

A not-for-profit **Publisher-Agency Partnership**Providing Public Access to the Results of
Agency Sponsored Research

Revealing the Pilot - 8 October 2013

Howard Ratner, Director of Development, CHORUS

2013 STM International Frankfurt Conference





A broad coalition of scholarly journal publishers formed to develop, implement and steward a partnership with the federal research funders for providing public access to the peer review publications that report on federally-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
- Will be applying for US IRS 501(c)(3) tax-exempt status

Goals:

- Fully meet all requirements of the February 22, 2013 OSTP memo
- Leverage existing infrastructure and investment of the agencies and publishers
- Preserve agency funds for mission critical activities/programs
- Provide for international scalability









Building On A Tested Model for the Proposed Partnership

FundRef:

A methodology for identifying articles resulting from agency funded research was launched in May 2013 by CrossRef after completion of a pilot involving DOE, NSF, NASA, Wellcome Trust and seven of the partner publishers

This pilot project addressed article identification by funding agencies; it is now a live service as of May 2013





Personas / Stakeholders



Alan the Agency Department Head (e.g., DOE, NSF, USAID)

Wants to...

- meet OSTP guidelines/mandate
- measure grantee and agency compliance with guidelines/mandate
- show how his agency's investments are having impact (ROI)
- know who his agency is funding
- have access to or be fed reporting information at agreed upon intervals
- provide access to the best available version (BAV*) of articles resulting from agency funding for their constituency
- be able to preserve the content
- integrate information from publisher systems with their own internal systems (via APIs)
- be able to text and data mine the content
- avoid administrative burden to grantees/rewardees
- •



^{*} BAV = Best Available Version – accepted manuscript or version of record

Rachel the Researcher / Principal Investigator

Wants to ...

- obtain funding for her research
- meet agency guidelines
- know the sources of funding in her area of research
- have access to best available version (BAV*) of content in her research area
- extract metadata and entities by text and data mining the content
- get recognition for her research
- upload information into a system once and be used by many
- avoid extra administrative work
- ...



^{*}BAV = Best Available Version – accepted manuscript or version of record

Paul the Publisher

Wants to ...

- help authors and agencies meet agency and government guidelines
- offer access to best available version (BAV*) of their content
- provide persistent access to his content
- sustain his business model
- get recognition by scholarly research community for contribution as a publisher
- know what institutions are publishing research
- attract best authors, editors, best societies
- attract eyeballs and clicks to his website(s)
- develop new services
- know who funded the research for articles published
- avoid extra administrative work
- ...



^{*}BAV = Best Available Version – accepted manuscript or version of record

Peter the Public

Wants to ...

- have access to best available version (BAV*) of content to research a problem he had in his their daily life
- see what the government is funding
- learn the impact of specific agency grants
- understand the latest developments in science
- understand what he is seeing by being given context and guidance
- have content connected to learning tools



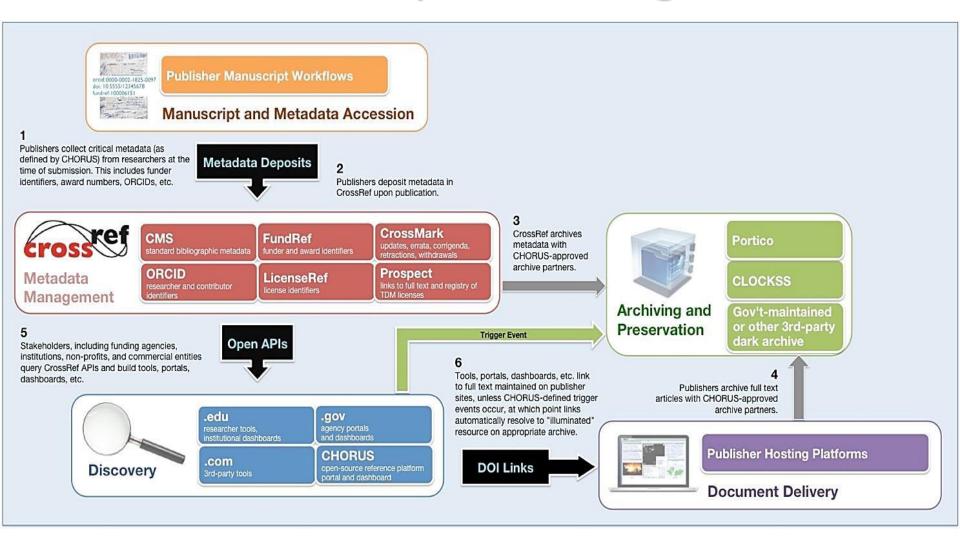
^{*} BAV = Best Available Version – accepted manuscript or version of record



