 1999-2000 onward.



2007

2010

TABLE 1: AVERAGE 2019 PRICE FOR SCIENTIFIC DISCIPLINES					
DISCIPLINE	AVERAGE PRICE PER TITLE				
Chemistry	\$5,950				
Physics	\$5,089				
Engineering	\$3,994				
Biology	\$3,769				
Food Science	\$3,219				
Technology	\$2,961				
Geology	\$2,905				
Astronomy	\$2,638				
Zoology	\$2,624				
Botany	\$2,615				

\$2,277

\$2,176

\$2,156

\$2,072

\$2,038

Geography

Agriculture

Health Sciences

General Science

Math & Computer Science

#### Source: "Deal or No Deal | Periodicals Price Survey 2019,"

by Stephen Bosch, Barbara Albee, & Sion Romaine . Library Journal,

April 4, 2019: https://www.libraryjournal.com/?detailStory=Deal-or-No-Deal-Periodicals-Price-Survey-2019

SPARC\*

sparcopen.org





# The **Economist**

Publishing obscure academic journals is that rare thing in the media industry: "a licence to print money."







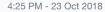
It is an amazing honor to be here today at the United Nations to speak with UN officials and librarians from around the globe.

#OpenConUN #OAWeek @UNLibrary @SPARC\_NA





"Equity of access is a human right in the digital age."







#### **Roundtable Discussion on a Global Science Commons**

#### **Outcome Document**

#### United Nations Headquarters, Monday, 18 November 2019

#### The participants reached a consensus on the following views

- I. Open Science is an accelerator of the Sustainable Development Goals (SDGs).
- II. Publicly funded science should be Open Science.
- III. We are not on track to achieve the SDGs. We must work collaboratively toward the goals of humanity laid out in the SDGs.
- IV. The importance of Open Access (OA) is key takeaway from the 2019 Global Sustainable Development Report.
- V. Open Science must be inclusive. Important relevant research is not the same as popular highly-cited research.
- VI. Incentives for research should be aligned with openness in service of the SDGs and for the good of humanity.
- VII. Open Science requires the opening of barriers to a set of inter-related scientific research processes. Libraries are natural information/data brokers and curators in the Open Science suite of processes, and their role is essential.



Source: https://research.un.org/ld.php?content\_id=51390330

## Los Angeles Times

Column: COVID-19 could kill the for-profit science publishing model. That would be a good thing

By MICHAEL HILTZIK | BUSINESS COLUMNIST MARCH 3, 2020 | 9:27 AM

Of all the ways the current coronavirus crisis has upended commonplace routines — such as disrupting global supply chains and forcing workers to stay at home — one of the most positive is how it demonstrates the value of open access to scientific research.



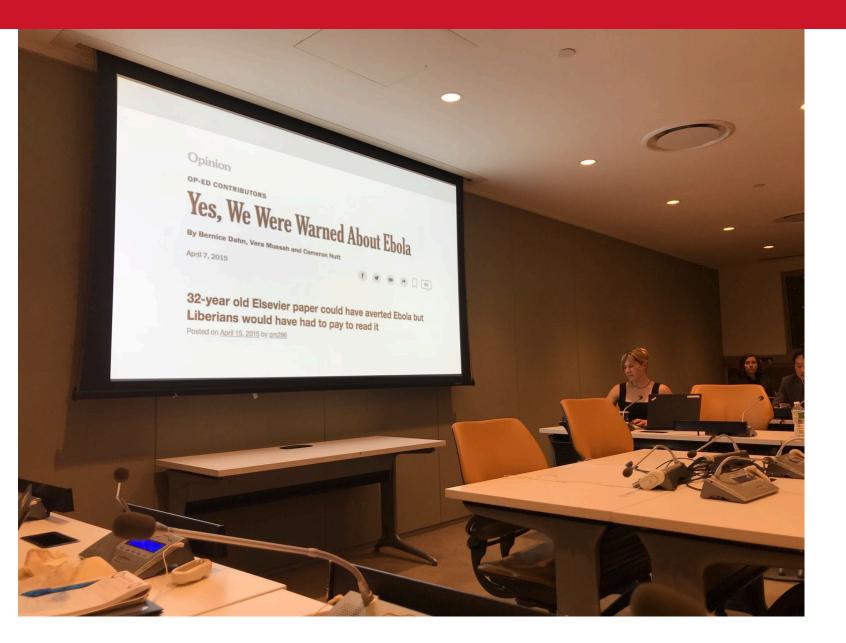


Photo: Juliya Ziskina Presentation: Natalia Norori

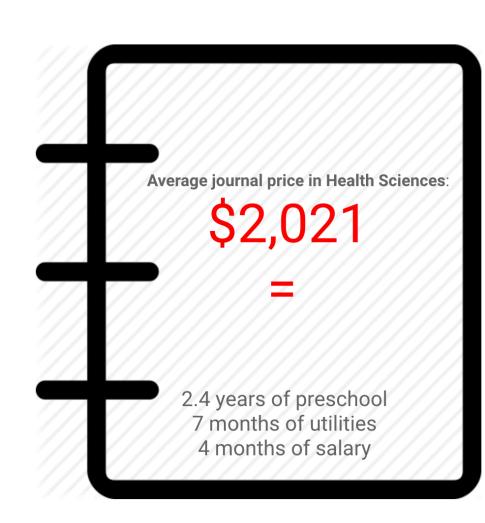


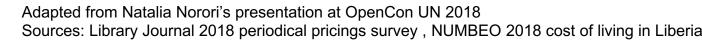
J.Knobloch, E.J.Albiez, H.Schmitz (1982). A serological survey on viral haemorrhagic fevers in Liberia. *Annals of Virology*.

