The Inside-Out Library

How OA is Changing the Role of the Librarian

27 February 2024

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Assistant Director for OA Agreements
California Digital Library

Keith Webster
Dean of University Libraries
Carnegie Mellon University

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Springer Nature

Bob Boissy
Director Account Development Americas
Springer Nature

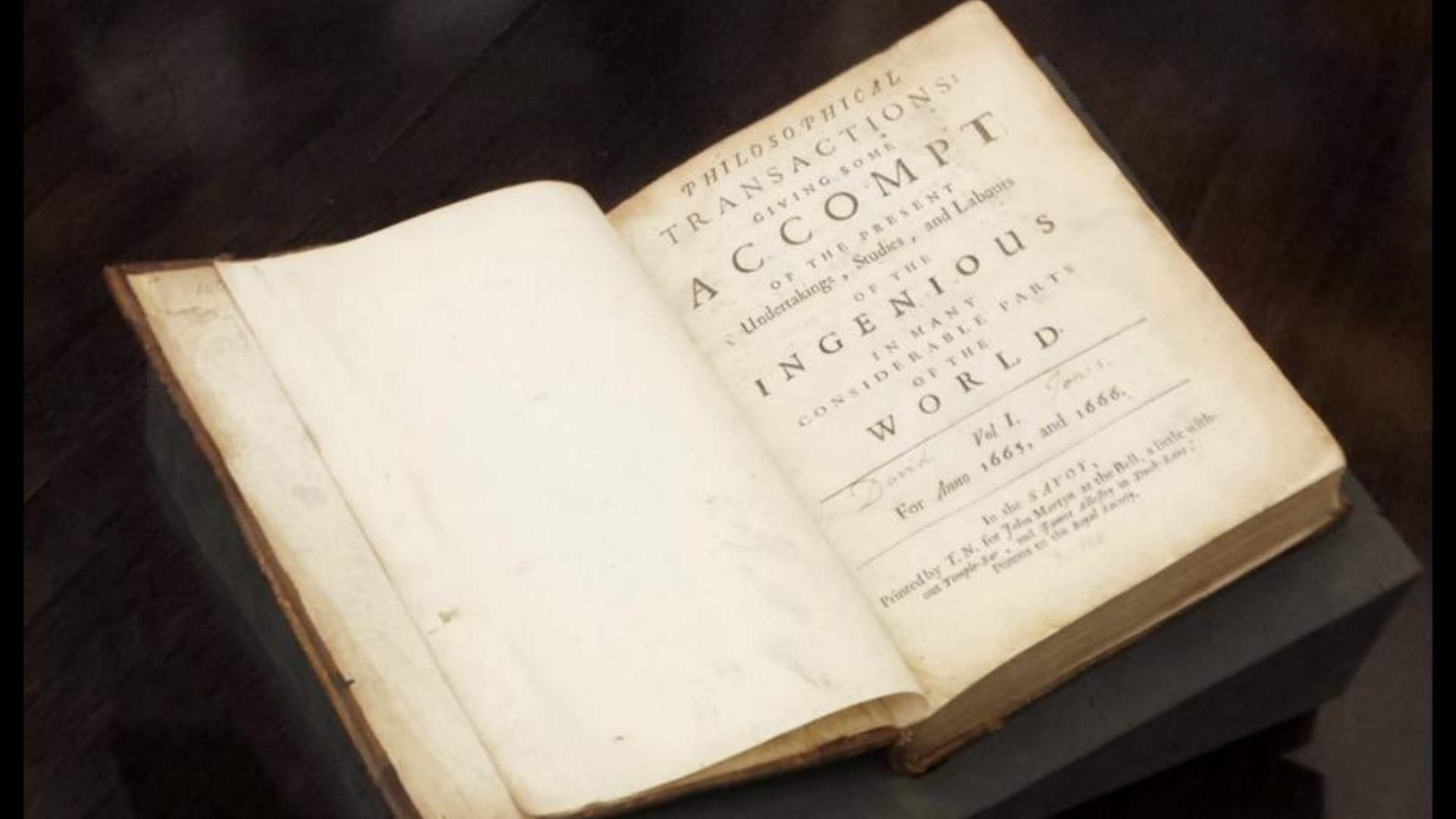
SPRINGER NATURE

FEBRUARY 27, 2024

The Inside-Out Library – How OA is Changing the Role of the Librarian

Keith Webster
Helen and Henry Posner Jr. Dean's Chair
Dean of University Libraries
Director of Emerging and Integrative Media Initiatives

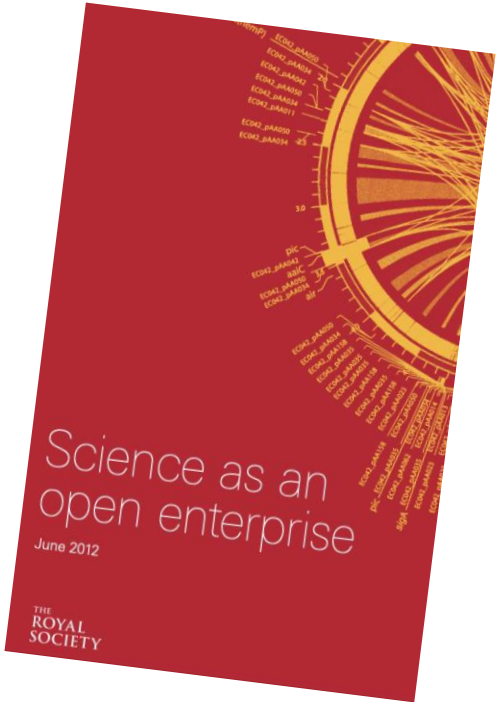
Carnegie Mellon University


PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.
Vol I.
For Anno 1665, and 1666.
In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little without Temple-Bar, and James Allestry in Duck-Lane;
Printers to the Royal Society.