CHORUS Design & Services



CHORUS Conceptual Design



Service 1. Key Performance Indicators Dashboard (website & API)

System for monitoring and tracking publisher contributions to the CHORUS system

What:

- #/% of content (i.e., articles, conference proceedings, books) from agency funded research
- #/% of articles from agency funded research per year
- #/% licenses registered for those articles
- % of articles from a publisher is publically accessible
- % of articles archived
- % of articles have basic FundRef metadata

Future:

- # ORCIDs from agency funded research
- # affiliation from agency funded research
- Passed audit (government agency, independent, etc.)
- alert/report based on compliance criteria at agreed intervals
- alert/report based on actual access (ping) vs stated license at agreed intervals



Data

History

Pilot Estimates

Summary

Today's KPIs

1,300

publications to date, where:

600

are acceptable (conform to all criteria)

1,200

have a locatable full text

1,200

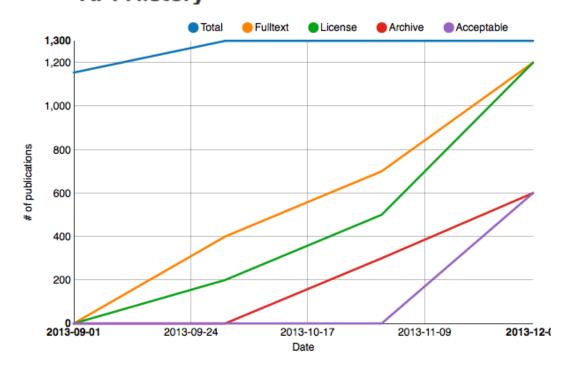
have an agreeable license

600

have a suitable archive arrangement



KPI History



Breakdown

Agreeable License Locatable Fulltext Suitable Archive Arrangement Not OK Unknown Not OK Unknown Unknown Not OK # Deposits made # Records Content tested to dark archives having DOE for public approved by approved accessibility **US DOE** licenses

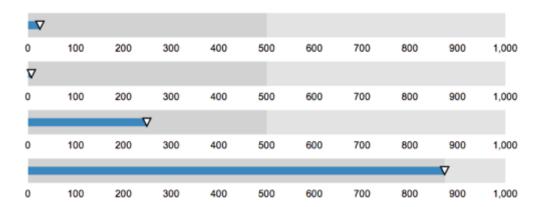
Publisher FundRef Records

Institute of Electrical & Electronics Engineers (IEEE)

Wiley-Blackwell

Elsevier BV

American Institute of Physics (AIP)



Live CHORUS DOE dashboard:

http://dashboard.chorusaccess.org/usdoe

Service 2. Discovery Service (website & API)

Discovery service for content resulting from agency-funded research. Agencies can use API to feed their own portals. CHORUS website can be used by end users. Customized versions of CHORUS website can be created for agencies.

What:

- enables user to search across bibliographic metadata
- links to publisher site (BAV = AM or VOR)
- download list of results in CSV for analysis
- facet (filter) by sub-organization
- facet (filter) by parent organization
- facet (filter) by content type (e.g., book, journal, dataset, conf proceeding, component)
- facet (filter) by year of publication
- facet (filter) by subject category (e.g., physics, astronomy, ...)
- facet (filter) by year of publication
- facet (filter) by publisher
- cite any result using Citation Style Language (CSL) defined format

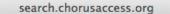
Future

- facet (filter) by author/ORCID (to come)
- add to ORCID profile
- import results into reference manager software (via COinS)
- see if result has been cited by patents (in progress)
- number of times result is cited (CrossRef Cited By Service/Scopus/Web of Knowledge)
- service open to public





