

CHORUS

Advancing Public Access to Research

STM Frankfurt Conference

7 October 2014

Howard Ratner, Executive Director

CHOR Inc.

www.chorusaccess.org

Identification • Discovery • Access • Preservation • Compliance

Open Access Funder Mandates

courtesy of Oxford University Press

OSTP

Federal agencies with \$100m+ budget must:

- Develop a mechanism to make research results available within 12 months of publication
- Make unclassified data available to the public

HEFCE

- From 1st April 2016
- Deposit AAM in repository on acceptance (12/24 month embargo)
- Gold – no specific licence, no new funding

RCUK

Compliant if:

- Gold – CC-BY, immediate access
- Green – CC-BY-NC, 6/12 months if gold unavailable, 12/24 months if gold available but no funding

Wellcome Trust

- Deposit in PMC and Europe PMC within 6 months of publication
- Provides funds for APCs
- Requires CC-BY for gold

European Commission

Research funded by Horizon 2020 made accessible from 2014:

- Gold (APCs can be reimbursed)
- Green – 6/12 months after publication

European Research Council

- Deposit of articles in an appropriate research repository within 6 months

Howard Hughes Medical Institute (HHMI)

- Deposit in PMC within 12 months of publication

National Institutes of Health (NIH)

- Deposit in PMC within 12 months of publication

FWF (Austria)

- Gold – CC-BY, funding available
- Deposit AAM in sustainable subject/institutional repository under CC-BY-NC.
- 6 (or 12) month embargo
- Deposit in Europe PMC required for life sciences

Chinese Academy of Sciences (CAS)

- Deposit in institutional repository within 12 months of publication

Telethon Italy

- Deposit in Europe PMC within 6 months of publication
- Will cover APCs where appropriate

Australian Research Council (ARC)

- Free availability after 12 months in institutional repository
- No central compliance checks
- Author versions and final versions acceptable

Increasing Access to the Results of Federally Funded Scientific Research

All federal agencies funding \$100M or more annually in extramural research must develop public access plans

Free public access to peer-reviewed research articles (guideline: 12-month embargo, adapted to agency/discipline need)



Ensure interoperability and long-term stewardship

Issued February 2013
Agency plans under development with OSTP
DOE issued plan
24 July 2014

Need plans for both articles and data

CHORUS

A broad coalition of scholarly publishers formed to develop, implement and steward a partnership with the federal research funders for providing public access to the peer-reviewed publications that report on funded research.

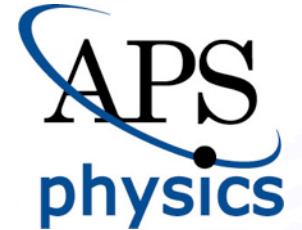
- Evolved from an ad-hoc group of publishers who initiated partnership discussions with several agencies in Spring 2011
- Incorporated as a not-for-profit entity – CHOR Inc. – on October 1, 2013
- US IRS 501(c)(3) tax-exempt status pending
- 100+ signatories and growing
- Exploring international partnerships
- Pilot launched October 2013
- Went into Production July 2014
- US Department of Energy announces partnership August 2014



American Chemical Society



Association for Computing Machinery



CHORUS

Board of Directors



ELSEVIER



ASSOCIATION OF AMERICAN PUBLISHERS, INC.



SILVER CHAIR
INFORMATION / SYSTEMS

WILEY

PLUS OVER 100 SIGNATORIES



Advancing Public Access to Research | www.chorusaccess.org

Supporting Organizations (September 2014)