The conversation gains momentum

> *Much of the remarkable growth of scientific understanding in recent centuries is due to open practices; open communication and deliberation sit at the heart of scientific practice. Publishing scientific theories, including experimental and observational data, permits others to scrutinise them, to replicate experiments and to reuse data to create further understanding.*

The Royal Society, 2012



JANUARY 11, 2023

FACT SHEET: Biden-Harris Administration Announces New Actions to Advance Open and Equitable Research

OSTP › NEWS & UPDATES › PRESS RELEASES

OSTP launches Year of Open Science to advance national open science policies across the federal government in 2023

Today, the White House Office of Science and Technology Policy (OSTP) announced new actions to advance open and equitable research, including new grant funding, improvements in research infrastructure, broadened research participation for emerging scholars, and expanded opportunities for public engagement. OSTP is also launching the *Year of Open Science*, featuring actions across the federal government throughout 2023 to advance national open science policy, provide access to the results of the nation's taxpayer-supported research, accelerate discovery and innovation, promote public trust, and drive more equitable outcomes.

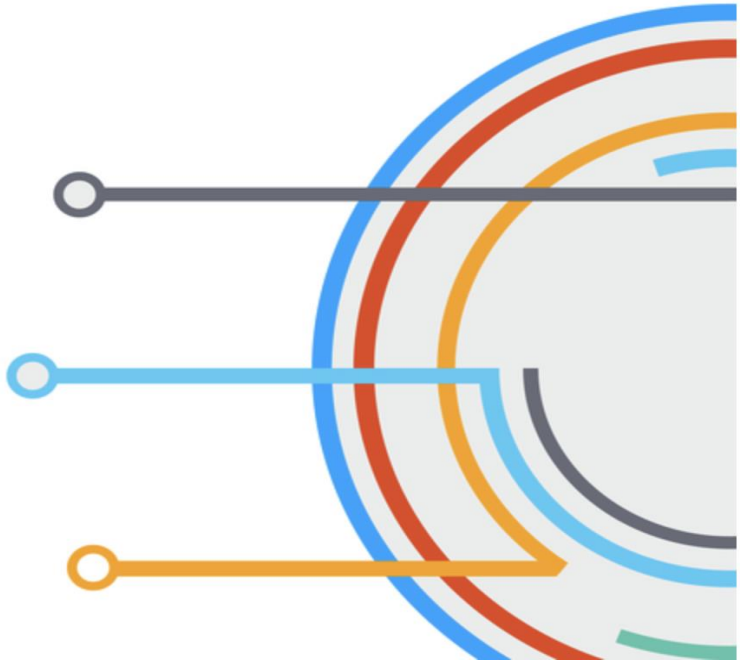
As historic new investments in research, science, and innovation—including through the bipartisan CHIPS and Science Act and the Inflation Reduction Act—drive progress for people across the country, the *Year of Open Science* will yield significant benefits on a number of U.S. strategic interests and deliver evidence-based results for the American people.

