



A Bibliographic Scan of Digital Scholarly Communication Infrastructure

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Mapping the Scholarly Communication Landscape

A Bibliographic Scan of Digital Scholarly Communication Infrastructure

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1.0 Introduction

This bibliography scan covers a lot of ground.

In it, I have attempted to capture relevant recent literature across the whole of the digital scholarly communications infrastructure. I have used that literature to identify significant projects and then document them with descriptions and basic information.

Structurally, this review has three parts.

In the first, I begin with a diagram showing the way the projects reviewed fit into the research workflow; then I cover a number of topics and functional areas related to digital scholarly communication. I make no attempt to be comprehensive, especially regarding the technical literature; rather, I have tried to identify major articles and reports, particularly those addressing the library community.

The second part of this review is a list of projects or programs arranged by broad functional categories.

The third part lists individual projects and the organizations—both commercial and nonprofit—that support them. I have identified 206 projects. Of these, 139 are nonprofit and 67 are commercial. There are 17 organizations that support multiple projects, and six of these—Artefactual Systems, Atypon/Wiley, Clarivate Analytics, Digital Science, Elsevier, and MDPI—are commercial. The remaining 11—Center for Open Science, Collaborative Knowledge Foundation (Coko), LYRASIS/DuraSpace, Educopia Institute, Internet Archive, JISC, OCLC, OpenAIRE, Open Access Button, Our Research (formerly Impactstory), and the Public Knowledge Project—are nonprofit.

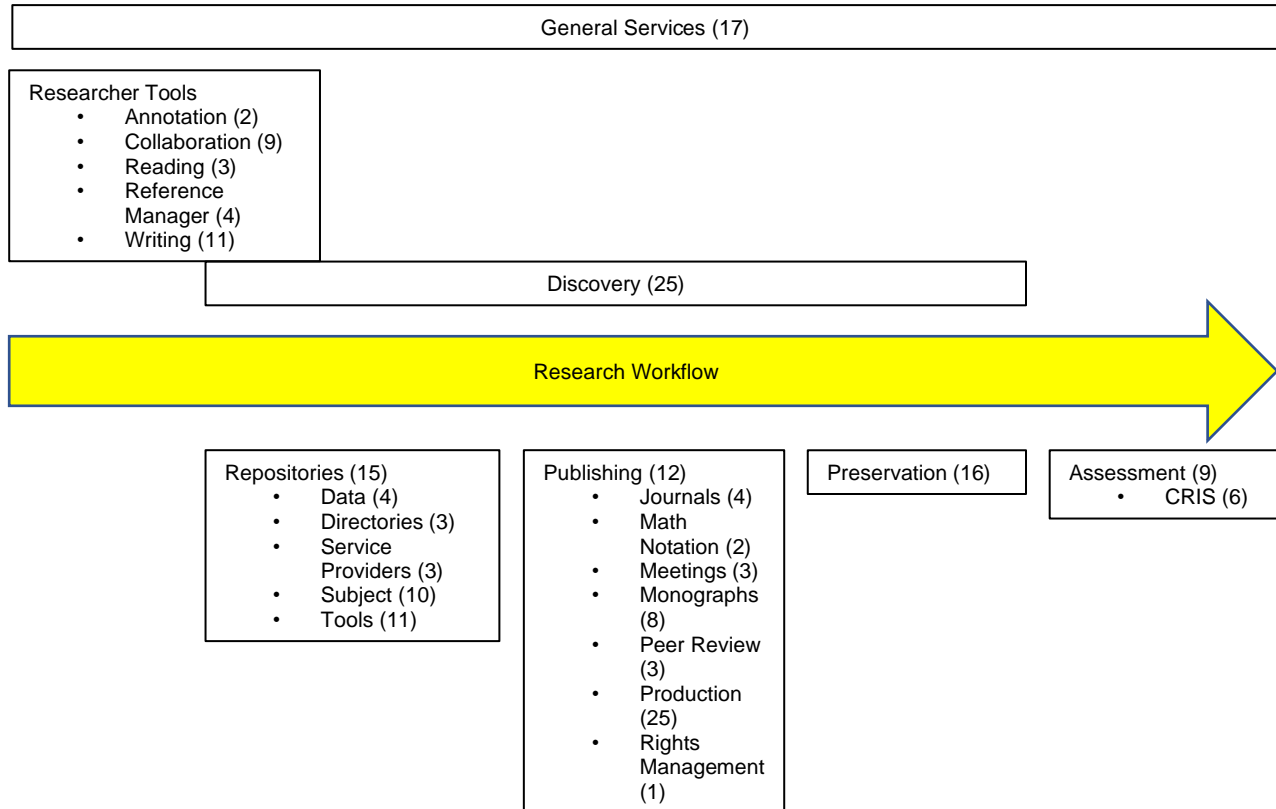
Most of the works I have used and referenced are articles, reports, or blog posts that are available on the web. Some of these resources are behind paywalls; I recommend using Unpaywall or the OA Button to access these.

This work was finalized March 1, 2020. The COVID-19 pandemic has had a significant impact, particularly on the need for openness of articles and data and on the use of preprint servers, that is not reflected here.

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1.1 The Map

The figure below shows the number of projects and where they fit in the research workflow (see section 2.0).



1.2 Overview

Herbert Van de Sompel and his colleagues proposed an important model for thinking about the various functions in scholarly communication (item 1).

Jean-Claude Guédon's *Open Access: Toward the Internet of the Mind* (item 2) is probably the best summary of the current scholarly communications landscape. Brian Lavoie and his colleagues provided critical background in their OCLC report, which describes the changes taking place in the scholarly record (item 3). The European Commission's *Future of Scholarly Publishing and Scholarly Communication* is a good review of the issues with recommendations for moving forward (item 4). The 2019 report by the Association of College and Research Libraries (ACRL), *Open and Equitable Scholarly Communications*, focused on the topic of making scholarly communications more inclusive (item 5). A recent report by the Confederation of Open Access Repositories (COAR) provided a framework for open science (item 6).

Along with the Mapping Digital Scholarly Communication Infrastructure project, whose first report is item 7, several other recent initiatives have looked at the landscape of scholarly communications. John Maxwell and his colleagues examined open source publishing tools, and Roger C. Schonfeld commented on Maxwell's work (items 8 and 9). Bianca Kramer and Jeroen Bosman surveyed scholarly communication infrastructure, as did OPERAS (items 10 and 11). Schonfeld looked at how several infrastructure providers are integrating across the projects they control (item 12).

A variety of reports have looked at the sustainability of the scholarly communications infrastructure and have made recommendations on how individual projects and the overall system can be made sustainable (items 13 to 21).

Tyler Whitehouse reviewed recent trends in research tools and the impact of these trends on scholarly communication (items 22 and 23).

Two initiatives have begun working on these issues—Invest in Open Infrastructure and the Open Platform group (items 24 and 25).

- 1 Herbert Van de Sompel, Sandy Payette, John Ericson, Carl Lagoze and Simeon Warner, "Rethinking Scholarly Communication: Building the System that Scholars Deserve," *D-Lib Magazine* 10(9), September 2004, <http://www.dlib.org/dlib/september04/vandesompe/09vandesompe.html>
- 2 Jean-Claude Guédon, "Open Access: Toward the Internet of the Mind," *Budapest Open Access Initiative*, BOAI15 Statement, February 23, 2017, <http://www.budapestopenaccessinitiative.org/open-access-toward-the-internet-of-the-mind>

- 3 Brian Lavoie, Eric Childress, Ricky Erway, Ixchel Faniel, Constance Malpas, Jennifer Schaffner and Titia van der Werf, *The Evolving Scholarly Record*, Dublin, Ohio: OCLC Research, June 2014, DOI: <https://doi.org/10.25333/C3763V>
- 4 *Future of Scholarly Publishing and Scholarly Communication: Report of the Expert Group to the European Commission*, Directorate-General for Research and Innovation (European Commission), January 2019, ISBN 978-92-79-97238-6, doi: 10.2777/836532, https://www.eosc-portal.eu/sites/default/files/KI0518070ENN.en_.pdf
- 5 *Open and Equitable Scholarly Communications: Creating a More Inclusive Future*, prepared by Nancy Maron and Rebecca Kennison with Paul Brake, Nathan Hall, Isaac Gilman, Kara Malenfant, Charlotte Roh, and Yasmeen Shorish, Chicago: Association of College & Research Libraries, 2019, DOI: <https://doi.org/10.5860/acrl.1>
- 6 Tony Ross-Hellauer, Benedikt Fecher, Kathleen Shearer, and Eloy Rodrigues, *Pubfair: A Framework for Sustainable, Distributed, Open Science Publishing Services*, Confederation of Open Access Repositories (COAR), September 3, 2019, <https://apo.org.au/node/257281>
- 7 Katherine Skinner, *Mapping the Scholarly Communication Landscape – 2019 Census*, Atlanta: Educopia Institute, 2019, <https://educopia.org/2019-census/>
- 8 John W. Maxwell, Erik Hanson, Leena Desai, Carmen Tiampo, Kim O'Donnell, Avvai Ketheeswaran, Melody Sun, Emma Walter, and Ellen Michelle, *Mind the Gap: A Landscape Analysis of Open Source Publishing Tools and Platforms*, August 2, 2019, <https://mindthegap.pubpub.org>
- 9 Roger C. Schonfeld, "Open Source for Scholarly Publishing: An Inventory and Analysis," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 8, 2019, <https://scholarlykitchen.sspnet.org/2019/08/08/open-source-for-scholarly-publishing-an-inventory-and-analysis/>
- 10 Bianca Kramer and Jeroen Bosman, "Mapping the Open Science Ecosystem: Looking at Tools and Platforms," JROST Workshop, Berkeley: August 27, 2018, <http://tinyurl.com/JROSTmap>
- 11 *Landscape Study on Open Access Publishing*, Design for Open Access Publications in European Research Areas for Social Sciences and Humanities, Project Number: GA 731031, OPERAS-D, October 12, 2017, <https://operas.hypotheses.org/files/2017/08/OPERAS-Landscape-Study.pdf>
- 12 Roger C. Schonfeld, "Strategy & Integration Among Workflow Providers," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, November 7, 2017, <https://scholarlykitchen.sspnet.org/2017/11/07/strategy-integration-workflow-providers/>
- 13 Ruth Bastow and Sabina Leonelli, "Sustainable Digital Infrastructure," *EMBO Reports* 11(10):730–734, October 2010, DOI: <https://doi.org/10.1038/embor.2010.145>, <http://embor.embopress.org/content/11/10/730>