The paper costs \$45, or about 4 days of a Liberian doctor's salary.

The paper was published in a paywalled European journal.

Liberians had no participation in the study.









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**Budapest Open Access Initiative** 



## Two paths to Open Access

# Open Access Journals

Selfarchiving









**14,305** Journals

**11,350** searchable at Article

level

**133** Countries

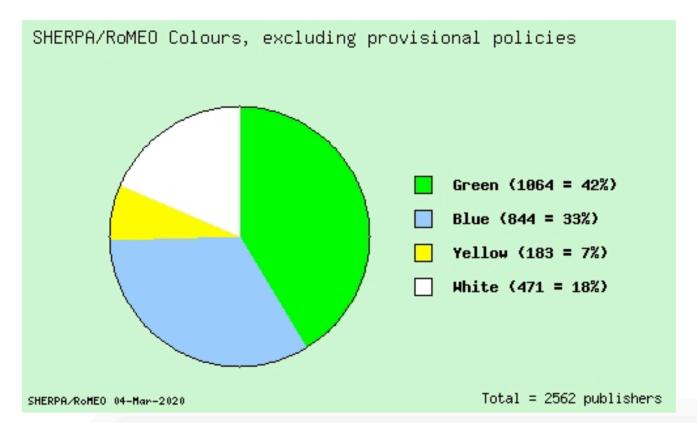
**4,689,723** Articles



Source: https://doaj.org/

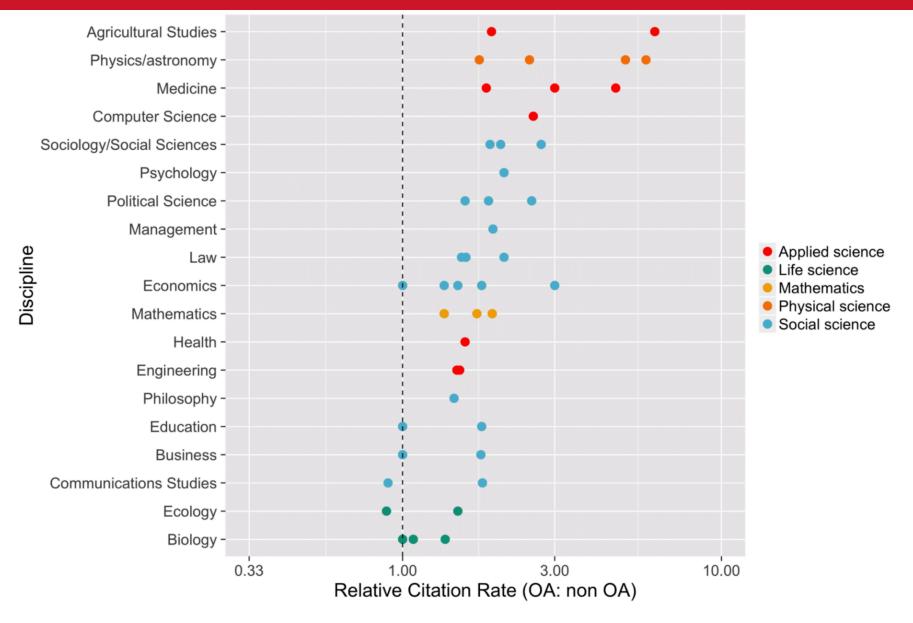
RoMEO colour	Archiving policy	Publishers	%
<u>green</u>	Can archive pre-print and post-print	1064	42
<u>blue</u>	Can archive post-print (ie final draft post-refereeing)	844	33
<u>yellow</u>	Can archive pre-print (ie pre-refereeing)	183	7
<u>white</u>	Archiving not formally supported	471	18

Summary: 82% of publishers on this list formally allow some form of self-archiving.





Source: www.sherpa.ac.uk/romeo/statistics.php?la=en&flDnum=l&mode=simple



Source: McKiernan, Erin; Bourne, Philip E.; Brown, C. Titus; Buck, Stuart; Kenall, Amye; Lin, Jennifer; McDougall, Damon; Nosek, Brian; Ram, Karthik; Soderberg, Courtney; R. Spies, Jeffrey; Thaney, Kaitlin; Updegrove, Andrew; Woo, Kara; Yarkoni, Tal (2016): How open science helps researchers succeed. Figshare. https://dx.doi.org/10.6084/m9.figshare.1619902.v7: URL: https://figshare.com/articles/The\_open\_research\_value\_proposition\_How\_sharing\_can\_help\_researchers\_succeed/1619902



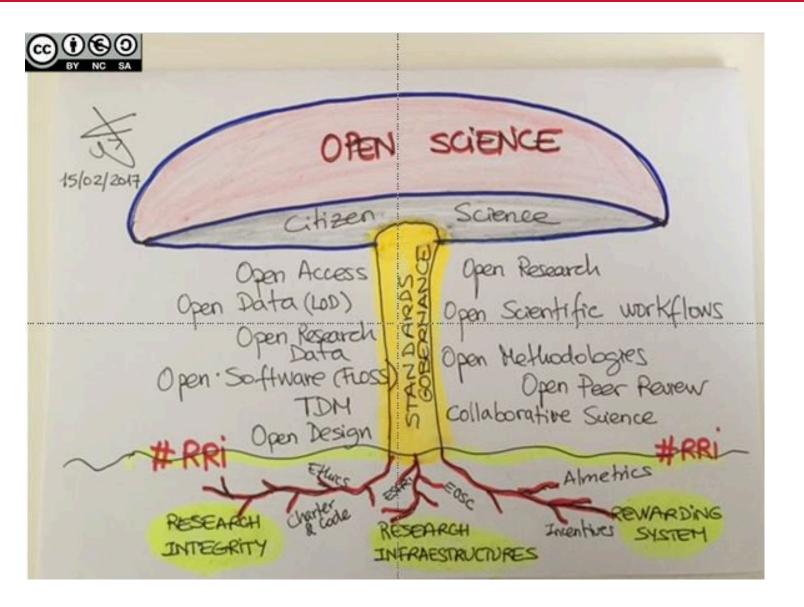


Photo: Eva Méndez



#### Benefits of Open Research

- Rigor and reliability
- Ability to address new questions
- Faster, more inclusive dissemination of knowledge
- Broader participation in research
- Effective use of resources
- Improved performance of research tasks
- Open publication for public benefit