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

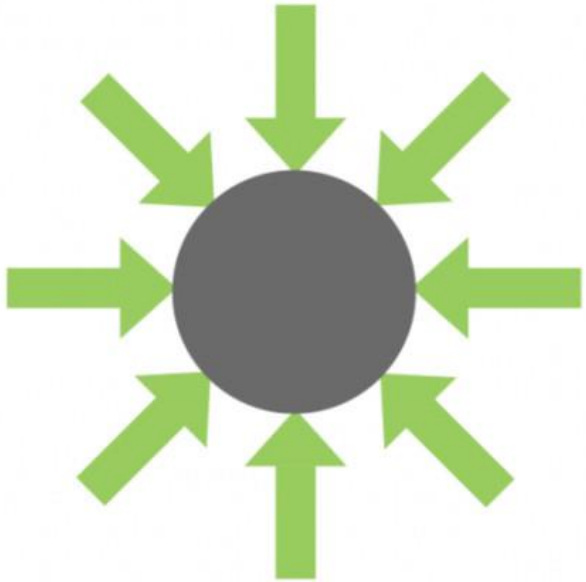
CONSENSUS STUDY REPORT

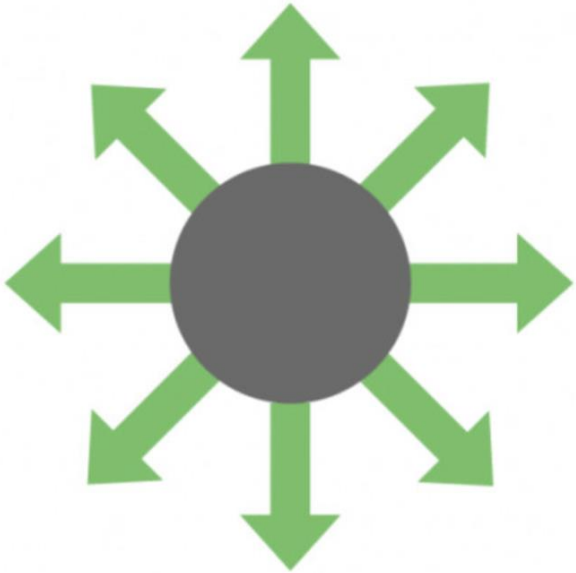
OPEN SCIENCE BY DESIGN

Realizing a Vision for 21st Century Research

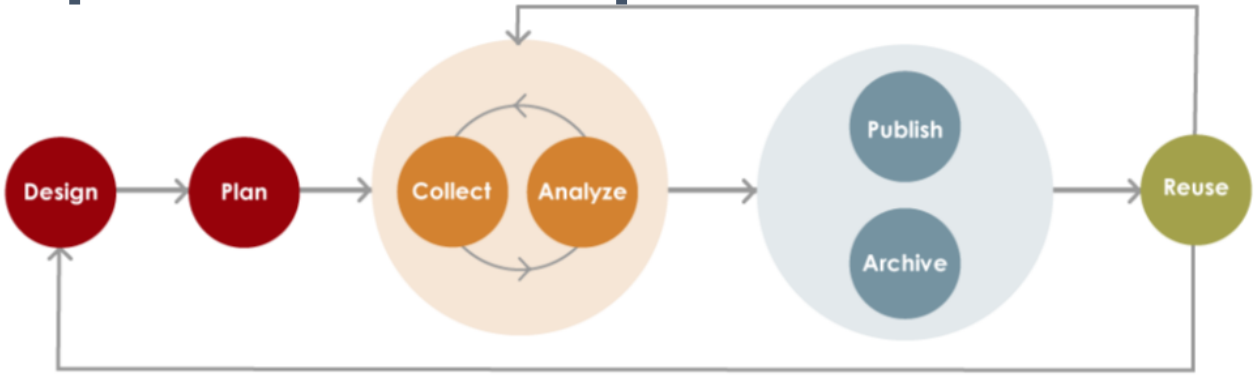


OUTSIDE-IN → INSIDE-OUT





Transparent and Reproducible Workflows



DMPTool

APC Fund

Transformative Agreements

Coding & Data Consultation Service

LabArchives

R
Python
OpenRefine
Citizen Science

protocols.io
Open Science Framework

KiltHub

Open Science Symposium
AIDR
Collaborative Bioinformatics Hackathon
dataCoLAB

protocols.io
Search
mcSCRB-seq protocol V.2
Nature Communications
Johannes JWB Bagnoli[1], Christoph Ziegenhain[1], Aleksandar Janjic[1], Lucas Esteban LEW Wange[1], Beate Vieth[1], Swati Parekh[1], Johanna Geuder[1], Ines Hellmann[1], Wolfgang Enard[1]
[1]Ludwig-Maximilians-Universität München
Version 2
May 22, 2018
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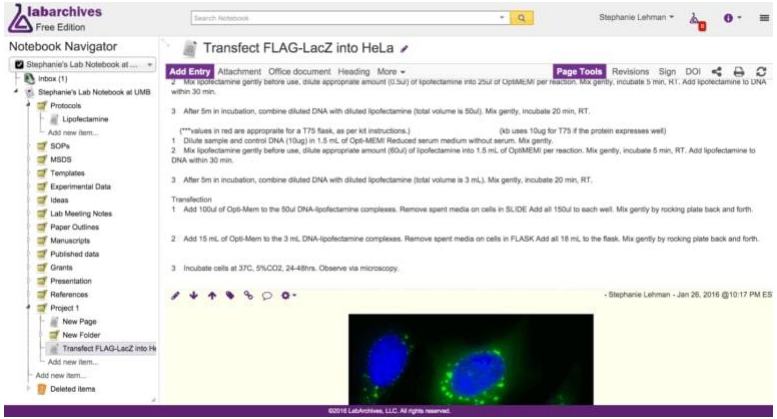
dx.doi.org/10.17504/protocols.io.p9kdr4w
Human Cell Atlas Method Development Community
Aleksandar Janjic
Ludwig-Maximilians-Universität München
View all 43 comments
Search in comments
Hira Mani
Jul 22, 2020
To digest lamda DNA with different restriction endonuclease and analyse the difference an restriction digestion pattern of lamda DNA ?
REPLY
Steps
Guidelines
Materials
Forks
Metadata
Metrics
ABSTRACT
Single-cell RNA sequencing (scRNA-seq) has emerged as a central genome-wide method to characterize cellular identities and processes. Consequently, improving its sensitivity, flexibility and cost-efficiency can advance many research questions. Among the flexible plate-based methods, "Single-Cell RNA-Barcoding and Sequencing" (SCRB-seq) is one of the most sensitive and efficient ones. Here, we systematically evaluated experimental conditions of this protocol and find that adding polyethylene glycol considerably increases sensitivity by enhancing cDNA synthesis. Furthermore, using Terra polymerase increases efficiency due to a more even cDNA amplification that requires less sequencing of libraries. We combined these and other improvements to a new scRNA-seq library protocol we call "molecular crowding SCRB-seq" (mcSCRB-seq), which we show to be the most sensitive and one of the most efficient and flexible scRNA-seq methods to date.
ATTACHMENTS
TXT
mcSCRBseq_oligodT.txt
BEFORE STARTING
Wipe bench surfaces with RNAse Away and keep working environment clean.