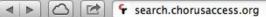
















Q us department of e

U.S. Department of Education United States

U.S. Department of Energy United States









search.chorusaccess.org/chorus?q=100000015



C Reader



IK 71



U.S. Department of Energy

 Include funding from suborganizations

U.S. DEPARTMENT OF ENERGY

Research and Development, Office of Electricity Delivery and Energy Reliability

Technology Innovation and Development, Office of Environmental Management

Public Information, Office of Public Affairs

Nuclear Facility Operations, Office of **Nuclear Energy**

Clean Coal, Office of Fossil Energy

Advanced Scientific Computing Research, Office of Science

Biomass Program, Office of Energy Efficiency and Renewable Energy

Office of Space and Defense Power Systems, Office of Nuclear Energy

Energy Policy, Office of General Counsel

SORT BY: RELEVANCE PUBLICATION YEAR

▲ DOWNLOAD AS CSV

PAGE 1 OF 1,156 RESULTS

The effect of composition on pressure-induced devitrification in metallic glasses

Journal Article published 2013 in Applied Physics Letters volume 102 issue 17 on page 171905

Research funded by National Science Foundation (EAR 06-49658, EAR 10-43050, EAR-0622171) | U.S. Department of Energy (DE-AC02-05CH11231, DE-AC02-06CH11357, DE-FG02-94ER14466, DE-FG02-99ER45775, DE-NA0001974, DE-SC0001057, DOE-BES)

Authors: Qiaoshi Zeng, Wendy L. Mao, Hongwei Sheng, Zhidan Zeng, Qingyang Hu, Yue Meng, Hongbo Lou, Fang Peng, Wenge Yang, Stanislav V. Sinogeikin, Jian-Zhong Jiang

Thttp://dx.doi.org/10.1063/1.4803539

Magnetoelectric coupling at the EuO/BaTiO3 interface

Journal Article published 2013 in Applied Physics Letters volume 102 issue 17 on page 172402

Research funded by National Science Foundation (0820521) | Army Research Office (W911NF-10-1-0362) | U.S. Department of Energy (DE-SC0004876)

Authors: S. Cao, P. Liu, J. Tang, H. Lu, C.-W. Bark, S. Ryu, C. B. Eom, A. Gruverman, P. A. Dowben

Thttp://dx.doi.org/10.1063/1.4803492

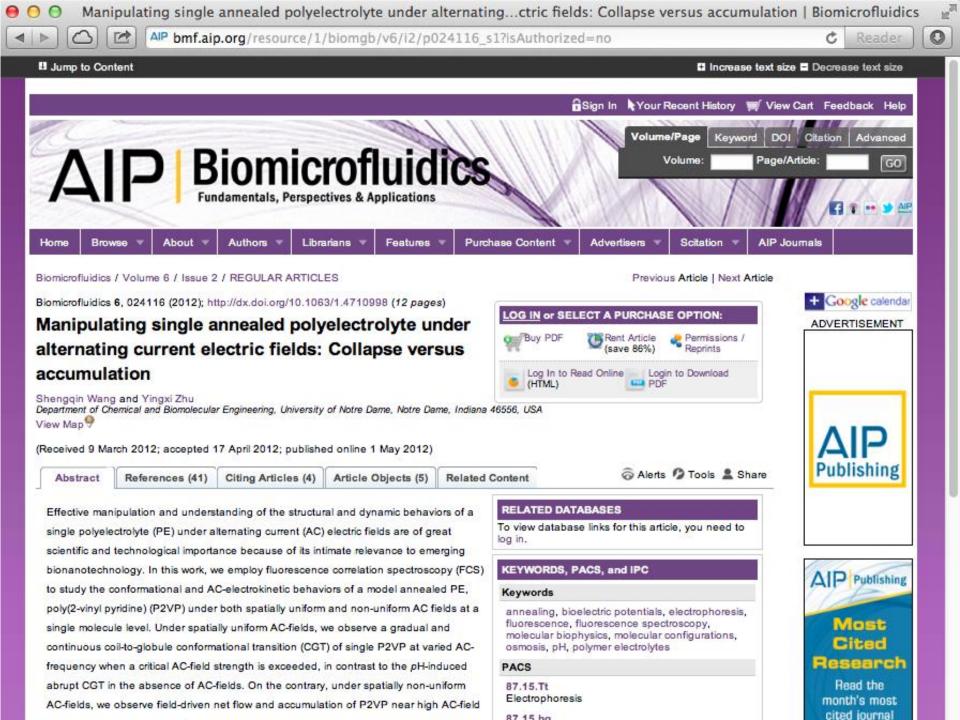
Spectrally and time resolved photoluminescence analysis of the CdS/CdTe interface in thin-film photovoltaic solar cells