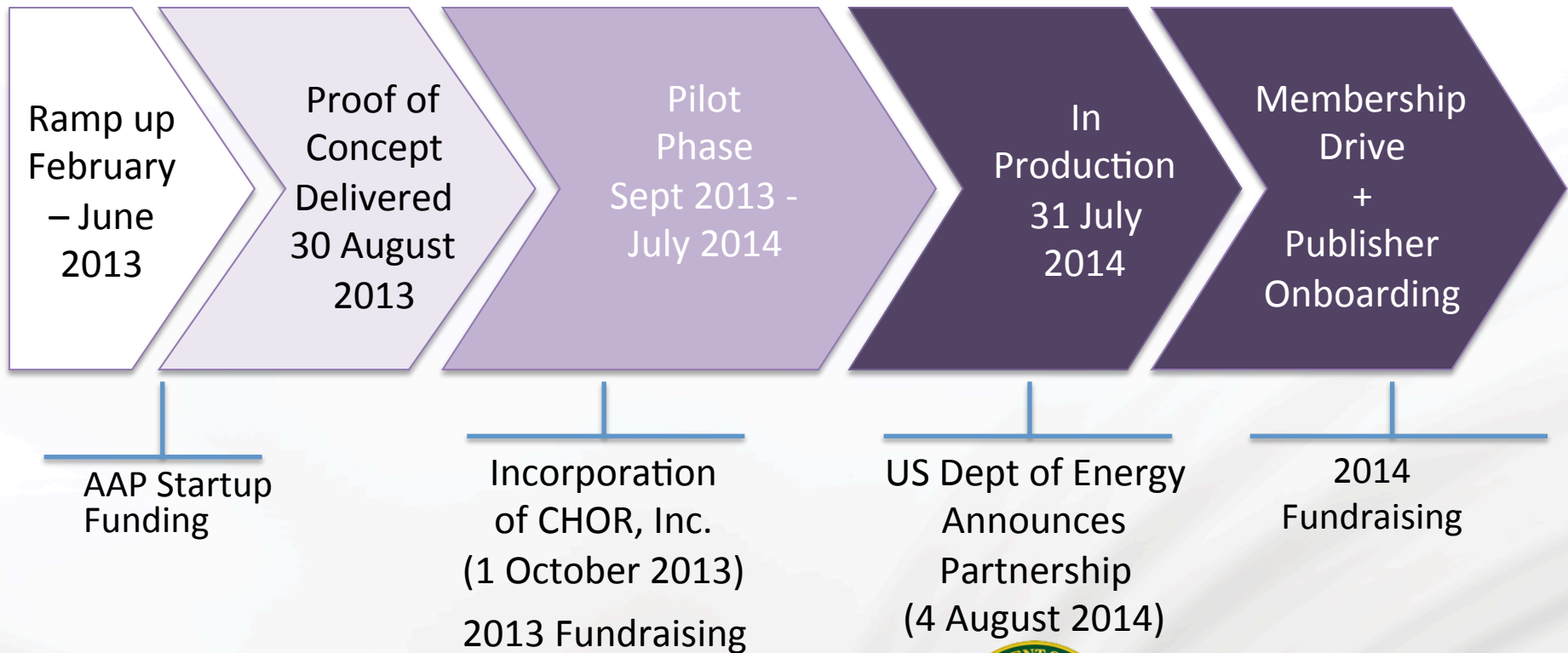
AAAS
Acoustical Society of America
ACSESS
American Association of Anatomists
American Association for Cancer Research
American Association of Physicists in Medicine
American Association of Physics Teachers
American Astronomical Society
American Chemical Society
American Crystallographic Association, Inc.
American College of Chest Physicians
American College of Physicians
American Dental Association
American Diabetes Association
American Geophysical Union
American Inst of Aeronautics and Astronautics
American Institute of Biological Sciences
American Institute of Chemical Engineers
American Institute of Physics
American Mathematical Society
American Meteorological Society
American Medical Association
American Nuclear Society
American Physical Society
American Physiological Society
American Psychiatric Publishing
American Psychological Association
American Society for Biochemistry and Molecular Biology
American Soc of Agricultural & Biological Engineers
American Society of Agronomy
American Society of Civil Engineers
American Society of Mechanical Engineers
American Society for Microbiology

American Society of Neuroradiology
American Society of Plant Biologists
American Speech-Language-Hearing Association
Asociacion Columbiana de Infectologia
Assoc for Computing Machinery (ACM)
Assoc for Research in Vision and Ophthalmology
AVS: Science & Technology of Materials, Interfaces and Processing
Biophysical Society
Bioscientifica
Botanical Society of America
British Editorial Society of Bone & Joint Surgery
BMJ
Cambridge University Press
Columbia University Press
The Company of Biologists
Crop Science Society of America
Dove Press
Duke University Press
Ecological Society of America
ECS - The Electrochemical Society
EDP Sciences
Elsevier
Emerald Group Publishing Limited
The Endocrine Society
Entomological Society of America
European Respiratory Society
Fabricators and Manufacturers Association, International
Genetics Society of America
GeoScienceWorld
Hindawi
Human Factors and Ergonomics Society
IEEE
iMedPub. Internet Medical Publishing