- 14 Raym Crow, *Sustainability of Open Access Services. Phase 3: The Collective Provision of Open Access Resources*, Knowledge Exchange/SPARC, 2013, <http://sparc.arl.org/sites/default/files/collective-provision-of-oa-services.pdf>
- 15 Carol Ember and Robert Hammisch, "Sustaining Domain Repositories for Digital Data: A White Paper," ICPSR, 2013, http://datacommunity.icpsr.umich.edu/sites/default/files/WhitePaper_ICPSR_SDR_DD_121113.pdf
- 16 Nancy Maron and Sarah Pickle, *Sustaining the Digital Humanities: Host Institution Support Beyond the Start Up Phase*, Humanities Commons, 2014, DOI: <http://dx.doi.org/10.17613/M6JD3C>
- 17 Rebecca Kennison and Lisa Norberg, *A Scalable and Sustainable Approach to Open Access Publishing and Archiving for Humanities and Social Sciences: A White Paper*, New York: K|N Consultants, April 11, 2014, http://knconsultants.org/wp-content/uploads/2014/01/OA_Proposal_White_Paper_Final.pdf
- 18 Laurie Gemmill Arp and Megan Forbes, *It Takes a Village: Open Source Software Sustainability: A Guidebook for Programs Serving Cultural and Scientific Heritage*, LYRISIS, February 2018, https://www.lyrasis.org/technology/Documents/ITAV_Interactive_Guidebook.pdf
- 19 Katherine Skinner, *Community Cultivation – A Field Guide*, Atlanta: Educopia Institute, November 7, 2018, <https://educopia.org/cultivation/>
- 20 *The Socio-Technical Sustainability Roadmap*, University of Pittsburgh, 2018, <https://sites.haa.pitt.edu/sustainabilityroadmap/>
- 21 Brian Resnick and Julia Belluz, "The War to Free Science: How Librarians, Pirates, and Funders are Liberating the World's Academic Research from Paywalls," *Vox*, July 10, 2019, <https://www.vox.com/the-highlight/2019/6/3/18271538/open-access-elsevier-california-sci-hub-academic-paywalls>
- 22 Tyler Whitehouse, "Guest Post—A Look at the User-Centric Future of Academic Research Software—And Why It Matters, Part 1: Trends," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 7, 2019, <https://scholarlykitchen.sspnet.org/2019/10/07/guest-post-a-look-at-the-user-centric-future-of-academic-research-software-and-why-it-matters-part-1-trends/>
- 23 Tyler Whitehouse, "Guest Post—A Look at the User-Centric Future of Academic Research Software—And Why It Matters, Part 2: Implications," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 8, 2019, <https://scholarlykitchen.sspnet.org/2019/10/08/guest-post-a-look-at-the-user-centric-future-of-academic-research-software-and-why-it-matters-part-2-implications/>
- 24 Invest in Open Infrastructure, <https://investinopen.org>
- 25 The Open Platform: A Proposal for Collective Action towards Coherence and Sustainable Interdependence for Community-owned Knowledge Infrastructure To Safeguard the

Public Interest, Proposal: v.2, revised May 2019,
<https://docs.google.com/document/d/1cqPyRconhtxyca1WjfbPtfZ5e9Y1jQG5muTanf699M/edit#>

1.3 Business Models

This section reviews publications about business models for digital scholarly communication infrastructure. There are two basic business strategies documented in the current literature. The first relies on the market and commercial providers. The second deploys community-controlled open infrastructures. Currently both exist alongside each other (and sometimes blended together) and the merits of each are a matter of considerable contention. We will look first at literature about commercial providers and then at open and community-controlled projects.

Alejandro Posada and George Chen and Claudio Aspesi review the positions of the dominant commercial providers and warn that they are looking to achieve end-to-end integration in the scholarly communications workflow and that if they achieve this integration, universities may lose control of their research enterprises. Roger C. Schonfeld makes a similar point (items 1 to 3). Lisa Janicke Hinchliffe, Angela Cochran, and Kent Anderson examine particular examples of this integration work (items 4 to 7). Joseph Esposito makes a case for the dominance of an oligopoly in scholarly publishing (item 8). Claudio Aspesi is the lead author on a report from the Scholarly Publishing and Academic Resources Coalition (SPARC) that recommends action to respond to the threat of corporate capture of academic infrastructure (item 9).

Nancy L. Maron and her colleagues look at the costs associated with publishing monographs, as do Scott Smart and his colleagues, and Jonathan Harwell (items 10 to 12). Two studies look at the cost of open access monographs in Europe (items 13 and 14). Richard Van Noorden, Sally Morris, Mark Ware and Michael Mabe, Daniel S. Katz and his colleagues, Éanna Kelly, and Alice Wise and Lorraine Estelle look at the cost of publishing journal articles (items 15 to 20). In the cases of both monographs and journal articles, cost estimates vary widely. Katie Shamash reviews open access costs and Shaun Yon-Seng Khoo's important study shows a lack of price sensitivity of article processing charges (APCs) (items 21 and 22). Oliver Budzinski et al. also consider APC pricing (item 23). A Scholastica white paper argues for "democratizing" journal publishing (item 24).

The Latin American approach to institutional subsidized open access is discussed in items 25 and 26.

Defining what constitutes an open and community-controlled project is not as straightforward as it might seem. Items 27 to 32 attempt to do so. Heather Joseph describes SPARC's plan to secure community-controlled infrastructure (item 33), as does Vanessa Proudman (item 34). Robert Schroeder and Gretta Siegel suggest a cooperative model (item 35).

Schonfeld looks at two open projects that have had problems (items 36 and 37). Schonfeld also considers some issues with "big deals" (item 38). And Skinner and Crotty each examine challenges faced by nonprofit, community-owned businesses (items 39 and 40).

Kathleen Shearer and her colleagues make an important call for bibliodiversity (item 41).

- 1 Alejandro Posada and George Chen, "Inequality in Knowledge Production: The Integration of Academic Infrastructure by Big Publishers," ELPUB 2018, June 2018, Toronto, Canada, 10.4000/proceedings.elpub.2018.30 . hal-01816707, <https://hal.archives-ouvertes.fr/hal-01816707/document>
- 2 Claudio Aspesi, et al., *SPARC Landscape Analysis: The Changing Academic Publishing Industry: Implications for Academic Institutions*, Washington, DC: SPARC, March 28, 2019, <https://sparcopen.org/our-work/landscape-analysis/>
- 3 Roger C. Schonfeld, "Big Deal: Should Universities Outsource More Core Research Infrastructure?" Ithaka Issue Brief, January 4, 2018, <https://sr.ithaka.org/publications/big-deal-research-infrastructure/>
- 4 Lisa Janicke Hinchliffe, "Advancing an Integrated Vertical Stack of Publication Services?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 8, 2018, <https://scholarlykitchen.sspnet.org/2018/08/08/integrated-vertical-stack-of-publication-services/>
- 5 Kent Anderson, "Interpreting Elsevier's Acquisition of Aries Systems," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 6, 2018, <https://scholarlykitchen.sspnet.org/2018/08/06/interpreting-elseviers-acquisition-aries-systems/>
- 6 Angela Cochran, "Clowns to the Left of Me... Jokers to the Right: The Independent Publisher in an Age of Mergers and Acquisitions," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 6, 2018, <https://scholarlykitchen.sspnet.org/2018/08/06/clowns-left-jokers-right-independent-publisher-age-mergers-acquisitions/>
- 7 Roger C. Schonfeld, "More Scholarly Communications Consolidation as Institutional Repository Provider DuraSpace Merges into Lyris," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, January 25, 2019, <https://scholarlykitchen.sspnet.org/2019/01/25/lyris-duraspace-merger/>
- 8 Joseph Esposito, "A Case for Popularization: A Review of *Rockonomics*," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 5, 2019, <https://scholarlykitchen.sspnet.org/2019/08/05/a-case-for-popularization-a-review-of-rockonomics/>
- 9 Claudio Aspesi, et al., *A Roadmap for Action: Academic Community Control of Data Infrastructure*, Washington, DC: SPARC, November 2019, <https://sparcopen.org/our-work/roadmap-for-action/>
- 10 Nancy L. Maron, Christine Mulhern, Daniel Rossman, and Kimberly Schmelzinger, *The Costs of Publishing Monographs: Toward a Transparent Methodology*, Ithaka Research Report, February 2016, DOI: <https://doi.org/10.18665/sr.276785>

- 11 Scott Smart, Charles Watkinson, Gary Dunham, and Nicholas Fitzgerald, "Determining the Financial Cost of Scholarly Book Publishing," *JEP: Journal of Electronic Publishing* 19(1), Summer 2016, DOI: <http://dx.doi.org/10.3998/3336451.0019.102>
- 12 Jonathan Harwell, "Rhyme or Reason?: Patterns in Book Pricing by Format," *JEP: Journal of Electronic Publishing* 20(1), 2017, DOI: <http://dx.doi.org/10.3998/3336451.0020.104>
- 13 Eelco Ferwerda, Frances Pinter, and Niels Stern, *A Landscape Study on Open Access and Monographs: Policies, Funding and Publishing in Eight European Countries*, Knowledge Exchange, October 2017, DOI: <https://doi.org/10.5281/zenodo.815932>
- 14 Frances Pinter, "Why Book Processing Charges (BPCs) Vary So Much," *JEP: Journal of Electronic Publishing* 21(1), 2018, DOI: <http://dx.doi.org/10.3998/3336451.0021.101>
- 15 Richard Van Noorden, "Open Access: The True Cost of Science Publishing," *Nature*, March 27, 2013, <https://www.nature.com/news/open-access-the-true-cost-of-science-publishing-1.12676>
- 16 Sally Morris, "The True Costs of Scholarly Journal Publishing," *Learned Publishing* 18(2):115–126, April 2005, DOI: <https://doi.org/10.1087/0953151053584975>
- 17 Mark Ware and Michael Mabe, *The STM Report: An Overview of Scientific and Scholarly Journal Publishing*, The Hague: International Association of Scientific, Technical and Medical Publishers, March 2015, www.stm-assoc.org/2015_02_20_STM_Report_2015.pdf
- 18 Daniel S. Katz, Lorena A. Barba, Kyle E. Niemeyer, and Arfon M. Smith, "Cost Models for Running an Online Open Journal," *Journal of Open Source Software Blog*, June 4, 2019, <http://blog.joss.theoj.org/2019/06/cost-models-for-running-an-online-open-journal>
- 19 Éanna Kelly, "Research Organisation Releases Publishing Costs to Highlight Challenge of Going to Full Open Access," *Science/Business*, October 24, 2019, <https://sciencebusiness.net/news/research-organisation-releases-publishing-costs-highlight-challenge-going-full-open-access>
- 20 Alicia Wise and Lorraine Estelle, "Open Access Price Transparency Report," Wellcome Trust, January 14, 2020, DOI: <https://doi.org/10.6084/m9.figshare.11569002.v1>
- 21 Katie Shamash, *Article Processing Charges (APCs) and Subscriptions: Monitoring Open Access Costs*, JISC, May 2016, <https://www.jisc.ac.uk/sites/default/files/apc-and-subscriptions-report.pdf>
- 22 Shaun Yon-Seng Khoo, "Article Processing Charge Hyperinflation and Price Insensitivity: An Open Access Sequel to the Serials Crisis," *Liber Quarterly* 29(1):1–18, May 2019, DOI: <http://doi.org/10.18352/lq.10280>
- 23 Oliver Budzinski, Thomas Grebel, Jens Wolling, and Xijie Zhang, "Drivers of Article Processing Charges in Open Access," *Ilmenau Economics Discussion Papers* 25(133), December 19, 2019, https://www.tu-ilmenau.de/fileadmin/media/wpo/Diskussionspapier_Nr_133.pdf