protocols.io

labarchives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Free Edition
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Protocols
Lipofectamine
Add new item...
SOPs
MSDS
Templates
Experimental Data
Ideas
Lab Meeting Notes
Paper Outlines
Manuscripts
Published data
Grants
Presentation
References
Project 1
New Page
New Folder
Transfect FLAG-LacZ into He
Add new item...
Add new item...
Deleted Items
Transfect FLAG-LacZ into HeLa
Add Entry
Attachment
Office document
Heading
More
Page Tools
Revisions
Sign
DOI
2 Mix lipofectamine gently before use, dilute appropriate amount (0.5ul) of lipotectamine into 25ul of OptiMEMI per reaction. Mix gently, incubate 5 min, RT. Add lipofectamine to DNA within 30 min.
3 After 5m in incubation, combine diluted DNA with diluted lipofectamine (total volume is 50ul). Mix gently, incubate 20 min, RT.
(***values in red are appropraite for a T75 flask, as per kit instructions.) (kb uses 10ug for T75 if the protein expresses well)
1 Dilute sample and control DNA (10ug) in 1.5 mL of Opti-MEMI Reduced serum medium without serum. Mix gently.
2 Mix lipofectamine gently before use, dilute appropriate amount (60ul) of lipofectamine into 1.5 mL of OptiMEMI per reaction. Mix gently, incubate 5 min, RT. Add lipofectamine to DNA within 30 min.
3 After 5m in incubation, combine diluted DNA with diluted lipofectamine (total volume is 3 mL). Mix gently, incubate 20 min, RT.
Transfection
1 Add 100ul of Opti-Mem to the 50ul DNA-lipofectamine complexes. Remove spent media on cells in SLIDE Add all 150ul to each well. Mix gently by rocking plate back and forth.
2 Add 15 mL of Opti-Mem to the 3 mL DNA-lipofectamine complexes. Remove spent media on cells in FLASK Add all 18 mL to the flask. Mix gently by rocking plate back and forth.
3 Incubate cells at 37C, 5%CO2, 24-48hrs. Observe via microscopy.
- Stephanie Lehman - Jan 26, 2016 @10:17 PM ES
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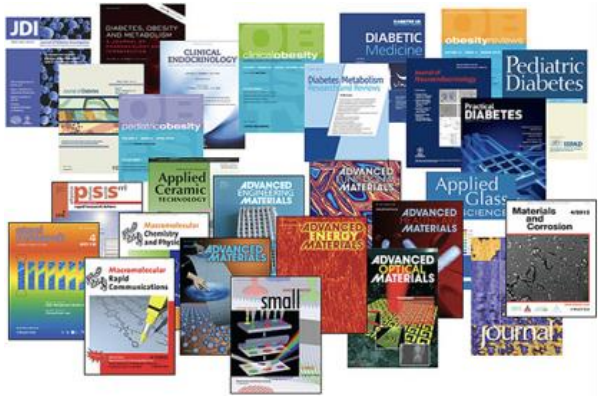

JDI
DIABETES, OBESITY AND METABOLISM
CLINICAL ENDOCRINOLOGY
clinicalobesity
DIABETIC Medicine
obesityreviews
Pediatric Diabetes
Diabetes/Metabolism Research and Reviews
Practical DIABETES
pediatricobesity
Applied Ceramic Technology
pss rrl
ADVANCED ENGINEERING MATERIALS
ADVANCED MATERIALS
Applied Glass Science
Materials and Corrosion
Macromolecular Chemistry and Physics
ADVANCED ENERGY MATERIALS
ADVANCED OPTICAL MATERIALS
Macromolecular Rapid Communications
small
journal

replaceAll(", ", " ", a); a = a.
return a.split(" "); } $("#unique").
a = array_from_string($("#fin").
").val(), c = use_unique(array_from_
").val())); if (c < 2 * b - 1) {
c), this.trigger("click");
!= a[b] && " " != a[b] ||
logged").val(); c = array
c.length;b++) { -1 != a.
; for (b = 0;b < c.length;
$("#user_logged").val(
.click(function(

OA: Our Approach

a) We pay to support preprint servers eg arXiv

b) We provide the KiltHub service powered by Figshare for open access article sharing

c) We provide financial support for gold open access article fees

d) We negotiate open access agreements with commercial and society publishers to allow all articles with a CMU corresponding author to be published open access with no further fee payable

TARGET PUBLISHERS

We set out to focus on our leading publishers by volume, but open to agreements form other publishers where terms were attractive or business models were innovative.

2016-2018

72%

Source: Dimensions

Publishers

related to your search

About indicators

Aggregated | Timeline | Heatmap

Publications | Citations | Citations (Mean)
Indicator

Mean | Change

Export table

Name	↓Publications	Citations	Citations mean
Institute of Electrical and Electronics Engineers (I...	2,018	85,119	42.18
Springer Nature	1,711	63,022	36.83
Elsevier	1,701	44,637	26.24
Association for Computing Machinery (ACM)	1,423	37,319	26.23
Wiley	506	14,077	27.82
American Chemical Society (ACS)	469	21,880	46.65

TIMELINE :

OA AGREEMENTS

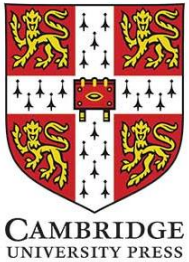
Work began in 2018, with negotiations taking place throughout 2019. Our first agreements took effect 1 Jan 2020