INFORMS
Institute of Physics Publishing
Institution of Engineering and Technology (IET)
Journal of Bone and Joint Surgery
Journal of Infection in Developing Countries
Journal of Rehabilitation Research and Dev
Lynne Rienner Publishers, Inc.
Materials Research Society
McGraw-Hill
Mycological Society of America
Nature Publishing Group
New England Journal of Medicine
Now Publishers
The Optical Society
Oxford University Press
The Physiological Society
Revista Medica de Risaralda
The Rockefeller University Press
The Royal College of Psychiatrists
The Royal Society
Royal Society of Chemistry
Sage Publications
Society for the Advancement of Materials on Process Engineering
Society for the Study of Reproduction
Soil Science Society of America
Springer Science+Business Media LLC
Taylor & Francis
Thieme Publishers
University of Chicago Press
John Wiley & Sons
Wolters Kluwer Medical Research

Plus 10 more service providers & organizations

CHORUS



US Agencies & CHORUS

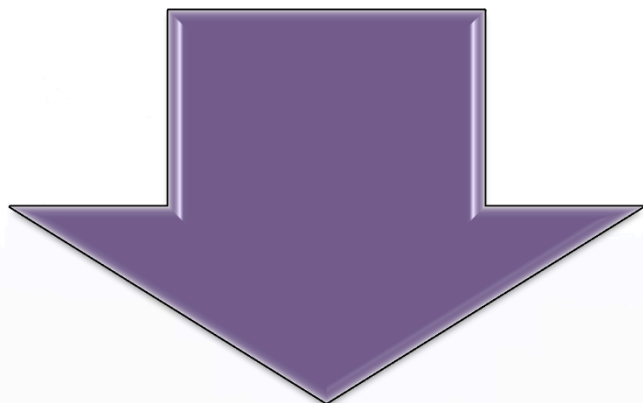


US Department of Energy
Announced Partnership
with CHORUS on 4 August 2014



Active discussions with 5-10
federal agencies

Why CHORUS?



**Sustainable, scalable path
to public access**

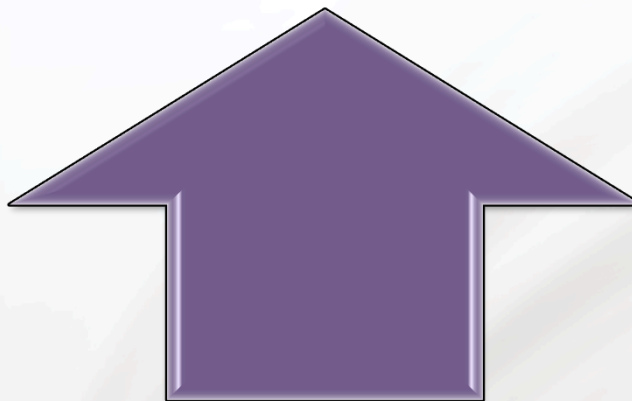
**Addresses the priorities of
researchers, funders,
publishers, and academic
institutions & libraries alike**



**Free to academic
institutions & libraries and
the public**

Cuts overhead for funders

**Contains costs for
publishers**



How Does CHORUS Help?

Identification

Discovery

Compliance

Alan
Agency

Rachel
Researcher

Preservation

Access

Lottie
Librarian

Penny
Publisher

Peter
Public

Preserve Agency Funds for Research!

Builds on existing infrastructure of the scholarly community



Access



Embargo Period Expires or Author/Funder Pays for Public Access



Accepted Author Manuscript
becomes publicly accessible

via **Publishers
Sites**

Version of Record
becomes publicly accessible



Identification

Funding Information

Please enter the funder name, grant number and the grant recipient. Authors listed in the dropdown menu were added during the Add/Edit/Remove Authors submission step. Click the '+' icon to add another funder. When you are finished, click the 'Next' button.

Funder Name	Grant Number	Grant Recipient	Action
Howard Hughes Medical Institute	HH 2055681	Dr. Mary François Smith	🗑️
National Science Foundation	KK9898-5476	Robert Jones	🗑️
National Institutes of Health (US)	897-42-98	Sarah Wilkes	🗑️