- 24 *Democratizing Academic Journals: Technology, Services, and Open Access*, Scholastica, [n.d.], <https://s3.amazonaws.com/marketing.scholasticahq.com/Democratizing-Journal-Pub-WP.pdf>
- 25 Arianna Becerril-García, Eduardo Aguado-López. "The End of a Centralized Open Access Project and the Beginning of a Community-Based Sustainable Infrastructure for Latin America: Redalyc.org after Fifteen Years The Open Access Ecosystem in Latin America," *ELPUB* 2018, June 2018, Toronto, Canada, DOI: <http://doi.org/10.4000/proceedings.elpub.2018.27>
- 26 Eduardo Aguado-López and Arianna Becerril-Garcia, "North vs South – Are Open Access Models in Conflict?" *University World News*, October 5, 2019, https://www.universityworldnews.com/post.php?story=20191001143012482&utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+OATP-Primary+%28OATP+primary%29
- 27 Geoffrey Bilder, Jennifer Lin, and Cameron Neylon, "Principles for Open Scholarly Infrastructures," February 23, 2015, <http://dx.doi.org/10.6084/m9.figshare.1314859>
- 28 Paul Peters, "An open approach to developing infrastructure for Open Science," *Hindawi Blog*, October 23, 2017, <https://about.hindawi.com/blog/a-radically-open-approach-to-developing-infrastructure-for-open-science/>
- 29 Jefferson Pooley, "Scholarly Communications Shouldn't Just be Open, But Non-Profit Too," *LSE Blog*, August 15, 2017, <https://blogs.lse.ac.uk/impactofsocialsciences/2017/08/15/scholarly-communications-shouldnt-just-be-open-but-non-profit-too/>
- 30 Danielle Robinson, "What is Open?" *Open Source Alliance for Open Scholarship Handbook*, 2018, <https://osaos.codeforscience.org/what-is-open/>
- 31 "Good Practice Principles for Scholarly Communication Services," COAR and SPARC, 2019, <https://www.coar-repositories.org/files/COAR-SPARC-Good-Practice-Principles.pdf>
- 32 Melanie Schlosser and Catherine Mitchell, "Academy-owned? Academic-led? Community-led? What's at Stake in the Words We Use to Describe New Publishing Paradigms," *LPC Blog*, February 6, 2019, <https://librarypublishing.org/alpd19-academy-owned-academic-led-community-led/>
- 33 Heather Joseph, "Securing Community-Controlled Infrastructure: SPARC's Plan of Action," *College & Research Libraries News*, 79(8), 426, September 2018, DOI: <https://doi.org/10.5860/crln.79.8.426>
- 34 Vanessa Proudman, "Ten Key Prerequisites to Securely Fund Open Infrastructure Today and Tomorrow," *ScholarLed* [blog], October 21, 2019, <https://blog.scholarled.org/ten-key-prerequisites-for-open-infrastructure/>
- 35 Robert Schroeder and Gretta Siegel, "A Cooperative Publishing Model for Sustainable Scholarship," *Journal of Scholarly Publishing* 37(2):86–98, January 2006, DOI: <https://doi.org/10.3138/jsp.37.2.86>

- 36 Roger C. Schonfeld, "Learning Lessons from DPLA," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, November 13, 2018, <https://scholarlykitchen.sspnet.org/2018/11/13/learning-lessons-from-dpla/>
- 37 Roger C. Schonfeld, "Why is the Digital Preservation Network Disbanding?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, December 13, 2018, <https://scholarlykitchen.sspnet.org/2018/12/13/digital-preservation-network-disband/>
- 38 Roger C. Schonfeld, "Will Libraries Help Publishers Prop Up the Value of the Big Deal?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, September 3, 2019, <https://scholarlykitchen.sspnet.org/2019/09/03/libraries-prop-up-big-deal/>
- 39 Katherine Skinner, "Why Are So Many Scholarly Communication Infrastructure Providers Running a Red Queen's Race?" *Educopia Institute Blog*, July 23, 2019, <https://educopia.org/red-queens-race/>
- 40 David Crotty, "Building for the Long Term: Why Business Strategies are Needed for Community-Owned Infrastructure," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 1, 2019, <https://scholarlykitchen.sspnet.org/2019/08/01/building-for-the-long-term-why-business-strategies-are-needed-for-community-owned-infrastructure/>
- 41 Kathleen Shearer, Leslie Chan, Iyrna Kuchma, and Pierre Mounier, *Fostering Bibliodiversity in Scholarly Communications: A Call for Action*, April 15, 2020, <https://zenodo.org/record/3752923#.Xpxd5i-ZOgR>

1.4 Collective Action and the Funding of Open Projects

The two key texts that provide the most insight into the collective action problem and strategies for overcoming it are Mancur Olson, *The Logic of Collective Action*, and Elinor Ostrom, *Governing the Commons* (items 1 and 2).

John Wenzler has persuasively argued that libraries cannot escape the collective action problem and therefore will not be able to change the scholarly communication system dominated by large commercial publishers (item 3). Cameron Neylon looks at a number of case studies of successful collective action in scholarly communication and suggests strategies (item 4). David W. Lewis responded to Wenzler with his 2.5% commitment proposal (item 5). Several papers look at means for moving to commons models for scholarly communications (items 6 to 8). The recent Knowledge Exchange report is a good review of the current situation (item 9).

How to fund open infrastructure is a long-standing concern (items 10 to 15). Martin Paul Eve looks at the issue from the perspective of the humanities (item 16). John Willinsky and Matthew Rusk's proposal for joint library and funder financing is intriguing (item 17). The "subscribe to open" model also looks to libraries to fund open access journals. It is being piloted by *Annual Reviews* (items 18 to 20). Rodger C. Schonfeld's interview with Dan Whaley reviews a new international effort (item 21). The Sustainability Coalition for Open Science Services (SCOSS) is a SPARC Europe initiative to raise funds for critical and endangered infrastructure that appears to have been successful (item 22). Jeff Pooley suggests money be moved from library subscriptions to fund infrastructure (item 23). A Wellcome Trust project examined how scholarly societies could comply with Plan S (item 24). Kathleen Fitzpatrick's book, *Generous Thinking: A Radical Approach to Saving the University*, considers how to recenter the academic community around collective and collaborative projects, and in so doing, how to free the academy from its dependence on commercial infrastructures (item 25).

- 1 Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups*, Cambridge, Mass.: Harvard University Press, 1965.
- 2 Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, New York: Cambridge University Press, 1990.
- 3 John Wenzler, "Scholarly Communication and the Dilemma of Collective Action: Why Academic Journals Cost Too Much," *College & Research Libraries* 78(2):192, February 2017, DOI: <https://doi.org/10.5860/crl.78.2.16581>
- 4 Cameron Neylon, "Sustaining Scholarly Infrastructures through Collective Action: The Lessons that Olson can Teach Us," *KULA: Knowledge Creation, Dissemination, and Preservation Studies*, 2017 1(1), p.3. DOI: <http://doi.org/10.5334/kula.7>
- 5 David W. Lewis, "The 2.5% Commitment," scholarworks.iupui.edu/handle/1805/14063, DOI: <http://doi.org/10.7912/C2JD29>

- 6 Jeroen Bosman, Ian Bruno, Chris Chapman, Bastian Greshake Tzovaras, Nate Jacobs, Bianca Kramer, Maryann Martone, Fiona Murphy, Daniel O'Donnell, Michael Bar-Sinai, Stephanie Hagstrom, Joshua Utley, Lusia Veksler, "The Scholarly Commons - Principles and Practices to Guide Research Communication," OSF PrePrint, September 15, 2017, osf.io/kbuq6, DOI: [10.31219/osf.io/6c2xt](https://doi.org/10.31219/osf.io/6c2xt)
- 7 Rob Johnson, "From Coalition to Commons: Plan S and the Future of Scholarly Communication," *Insights* 32 (1):5, 2019, DOI: doi.org/10.1629/uksg.453
- 8 Janis Geary and Tania Bubela, "Governance of a Global Genetic Resource Commons for Non-Commercial Research: A Case-Study of the DNA Barcode Commons," *International Journal of the Commons* 13(1):205–243, April 2019, DOI: doi.org/10.18352/ijc.859
- 9 Cameron Neylon, Rene Belsø; Magchiel Bijsterbosch; Bas Cordewener; Jérôme Foncel; Sascha Friesike; Aileen Fyfe; Neil Jacobs; Matthias Katerbow; Mikael Laakso; Laurents Sesink, *Open Scholarship and the Need for Collective Action*, Knowledge Exchange, October 2019, DOI: <http://doi.org/10.5281/zenodo.3454688>
- 10 Raym Crow, *Income Models for Open Access: An Overview of Current Practice*. Washington, DC: SPARC, 2009, <http://sparc.arl.org/resources/papers-guides/oa-income-models>
- 11 Jan Erik Frantsvåg, "The Role of Advertising in Financing Open Access Journals," *First Monday* 15(3), March 2010, DOI: <https://doi.org/10.5210/fm.v15i3.2777>
- 12 Bo-Christer Björk and Turid Hedlund, "Two Scenarios for How Scholarly Publishers Could Change Their Business Model to Open Access," *JEP: Journal of Electronic Publishing* 12(1), March 2010, DOI: <http://dx.doi.org/10.3998/3336451.0012.102>
- 13 Jack E. James, "Free-to-Publish, Free-to-Read, or Both? Cost, Equality of Access, and Integrity in Science Publishing," *Journal of the Association for Information Science and Technology* 68(6):1584–1589, June 2017, DOI: <https://doi.org/10.1002/asi.23757>
- 14 James W. Weis, Amy Brand, and Joi Ito, "The Case for an Institutionally Owned Knowledge Infrastructure," *Inside Higher Ed*, January 7, 2020, <https://www.insidehighered.com/views/2020/01/07/why-new-strategies-developing-future's-knowledge-infrastructures-are-needed-opinion>
- 15 Ethan Zuckerman, "The Case for Digital Public Infrastructure: Harnessing Past Successes in Public Broadcasting to Build Community-Oriented Digital Tools," Knight First Amendment Institute [at Columbia University], January 17, 2020, <https://knightcolumbia.org/content/the-case-for-digital-public-infrastructure>
- 16 Martin Paul Eve, "All That Glisters: Investigating Collective Funding Mechanisms for Gold Open Access in Humanities Disciplines," *Journal of Librarianship and Scholarly Communication*, 2(3), p.eP1131, August 2014, DOI: <http://doi.org/10.7710/2162-3309.1131>

- 17 John Willinsky and Matthew Rusk, "If Research Libraries and Funders Finance Open Access: Moving Beyond Subscriptions and APCs," *College & Research Libraries* 80(3):340–355, April 2019, <https://crl.acrl.org/index.php/crl/article/view/16992>
- 18 Ellen Finnie, "'Subscribe to Open' As a Model for Voting with Our Dollars," *IO: In the Open* [blog], March 18, 2019, <https://web.archive.org/web/20190831155823/https://intheopen.net/2019/03/subscribe-to-open-as-a-model-for-voting-with-our-dollars/>
- 19 Ann Michael, "Subscribe To Open: Annual Reviews' Take on Open Access," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, April 2, 2019, <https://scholarlykitchen.sspnet.org/2019/04/02/subscribe-to-open/>
- 20 Raym Crow, Richard Gallagher, and Kamran Naim, "Subscribe to Open: A Practical Approach for Converting Subscription Journals to Open Access," *Learned Publishing*, October 2019, DOI: <https://doi.org/10.1002/leap.1262>
- 21 Roger C. Schonfeld, "Invest in Open Infrastructure: An Interview with Dan Whaley," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, June 12, 2019, <https://scholarlykitchen.sspnet.org/2019/06/12/invest-open-infrastructure/>
- 22 *Progress Report: An Evaluation of the SCOSS Pilot Project*, SPRAC Europe, March 2019, https://sparceurope.org/wp-content/uploads/dlm_uploads/2019/03/theSCOSSProgressReport_March2019.pdf
- 23 Jeff Pooley, "The Library Solution: How Academic Libraries Could End the APC Scourge," *Items: Insights from the Social Sciences* [blog], September 3, 2019, <https://items.ssrc.org/parameters/the-library-solution-how-academic-libraries-could-end-the-apc-scourge/>
- 24 Alicia Wise and Lorraine Estelle, "Society Publishers Accelerating Open Access and Plan S (SPA-OPS) Project," figshare. Collection. DOI: <https://doi.org/10.6084/m9.figshare.c.4561397.v2>
- 25 Kathleen Fitzpatrick, *Generous Thinking: A Radical Approach to Saving the University*. Baltimore, Maryland: Johns Hopkins University Press, 2019.

1.5 Researcher Tools—Reading, Writing, Annotation, and Collaboration

This section captures basic information about a variety of tools that support researchers in various ways, including managing references, annotating works, collaborating, and reading and writing. Most of the literature is on individual projects or products. These are identified in section 2.1. Articles on these projects or products can be found in section 3.0.

Web annotation is an important way of extending scholarly conversations. Making it work involves technical solutions and changing norms of behavior (items 1 to 5). The limited extent of commenting is demonstrated in item 6.

The academic use of social networks has been widely studied. A sample of this literature is found in items 7 to 13.