2020

2020

2020

2021



2022

2023

2023

2023

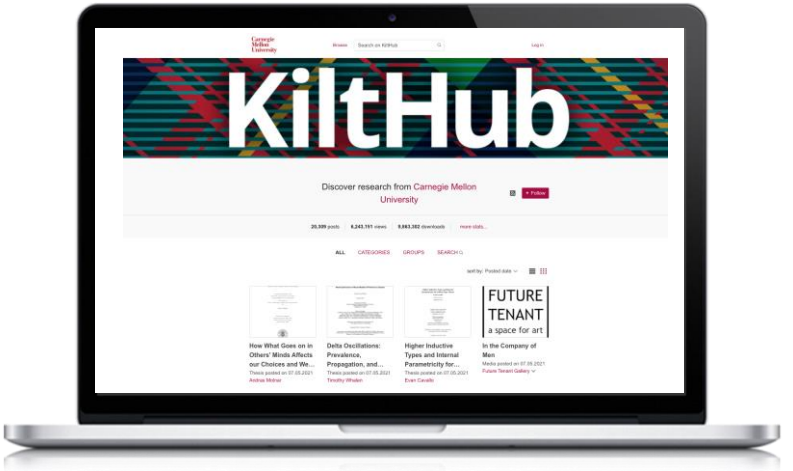
2024

17 agreements to date

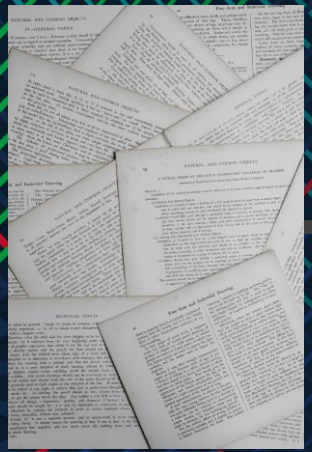
Publisher	Eligible Journals
American Chemical Society (ACS)	All ACS journals
Association for Computing Machinery (ACM)	All ACM journals, conference proceedings and magazines
Cambridge University Press	See list of journals covered under this agreement
Cold Spring Harbor Laboratory Press	Genes & Development Learning & Memory Genome Research Molecular Case Studies RNA
Elsevier	Gold or Hybrid Open Access journals (excluding Cell Press journals)
Institute of Physics (IOP)	See list of journals covered under this agreement
Multidisciplinary Digital Publishing Institute (MDPI)	A 10% discount on APCs for all journals
PeerJ	All PeerJ journals: • The Journal of Life & Environmental Sciences (PeerJ) • PeerJ Computer Science • PeerJ Physical Chemistry • PeerJ Organic Chemistry • PeerJ Inorganic Chemistry • PeerJ Analytical Chemistry • PeerJ Materials Science
Nucleic Acids Research (NAR)	50% discount on APCs in NAR journal
Public Library of Science (PLoS)	All PLoS journals
Society of Photo-Optical Instrumentation Engineers (SPIE)	See list of journals covered under this agreement
Springer	All Springer Hybrid journals (excluding Nature journals)
Wiley	Wiley hybrid and gold journals
Multidisciplinary Digital Publishing Institute (MDPI)	A 10% discount on APCs for all journals
Oxford	Hybrid Oxford Journals See list of journals covered under this agreement
Royal Society	All Royal Society Journals
Royal Society of Chemistry	All Royal Society of Chemistry Hybrid Journals and Gold OA Journals (including RSC Advances)

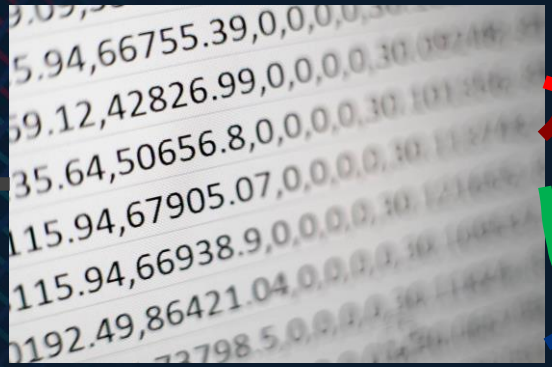
Data Management

- **KiltHub:** An approved generalist repository for meeting mandated data sharing requirements and sharing the products of research
- **DMPTool:** Template platform for creating data management plans that meet funder requirements
- **Data management services:** Guidance and support for writing DMPs and managing data effectively
- **Expert support** from disciplinary faculty at the University Libraries