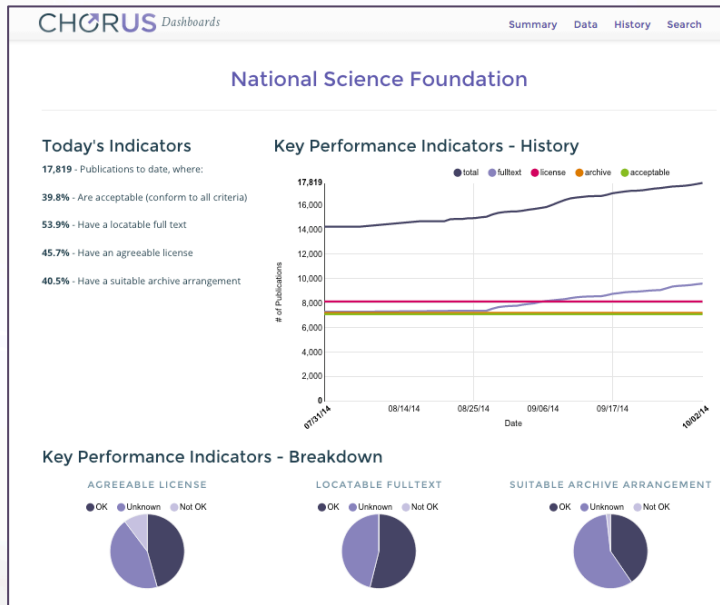
Previous Next

crossref
fundref

Discovery

CHORUS Search interface showing search results for 'National Science Foundation'. The results list various directorates and a specific article: 'Advances in the Chemistry of Oxaziridines'. Below this, a detailed view of a paper from PAGES is shown, with search results for 'penguin' and a list of three articles related to CP violation and pseudoscalar mesons.

Compliance



Preservation



CHORUS + SHARE

- CHORUS aspires to be inclusive and interoperate with scholarly repositories and other systems providing access to scholarly articles
- Agreed to work jointly on persistent identifiers, metrics, and notification system
- Continuing to explore more areas of collaboration
- Member of SHARE workflow working group