The National Academies of SCIENCES • ENGINEERING • MEDICINE

#### **CONSENSUS STUDY REPORT**

#### **OPEN SCIENCE BY DESIGN**

Realizing a Vision for 21st Century Research





Is the system we entrust to disseminate our research & scholarship fundamentally aligned with the interests of researchers & scholars?





Source: Bohannon, John. Who's Downloading Pirated Papers? Everyone. *Science*. April 2016. URL: http://www.sciencemag.org/news/2016/04/whos-downloading-pirated-papers-everyone



#### **VOICES**



### Q&A: The Unjust Trial of Diego Gómez and the **Necessity of Open Access**

July 31, 2017





#### **UC Drops Elsevier**

After months of negotiating over open-access fees and paywalls, the University of California System follows through on threat to cancel its journal subscription deal with Elsevier.

By Lindsay McKenzie // March 1, 2019

31 COMMENTS Q

The University of California System has canceled its multimillion-dollar subscription contract with Elsevier, an academic publisher.

Other institutions have canceled their "big deal" journal subscription contracts with major publishers before. But none in the U.S. have the financial and scholarly clout of the UC system -- which accounts for nearly 10 percent of the nation's publishing output.

The cancellation, announced Thursday, is a blow to Elsevier, which is facing increasing pressure to change its largely subscription-based business model. Last year, hundreds of institutions in Germany and Sweden refused to sign a deal with Elsevier unless it agreed to fundamentally change the way it charges institutions to access and publish research.







#### Big Deal Cancellation Tracking

**Open Access** 

Institution/ Consortium	Date	Region	Publisher(s)	Strategic Considerations	Outcome	Estimated Annual Savings (USD)
Florida State University	2019	United States	Elsevier	Florida State University Libraries sought to renegotiate the 20 year contract between Elsevier and the State University System. That deal cost FSU nearly \$2 million annually, with cost increases of at least 4% per year. FSU believed this fee was disproportionate compared to other schools in the system.	The FSY Faculty Senate voted unanimously in March 2018 to endorse the Libraries' plan to cancel its Elsevier "big deal". The Libraries will subscribe to a subset of Elsevier journals, based on faculty interest and usage data. The Libraries will rely on ILL and per- article purchases to fill any gaps.	Undisclosed
FinELib	2019	Finland	Taylor & Francis	FinELib is a consortium of Finnish	The parties were unable to agree to	Undisclosed

Source: https://sparcopen.org/our-work/big-deal-cancellation-tracking/

### FINANCIAL TIMES

# Mutinous librarians help drive change at Elsevier

Move to cut fees adds pressure to funding model already under strain

When Florida State University cancelled its "big deal" contract for all Elsevier's 2,500 journals last March to save money, the publisher warned it would backfire and cost the library \$1m extra in pay-per-view fees.

But even to the surprise of Gale Etschmaier, dean of FSU's library, the charges after eight months were actually less than \$20,000. "Elsevier has not come back to us about 'the big deal'," she said, noting it had made up a quarter of her content budget before the terms were changed.



# Moving toward open by default



**PARTICIPATE** 

1600 PENN

**HOME** · BLOG

# Expanding Public Access to the Results of Federally Funded Research

FEBRUARY 22, 2013 AT 12:04 PM ET BY MICHAEL STEBBINS







Summary: The Obama Administration is committed to the proposition that citizens deserve easy access to the results of research their tax dollars have paid for. That's why, in a policy memorandum released today, OSTP Director John Holdren has directed Federal agencies with more than \$100M in R&D expenditures to develop plans to make the results of federally funded research freely available to the public—generally within one year of publication.





**BRIEFING ROOM** 

ISSUES

THE ADMINISTRATION

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**HOME · BRIEFING ROOM · STATEMENTS & RELEASES** 

The White House

Office of the Press Secretary

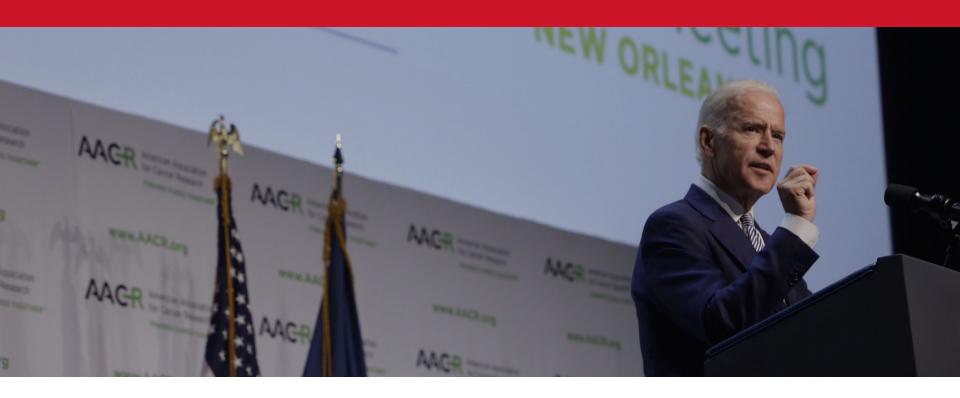
For Immediate Release

June 21, 2016

# IMPACT REPORT: 100 Examples of President Obama's Leadership in Science, Technology, and Innovation

13. **Opened up Federally funded scientific research.** The Administration has increased public access to the results of Federally funded scientific research, with more than 4 million full-text journal articles and growing volumes of scientific research data now free and accessible to the public via agency-designated repositories. **Read more** and **more**.