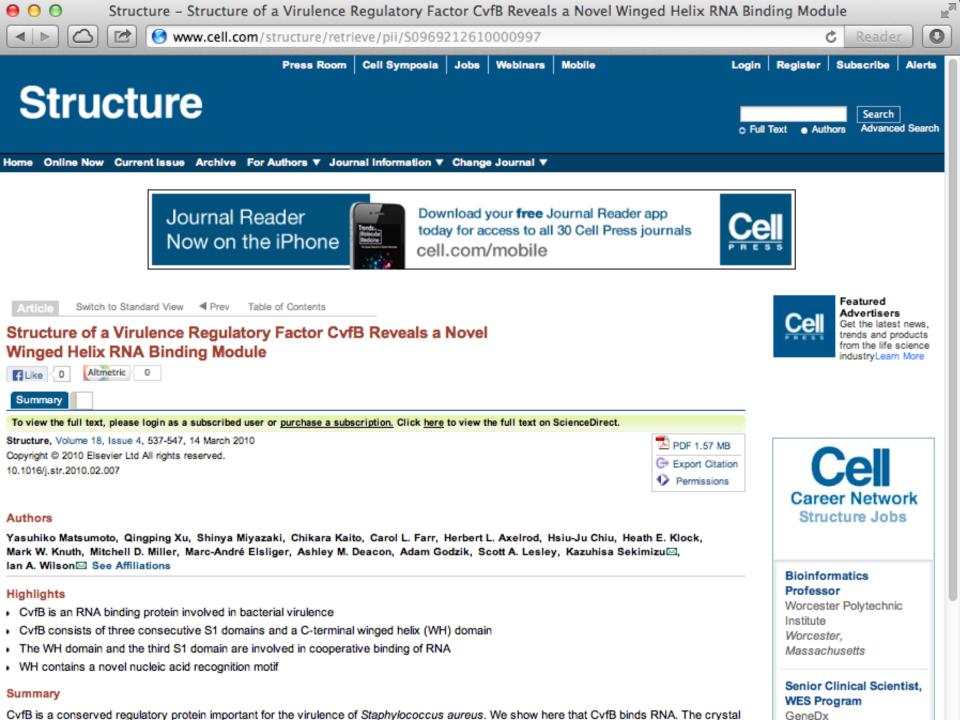
Journal Article published 2013 in Applied Physics Letters volume 102 issue 17 on page 173902















Structure of a Virulence Regulatory Factor CvfB Reveals a Novel Winged Helix RNA Binding Module

Yasuhiko Matsumoto, 1,8 Qingping Xu, 2,3,8 Shinya Miyazaki, 1 Chikara Kaito, 1 Carol L. Farr, 2,4 Herbert L. Axelrod, 2,3 Hsiu-Ju Chiu, 2,3 Heath E. Klock, 2,5 Mark W. Knuth, 2,5 Mitchell D. Miller, 2,3 Marc-André Elsliger, 2,4 Ashley M. Deacon, 2,3 Adam Godzik, 2,6,7 Scott A. Lesley, 2,4,5 Kazuhisa Sekimizu, 1,* and Ian A. Wilson 2,4,*