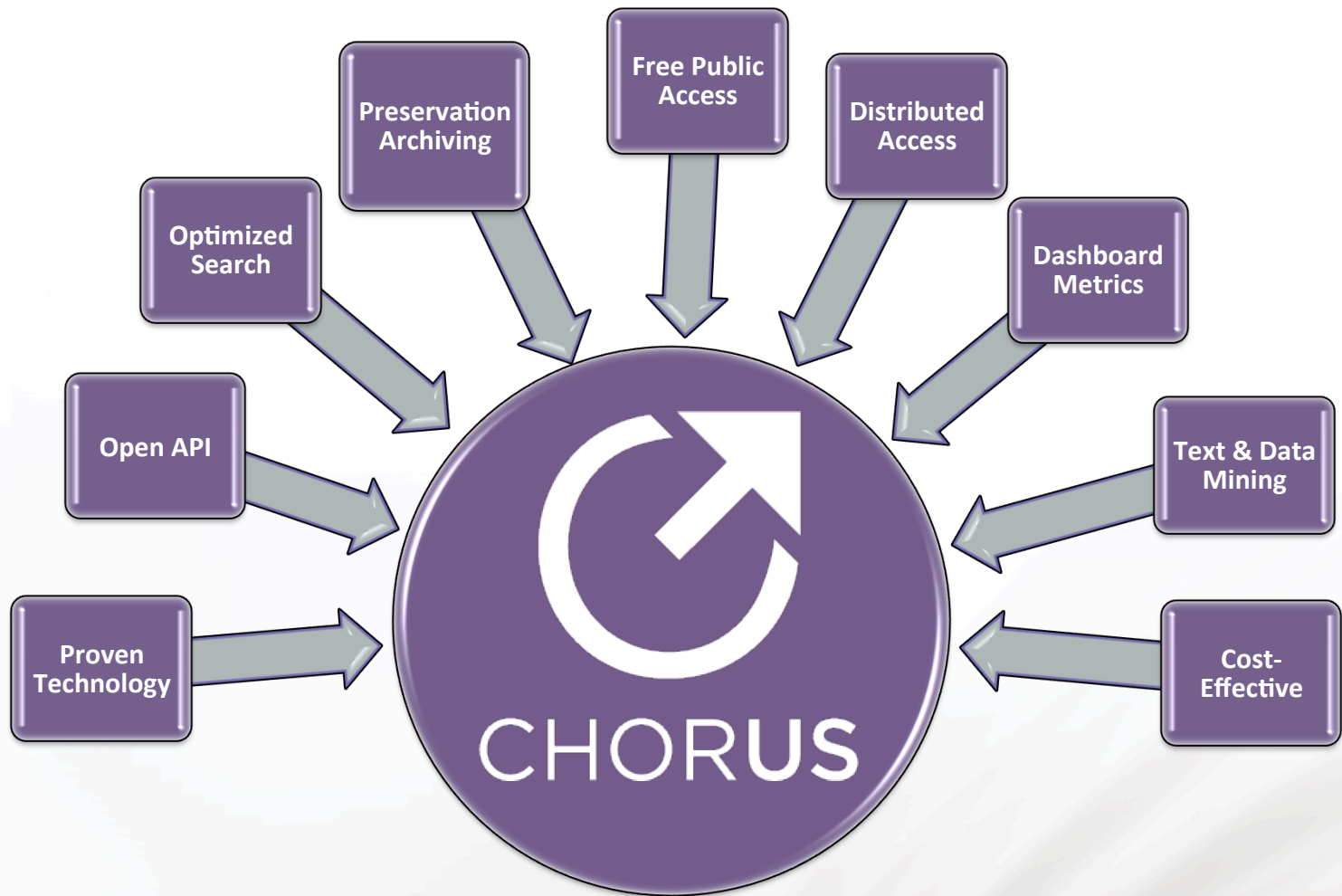
CHORUS + Data

- Unclear whether there is one unified mechanism for data and publications
- Value in linking data to the papers it supports
- Simplify procedures for researcher compliance and funding agency monitoring
- CHORUS infrastructure can link to data repositories when available
- CHORUS will use standard identifier schemes



What Do Publishers Need To Do?


- Become a member of CHORUS
- Become a member of CrossRef
- Sign up for FundRef as part of CrossRef membership
- Submit agency-related data to CrossRef's FundRef for all new content
- Send public access content reuse license and embargo metadata to CrossRef
- Deposit full text URIs with CrossRef Text and Data Mining Services
- Send relevant content to archiving service



A NEW PATH TO PUBLIC ACCESS

An innovative and cost-effective approach to delivering public access to scholarly content reporting on funded research.

[JOIN THE CHORUS COMMUNITY ↗](#)

 Researchers

 Funders

 Publishers

 Institutions

 The Public

CHORUS

Advancing Public Access to Research

Discover more information

www.chorusaccess.org

Contact: Howard Ratner

hratner@chorusaccess.org

Follow us on Twitter: [@chorusaccess](https://twitter.com/chorusaccess)

Identification • Discovery • Access • Preservation • Compliance

EXTRAS

How CHORUS Works: Identification

...built into the author's submission process



Funding Information

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National Institutes of Health (US)	897-42-98	Sarah Wilkes ▾	🗑️

+



crossref
fund



How CHORUS Works: Identification

...built into the author's submission process

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+

cross fund ret

How CHORUS Works: Identification

...built into the author's submission process



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+

Previous Next



crossref
fund



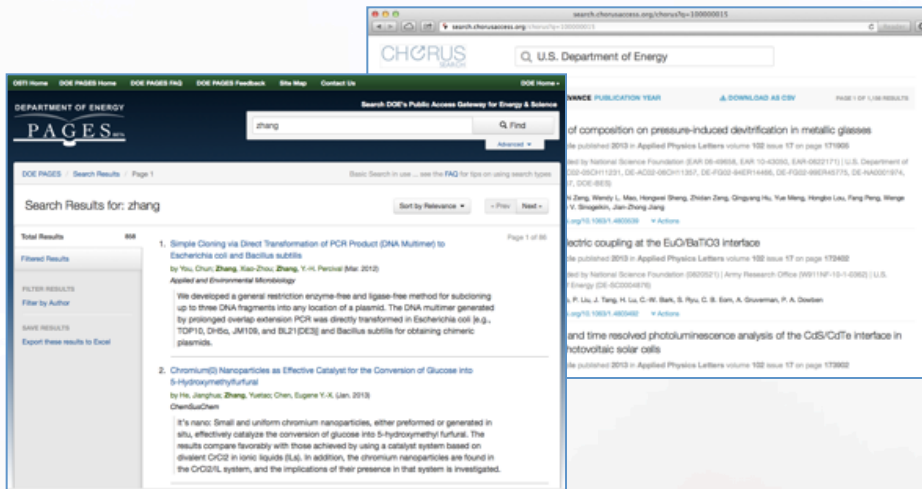
How CHORUS Works: Preservation

...use of existing, multiparty preservation strategy



How CHORUS Works: Discovery

...by any existing search engine



Text and Data-Mining
Services





CHORUS

SEARCH

US Federal only

- National Science Foundation United States
- National Science Board United States
- Lawrence Livermore National Laboratory, Office of Science United States
- Argonne National Laboratory, Office of Science United States
- National Science Digital Library United States
- Brookhaven National Laboratory, Office of Science United States
- National Institute of General Medical Sciences United States
- National Center for Advancing Translational Sciences United States
- National Center for Science and Engineering Statistics United States
- National Institute of Environmental Health Sciences United States