"Taxpayers fund \$5 billion a year in cancer research every year, but once it's published, nearly all of that taxpayer-funded research sits behind walls. Tell me how this is moving the process along more rapidly."

- Former Vice President Joe Biden: April 21, 2016





#### FEDERAL REGISTER

The Daily Journal of the United States Government







#### **AGENCY:**

Office of Science and Technology Policy (OSTP).

#### **ACTION:**

Notice of request for information (RFI).

#### **DATES:**

Interested persons are invited to submit comments on or before 11:59 p.m. ET on March 16, 2020.

#### **SUMMARY:**

OSTP, and the National Science and Technology Council's (NSTC) Subcommittee on Open Science (SOS), are engaged in ongoing efforts to facilitate implementation and compliance with the 2013 memorandum *Increasing Access to the Results of Federally Funded Scientific Research* [1] and to address recommended actions made by the Government Accountability Office in a November 2019 report. [2] OSTP and the SOS continue to explore opportunities to increase access to unclassified published research, digital scientific data, and code supported by the U.S. Government. This RFI aims to provide all interested individuals and organizations with the opportunity to provide recommendations on approaches for ensuring broad public access to the peer-reviewed scholarly publications, data, and code that result from federally funded scientific research.



## Browse Data Sharing Requirements by Federal Agency

This community resource for tracking, comparing, and understanding both current and future U.S. federal funder research data sharing policies is a joint project of SPARC & Johns Hopkins University Libraries. Click the icons below to select up to three agencies to view or compare. Click <a href="https://example.com/here-to-download">here-to-download</a> the full data set.

Q Search for an agency...

























#### Roadmap for Open Science to reduce barriers and speed up discovery

PRESS RELEASE PR Newswire

© Feb. 26, 2020, 06:45 PM

SHARE

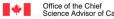
Canada's Chief Science Advisor delivers recommendations to make Canadian science open and accessible

OTTAWA, Feb. 26, 2020 /CNW/ - Every day, Canadian researchers are coming up with new ideas with the potential to tackle some of the biggest challenges we face today. By freely sharing and collaborating on these innovations, we can ensure a dynamic and transparent research community. The Government of Canada can now bolster its efforts in making federal science open and accessible to all thanks to the Roadmap for Open Science -- a set of ten recommendations delivered by Canada's Chief Science Advisor, Dr. Mona Nemer.

#### Sources:

https://www.ic.gc.ca/eic/site/063.nsf/vwapj/Roadmap-for-Open-Science.pdf/\$file/Roadmap-for-Open-Science.pdf

https://markets.businessinsider.com/news/stocks/roadmap-for-open-science-to-reduce-barriers-and-speed-up-discovery-1028943434







## Science



The Competitiveness Council meeting in Brussels this week.

EU Competitiveness Council

# In dramatic statement, European leaders call for 'immediate' open access to all scientific papers by 2020

By Martin Enserink | May. 27, 2016, 2:30 PM





Speech | 22 January 2020 | Davos

### **Keynote speech by President von der Leyen at the World Economic Forum**



We are creating a European Open Science Cloud now. It is a trusted space for researchers to store their data and to access data from researchers from all other disciplines. We will create a pool of interlinked information, a 'web of research data'. Every researcher will be able to better use not only their own data, but also those of others. They will thus come to new insights, new findings and new solutions.

This is what we call the European Open Science Cloud and we are the first in the world to do that. It is being developed in Europe for Europe and for European researchers. The idea is that once we have the rules of the game ready, then we will open this up to the broader public sector and to business as well. So that companies can come in, store the data and use the data. And the idea is that it will also open up to international players.







BY PUBLIC RESEARCH FUNDERS

http://scieur.org/coalition-s



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Print

#### **BILL & MELINDA GATES FOUNDATION OPEN ACCESS POLICY**

GENERAL INFORMATION

How We Make Grants

How We Develop Strategy

Glossary of Terms

Information Sharing Approach

Open Access Policy



Our Approach to Measurement

and Evaluation

**Evaluation Policy** 

Grantseeker FAQ

**Grant Opportunities** 

**Grant Seeking Resources** 

What We Do Not Fund

Reporting Scams

Tax Status Definitions

**RESOURCES FOR GRANTEES** 

**Our Commitment to Grantees** 

**Grantee Profiles** 

**Grantee & Partner Survey** 

Report

The Bill & Melinda Gates Foundation is committed to information sharing and transparency. We believe that published research resulting from our funding should be promptly and broadly disseminated. We have adopted an Open Access policy that enables the unrestricted access

Related **OPEN ACCESS POLICY FAQ** 

and reuse of all peer-reviewed published research funded, in whole or in part, by the foundation, including any underlying data sets.

As of January 1, 2015 our Open Access policy will be effective for all new agreements. During a two-year transition period, publishers will be permitted to apply up to a 12 month embargo period on the accessibility of the publication and its underlying data sets. This embargo period will no longer be allowed after January 1, 2017.

Our Open Access policy contains the following elements:

- 1. Publications Are Discoverable and Accessible Online. Publications will be deposited in a specified repository(s) with proper tagging of metadata.
- 2. Publication Will Be On "Open Access" Terms. All publications shall be published under the Creative Commons Attribution 4.0 Generic License (CC BY 4.0) or an equivalent license. This will permit all users of the publication to copy and redistribute the material in any medium or format and transform and build upon the material, including for any purpose (including commercial) without further permission or fees being required.
- 3. Foundation Will Pay Necessary Fees. The foundation would pay reasonable fees required by a publisher to effect publication on these terms.