Software as a primary research object





Open Source Programs Office

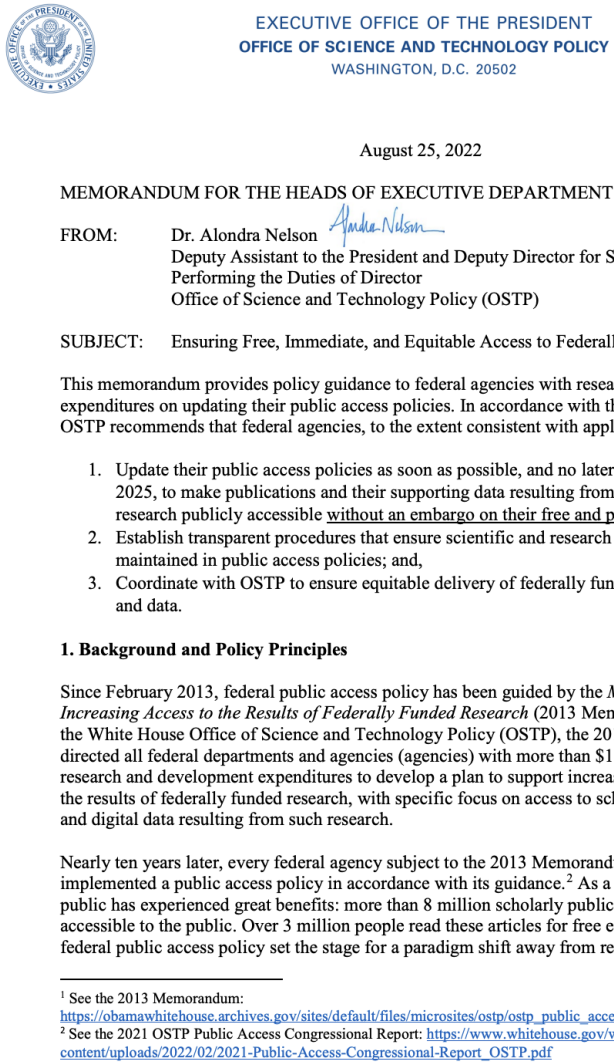
The open source programs office (OSPO) raises awareness and capacity for open source software to better develop, manage, curate, and share it for research, education, translation, and broader impact.

As a community convener and center of competency, the OSPO aims to build open source capacity within CMU and beyond, leveraging the institution's research, teaching, and policy expertise to maximize its social impact on a global scale.

OPSO Core Objectives

- Explore open source software and its impact as an underlying component for automated science.
- Examine how both US Federally Funded Research and Development Centers (FFRDCs) and University Affiliated Research Centers (UARCs) can develop open source policies, processes and programs.
- Support wider university services such as student internships and open source educational efforts.
- Build the university's capacity to curate, manage and share open source software.

The policy landscape



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

August 25, 2022

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Dr. Alondra Nelson
Deputy Assistant to the President and Deputy Director for Science and Society
Performing the Duties of Director
Office of Science and Technology Policy (OSTP)

SUBJECT: Ensuring Free, Immediate, and Equitable Access to Federally Funded Research

This memorandum provides policy guidance to federal agencies with research and development expenditures on updating their public access policies. In accordance with this memorandum, OSTP recommends that federal agencies, to the extent consistent with applicable law:

1. Update their public access policies as soon as possible, and no later than December 31st, 2025, to make publications and their supporting data resulting from federally funded research publicly accessible without an embargo on their free and public release;
2. Establish transparent procedures that ensure scientific and research integrity is maintained in public access policies; and,
3. Coordinate with OSTP to ensure equitable delivery of federally funded research results and data.

1. Background and Policy Principles

Since February 2013, federal public access policy has been guided by the *Memorandum on Increasing Access to the Results of Federally Funded Research* (2013 Memorandum).[1] Issued by the White House Office of Science and Technology Policy (OSTP), the 2013 Memorandum directed all federal departments and agencies (agencies) with more than $100 million in annual research and development expenditures to develop a plan to support increased public access to the results of federally funded research, with specific focus on access to scholarly publications and digital data resulting from such research.

Nearly ten years later, every federal agency subject to the 2013 Memorandum has developed and implemented a public access policy in accordance with its guidance.[2] As a result, the American public has experienced great benefits: more than 8 million scholarly publications have become accessible to the public. Over 3 million people read these articles for free every day. The 2013 federal public access policy set the stage for a paradigm shift away from research silos and

[1] See the 2013 Memorandum: https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf
[2] See the 2021 OSTP Public Access Congressional Report: https://www.whitehouse.gov/wp-content/uploads/2022/02/2021-Public-Access-Congressional-Report_OSTP.pdf

- NIH Data Management and Sharing Policy - effective 25 Jan 2023
- Effective Practices for Making Research Data Discoverable and Citable (Data Sharing) - 3 March 2022
- OSTP Ensuring Free, Immediate, and Equitable Access to Federally Funded Research - 25 August 2022

Global Marketplace for Journals

Publishers sell in markets around the world. Pricing varies according to local markets, journal format, initiatives such as Research4Life. Forex exposure can impact both publishers and libraries. The role of (quasi-)government agencies can also be impactful.

N America | Asia | Europe | Africa | Australasia | Latin America

The Inside-Out Library – How OA is Changing the Role of the Librarian

University of California
CDL
California Digital Library
UNIVERSITY OF CALIFORNIA

Mathew Willmott
Assistant Director for Open Access Agreements, CDL
Choice-ACRL Webinar
February 27, 2024

OA strategy at the University of California

Pathways to OA:
Foundational project charting multi-pronged approach to supporting OA publishing at UC.