SORT BY: **RELEVANCE** PUBLICATION YEAR[DOWNLOAD AS CSV](#)

PAGE 1 OF 17,743 RESULTS

NATIONAL SCIENCE FOUNDATION[Directorate for Computer and Information Science and Engineering \(29\)](#) +[Directorate for Education and Human Resources \(48\)](#) +[Directorate for Engineering \(204\)](#) +[Directorate for Geosciences \(41\)](#) +[Directorate for Mathematical and Physical Sciences \(644\)](#) +[Directorate for Biological Sciences \(66\)](#) +[Science of Learning Centers \(0\)](#)[Office of Information and Resource Management \(1\)](#) +[National Science Board \(2\)](#)[Office of Integrative Activities \(1\)](#)[Office of Budget, Finance and Award Management \(5\)](#) +[Directorate for Social,](#) +

Proximity effects on the dynamics and outcomes of scientific collaborations

Journal article published **Nov 2014** in **Research Policy** volume **43** issue **9** on pages **1469** to **1485**

Research funded by National Science Foundation

Authors: Kabo Felichism W., Cotton-Nessler Natalie, Hwang Yongha, Levenstein Margaret C., Owen-Smith Jason

<http://dx.doi.org/10.1016/j.respol.2014.04.007> [Actions](#)

Insular muscarinic signaling regulates anxiety-like behaviors in rats on the elevated plus-maze

Journal article published **Aug 2014** in **Behavioural Brain Research** volume **270** on pages **256** to **260**

Research funded by National Science Foundation | Beijing Municipal Natural Science Foundation

Authors: Li Hui, Chen Lei, Li Peng, Wang Xiaohong, Zhai Haifeng

<http://dx.doi.org/10.1016/j.bbr.2014.05.017> [Actions](#)

Varying coefficient subdistribution regression for left-truncated semi-competing risks data

Journal article published **Oct 2014** in **Journal of Multivariate Analysis** volume **131** on pages **65** to **78**

Research funded by National Institutes of Health | National Science Foundation

Authors: Li Ruosha, Peng Limin

<http://dx.doi.org/10.1016/j.jmva.2014.06.005> [Actions](#)

CATEGORY

- Physics and Astronomy(all) (4,654)
- Condensed Matter Physics (3,341)
- Physical and Theoretical Chemistry (2,254)
- Electronic, Optical and Magnetic Materials (2,186)
- Nuclear and High Energy Physics (1,927)
- Physics and Astronomy (miscellaneous) (1,004)
- Chemistry(all) (924)
- Statistical and Nonlinear Physics (907)
- Atomic and Molecular Physics, and Optics (800)
- Statistics and Probability (760)
- Biochemistry (721)
- Materials Science(all) (638)
- Materials Chemistry (427)
- Catalysis (418)
- Colloid and Surface Chemistry (416)
- Surfaces, Coatings and Films (359)
- Organic Chemistry (351)
- Ecology, Evolution, Behavior and Systematics (335)
- Electrical and Electronic Engineering (246)
- Inorganic Chemistry (245)

TYPE

- Journal Article (16,685)

YEAR

- 2014 (5,228)
- 2012 (4,244)
- 2011 (4,162)

Scaled ZrO₂ dielectrics for In_{0.53}Ga_{0.47}As gate stacks with low interface trap densities

Journal article published 5 May 2014 in Applied Physics Letters volume 104 issue 18 on page 182912

Research funded by National Science Foundation

Authors: Chobpattana Varistha, Mates Thomas E., Zhang Jack Y., Stemmer Susanne

<http://dx.doi.org/10.1063/1.4875977> Actions

A portable time-domain LED fluorimeter for nanosecond fluorescence lifetime measurements

Journal article published May 2014 in Review of Scientific Instruments volume 85 issue 5 on page 055003

Research funded by National Science Foundation

Authors: Wang Hongtao, Qi Ying, Mountziaris T. J., Salthouse Christopher D.

<http://dx.doi.org/10.1063/1.4873330> Actions

Charge transfer effects of ions at the liquid water/vapor interface

Journal article published 14 May 2014 in The Journal of Chemical Physics volume 140 issue 18 on page 184703

Research funded by National Science Foundation

Authors: Soniat Marielle, Rick Steven W.