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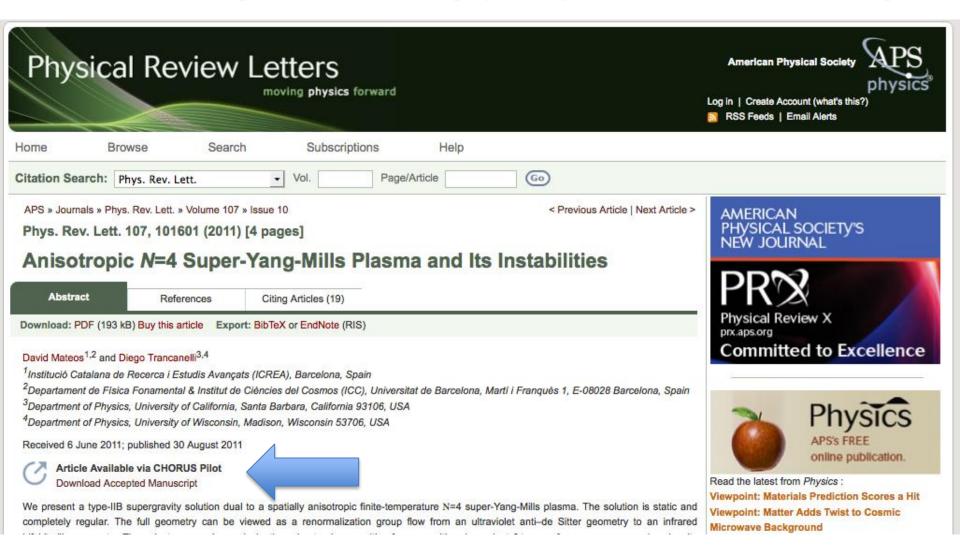
*Correspondence: sekimizu@mol.f.u-tokyo.ac.jp (K.S.), wilson@scripps.edu (I.A.W.)

DOI 10.1016/j.str.2010.02.007

SUMMARY

repression of the spa gene, encoding protein A, a cell wall protein in S. aureus (Matsumoto et al., 2007). Furthermore, cvfB also CvfB is a conserved regulatory protein important for contributes to the production of a protease and nuclease via

American Physical Society (APS) Author Manuscript



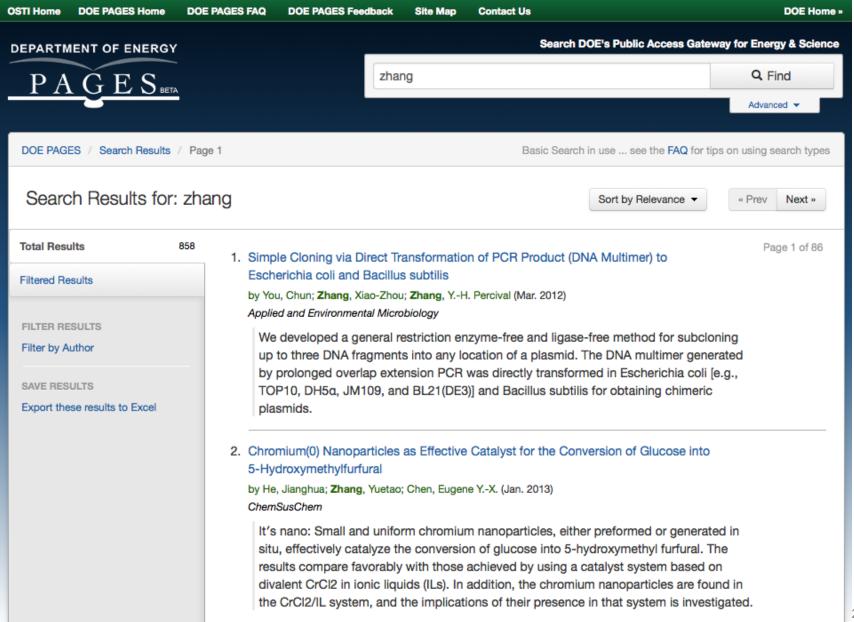
API Integration DOE's PAGES Example

Public Access Gateway for Energy and Science (PAGES): (courtesy of W. Warnick, DOE-OSTI)



- Objective to provide public access to the "best available version" of a DOE-affiliated publication (q.v. the publisher's Version of Record (VoR) if it is available).
- PAGES will ingest CHORUS metadata via API and will link to publishers best available version (the VoR or the Accepted Manuscript).
- CHORUS will allow full-text indexing of articles via API to enhance PAGES search precision.
- FundRef will enable agencies and CHORUS to accurately identify agency-specific publications and monitor public access compliance

API Integration with Agency Portals



Service 3. Text Mining Using CrossRef's Prospect Service

The Issue

- Researchers are increasingly interested in text and data mining (TDM) published scholarly content.
- Both Researchers and Publishers find it impractical to negotiate multiple bilateral agreements.
- All would benefit from technical standards to enable TDM (APIs and data representations).