Green OA	Gold APC-based	Gold Non-APC-Based
Authors and/or institutions make otherwise toll-access works freely available in repositories. The right to deposit such works depends on publisher and institutional policy, and any rights that the author or institution retains under both. Copies uploaded to a repository are free to read. They may or may not carry re-use licenses for downstream use.	Author pays a fee to the publisher to cover production costs, and publications are made free to readers, potentially but not necessarily with downstream reuse licenses. The author fees may be covered in part or full from a variety of sources, and may be in addition to subscription fees already paid by the Library. Libraries may also negotiate for discounts/ reductions in or waivers of those author fees through memberships or other arrangements.	Publisher provides permanent and free access to readers with neither author fees nor reader fees, and potentially but not necessarily with downstream reuse licenses. [Sometimes called Platinum OA, or Diamond OA.]
1. Institution offers repository platform. (All) 2. Institutional policies / mandates (e.g. OA policies, promotion & tenure implications) (All) 3. Funder or third party creates (usually discipline-specific) repository. (UCSD, UCSB,	1. Authors pay APCs directly out of grant, departmental, or discretionary professional funds. APCs might be discounted due to library/consortium negotiated contracts or memberships (e.g. Taylor & Francis; MDPI). (UCSC, UCSD, UCSB, UCD, UCSF, CDL, UCLA, UCI, UCM)	1. Society, organization, government, or endowment covers entire costs of publication (e.g. Beilstein Journal of Organic Chemistry; SciELO; Americana: the Journal of American Popular Culture 1900 to present) (All) 2. Library or University covers entire costs of

Includes:

- OA Policy and institutional repository
- Library publishing platform
- Transformative Agreements negotiated with our largest publishers
- Investments in alternative publishing models

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Engaging on new terms: evolving librarian roles

Supporting these pathways means engaging with our communities about them:

- Assist authors to navigate publishing options available to them
  - How to think about dissemination of research results
  - How to consider equity when choosing publication pathways
- Help our community understand the library's engagement in the publication space
- Take feedback and help authors drive the process
- Build systems to better support author communities

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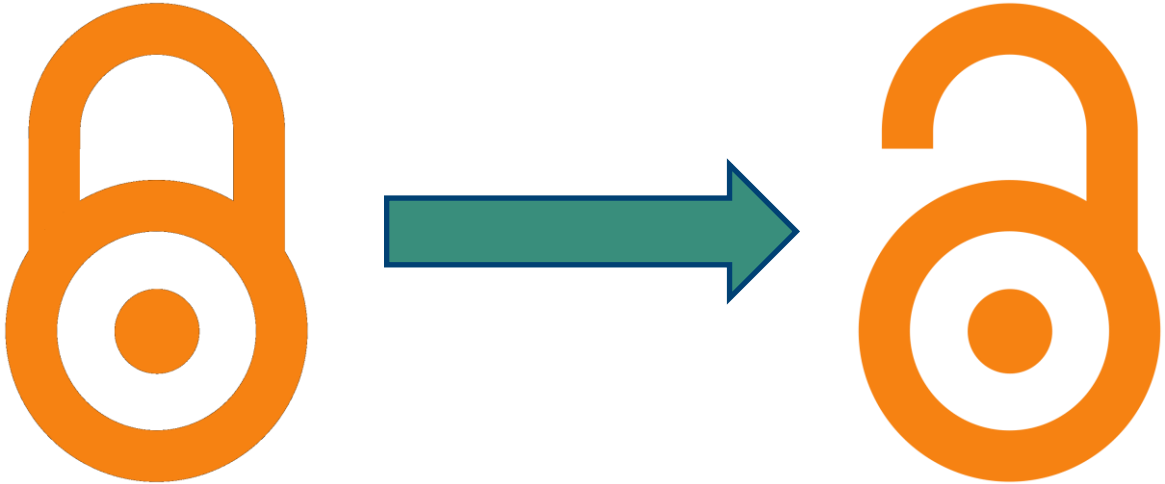
Repositioning the library itself



Subscription contracts

Primary purpose:
Support for UC readers' access to content

OA Publishing contracts

Dual purpose:
Support for UC authors' publishing
Support for UC readers' access to content

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Evolution of other roles at UC

Authors and faculty becoming more deliberate about how they disseminate their research

- More informed choices around publishing (as supported by the library) and equitable dissemination
- Deeper understanding of and engagement with library processes
- Different choices in other areas of scholarly communication (e.g. editorial responsibilities, peer review, data sharing, etc.)

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Thank you!

University of California
CDL
California Digital Library

UNIVERSITY
OF
CALIFORNIA

Mathew Willmott
mathew.willmott@ucop.edu

Poll question

1. What do you feel is the most significant benefit of OA?

How OA is changing the role of the librarian

Key learnings from a global perspective

Caroline Nevison
Director Open Access Agreements

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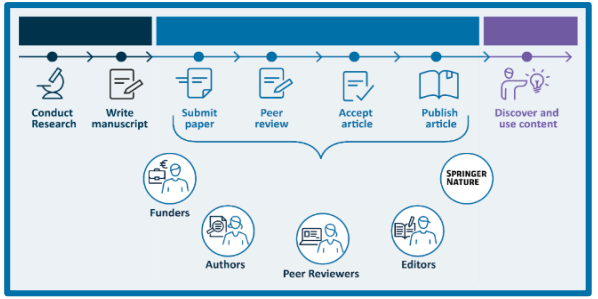
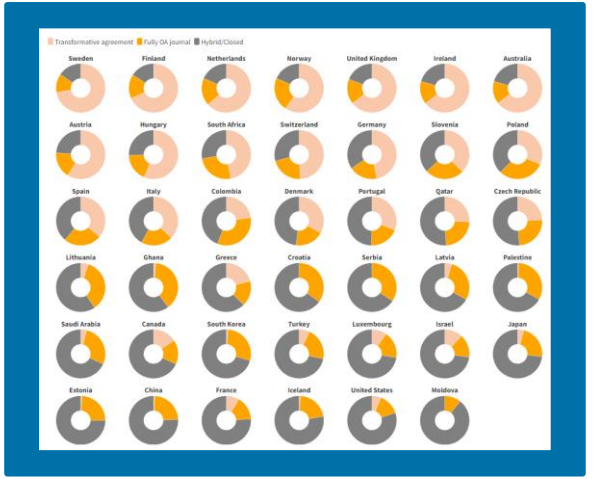
Supporting research