- 1 Robert Sanderson and Herbert Van de Sompel, "Making Web Annotations Persistent Over Time," *Proceedings of the 10th Annual Joint Conference on Digital Libraries*, Gold Coast, Queensland, Australia, June 21–25, 2010, DOI: <https://doi.org/10.1145/1816123.1816125>
- 2 Robert Sanderson, Paolo Cicarese, and Herbert Van de Sompel, "Designing the W3C Open Annotation Data Model," arXiv, April 24, 2013, <https://arxiv.org/abs/1304.6709>
- 3 "Web Annotation Data Model," W3C Recommendation, 23 February 2017, <https://www.w3.org/TR/annotation-model/>
- 4 Alexander Naydenov and Heather Staines, "Guest Post: The Time for Open and Interoperable Annotation is Now," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 28, 2018, <https://scholarlykitchen.sspnet.org/2018/08/28/all-about-open-annotation/>
- 5 Lindsey Seatter, "Towards Open Annotation: Examples and Experiments," *KULA: Knowledge Creation, Dissemination, and Preservation Studies* 3(1):12, 2019, DOI: <http://doi.org/10.5334/kula.49>
- 6 Simon Wakeling, Peter Willett, Claire Creaser, et al., "'No comment'? A study of commenting on PLOS articles," *Journal of Information Science*, January 19, 2019, <https://doi.org/10.1177/0165551518819965>
- 7 Gemma Nández and Ángel Borrego, "Use of Social Networks for Academic Purposes: A case study," *The Electronic Library* 31(6):781–791, November 2013. DOI: <https://doi.org/10.1108/EL-03-2012-0031>
- 8 Katy Jordan, "Academics and Their Online Networks: Exploring the Role of Academic Social Networking Sites," *First Monday* 19(11), November 2014, <https://firstmonday.org/ojs/index.php/fm/article/view/4937/4159#author>

- 9 Nowsheeba Asmi and Madhusudhan Margam, "Academic Social Networking Sites: What They Have to Offer for Researchers?" *Journal of Knowledge & Communication Management* 5(1):1–11, April 2015, DOI: <http://doi.org/10.5958/2277-7946.2015.00001.7>
- 10 Hagit Meishar-Tal and Efrat Pieterse, "Why Do Academics Use Academic Social Networking Sites?" *International Review of Research in Open and Distributed Learning* 18(1), February 2017, <http://www.irrodl.org/index.php/irrodl/article/view/2643/4008>
- 11 Raj Kumar Bhardwaj, "Academic Social Networking Sites: Comparative Analysis of ResearchGate, Academia.edu, Mendeley and Zotero," *Information and Learning Science* 118(5/6): 298–316, 2017, DOI: <https://doi.org/10.1108/ILS-03-2017-0012>
- 12 Katy Jordan, "From Social Networks to Publishing Platforms: A Review of the History and Scholarship of Academic Social Network Sites," *Frontiers in Digital Humanities* 6:5, March 12, 2019, DOI: <https://doi.org/10.3389/fdigh.2019.00005>
- 13 Phil Davis, "Can Twitter, Facebook, and Other Social Media Drive Downloads, Citations?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, May 23, 2019, <https://scholarlykitchen.sspnet.org/2019/05/23/can-twitter-facebook-and-other-social-media-drive-downloads-citations/>

1.6 Repositories

This section captures basic information about repositories and directories and other tools that support them.

In the early 2000s, as institutional repository software was first being developed, Raym Crow made a strong initial case for institutional repositories (item 1). His arguments were echoed by Clifford Lynch (item 2). In the years that followed, there was a sense that the potential for institutional repositories was not being met. Few faculty seemed enthusiastic about doing the work required to put their work in institutional repositories, even when open access policies were in place. Items 3 to 11 reflect the debate about the purpose and value of institutional repositories. Michel Castagné (item 12) provides a comparison of repository software, though it is now dated. Items 13 to 16 are a sampling of articles about techniques for enhancing the effectiveness of institutional repositories. Elizabeth Hertenstein and Erin Passehl-Stoddart and Robert Monge make the case for student-focused institutional repositories (items 17 and 18).

From 2012 through 2017, the Confederation of Open Access Repositories (COAR) issued a series of reports culminating in *Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Working Group*, which lays out a development path for repositories (items 19 to 24).

Some preprint repositories have been in existence for many years—arXiv was founded in 1991—but in many fields, the practice of depositing preprints is new, and in some cases, controversial. Items 24 to 42 reflect this debate. The study by Martin Klein and his colleagues is particularly interesting, as it shows that in many cases the preprint is very similar to the copy of record (item 43).

- 1 Raym Crow, “The Case for Institutional Repositories: A SPARC Position Paper,” *ARL Bimonthly Report* 223, August 2002, http://sparc.arl.org/sites/default/files/media_files/instrepo.pdf
- 2 Clifford A. Lynch, “Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age,” *ARL Bimonthly Report* 226:1–7, February 2003, <https://www.cni.org/wp-content/uploads/2003/02/arl-br-226-Lynch-IRs-2003.pdf>
- 3 Philip M. Davis and Matthew J. L. Connolly, “Institutional Repositories: Evaluating the Reasons for Non-use of Cornell University's Installation of DSpace,” *D-Lib Magazine* 13(3/4), March/April 2007, <http://www.dlib.org/dlib/march07/davis/03davis.html>
- 4 Ellen Finnie Duranceau, “The ‘Wealth of Networks’ and Institutional Repositories: MIT, DSpace, and the Future of the Scholarly Commons,” *Library Trends* 57(2):244–261, 2008, DOI: [10.1353/lib.0.0030](https://doi.org/10.1353/lib.0.0030)
- 5 Dorothea Salo, “Innkeeper at the Roach Motel,” *Library Trends* 57(2):98–123, 2008, DOI: [10.1353/lib.0.0031](https://doi.org/10.1353/lib.0.0031)

- 6 Rowana Cullen and Brenda Chawner, "Institutional Repositories: Assessing Their Value to the Academic Community," *Performance Measurement and Metrics* 11(2):131–147, 2010, DOI: <https://doi.org/10.1108/14678041011064052>
- 7 C. Sean Burns, Amy Lana, and John M. Budd, "Institutional Repositories: Exploration of Costs and Value," *D-Lib Magazine* 19(1/2), January/February 2013, DOI: 10.1045/january2013-burns, <http://www.dlib.org/dlib/january13/burns/01burns.html>
- 8 Ellen Dubinsky, "A Current Snapshot of Institutional Repositories: Growth Rate, Disciplinary Content and Faculty Contributions," *Journal of Librarianship and Scholarly Communication*, 2(3), p.eP1167, August 2014, DOI: <http://doi.org/10.7710/2162-3309.1167>
- 9 Richard Poynder, "Q&A with CNI's Clifford Lynch: Time to Re-think the Institutional Repository?" *Open and Shut?* [blog], September 22, 2016, https://richardpoynder.co.uk/Clifford_Lynch.pdf
- 10 Bhuva Narayan and Edward Luca, "Issues and Challenges in Researchers' Adoption of Open Access and Institutional Repositories: A Contextual Study of a University Repository," *Information Research* 22(4), December 2017, <http://www.informationr.net/ir/22-4/rails/rails1608.html>
- 11 Asma Bashir, Aasif Ahmad Mir, Zahoor Ahmad Sofi, "Global Landscape of Open Access Repositories," *Library Philosophy and Practice* 24–45, 2019, <https://digitalcommons.unl.edu/libphilprac/2445/>
- 12 Michel Castagné, "Institutional Repository Software Comparison: DSpace, EPrints, Digital Commons, Islandora and Hydra," University of British Columbia, August 2013, <https://open.library.ubc.ca/cIRcle/collections/graduateresearch/42591/items/1.0075768>
- 13 Qiang Jin and Jane Sandberg, "Crafting Linked Open Data to Enhance the Discoverability of Institutional Repositories on the Web," *Qualitative and Quantitative Methods in Libraries*, 7(4):595–606, 2018, <http://qqml-journal.net/index.php/qqml/article/view/505>
- 14 George Macgregor, "Improving the Discoverability and Web Impact of Open Repositories: Techniques and Evaluation," *code4lib Journal* 43, February 14, 2019, <https://journal.code4lib.org/articles/14180>
- 15 Ashley D. R. Sergladis, "Evaluating Zotero, SHERPA/RoMEO, and Unpaywall in an Institutional Repository Workflow," *Journal of Electronic Resources Librarianship*, 2019, <https://dc.etsu.edu/cgi/viewcontent.cgi?article=5938&context=etsu-works>
- 16 Arjun Sabharwal, "Optimizing Library Services — Institutional Repositories and Knowledge Curation: Revisiting Knowledge Conversion in the Academic Environment," *Against the Grain* 31(5), December 20, 2019, <https://against-the-grain.com/2019/12/v315-optimizing-library-services-institutional-repositories-and-knowledge-curation-revisiting-knowledge-conversion-in-the-academic-environment/>

- 17 Elizabeth Hertenstein, "Student Scholarship in Institutional Repositories," *Journal of Librarianship and Scholarly Communication*, 2(3), p.eP1135, August 2014, DOI: <http://doi.org/10.7710/2162-3309.1135>
- 18 Erin Passehl-Stoddart and Robert Monge, "From Freshman to Graduate: Making the Case for Student-Centric Institutional Repositories," *Journal of Librarianship and Scholarly Communication*, 2(3), p.eP1130, August 2014, DOI: <http://doi.org/10.7710/2162-3309.1130>
- 19 *Sustainable Best Practices for Populating Repositories: Preliminary Report*, Confederation of Open Access Repositories (COAR), May 2012, https://www.coar-repositories.org/files/Sustainable-practices-preliminary-results_final.pdf
- 20 Working Group 2: Repository Interoperability, *The Current State of Open Access Repository Interoperability (2012)*, Confederation of Open Access Repositories (COAR), October 26, 2012, <https://www.coar-repositories.org/files/COAR-Current-State-of-Open-Access-Repository-Interoperability-26-10-2012.pdf>
- 21 *Incentives, Integration, and Mediation: Sustainable Practices for Populating Repositories*, Confederation of Open Access Repositories (COAR), revised version August 6, 2013, https://www.coar-repositories.org/files/Sustainable-best-practices_final2.pdf
- 22 Working Group 2: Repository Interoperability, *COAR Roadmap: Future Directions for Repository Interoperability*, Confederation of Open Access Repositories (COAR), February 2015, https://www.coar-repositories.org/files/Roadmap_final_formatted_20150203.pdf
- 23 Kathleen Shearer, *Promoting Open Knowledge and Open Science Report of the Current State of Repositories*, Confederation of Open Access Repositories (COAR), May 21, 2015, <https://www.coar-repositories.org/files/COAR-State-of-Repositories-May-2015-final.pdf>
- 24 *Next Generation Repositories: Behaviours and Technical Recommendations of the COAR Next Generation Working Group*, Confederation of Open Access Repositories (COAR), November 28, 2017, <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1065&context=scholcom>
- 25 Judy Luther, "The Stars Are Aligning for Preprints," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, April 18, 2017, <https://scholarlykitchen.sspnet.org/2017/04/18/stars-aligning-preprints/>
- 26 Jamie A. Teixeira de Silva, "The Preprint Wars (editorial)," *AME Medical Journal*, June 2017, <http://amj.amegroups.com/article/view/3874>
- 27 Jeremy M. Berg, et al., "Preprints for the Life Sciences," *Science* 352(6288):899–901, May 20, 2016, DOI: <http://doi.org/10.1126/science.aaf9133>
- 28 Megan Molteni, "Biology's Roiling Debate Over Publishing Research Early," *Wired*, July 8, 2017, <https://www.wired.com/story/biologys-roiling-debate-over-publishing-preprint-research-early/>