The Idea

- CrossRef's Prospect service provides:
 - Common API
 used by researchers to access the full text of content identified by CrossRef
 DOIs across publisher sites regardless of their business model.
 - License Registry
 - transparently shows what terms apply
 - provides "click-through" agreement of TDM licenses if needed



Service 3. Text Mining using CrossRef's **Prospect Service** Grants full text acce based on researcher's Publisher subscription rights 2. Checks researcher's Journal of API token to ensure they have agreed to T&Cs 1. Deposits license and full text URIs for Content Negotiation Updates researcher' API token to show they have agreed to T&Cs XML Assigns API Token to researcher prospeci Handles DOI Content (DOI) Presents licenses to Negotiation to get researcher in "one researcher to machinestop shop" readable content 2. Registers with Prospect using ORCID and receives Researcher a Prospect API Token 4. Requests full text using DOIs, Prospect API token and Content Negotiation 3. Reviews and agrees 1. Identifies to publisher articles of interest license(s). If content is using preferred OA researcher goes straight to step 4. discovery service

Service 4. Digital Preservation with Agency Controlled Triggers

The STM publishing and library communities have collaborated for nearly two decades to build systems for archiving and long-term preservation of scholarly content in digital formats.



- 1) Preservation Agreements (Publishers \Leftrightarrow Archives)
 CHORUS participants must have preservation agreements covering all the titles in which articles from agency-funded research appear
- 2) Archival Metadata
 CHORUS needs to document the archiving arrangements and make that visible in the dashboard
- 3) Trigger Terms & Conditions

Agencies want be involved in specifying trigger conditions CHORUS may develop a standard modification to the archiving agreements All publishers would need to execute amendments to their archiving agreements

CHORUS will maintain dashboard to monitor status



Government maintained or other 3rd-party dark archive







- Publisher No Longer in Business The publisher is no longer in business or is no longer in the business of publishing content or providing access to previously published content and there are no successor interests or reversions or transfers of rights;
- Title No Longer Offered The publisher has stopped publishing and is no longer providing access to the content and there are no successor interests or reversion or transfer of rights;
- Catastrophic Failure While still publishing content, the publisher is not able to provide access to the content electronically due to technical or similar catastrophic failure.
- Article No Longer Accessible Full text is inaccessible to the public.



Digital Preservation Use Cases



1. Publisher closes public access to Public Access article (post-embargo) (for whatever reason)

Solution: CHORUS triggers the lighting of the article based on agency criteria

- 1. CHORUS Alerts are sent to publisher and agency
- 2. Agency contacts publisher to determine cause and impact (email, phone, etc.)
- 3. If not resolvable, Agency or CHORUS triggers the lighting of the article
- 4. Agency or CHORUS instructs Host Archive to make article publicly accessible
- 5. Agency redirects links for that article on their portal system to Host Archive

2. Publisher reopens public access to Public Access article (post-embargo)

Solution: CHORUS triggers the darkening of the article based on agency criteria

- 1. CHORUS Alerts are sent to publisher and agency
- 2. Agency confirms access
- 3. Agency or CHORUS triggers the darkening of the article
- 4. Agency or CHORUS instructs Host Archive to make article inaccessible
- 5. Agency redirects links for that article on their portal system back to publisher URL via CrossRef



Digital Preservation during Pilot Phase 1 (September-December 2013)

- Agreements between:
 - CHORUS and Pilot Publishers
 - including requirement to supply PDFs to Host Archive Service (for files currently publicly accessible and in pilot)
 - 2. CHORUS and Host Archive Service (Deep Web Technologies)
 - 3. CHORUS and Agency (e.g., US DOE)
- Technical Options