<http://dx.doi.org/10.1063/1.4874256> Actions

An unconstrained Lagrangian formulation and conservation laws for the Schrödinger map system

Journal article published May 2014 in Journal of Mathematical Physics volume 55 issue 5 on page 051502

Research funded by National Science Foundation

Authors: Smith Paul

<http://dx.doi.org/10.1063/1.4874106> Actions

Computationally efficient algorithms for incorporation of hydrodynamic and excluded volume interactions in Brownian dynamics simulations: A comparative study of the Krylov subspace and Chebyshev based techniques

Journal article published 14 May 2014 in The Journal of Chemical Physics volume 140 issue 18 on page 184903

Research funded by National Science Foundation

Authors: Saadat Amir, Khomami Bamin

API Integration with Agency Portals

The screenshot shows a web browser window with the URL `www.osti.gov/pages/search.jsp`. The page header includes navigation links: [OSTI Home](#), [DOE PAGES Home](#), [DOE PAGES FAQ](#), [About DOE PAGES](#), [API Docs](#), [Site Map](#), [DOE PAGES Feedback](#), and [DOE Home »](#). The main header features the DOE PAGES logo and the text "DEPARTMENT OF ENERGY PAGES Beta". A search bar contains the query "penguin" and a "Find" button. Below the search bar, there is a link for "+ Advanced Search".

The search results section shows "Search for: penguin" and "Page 1 of 7". A "Switch to Detail View for this search" link is available. The results are sorted by "Sort by Relevance" and include navigation buttons for "« Prev" and "Next »".

The results list includes:

- 1. Size of direct CP violation in singly Cabibbo-suppressed D decays**
Brod, Joachim; Kagan, Alexander L.; Zupan, Jure (Jul. 2012, American Physical Society)
[Full Text Available](#)
- 2. CP asymmetries in singly-Cabibbo-suppressed D decays to two pseudoscalar mesons**
Bhattacharya, Bhuvanijyoti; Gronau, Michael; Rosner, Jonathan L. (Mar. 2012, American Physical Society)
[Full Text Available](#)
- 3. Shift in weak phase γ due to CP asymmetries in D decays to two pseudoscalar mesons**
Bhattacharya, Bhuvanijyoti; Gronau, Michael; London, David; Rosner, Jonathan L. (Apr. 2013, American Physical Society)
[Full Text Available](#)

The left sidebar contains a summary of results:

- Total Results**: 63
- Publicly Available Full Text**: 63
- Citation Only**: 0

Additional options in the sidebar include "Filtered Results", "FILTER RESULTS", "Filter by Author", "SAVE RESULTS", and "Excel".

How CHORUS Works: Compliance

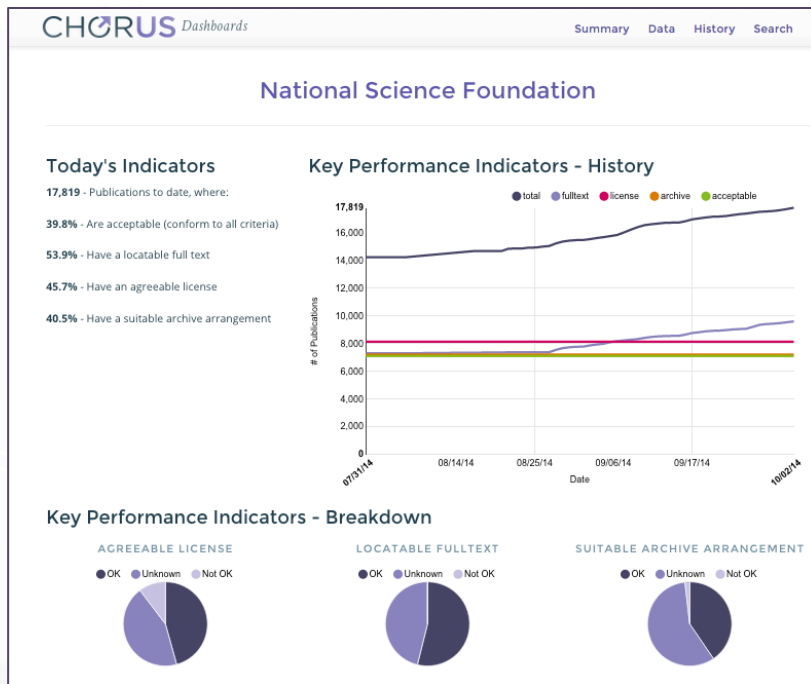
API and dashboards for monitoring and tracking publisher contributions to CHORUS