- 29 Jocelyn Kaiser, "Are Preprints the Future of Biology? A Survival Guide for Scientists," *Science*, September 2, 2017, <https://www.sciencemag.org/news/2017/09/are-preprints-future-biology-survival-guide-scientists>
- 30 Rusty Speidel and Matt Spitzer, "Preprints: The What, The Why, The How," *Center for Open Science Blog*, June 4, 2018, <https://cos.io/blog/preprints-what-why-how/>
- 31 Joshua Rapp Learn, "What bioRxiv's First 30,000 Preprints Reveal About Biologists," *Nature*, January 22, 2019, <https://www.nature.com/articles/d41586-019-00199-6>
- 32 Tom Kelly, "Surveying the Landscape of Products and Services for Sharing Preprints," *ASAPbio* [Blog], February 13, 2019, <https://asapbio.org/preprint-products>
- 33 Preedip Balaji, M. Dhanamjaya, "Preprints in Scholarly Communication: Re-Imagining Metrics and Infrastructures," *Publications* 2019; 7(1):6. DOI: [10.3390/publications7010006](https://www.mdpi.com/2304-6775/7/1/6), <https://www.mdpi.com/2304-6775/7/1/6>
- 34 Tom Narock, et al., "Earth Science Is Ready for Preprints," *EOS*, April 23, 2019, <https://eos.org/science-updates/earth-science-is-ready-for-preprints>
- 35 Richard Sever, Michael Eisen, and John Inglis, "Plan U: Universal Access to Scientific and Medical Research Via Funder Preprint Mandates," *PLOS Biology*, June 4, 2019, DOI: <https://doi.org/10.1371/journal.pbio.3000273>
- 36 Allison Langham-Putrow and Amy Riegelman, "Discovery and Scholarly Communication Aspects of Preprints: Sources for Online Information," *C&RL News* 80(9):506–510, October 2019, <https://crln.acrl.org/index.php/crlnews/article/view/23580/30897>
- 37 Rob Johnson and Andrea Chiarelli, "The Second Wave of Preprint Servers: How Can Publishers Keep Afloat?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 16, 2019, <https://scholarlykitchen.sspnet.org/2019/10/16/the-second-wave-of-preprint-servers-how-can-publishers-keep-afloat/>
- 38 Kent R. Anderson, "bioRxiv: Trends and Analysis of Five Years of Preprints," *Learned Publishing*, November 2, 2019, DOI: <https://doi.org/10.1002/leap.1265>
- 39 David Mellor, Brian Nosek, Nicole Pfeiffer, "Conflict Between Open Access and Open Science: APCs are a Key Part of the Problem, Preprints are a Key Part of the Solution," *Center for Open Science Blog*, January 21, 2020, <https://cos.io/blog/conflict-between-open-access-and-open-science-apcs-are-key-part-problem-preprints-are-key-part-solution/>
- 40 Chan Zuckerberg Science Initiative, "Strengthening the Open Science Ecosystem Through Preprints: What We Learned at the Preprints I/O Workshop," *Medium*, January 21, 2020, <https://medium.com/@czscience/strengthening-the-open-science-ecosystem-through-preprints-9e87969631ba>
- 41 Matthew B. Hoy, "Rise of the Rxivs: How Preprint Servers are Changing the Publishing Process," *Medical Reference Services Quarterly* 39(1):84–89 February 2020, DOI: <https://doi.org/10.1080/02763869.2020.1704597>

- 42 Smriti Mallapaty, “Popular Preprint Servers Face Closure Because of Money Troubles,” *Nature*, February 13, 2020, <https://www.nature.com/articles/d41586-020-00363-3>
- 43 Martin Klein, Peter Broadwell, Sharon E. Farb, Todd Grappone, “Comparing Published Scientific Journal Articles to Their Pre-print Versions,” *International Journal on Digital Libraries* 20:335–350, December 2019, DOI: <https://doi.org/10.1007/s00799-018-0234-1>

1.7 Research Data

There is a large body of literature on research data management. Here I have focused primarily on literature discussing smaller-scale, institution-level support for research data. Much of the research deals with larger data sets, which are managed at the disciplinary, national, or multinational level. I have intentionally excluded these from this bibliography.

The individual projects and programs for data management are included with repositories in section 2.2.

Roger C. Schonfeld reviews current approaches to research data (item 1). A Digital Science report summarizes the current state of open data (item 2). Items 3 to 10 provide general guidance for managing research data at the institutional level.

Items 11 to 16 look at how sharing research data impacts researchers and how the overall research environment is impacted by these practices.

The FAIR Principles for managing research data, which aim to improve the findability, accessibility, interoperability, and reuse of digital assets, are covered in items 17 to 19.

- 1 Roger C. Schonfeld, "Two Competing Visions for Research Data Sharing," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 14, 2019, <https://scholarlykitchen.sspnet.org/2019/10/14/competing-visions-research-data/>
- 2 Briony Fane, Paul Ayris, Mark Hahnel, Iain Hrynaszkiewicz, Grace Baynes, and Emily Farrell, *The State of Open Data Report 2019*, Digital Science, October 24, 2019, https://digitalscience.figshare.com/articles/The_State_of_Open_Data_Report_2019/9980783
- 3 Danielle Cooper and Rebecca Springer, *Data Communities: A New Model for Supporting STEM Data Sharing*, Ithaka S+R Issue Brief, May 13, 2019, DOI: <https://doi.org/10.18665/sr.311396>
- 4 Cathryn F. Miller, Rebekah S. Miller, and Gesina A. Phillips, "Keeping Up With... Research Data Management," ACRL, April 17, 2018, http://www.ala.org/acrl/publications/keeping_up_with/rdm
- 5 Rebecca Bryant, Brian Lavoie, and Constance Malpas, *A Tour of the Research Data Management (RDM) Service Space*. The Realities of Research Data Management, Part 1. Dublin, Ohio: OCLC Research, 2017, DOI: <https://doi.org/10.25333/C3PG8J>
- 6 Rebecca Bryant, Brian Lavoie, and Constance Malpas, *Scoping the University RDM Service Bundle*. The Realities of Research Data Management, Part 2. Dublin, Ohio: OCLC Research, 2017, DOI: <https://doi.org/10.25333/C3Z039>

- 7 Rebecca Bryant, Brian Lavoie, and Constance Malpas, *Incentives for Building University RDM Services*. The Realities of Research Data Management, Part 3. Dublin, Ohio: OCLC Research, 2018, DOI: <https://doi.org/10.25333/C3S62F>
- 8 Rebecca Bryant, Brian Lavoie, and Constance Malpas, *Sourcing and Scaling University RDM Services*. The Realities of Research Data Management, Part 4. Dublin, Ohio: OCLC Research, 2018, DOI: <https://doi.org/10.25333/C3QW7M>
- 9 Sara Mannheimer et al., "Qualitative Data Sharing: Data Repositories and Academic Libraries as Key Partners in Addressing Challenges," *American Behavioral Scientist*, June 28, 2018, DOI: [10.1177/0002764218784991](https://doi.org/10.1177/0002764218784991)
- 10 Abigail Goben and Robert J. Sandusky, "Open Data Repositories: Current Risks and Opportunities," *College & Research Libraries News* 81(2):62–65, February 2020, DOI: <https://doi.org/10.5860/crln.81.1.62>
- 11 Fiona Murphy, "Publishing and Sharing Data Papers Can Increase Impact and Benefits Researchers, Publishers, Funders and Libraries," *LSE Impact Blog*, October 12, 2016, <https://blogs.lse.ac.uk/impactofsocialsciences/2016/10/12/publishing-and-sharing-data-papers-can-increase-impact-and-benefits-researchers-publishers-funders-and-libraries/>
- 12 Michael C. Whitlock, Mark A. McPeck, Mark D. Rausher, Loren Rieseberg and Allen J. Moore, "Data Archiving," *American Naturalist* 175(2):145–146, February 2010, DOI: [10.1086/650340](https://doi.org/10.1086/650340)
- 13 Patricia Herterich and Sünje Dallmeier-Tiessen, "Data Citation Services in the High-Energy Physics Community," *D-Lib Magazine* 22(1/2), January/February 2016, DOI: 10.1045/january2016-herterich. <http://www.dlib.org/dlib/january16/herterich/01herterich.html>
- 14 Leila Jones, Rebecca Grant, and Iain Hrynaszkiewicz, "Implementing Publisher Policies That Inform, Support and Encourage Authors to Share Data: Two Case Studies," *Insights* 32(1):11, March 2019, DOI: [http://doi.org/10.1629/uksg.463](https://doi.org/10.1629/uksg.463)
- 15 Roger C. Schonfeld, "The Research Data Sharing Business Landscape," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 2, 2019, <https://scholarlykitchen.sspnet.org/2019/10/02/research-data-sharing-business-landscape/>
- 16 Li Zhang and Nickoal Eichmann-Kalwara, "Mapping the Scholarly Literature Found in Scopus on "Research Data Management": A Bibliometric and Data Visualization Approach," *Journal of Librarianship and Scholarly Communication* 7(1), 2019, DOI: [http://doi.org/10.7710/2162-3309.2266](https://doi.org/10.7710/2162-3309.2266)
- 17 "FAIR Principles," GO FAIR, [n.d.], <https://www.go-fair.org/fair-principles/> (accessed August 30, 2019).
- 18 Mark D. Wilkinson, et al., "The FAIR Guiding Principles for Scientific Data Management and Stewardship," *Scientific Data* 3: 160018, March 15, 2016, DOI: [http://doi.org/10.1038/sdata.2016.18](https://doi.org/10.1038/sdata.2016.18)

- 19 Jon Brock, "A Love Letter to Your Future Self: What Scientists Need to Know About FAIR Data," *Nature Index*, February 11, 2019, <https://www.natureindex.com/news-blog/what-scientists-need-to-know-about-fair-data>

1.8 Publishing

Publishing covers a lot of ground. What is covered here is mostly works discussing systems and strategies.

There have been a number of calls to transform scholarly publishing generally, so that it is more open (items 1 to 3). David W. Lewis has predicted that gold open access will become the dominant journal publishing model (item 4). Heather Piwowar and her colleagues provide two reviews of the state of open access journal publishing, the second with predictions of future developments (items 5 and 6). Richard Poynder has a lengthy review of the history and current state of open access (item 7).

An interview with Pierre Mounier describes OpenEdition, which reflects the European approach to open publishing (item 8).

Journal systems and strategies are covered in items 9 to 14.

Peer review is an important function in journal publishing. There are a number of studies that consider the effectiveness of traditional peer review and its strengths and flaws. A sample of articles discussing these issues can be found in items 15 to 18. There are proposals for reforming peer review to make it more open, particularly post-publication review to extend the conversation about the work (items 19 to 30).

The literature of monograph publishing has two focuses. The first is how to adapt the monograph so that it takes advantage of the opportunities presented with digital technologies (items 31 to 36). The second is how to create monographs with an open access model (items 37 to 46). The experience of Punctum Books is particularly interesting in terms of its low cost (items 47 and 48).