Ingest

A. Pilot publishers send PDFs (currently publicly accessible) directly to Host Archive Service

or

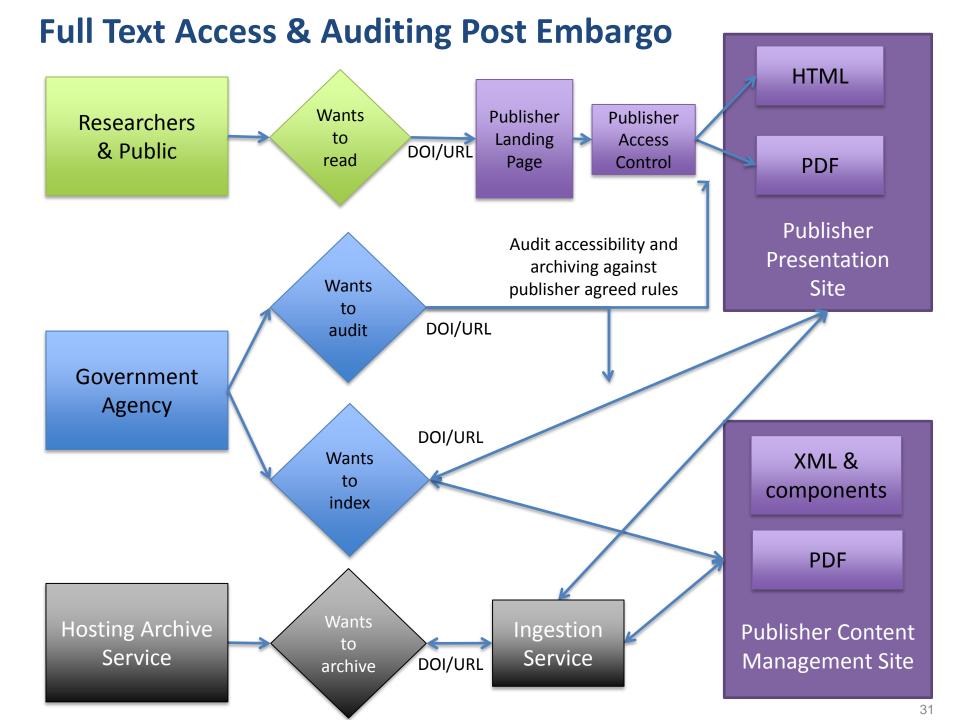
B. Pilot publishers instruct ingestion service (CLOCKSS, Portico) to send relevant PDFs directly to Host Archive Service



Digital Preservation Post-Pilot Phase 2 (starting January 2014)

CHORUS will continue to work with agencies and existing digital preservation services such as CLOCKSS and Portico to determine whether the existing operational processes between publishers and these archiving services can be incorporated into the CHORUS system to increase efficiency while still giving agencies the needed level of control over trigger events.





Draft Goals of Pilot (1 of 2)

- Show how publishers can work together to broaden access to content
- Demonstrate public-private partnership between publishers and agencies
- Demonstrate that the system can point to publicly accessible content on publisher sites in a cost efficient and consistent manner
- Demonstrate that a dashboard can be used to check on publisher contributions and provide much needed transparency
- Uncover issues with archiving publicly accessible content with agency controlled triggers



Draft Goals of Pilot (2 of 2)

- Uncover needs and desires of agencies and publishers (for example, intramural vs. extramural research workflows)
- Integrate with agency portals as they are available
- Think through legal agreement issues between publishers, agencies and service providers
- Streamline and bring focus to publisher internal processes regarding implementing the CHORUS services
- Develop a well documented method for participation in CHORUS by publishers and agencies
- Help facilitate open discussion between publishers, agencies, institutions, libraries, researchers and public stakeholders by analyzing and making the pilot system public



What Do Publishers Need To Do?

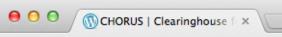
- Become a signatory of CHORUS
- Become a member of CrossRef
- Sign up for FundRef as part of CrossRef membership
- Submit Agency Related data to FundRef for all new content
- Send License and Embargo metadata to CrossRef
- Deposit full text URIs with CrossRef Prospect
- Sign CHORUS Pilot Agreement
- Send relevant content to host archive service



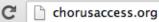
Pilot Pilot Proof of Pilot Ramp up Tech Phase Production Concept Review Jan -Build 30 Sept -Early Delivered Begins June Delivered 31 Dec 2014 30 Aug Jan 2014 2013 30 Sept 2013

AAP Startup Funding July 2013 Incorporation Fundraising of CHOR Inc.
1 Oct 2013











SEARCH ...