BILL&MELINDA
GATES foundation

**JAMES S. McDONNELL FOUNDATION** 

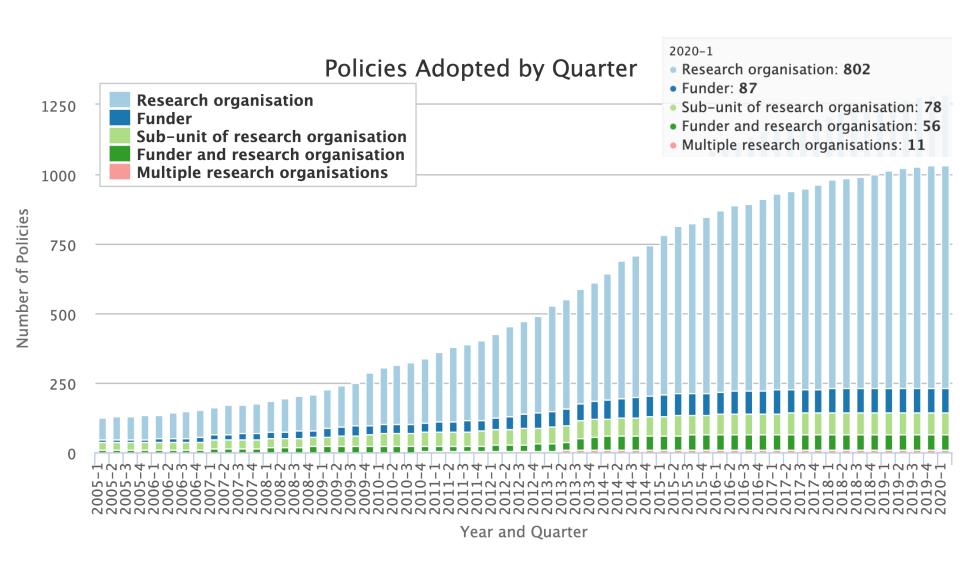












Source: The Registry of Open Access Repository Mandates and Policies (ROARMAP) http://roarmap.eprints.org/



# Indiana University-Purdue University Indianapolis Chief Academic Officer's Guidelines For Preparing and Reviewing Promotion and Tenure Dossiers 2016-2017

#### **Open Access**

- IUPUI is committed to disseminating the fruits of its research and scholarly activities as widely as possible
  and as such supports faculty participating in digital open access distribution of their scholarship. The

  <u>IUPUI Open Access Policy</u> provides a no-cost, opt out approach to increase access to scholarly articles
  authored by campus faculty members.
- Open access supports many of IUPUI's Institutional Values including: Civic Engagement; Collaboration;
   Diversity, Equity and Inclusion; Economic Development; Interdisciplinary Work and Publication;
   International Work and Publication; Public Scholars; and Translational Research.



### CHINADAILY 中國中報网

# Universities should end over-dependence on Science Citation Index: Guideline

For research in basic disciplines, evaluation should focus on the originality and scientific value of the research papers, not the number of SCI papers, the guideline said.

Application research and research in technological innovation should focus on the actual contribution of the research in real life, not the number of papers published, it said.

Universities and education authorities should improve peer-review in talent evaluation, not only focusing on SCI-related indexes, it said.

SCI-related indexes should not be used in school or discipline rankings, awarding professional titles, hiring teachers, evaluating a teacher's performance or resource allocation, the guideline said.



# Research is becoming open, but by whose design?



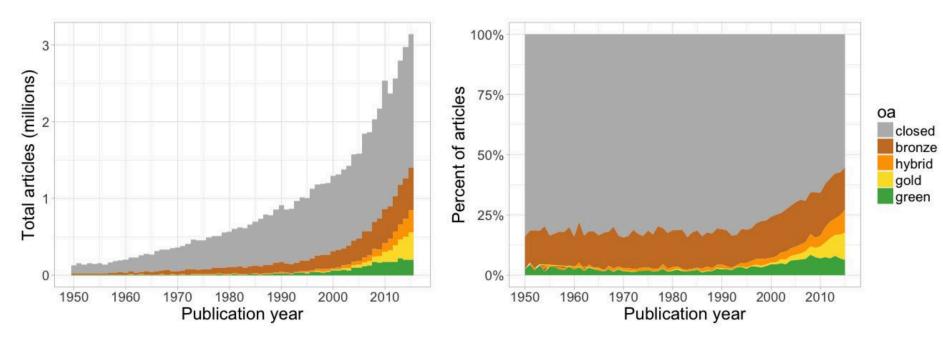
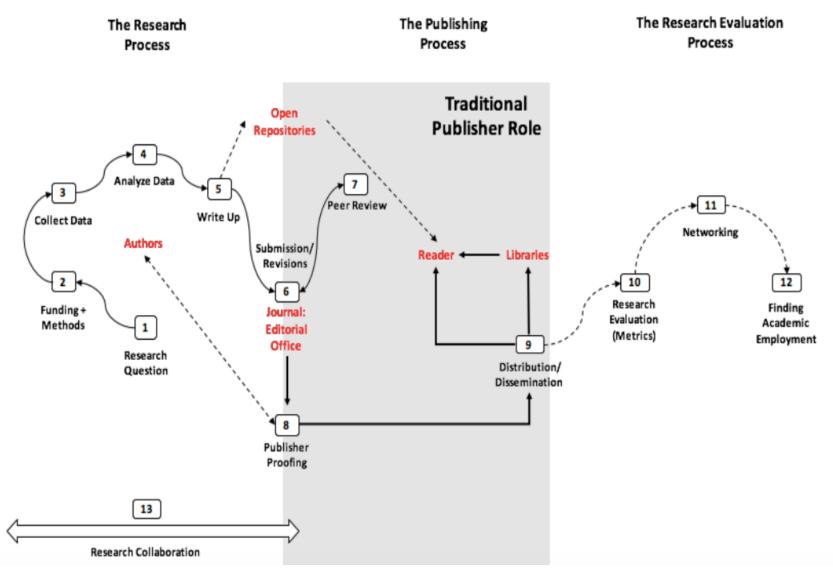