Publishing—General

- 1 Alison McGonagle-O’Connell and Kristen Ratan, “Can We Transform Scholarly Communication with Open Source and Community-Owned Infrastructure?” *Learned Publishing* 32(1), January 2019, <https://doi.org/10.1002/leap.1215>
- 2 John W. Maxwell, Erik Hanson, Leena Desai, Carmen Tiampo, Kim O’Donnell, Avvai Ketheeswaran, Melody Sun, Emma Walter, and Ellen Michelle, *Mind the Gap: A Landscape Analysis of Open Source Publishing Tools and Platforms*, August 2, 2019, <https://mindthegap.pubpub.org>
- 3 Tony Ross-Hellauer, Benedikt Fecher, Kathleen Shearer, and Eloy Rodriques, *Pubfair—A Framework for Sustainable, Distributed, Open Science Publishing Services*, Conference of Open Access Repositories (COAR), Version 1, September 2019, <https://comments.coar-repositories.org>

- 4 David W. Lewis, "The Inevitability of Open Access," *College & Research Libraries* 73(5):493–506, September 2012, DOI: <https://doi.org/10.5860/crl-299>, <http://crl.acrl.org/content/73/5/493.full.pdf+html>
- 5 Heather Piwowar, et al., "The State of OA: A Large-Scale Analysis of the Prevalence and Impact of Open Access Articles," *PeerJ* 6:e4375, February 13, 2018, DOI: <https://doi.org/10.7717/peerj.4375>
- 6 Heather Piwowar, Jason Priem, and Richard Orr, "The Future of OA: A Large-Scale Analysis Projecting Open Access Publication and Readership," bioRxiv 795310, DOI: <https://doi.org/10.1101/795310>
- 7 Richard Poynder, "Open access: Could defeat be snatched from the jaws of victory?" *Open and Shut?* [Blog], November 18, 2019, <https://poynder.blogspot.com/2019/11/open-access-could-defeat-be-snatched.html>
- 8 "Insights into the Economy of Open Scholarship: A Look into OpenEdition with Pierre Mounier, Deputy Director," Knowledge Exchange, 2019, DOI: <http://doi.org/10.5281/zenodo.3084406>

Journals

- 1 Turid Hedlund, Tomas Gustafsson, and Bo-Christer Björk, "The Open Access Scientific Journal: An Empirical Study," *Learned Publishing* 17(3):199–209, July 2004. <https://doi.org/10.1087/095315104323159621>
- 2 Bo-Christer Björk, "A Study of Innovative Features in Scholarly Open Access Journals," *Journal of Medical Internet Research* 13(4):e115, 2011, DOI: <https://www.jmir.org/2011/4/e115/>
- 3 Soon Kim, Hyungwook Choi, Nayon Kim, EunKyung Chung, and Jae Yun Lee, "Comparative Analysis of Manuscript Management Systems for Scholarly Publishing," *Science Editing* 5(2):124–134, August 2018, DOI: <https://doi.org/10.6087/kcse.137>
- 4 Giuliano Maciocci, Emmy Tsang, Nokome Bentley, and Michael Aufreiter, "Reproducible Document Stack: Towards a Scalable Solution for Reproducible Articles," *eLife LABS*, May 22, 2019, <https://elifesciences.org/labs/b521cf4d/reproducible-document-stack-towards-a-scalable-solution-for-reproducible-articles>
- 5 Bo-Christer Björk and Timo Korkeamäki, "Adoption of the Open Access Business Model in Scientific Journal Publishing – A Cross-Disciplinary Study," *College & Research Libraries*, DHanken Institutional Repository, 2020, <https://harisportal.hanken.fi/en/publications/adoption-of-the-open-access-business-model-in-scientific-journal->
- 6 Roger C. Schonfeld, "Will Publishers Have Platforms?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, February 27, 2019, <https://scholarlykitchen.sspnet.org/2019/02/27/will-publishers-have-platforms/>

- 7 Richard Smith, "Peer Review: The Flawed Process at the Heart of Science and Journals," *Journal of the Royal Society of Medicine* 99(4):178–182, April 2006, DOI: <https://doi.org/10.1177/014107680609900414>
- 8 Julia Belluz and Steven Hoffman, "Let's Stop Predending Peer Review Works," *Vox*, December 7, 2015, <https://www.vox.com/2015/12/7/9865086/peer-review-science-problems>
- 9 Stefano Baliatti, "Science is Suffering Because of Peer Review's Big Problems," *New Republic*, August 9, 2016, <https://newrepublic.com/article/135921/science-suffering-peer-reviews-big-problems>
- 10 Aaron E. Carroll, "Peer Review: The Worst Way to Judge Research, Except for All the Others," *New York Times*, November 5, 2018, <https://www.nytimes.com/2018/11/05/upshot/peer-review-the-worst-way-to-judge-research-except-for-all-the-others.html>
- 11 Jane Hunter, "Post-Publication Peer Review: Opening Up Scientific Conversation," *Frontiers in Computational Neuroscience*, 30 August 2012, DOI: <https://doi.org/10.3389/fncom.2012.00063>
- 12 Jacalyn Kelly, Tara Sadeghieh, and Khosrow Adeli, "Peer Review in Scientific Publications: Benefits, Critiques, & A Survival Guide," *EJIFCC* 25(3):227–243, October 2014, <https://www.ifcc.org/media/332102/eJIFCC2014Vol25No3pp227-243.pdf>
- 13 Jonathan P. Tennant, Jonathan M. Dugan, Daniel Graziotin, et al., "A Multi-Disciplinary Perspective on Emergent and Future Innovations in Peer Review," [version 3; referees: 2 approved], *F1000 Research* 2017, 6:1151, <https://doi.org/10.12688/f1000research.12037.3>
- 14 *Global State of Peer Review*, Publons, 2018, DOI: <https://doi.org/10.14322/publons.GSPR2018>
- 15 Jonathan P. Tennant and Tony Ross-Hellauer, "The Limitations to Our Understanding of Peer Review," SocArXiv, August 29, 2019, <https://osf.io/preprints/socarxiv/jq623/>
- 16 Phil Davis, "Can an Algorithm Outperform Science Editors?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 19, 2016, <https://scholarlykitchen.sspnet.org/2016/10/19/can-an-algorithm-outperform-science-editors/>
- 17 Sergio Copiello, "Business as Usual with Article Processing Charges in the Transition towards OA Publishing: A Case Study Based on Elsevier," *Publications* 8(1), article 3, January 2020, DOI: <https://doi.org/10.3390/publications8010003>
- 18 Tim Vines, "Let Authors Choose How to Pay for Peer Review and Publication," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, January 13, 2020, <https://scholarlykitchen.sspnet.org/2020/01/13/let-authors-choose-how-to-pay-for-publication/>

- 19 Antonio Tenorio, “Decentralized Science: Bringing Transparency to Academic Peer Reviewing,” *P2P Models* [blog], January 15, 2020, <https://p2pmodels.eu/decentralized-science-bringing-transparency-to-academic-peer-reviewing/>
- 20 Veronique Kiermer, “Peer Review in Service of Open Science,” *The Official PLOS Blog*, January 16, 2020, <https://blogs.plos.org/plos/2020/01/peer-review-in-service-of-open-science/>
- 21 Mariëlle Prevo, Ron Aardening, and Ingrid Wijk, “Guest Post: A Plea for Fairer Sharing of the True Costs of Publication,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, February 4, 2020, <https://scholarlykitchen.sspnet.org/2020/02/04/guest-post-a-plea-for-fairer-sharing-of-the-true-costs-of-publication/>
- 22 Nina Schönfelder, “Article Processing Charges: Mirroring the Citation Impact or Legacy of the Subscription-Based Model?” *Quantitative Science Studies* 1(1):6–27, Winter 2020, DOI: https://doi.org/10.1162/qss_a_00015

Monographs

- 1 Cheryl E. Ball and Douglas Eyman, “Editorial Workflows for Multimedia-Rich Scholarship,” *JEP: Journal of Electronic Publishing* 18(4), Fall 2014, DOI: <http://dx.doi.org/10.3998/3336451.0018.406>
- 2 Michael Jubb, *Academic Books and their Future: A Report to the AHRC and the British Library*, London, June 2017, https://academicbookfuture.files.wordpress.com/2017/06/academic-books-and-their-futures_jubb1.pdf
- 3 John W. Maxwell, Alessandra Bordini, and Katie Shamash, “Reassembling Scholarly Communications: An Evaluation of the Andrew W. Mellon Foundation’s Monograph Initiative (Final Report, May 2016),” *JEP: Journal of Electronic Publishing* 20(1), 2017, DOI: <http://dx.doi.org/10.3998/3336451.0020.101>
- 4 Alex Humphreys, Christina Spencer, Laura Brown, Matthew Loy, and Ronald Snyder, “Reimagining the Digital Monograph: Design Thinking to Build New Tools for Researchers,” *JEP: Journal of Electronic Publishing* 21(1), 2018, DOI: <http://dx.doi.org/10.3998/3336451.0021.102>
- 5 Steven A. Hill, “Decoupling the Academic Book,” *Learned Publishing* 31(S1):223–227, September 2018, DOI: <https://doi.org/10.1002/leap.1201>
- 6 Charles Watkinson, “The Academic eBook Ecosystem Reinvigorated: A Perspective from the USA,” *Learned Publishing* 31(S1):280–287, September 2018, DOI: <https://doi.org/10.1002/leap.1185>
- 7 Charles Watkinson, Kevin Hawkins, Lucy Montgomery, Brian O’Leary, Cameron Neylon, and Katherine Skinner, “Understanding OA Ebook Usage: Toward a Common Framework,” May 2, 2018, <http://hdl.handle.net/2027.42/143840>

- 8 Janneke Adema, *Towards a Roadmap for Open Access Monographs: A Knowledge Exchange Report*, Knowledge Exchange, 2019, DOI: <https://doi.org/10.5281/zenodo.2644997>
- 9 Sara Grimme, Cathy Holland, Peter Potter, Mike Taylor, Michael A. Elliott, and Charles Watkinson, *The State of Open Monographs*, Digital Science Report, 2019, https://digitalscience.figshare.com/articles/The_State_of_Open_Monographs/8197625
- 10 Brian O’Leary and Kevin Hawkins, *Exploring Open Access Ebook Usage*, Book Industry Study Group, May 2019, <https://doi.org/10.17613/8rty-5628>
- 11 Jill O’Neill, “Open Access Monographs: Building Better Infrastructure,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, June 20, 2019, <https://scholarlykitchen.sspnet.org/2019/06/20/open-access-monographs-building-better-infrastructure/>
- 12 TBI Communications, *A Review of Open Access Book Publishing on Behalf of The Oberlin Group*, December 2013, https://leverinitiative.files.wordpress.com/2013/12/oa-monograph-report_dec13_v1.pdf
- 13 Monica McCormick, “Open-Access Monographs: New Tools, More Access,” *Educause Review*, May 2019, <https://er.educause.edu/articles/2019/5/open-access-monographs-new-tools-more-access>
- 14 Science Europe, *Science Europe Briefing Paper on Open Access to Academic Books*, D/2019/13.324/2, September 2019, <http://scieur.org/oa-books>
- 15 Sven Fund, Max Mosterd, and Piotr Godek, *Open Access Monographs in the UK: A Data Analysis*, Berlin, 2019, <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2019/Fullstopp-Final-October-2019.pdf>
- 16 Universities UK Open Access and Monographs Group, *Open Access and Monographs: Evidence Review*, Universities UK, 2019, <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2019/UUK-Open-Access-Evidence-Review.pdf>
- 17 Jessica Reincke, “Punctum Books’ Open Access Model Makes Knowledge Available to Everyone,” *The Bottom Line*, University of California Santa Barbara, November 7, 2018, <https://thebottomline.as.ucsb.edu/2018/11/punctum-books-open-access-model-makes-knowledge-available-to-everyone>
- 18 Vincent W.J. van Gerven Oei, “Here's What You Can Do with Your Overhead,” *punctum papers* [blog], December 11, 2019, <https://punctumbooks.pubpub.org/pub/here-is-what-you-can-do-with-your-overhead-punctum-books>

1.9 Discovery

This section captures basic information about projects and programs that contribute to discovery. Traditional indexes and abstracts have not been included.

Probably the most notable recent development is that artificial intelligence and machine learning is being applied to discovery (items 1 and 2). Some examples are Meta Science, IRIS.AI, SemanticScholar, Get the Research, and Yewno (see articles on these projects in section 3.0). Items 3 to 8 are general articles on discovery. Another interesting recent development is “access broker” browser extensions (item 9). Aaron Tay’s blog, *Musings About Librarianship*, is a good source of current information on developments (items 10 to 13).