Government Agency Reports

Institution Reports

Publisher Reports



Live dashboard: dashboard.chorusaccess.org/nsf

National Science Foundation

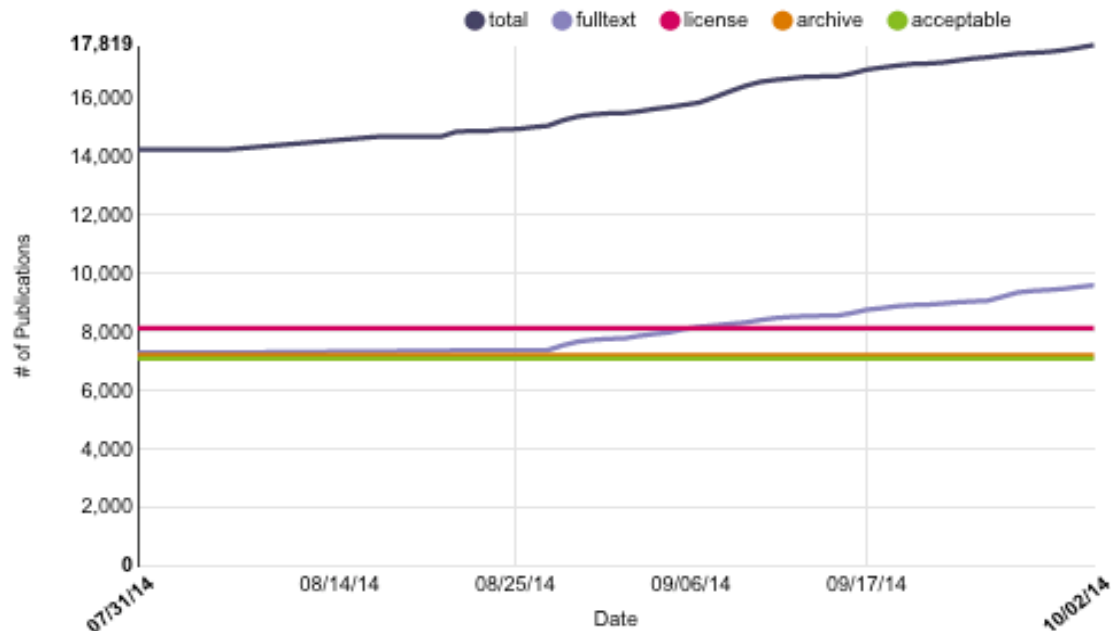
Deposits identifying NSF funding

Today's Indicators



- 17,819 - Publications to date, where:
- 39.8% - Are acceptable (conform to all criteria)
- 53.9% - Have a locatable full text
- 45.7% - Have an agreeable license
- 40.5% - Have a suitable archive arrangement

Key Performance Indicators - History



Key Performance Indicators - Breakdown

AGREEABLE LICENSE

● OK ● Unknown ● Not OK

Records having agreeable licenses



LOCATABLE FULLTEXT

● OK ● Unknown ● Not OK

Content tested for public accessibility



SUITABLE ARCHIVE ARRANGEMENT

● OK ● Unknown ● Not OK

Deposits made to dark archives



Membership Model

Publisher Members

<\$5M Total Publishing Revenue:	\$1,000
≤\$20m Total Publishing Revenue:	\$3,000
≤\$50m Total Publishing Revenue:	\$5,000
≤\$100m Total Publishing Revenue:	\$15,000
≤\$200m Total Publishing Revenue:	\$25,000
≤\$500m Total Publishing Revenue:	\$35,000
>\$500m Total Publishing Revenue:	\$50,000

Affiliate Members

<\$1m Gross Revenue:	\$5,000
≤\$10m Gross Revenue:	\$15,000
>\$10m Gross Revenue:	\$25,000

Revenue Projections

\$650,000 in 2014/2015 membership fees
\$930,000 in 2016 membership fees

Agency/Funder Partners

No cost
Endorse and use services
Advisory status only

Academic Supporters

No cost
Advisory status only

Sponsors

Seeking \$500,000 in 2014 sponsorship from publishers at Frankfurt to cover operating 2015 expenses while membership drive is underway

Half of 2013 sponsorship drive