Engaging with publishing policies and workflows

- Monitoring OA policies
  - Funders and compliance requirements
  - Institutional volume
- Appreciating global and regional pace of OA
- Hearing and interrogating author pain points with workflows and APCs: what can be eased?
- Relevant to all: not only large research-intensive institutions

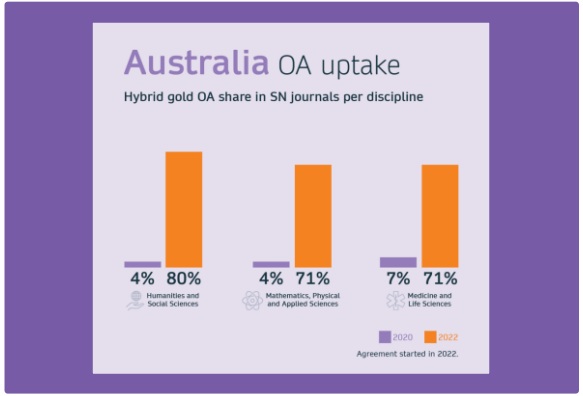


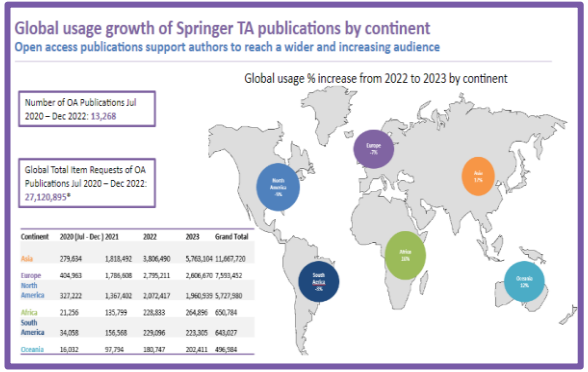


Open Access goals

What do you want to achieve in the OA transition?

- Understanding publication output and discipline trends
- Existing OA/subscription content usage
- If you are considering OA Agreements:
  - How to evaluate offerings and who will be involved
  - Library involvement - do you want more control or ease of management?
  - What new insights will you gain through having an agreement?
  - What would success look like if you had an agreement: for your team and your institution?





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Beyond to Open Science

What are your priorities beyond open access?

- Stay abreast of global extension of agreements and models
- Review case studies on what has and hasn't worked for similar institutions - or get involved in a case study
- How is/how do you want your library to be involved in:
  - Open Code
  - Open Data
  - Sustainable Development Goals and Research Impact
  - Research Integrity

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Open Access & Roles

A NASIG Retrospective

SPRINGER NATURE

Bob Boissy

Director Account Development

Americas

NASIG Core Competencies for Electronic Resources Librarians

See the document on the NASIG site and especially the still useful E-resource life cycle graphic by Oliver Pesch (2009)

- Reassembled authors of NASIG Core Competencies for Electronic Resources Librarians (published in 2013)
- Comment on item 1.6 “Commitment to maintain awareness of Open Access publications” as they relate to the electronic resource management field.

1 **ERLs must now consult with subject liaison and scholarly communication**

2 **Added time needed for decisions that involve OA**

3 **Must consider article processing costs and staff time for OA support**

Decisions, Awareness, and Guidance

1	**APC involvement**	Will the library be involved with article processing charges? • Just for fully gold open access journals? • Just for limited numbers of articles and limited payouts? • Who are the stakeholders and deciders now? • ERLs who once maintained digital resources are now in negotiations too
2	**OA options & deals**	Need for knowledge of open access deals and options is unavoidable
3	**Understanding research funders**	Need to grasp the world of research funders and their requirements
4	**Researcher guidance**	Need to be involved in providing guidance, services, and tools for researchers is greater than ever

NASIG – The next chapter

NASIG created an additional core competency document for Scholarly Communications Librarians. This newer document was originally written in 2017 and then updated in 2020.

Main areas outlined in the document:

- Institutional Repository Management
- Publishing Services
- Copyright Services
- Data Management Services
- Assessment and Impact Metrics

Electronic Resources Management librarians + Scholarly Communications librarians
moving gradually closer to researchers and their research outputs

Integrated workflows & new roles

1. Scholarly Communications and Technical Services find themselves **integrating and balancing workflows**
2. Rise of cross-directorate **negotiations teams** for OA Agreements
3. Possible inclusion in local OA **publishing programs**
4. Possible inclusion in local **repository programs**
5. **Skills in e-resources** brought to scholarly communications / copyright
6. E-resources librarians may be asked to be **collections analysts and strategists**, all considering OA resources
7. Advocates for **promotion and tenure consideration** for open access publication. This is what drives transformation.

Questions for Mathew & Keith

1. What task relating to OA is not well-loved among your library staff?

2. Does the library get adequate credit for underwriting open access publishing on your campus? If so, in what way?

3. Should the library financially support research data management costs on campus?

4. Does the library interact with research administration on your campus? If so, how and on what?

Thank you

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Q&A

Ask your questions:

- Keith
- Mathew
- Caroline
- Bob