Clearinghouse for the **Open Research** of the United States

FOR PUBLISHERS

FOR AGENCIES

EVENTS

SIGNATORIES

ABOUT

LATEST ENTRIES

FACT SHEET

What is CHORUS?

Posted on August 30, 2013 . Leave a comment

The Clearinghouse for the Open Research of the United States (CHORUS) is a not-for-profit public-private partnership to increase public access to peer-reviewed publications that report on federally funded research. Conceived by publishers, CHORUS would: Provide a full solution for agencies to comply with the OSTP memo on public access to peer-reviewed scientific publications reporting on ... Continue reading »

CHORUS Enters Pilot Phase – to be unveiled at STM Annual Conference and Frankfurt Bookfair

Posted on October 2, 2013 . Leave a comment

The technical development enabling the pilot phase of the CHORUS service completed on September 30 and

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ARCHIVES

October 2013 September 2013

August 2013 July 2013

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or contact me:

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Appendix





Steering Committee

David Crotty, Oxford University Press

Scott Delman, ACM

Fred Dylla, American Institute of Physics

Patrick Kelly, John Wiley & Sons

Thane Kerner, Silverchair

Susan King, American Chemical Society (Chair)

Howard Ratner, CHORUS

Joe Serene, American Physical

Society

John Tagler, PSP/AAP

David Weinreich, PSP/AAP

Alicia Wise, Elsevier

Fran Zappulla, IEEE

Advisors

Ed Pentz, CrossRef





Technical Working Group

Thane Kerner, Silverchair (co-chair)

Howard Ratner, CHORUS (co-chair)

Geoffrey Bilder, CrossRef

Elizabeth Crellin, Oxford University Press

Paul Dlug, American Physical Society

Mark Doyle, American Physical Society

Gerry Grenier, IEEE

Wayne Graves, ACM

David Martinsen, American Chemical

Society

Chris McMahon, American Institute of

Physics

Chris Shillum, Elsevier

Evan Owens, American Institute of

Physics

Craig Van Dyck, John Wiley & Sons

John Walker, John Wiley & Sons

Advisors

Mark Martin, Office of Scientific and Technical Information, US DOE



Supporting Organizations (October 1, 2013)

Publishers

ACM

Acoustical Society of America

American Association for the Advancement of Science

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 Institute of Aeronautics and

Astronautics

American Institute of Biological Sciences

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 Microbiology

American Society of Agricultural & Biological

Engineers

American Society of Civil Engineers

American Society of Mechanical Engineers

American Society of Plant Biologists

American Speech-Language-Hearing

Association

Association for Research in Vision and

Ophthalmology

AVS: Science & Technology of Materials,

Interfaces and Processing

Biophysical Society

Bioscientifica

Botanical Society of America

BMJ

Cambridge University Press

Columbia University Press

Duke University Press

Ecological Society of America

Elsevier

Emerald Group Publishing Limited

The Endocrine Society

Entomological Society of America

Fabricators and Manufacturers Association,

International

Genetics Society of America

Human Factors and Ergonomics Society

IEEE

iMedPub. Internet Medical Publishing

Institute of Physics Publishing

Journal of Bone and Joint Surgery

Journal of Rehabilitation Research and

Development

Lynne Rienner Publishers, Inc.

Materials Research Society

McGraw-Hill

Mycological Society of America

New England Journal of Medicine

The Optical Society

Oxford University Press

The Physiological Society

The Royal College of Psychiatrists

The Royal Society

Royal Society of Chemistry

Society for the Advancement of Materials on

Process Engineering

Society for the Study of Reproduction

Springer Science+Business Media LLC

Taylor & Francis

Thieme Publishers

University of Chicago Press

John Wiley & Sons

Wolters Kluwer Medical Research

Service Providers and Other Organizations

Association of Learned and Professional

Society Publishers

CrossRef

DC Principles Coalition

International Association of Scientific,

Technical and Medical Publishers (STM)

Publishing Technology

Silverchair Science+Communications, Inc.