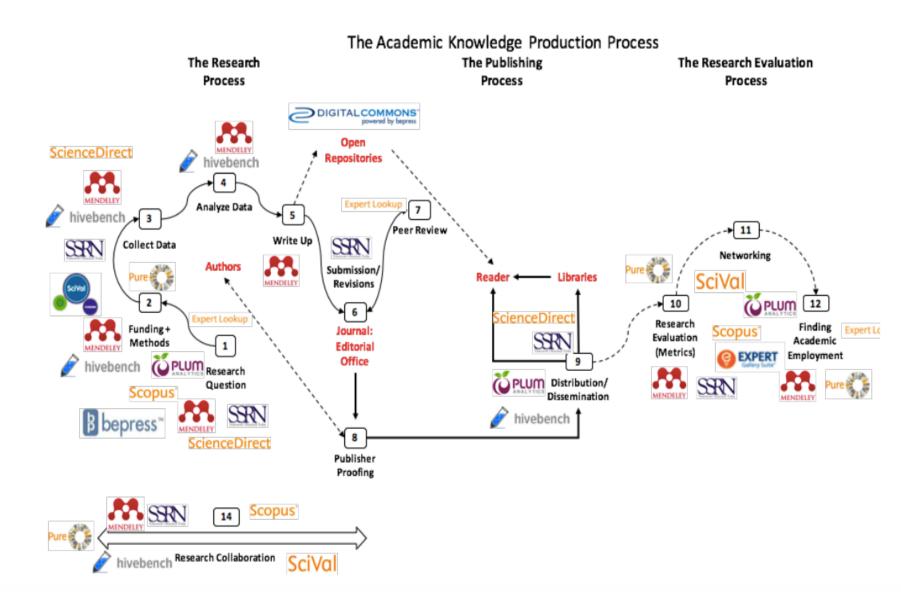
Figure 2: Number of articles (left panel) and proportion of articles (right panel) with OA copies, estimated based on a random sample of 100,000 articles with Crossref DOIs

#### Source:

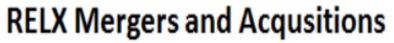
### The Academic Knowledge Production Process

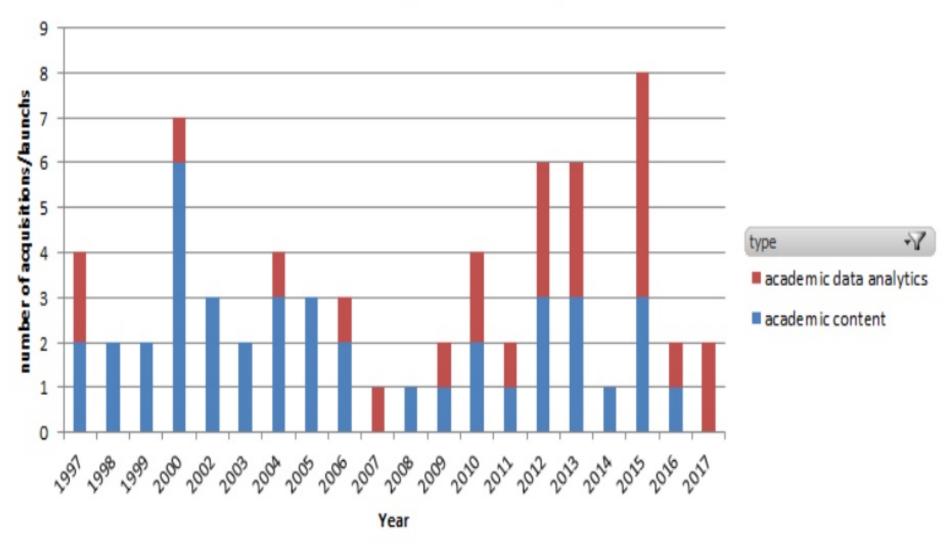


Source: "Publishers are increasingly in control of scholarly infrastructure and why we should care: a case of Elsevier." Alejandro Posada and George Chen. http://knowledgegap.org/index.php/sub-projects/rent-seeking-and-financialization-of-the-academic-publishing-industry/preliminary-findings/



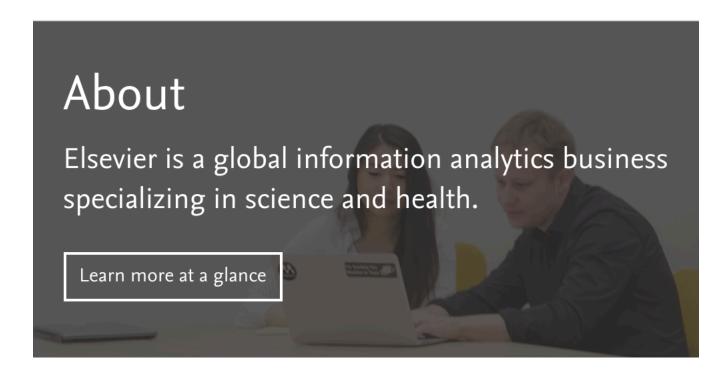
1.69 in





Source: "Publishers are increasingly in control of scholarly infrastructure and why we should care: a case of Elsevier." Alejandro Posada and George Chen. http://knowledgegap.org/index.php/sub-projects/rent-seeking-and-financialization-of-the-academic-publishing-industry/preliminary-findings/