- 1 Yolanda Gil, Mark Greaves, James Hendler, and Haym Hirsh, “Amplify Scientific Discovery with Artificial Intelligence: Many Human Activities are a Bottleneck in Progress,” *Science* 346(6206):171–172, October 10, 2014, <http://cacs.usc.edu/education/cs653/Gil-Aldiscovery-Science14.pdf>
- 2 George Plosker, “Artificial Intelligence Tools for Information Discovery,” *Online Searcher* 42(3), May/June 2018, <http://www.infotoday.com/OnlineSearcher/Articles/Features/Artificial-Intelligence-Tools-for-Information-Discovery-124721.shtml>
- 3 Michael Norris, Charles Oppenheim, and Fytton Rowland, “Finding open access articles using Google, Google Scholar, OALster and OpenDOAR,” *Online Information Review* 32(6):709–715, November 2008, DOI: <https://doi.org/10.1108/14684520810923881>
- 4 Roger C. Schonfeld, “Who Is Competing to Own Researcher Identity?” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, January 6, 2020, <https://scholarlykitchen.sspnet.org/2020/01/06/competing-researcher-identity>
- 5 Phil Davis, “Study: Recommender Systems May Increase Citations,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, January 8, 2020, <https://scholarlykitchen.sspnet.org/2020/01/08/study-recommender-systems-may-increase-citations/>
- 6 Marshall Breeding, *The Future of Library Resource Discovery: A White Paper Commissioned by the NISO Discovery to Delivery (D2D) Topic Committee*, Baltimore, MD: NISO, February 2015, ISBN: 978-1-937522-41-4, https://groups.niso.org/apps/group_public/download.php/14487/future_library_resource_discovery.pdf
- 7 Lettie Y. Conrad, “The Latest in Search: Do New Discovery Solutions Improve Search as well as Retrieval?” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*,

- June 28, 2018, <https://scholarlykitchen.sspnet.org/2018/06/28/latest-search-new-discovery-solutions-improve-search-well-retrieval/>
- 8 Neal Haddaway and Michael Gusenbauer, "A Broken System — Why Literature Searching Needs a FAIR Revolution," *LSE Impact Blog*, February 3, 2020, <https://blogs.lse.ac.uk/impactofsocialsciences/2020/02/03/a-broken-system-why-literature-searching-needs-a-fair-revolution/>
 - 9 Adam Rodgers, "It's Gonna Get a Lot Easier to Break Science Journal Paywalls," *Wired*, December 3, 2017, <https://www.wired.com/story/its-gonna-get-a-lot-easier-to-break-science-journal-paywalls/>
 - 10 Aaron Tay, "Kopernio, Lean Library, Anywhere Access & Other "Access Broker" Browser Extensions—A Roundup & Update of Current State of Play," *Musings About Librarianship* [blog], May 12, 2019, <http://musingsaboutlibrarianship.blogspot.com/2019/05/kopernio-lean-library-anywhere-access.html>
 - 11 Aaron Tay, "A Comparison of 6 Access Broker Browser Extensions Lean Library, Koperino, Anywhere Access, Libkey Nomad & More," *Musings About Librarianship* [blog], July 2, 2019, <http://musingsaboutlibrarianship.blogspot.com/2019/07/a-comparison-of-6-access-broker-browser.html>
 - 12 Aaron Tay, "The Rise of New Citation Indexes and the Impact on Science Mapping Tools—Citespace, VOSviewer, Citation Gecko and More," *Musings About Librarianship* [blog], September 4, 2019, <http://musingsaboutlibrarianship.blogspot.com/2019/09/the-rise-of-new-citation-indexes-and-5.html>
 - 13 Aaron Tay, "The Rise of the 'Open' Discovery Indexes? Lens.org, Semantic Scholar and Scinapse," *Musings on Librarianship* [blog], December 22, 2019, <https://musingsaboutlibrarianship.blogspot.com/2019/12/the-rise-of-open-discovery-indexes.html>

1.10 Evaluation and Assessment

There is a large quantity of literature on the appropriateness of the most commonly used research measure—the journal impact factor. A sample is provided in items 1 to 7.

The Metrics Toolkit (item 8) is a good source for the pros and cons of various research metrics, as is the NISO metrics project (item 9).

Items 10 to 21 discuss alternative metrics.

The San Francisco Declaration on Research Assessment (DORA), which looks to move beyond the journal impact factor, is covered in items 22 to 24.

- 1 Eugene Garfield, “The History and Meaning of the Journal Impact Factor,” *JAMA* 295(1):90–93, 2006, DOI: <http://doi.org/10.1001/jama.295.1.90>
- 2 Per O. Seglen, “Why the Impact Factor of Journals Should Not Be Used for Evaluating Research,” *BMJ* 314: 499, February 15, 1997, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2126010/pdf/9056804.pdf>
- 3 Andy R. Weale, Mick Bailey, and Paul A. Lear, “The Level of Non-Citation of Articles within a Journal as a Measure of Quality: A Comparison to the Impact Factor,” *BMC Medical Research Methodology* 4:14, May 2004, <https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/1471-2288-4-14>
- 4 Allen W. Wilhite and Eric A. Fong, “Coercive Citation in Academic Publishing,” *Science* 335(6068):542–543, February 3, 2012, DOI: <https://doi.org/10.1126/science.1212540>
- 5 Ben R. Martin, “Editors’ JIF-Boosting Stratagems – Which Are Appropriate and Which Not?” *Research Policy* 45(1):1–7, February 2016, DOI: <https://doi.org/10.1016/j.respol.2015.09.001>
- 6 Jerry A. Jacobs, “Manipulated Journal Rankings?” *Inside Higher Ed*, July 1, 2016, <https://www.insidehighered.com/views/2016/07/01/examination-whether-academic-journal-rankings-are-being-manipulated-essay>
- 7 Phil Davis, “How Much Citation Manipulation Is Acceptable?” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, May 30, 2017, <https://scholarlykitchen.sspnet.org/2017/05/30/how-much-citation-manipulation-is-acceptable/>
- 8 Robin Champieux, Heather Coates, and Stacy Konkiel, Metrics Toolkit, <http://www.metrics-toolkit.org>
- 9 NISO, *Outputs of the NISO Alternative Assessment Metrics Project*, NISO RP-25-2016, 2016, https://groups.niso.org/apps/group_public/download.php/17091/NISO%20RP-25-2016%20Outputs%20of%20the%20NISO%20Alternative%20Assessment%20Project.pdf

- 10 Jason Priem, Dario Taraborelli, Paul Groth, and Cameron Neylon, "Altmetrics: A Manifesto," October 26, 2010, <http://altmetrics.org/manifesto>
- 11 Judy Luther, "Altmetrics—Trying to Fill the Gaps," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, July 25, 2012, <https://scholarlykitchen.sspnet.org/2012/07/25/altmetrics-trying-to-fill-the-gap/>
- 12 Heather Piwowar, "Value All Research Products," *Nature* 493, 159, January 10, 2013, <https://www.nature.com/articles/493159a>
- 13 Heather Piwowar and Jason Priem, "The Power of Altmetrics on a CV," *Bulletin of the American Society for Information Science and Technology* 39(4):10–13, April/May 2013, DOI: <https://doi.org/10.1002/bult.2013.1720390405>
- 14 Stacy Konkiel, "Altmetrics: A 21st-Century Solution to Determining Research Quality," *Online Searcher: Information Discovery, Technology, Strategies* 37(4), July/August 2013, <http://www.infotoday.com/OnlineSearcher/Articles/Features/Altmetrics-A-stCentury-Solution-to-Determining-Research-Quality-90551.shtml>
- 15 Diana Hicks, Paul Wouters, Ludo Waltman, Sarah de Rijcke, and Ismael Rafols, "Bibliometrics: The Leiden Manifesto for Research Metrics," *Nature* 520(7548):429–431, April 22, 2015, DOI: [10.1038/520429a](https://doi.org/10.1038/520429a)
- 16 Mojisola Erdt, Aarthy Nagarajan, Sei-Ching Joanna Sin, and Yin-Leng Theng, "Altmetrics: An Analysis of the State-of-the-Art in Measuring Research Impact on Social Media," *Scientometrics* 109(2):1117–1166, November 2016, DOI: <https://doi.org/10.1007/s11192-016-2077-0>
- 17 Maryam Mehrazar, Christoph Carl Kling, Steffen Lemke, Athanasios Mazarakis, and Isabella Peters, "Can We Count on Social Media Metrics? First Insights into the Active Scholarly Use of Social Media," *arXiv*, April 8, 2018, <https://arxiv.org/abs/1804.02751>
- 18 Lutz Bornmann and Robin Haunschild, "Do Altmetrics Correlate with the Quality of Papers? A Large-Scale Empirical Study Based on F1000Prime Data," *PLOS One*, May 23, 2018, DOI: <https://doi.org/10.1371/journal.pone.0197133>
- 19 Joe Wass, "Five Principles for Community Altmetrics Data," September 15, 2018, http://altmetrics.org/wp-content/uploads/2018/04/altmetrics18_paper_4_Wass.pdf
- 20 Shenmeng Xu, "Issues in the Interpretation of 'Altmetrics' Digital Traces: A Review," *Frontiers in Research Metrics and Analytics*, 4 October 2018, <https://doi.org/10.3389/frma.2018.00029>
- 21 Aaron Brown, "Research Metrics: Altmetrics," *Advanced Science News*, March 19, 2019, <https://www.advancedsciencenews.com/research-metrics-altmetrics/>
- 22 "San Francisco Declaration on Research Assessment," December 16, 2012, <https://sfdora.org/read/>

- 23 Richard Van Noorden, "Scientists Join Journal Editors to Fight Impact-Factor Abuse," *Nature Newsblog*, May 16, 2013, <http://blogs.nature.com/news/2013/05/scientists-join-journal-editors-to-fight-impact-factor-abuse.html>
- 24 Bruce Alberts, "Impact Factor Distortions," *Science* 340(6134):787, May 17, 2013, DOI: <http://doi.org/10.1126/science.1240319>

1.11 Preservation

The difficulties of preserving digital objects have been a concern for some time. A variety of projects address various parts of the problem, but no single project or model does everything that is required. Some projects—for example, LOCKSS and Portico— are stable and have proven themselves over time.

There is a large quantity of technical literature on digital preservation and digital curation, which I have not attempted to cover. Kenneth Thibodeau’s article is a useful beginning, as is the *Wikipedia* article on digital preservation (items 1 and 2).

Items 3 to 9 are reports, aimed primarily at the library community, that address preservation concerns and the state of preservation systems and strategies. In item 8, Rosenthal makes the important point that digital preservation is less a technology problem than an economic one. Items 10 to 18 are a sampling of articles on digital preservation strategies, again focused primarily on the library community. Items 19 to 21 discuss the Trustworthy Repositories Audit & Certification process.

The failure of the Digital Preservation Network is a warning that this part of the infrastructure remains challenging (item 22).