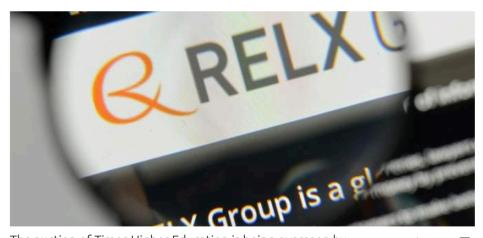
### **ELSEVIER**





# RELX said to be planning £100mln takeover of Times Higher Education

RELX is understood to be among a number of suitors expected to take part in an auction of the Times Higher Education



The auction of Times Higher Education is being overseen by Macquarie Capital





Business information and exhibitions firm RELX Group PLC (LON:REL) is understood to be planning a £100mln takeover of weekly magazine Times Higher Education.

# We need open, communityowned community-governed infrastructure



Being Earnest with Collections — Voting with our Dollars: Making a New Home for the Collections Budget in the MIT Libraries

by Ellen Finnie (Head, Scholarly Communications and Collections Strategy, MIT Libraries) <efinnie@mit.edu>









Enter your keywords

▼ News & Opinion

C

**NEWS** 

**OPINION** 

**SURVEYS** 

**WEBINARS** 

**JOBS** 

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### **Language of Protest**

The six editors and 31 editorial board members of *Lingua*, a top linguistics journal, have all resigned to protest Elsevier pricing. They plan a new open-access journal.

November 2, 2015 By Scott Jaschik

All six editors and all 31 editorial board members of *Lingua*, one of the top journals in linguistics, last week resigned to protest Elsevier's policies on pricing and its refusal to convert the journal to an open-access publication that would be free online. As soon as January, when the departing editors' noncompete contracts expire, they plan to start a new open-access journal to be called *Glossa*.





# Open Library of Humanities aims to 'flip' journals to open access

New publishing model aims to make research accessible to all without charging authors

December 3, 2015







JOIN ME IN DECLARING INDEPENDENCE

WHY OPEN ACCESS, AND WHY NOW?

DETERMINING IF YOUR JOURNAL IS A GOOD FIT FOR OPEN ACCESS

PUBLISHING PARTNERSHIP MODELS

JOURNAL REVENUE OPTIONS

**NEXT STEPS** 

#### We're here to help

SPARC is well-positioned to help you interpret the information you have gleaned through this process. Our team has helped guide numerous journal editors understand their options, all free of charge. We can put you in touch with editors who have undertaken similar journeys. We can help you

# Determining if your journal is a good fit for open access

### Your journal's primary goal: Serving your community

As an editor or editorial board member of a scholarly journal, you may be unaware of subscription patterns and pricing histories in the journal publishing industry. After all, your primary job is to focus on journal content -- to make sure that the latest and best research is published. When societies published most research, scholars often assumed that these organizations were managing and pricing the journals with an eye toward reaching their intended audiences around the world. But the reality today has changed. Some publishers charge readers high prices for the journals they publish. That has led to broad scale subscription cancellations and narrower dissemination. More and more editorial boards have found that they must become involved in the business aspects of their commercially published journals if they are to be sure these essential publications remain accessible to their intended communities.

Fundamentally, then, the question you and your fellow editors must ask yourselves is, "Is our journal's distribution model optimized to truly serve our community?" If your answer is no, and if you have found it difficult to engage your publisher to address your concerns about access and pricing, take the following

### declaring-independence.org



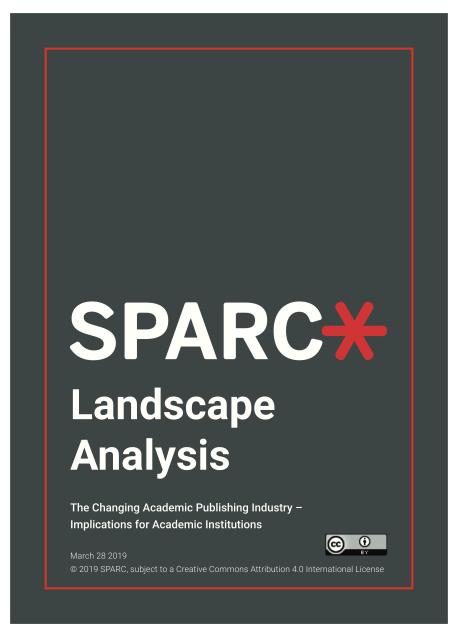


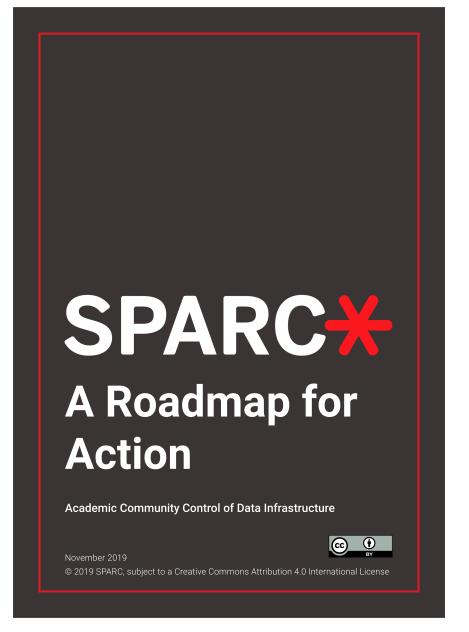
## Wellcome Open Research

A new way for Wellcome-funded researchers to rapidly publish any results they think are worth sharing.

**SUBMIT YOUR RESEARCH** 









### Texas State University 2017-2023 University Plan

University Plan Overview

Administrative Support Plans | Academic Plans | Annual Plan Progress

Texas State > Texas State University 2017-2023 University Plan

#### **Message from President Trauth**



Denise M. Trauth

As we prepare to implement the Texas State University 2017-2023 University Plan, we should pause to reflect on the many accomplishments of our current strategic plan. The 2012-2017 University Plan provided a clear path for achieving academic success and progressing toward our goal of becoming a National Research University. We added numerous degree programs, constructed new buildings, increased student support services, and received national recognition for our academic programs.

Because of your dedicated efforts, we have made great strides in becoming a world-class institution and I am confident that we will ultimately achieve our vision. We have proven that, through a purposeful and focused planning process, Texas State continues to provide an outstanding educational experience that opens the door to endless possibilities and future career opportunities

for our growing population of diverse students. Working together, we clearly demonstrate that the successful education of our students is our primary purpose. I thank you all for everything that you do to make Texas State the great place that it is.

The 2017-2023 University Plan builds on the momentum we experienced in our 2012-2017 plan, and will help us achieve even greater heights as we continue toward our goal of becoming a National Research University. We have committed to increasing student retention and graduation rates, expanding graduate programming, adding more opportunities for undergraduate and graduate research, and significantly increasing funding for scholarships.

I look forward to working with my Texas State colleagues to successfully pursue and achieve our strategic plan initiatives over the next six years.

Denise M. Trauth President Texas State University

Source: https://universityplan2023.avpie.txstate.edu/

## The National Academies of SCIENCES • ENGINEERING • MEDICINE

Roundtable on Aligning Incentive for Open Science: First Meeting Monday, February 25, 2019

National Academy of Sciences Lecture Room 2101 Constitution Avenue NW Washington, DC 20418

**Meeting objectives:** To achieve consensus on broad goals (e.g., an incentive structure for researchers that reflect institutional values and priorities, and that rewards rapid and broad dissemination of research), and a very high-level roadmap of how to achieve them.



Source: https://sites.nationalacademies.org/pga/brdi/open-science-roundtable/index.htm

# SPARCX

Nick Shockey

nick@sparcopen.org @nshockey / @SPARC\_NA

www.sparcopen.org

### The Occasional Pamphlet

on scholarly communication

### An efficient journal March 6th, 2012

Aficionados of open access should know about the Journal of Machine Learning Research (JMLR), an open-access journal in my own research field of artificial intelligence, a subfield of computer science concerned with the computational implementation and understanding of behaviors that in humans are considered intelligent. The journal became the topic of some dispute in a conversation that took place a few months ago in the comment stream of the Scholarly Kitchen blog between computer science

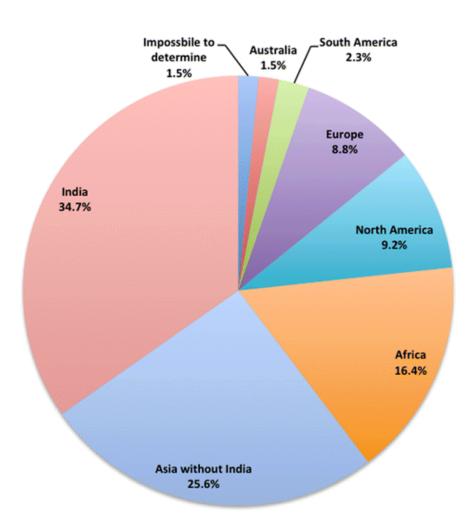


"You seem to believe in fairies." Photo of the **Cottingley Fairies**, 1917, by Elsie Wright via Wikipedia.

professor **Yann LeCun** and scholarly journal publisher **Kent Anderson**, with LeCun stating that "The best publications in my field are not only open access, but completely free to the readers *and* to the authors." He used *JMLR* as the exemplar. Anderson expressed incredulity:



### Geographic Distribution of "Predatory Publishers"

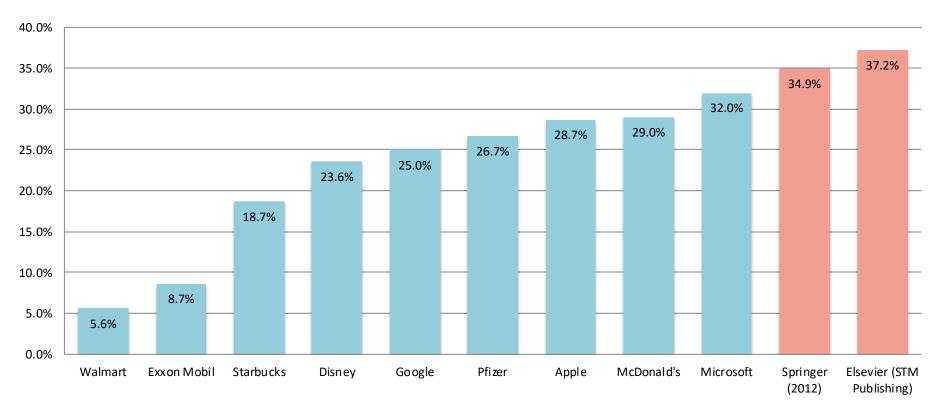




Shen and Björk BMC Medicine (2015) 13:230 DOI 10.1186/s12916-015-0469-2



### **Operating Profit Margin: Elsevier v. Other Companies (2014)**



#### **Data Sources**

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## Publishers seek removal of millions of papers from ResearchGate

Academic social network accused of infringing copyright on a massive scale

October 5, 2017

Leading publishers are stepping up their fight against ResearchGate by ordering the academic social network to take down papers that they say infringe copyright.

The move could see millions of articles removed from the site, as the publishers say up to 40 per cent of papers on ResearchGate are copyrighted.