- 1 Kenneth Thibodeau, “Overview of Technological Approaches to Digital Preservation and Challenges in Coming Years,” in *The State of Digital Preservation: International Perspectives*, Washington, DC: Council on Library and Information Resources, 2002, <https://www.clir.org/pubs/reports/pub107/thibodeau/>
- 2 “Digital Preservation,” *Wikipedia*, https://en.wikipedia.org/wiki/Digital_preservation (accessed February 8, 2020)
- 3 Brian Lavoie and Lorcan Dempsey, “Thirteen Ways of Looking at...Digital Preservation,” *D-Lib Magazine* 10(7/8), July/August 2004, <http://www.dlib.org/dlib/july04/lavoie/07lavoie.html>
- 4 David S. H. Rosenthal, et al., “Requirements for Digital Preservation Systems: A Bottom-Up Approach,” arXiv, September 6, 2005, <https://arxiv.org/abs/cs/0509018>
- 5 Gobinda Chowdhury, “From Digital Libraries to Digital Preservation Research: The Importance of Users and Context,” *Journal of Documentation* 66(2):207–223, DOI: <https://doi.org/10.1108/00220411011023625>
- 6 *A Guide to Distributed Digital Preservation*, edited by Katherine Skinner and Matt Schultz, Atlanta: Educopia Institute, 2010, https://metaarchive.org/wp-content/uploads/2017/03/A_Guide_to_Distributed_Digital_Preservation_0.pdf
- 7 Tyler Walters and Katherine Skinner, *New Roles for New Times: Digital Curation for Preservation*, Washington, DC: Association of Research Libraries, March 2011,

- https://vtechworks.lib.vt.edu/bitstream/handle/10919/10183/nrnt_digital_curation17mar11.pdf?sequence=1&isAllowed=y
- 8 Bonnie Swoger, "Preserving Scholarly Information: LOCKSS, CLOCKKS, and Portico," *Scientific American Information Culture* [Blog], November 13, 2014, <https://blogs.scientificamerican.com/information-culture/preserving-scholarly-information-lockss-clockks-and-portico/?redirect=1>
 - 9 Oya Y. Rieger, "The State of Digital Preservation in 2018: A Snapshot of Challenges and Gaps," Ithaka Issue Brief, October 29, 2018, <https://sr.ithaka.org/publications/the-state-of-digital-preservation-in-2018/>
 - 10 David Rosenthal, "Preservation Is Not A Technical Problem," *DSHR's Blog*, August 3, 2017, <https://blog.dshr.org/2017/08/preservation-is-not-technical-problem.html>
 - 11 Aaron Trehub and Thomas C. Wilson, "Keeping it Simple: the Alabama Digital Preservation Network (ADPNet)," *Library Hi Tech* 28(2):245–258, 2010, <https://www.emeraldinsight.com/doi/abs/10.1108/07378831011047659>
 - 12 Sheila Morrissey, "The Economy of Free and Open Source Software in the Preservation of Digital Artefacts," *Library Hi Tech* 28(2):211–223, June 2010, DOI: <https://doi.org/10.1108/07378831011047622>
 - 13 Amy Kirchhoff, "eBooks: The Preservation Challenge," *Against the Grain* 23(4):32–34, September 2011, DOI: <https://doi.org/10.7771/2380-176X.5935>
 - 14 Jeffery Hancks, "Good Enough for Now: Digital Preservation at Small and Medium Sized Universities," *AIP Conference Proceedings* 1644:141–146, 2015, DOI: <https://doi.org/10.1063/1.4907829>
 - 15 Yan Han, "Cloud Storage for Digital Preservation: Optimal Uses of Amazon S3 and Glacier," *Library Hi Tech* 33(2):261–271, June 2015, DOI: <https://doi.org/10.1108/LHT-12-2014-0118>
 - 16 Gail Truman, *Web Archiving Environmental Scan*, Harvard Library Report, January 2016, <http://nrs.harvard.edu/urn-3:HUL.InstRepos:25658314>
 - 17 Evviva Weinraub, et al., "Beyond the Repository: Integrating Local Preservation Systems with National Distribution Services," Institute of Museum and Library Services Grant LG-72-16-0135-16 [2018], <https://apo.org.au/sites/default/files/resource-files/2018/01/apo-nid127411-1195726.pdf>
 - 18 Carol A. Mandel, *Can We Do More?: An Examination of Potential Roles, Contributors, Incentives, and Frameworks to Sustain Large-Scale Digital Preservation*, Council on Library and Information Resources, September 2019, <https://clir-dlf.app.box.com/s/31tc6nrua3cj8jjwoymee78gl3plzlo2>
 - 19 *Trustworthy Repositories Audit & Certification: Criteria and Checklist*, Center for Research Libraries and OCLC, 2007, https://www.crl.edu/sites/default/files/d6/attachments/pages/trac_0.pdf

- 20 Matt Schultz, *MetaArchive Cooperative: TRAC Audit Checklist*, Atlanta: Educopia Institute, April 2010, https://metaarchive.org/wp-content/uploads/2017/03/ma_trac_audit.pdf
- 21 Dawei Lin, "A Primer on the Certifications of a Trusted Digital Repository (TDR)," DataScience@NIH Blog, April 20, 2017, https://datascience.nih.gov/trusted_digital_repository
- 22 Roger C. Schonfeld, "Why is the Digital Preservation Network Disbanding?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, December 13, 2018, <https://scholarlykitchen.sspnet.org/2018/12/13/digital-preservation-network-disband/>

2.0 List of Projects/Programs

This section includes the lists of projects, programs, and products in the following categories:

1. Researcher Tools—Reading, Writing, Annotation, and Collaboration
2. Repositories
3. Publishing
4. Discovery
5. Evaluation and Assessment
6. Preservation
7. General Services

The lists include the organization that sponsors the project, program, or product where appropriate and indicates whether it is nonprofit (NP) or for profit (P). They are sorted by function and within the functional categories by organizational status (NP or P).

Literature on the individual project, program, or product can be found in section 3.0.

2.1 Researcher Tools—Reading, Writing, Annotation, and Collaboration

The tools in this section support the work of researchers as they consume and create research. Many of the tools are from for-profit companies, especially reference managers and collaboration platforms.

Project Name	Organization	Function	P or NP
Annotating All Knowledge		Researcher Tools—Annotation	NP
Hypothes.is		Researcher Tools—Annotation	NP
DEIP		Researcher Tools—Collaboration	NP
Dokieli		Researcher Tools—Collaboration	NP
Humanities Commons		Researcher Tools—Collaboration	NP
Knowledgr		Researcher Tools—Collaboration	NP
PaperHive		Researcher Tools—Collaboration	NP
Synapse Platform		Researcher Tools—Collaboration	NP
Academia.edu		Researcher Tools—Collaboration	P
Mendeley	Elsevier	Researcher Tools—Collaboration	P
ResearchGate		Researcher Tools—Collaboration	P
Paper Digest		Researcher Tools—Reading	P
PREreview		Researcher Tools—Reading	P
Scholarcy		Researcher Tools—Reading	P
Zotero		Researcher Tools—Reference Manager	NP
Citationsy		Researcher Tools—Reference Manager	P
EndNote	Clarivate Analytics	Researcher Tools—Reference Manager	P
RefWorks	ProQuest	Researcher Tools—Reference Manager	P
Data2paper	JISC	Researcher Tools—Writing	NP
Fidus Writer		Researcher Tools—Writing	NP
Jupyter Notebook		Researcher Tools—Writing	NP
ProseMirror		Researcher Tools—Writing	NP
Rebus Ink		Researcher Tools—Writing	NP
Stencila	Code for Science & Society	Researcher Tools—Writing	NP
Texture		Researcher Tools—Writing	NP
Vega Publishing		Researcher Tools—Writing	NP
Authorea	Atypon/Wiley	Researcher Tools—Writing	P

Overleaf	Digital Science	Researcher Tools—Writing	P
Shiny		Researcher Tools—Writing	P

2.2 Repositories

There are a variety of well-established repository systems and they are in widespread use as institutional repositories. The majority of the repository projects represented below—30 out of 39, or 76.9%—are nonprofit in their orientation. Several focus on a specific content format or topical area—Avalon Media System on media; Omeka on exhibits; Mukurtu on indigenous collections. There are a number of network scale systems that are used for scholarly purposes but also have more general uses: for example, YouTube, Vimeo, SlideShare, and FigShare. The list includes several subject repositories that are general in nature. There are many subject repositories, and these are not included. The directories listed below can be used to identify them. There are two directories of repositories—OpenDOAR Directory of Open Access Repositories and Registry of Open Access Repositories (ROAR), and a directory of OA policies—ROARMAP. Finally, the list includes tools that support repository functions.

Project Name	Organization	Function	P or NP
Avalon Media System		Repository	NP
Blacklight		Repository	NP
CONTENTdm	OCLC	Repository	NP
DSpace	DuraSpace/Lyrasis	Repository	NP
Eprints		Repository	NP
Fedora	DuraSpace/Lyrasis	Repository	NP
HyKu (Hydra in a Box)		Repository	NP
Islandora		Repository	NP
Mukurtu		Repository	NP
Omeka		Repository	NP
OSF Preprints	Center for Open Science	Repository	NP
Samvera (formerly Hydra)		Repository	NP
TIND Institutional Repository		Repository	NP
Digital Commons	Bepress/Elsevier	Repository	P
Figshare	Digital Science	Repository	P
Dataverse		Repository—Data	NP
Dryad Digital Repository		Repository—Data	NP
Open Humans		Repository—Data	NP
TIND Research Data Management		Repository—Data	NP
OpenDOAR (Directory of Open Access Repository)		Repository—Directories	NP

Registry of Open Access Repositories (ROAR)		Repository—Directories	NP
ROARMAP		Repository—Directories	NP
4Science		Repository—Service Provider	P
Atmire		Repository—Service Provider	P
discoverygarden		Repository—Service Provider	P
arXiv		Repository—Subject	NP
ASAPbio		Repository—Subject	NP
HathiTrust		Repository—Subject	NP
Protocols.io		Repository—Subject	NP
Sci-Hub		Repository—Subject	NP
Zendo	OpenAIRE	Repository—Subject	NP
SLideShare	LinkedIn	Repository—Subject	P
SSRN (Social Science Research Network)	Elsevier	Repository—Subject	P
Vimeo		Repository—Subject	P
YouTube		Repository—Subject	P
Mirador		Repository—Tools	NP
OpenAIRE Broker	OpenAIRE	Repository—Tools	NP
OpenAIRE Content Provider Dashboard	OpenAIRE	Repository—Tools	NP
OpenAIRE Mining Service	OpenAIRE	Repository—Tools	NP
OpenAIRE ScholeXplorer	OpenAIRE	Repository—Tools	NP
OpenAIRE Usage Statistics	OpenAIRE	Repository—Tools	NP
Permissions Checker	Open Access Button	Repository—Tools	NP
Publications Router	JISC	Repository—Tools	NP
ShareYourPaper.org	Open Access Button	Repository—Tools	NP
Sherpa/Romeo		Repository—Tools	NP
1foldr	1science/Elsevier	Repository—Tools	P

2.3 Publishing

Below are 64 projects and programs. These include a wide range of projects, from full-fledged systems for dealing with all aspects of the publishing process to small one-function projects that deal with things like hyphenation or mathematical notation.

The Open Journal System has long been the most used open system for digital journal production, but there are a variety of efforts to produce a more modern and modular journals system. The Collaborative Knowledge Foundation (Coko) has been active in this area with a number of collaborators.

Monographic publishing systems are more diverse; no one system has broad use.

Project Name	Organization	Function	P or NP
Editoria	Collaborative Knowledge Foundation (Coko)	Publishing	NP
Libero		Publishing	NP
OpenEdition	Centre pour l'Édition Électronique Ouverte	Publishing	NP
PubPub		Publishing	NP
PubSweet	Collaborative Knowledge Foundation (Coko)	Publishing	NP
F1000 (Faculty of 1000) Research	Taylor & Francis	Publishing	P
Literatum	Atypon/Wiley	Publishing	P
River Valley Technologies		Publishing	P
ScholarOne	Clarivate Analytics	Publishing	P
ScienceOpen		Publishing	P
Silverchair		Publishing	P
Ubiquity Press		Publishing	P
Janeway		Publishing—Journals	NP
Open Journal System (OJS)	Public Knowledge Project (PKP)	Publishing—Journals	NP
JAMS (Journal & Article Management System)	MDPI	Publishing—Journals	P
Scholastica		Publishing—Journals	P
KaTeX		Publishing—Math	NP
MathJax		Publishing—Math	NP
OSF Meeting	Center for Open Science	Publishing—Meetings	NP

Morressier		Publishing—Meetings	P
SciForum	MDPI	Publishing—Meetings	P
Fulcrum		Publishing— Monographs	NP
HIRMEOS Project		Publishing— Monographs	NP
Lodel		Publishing— Monographs	NP
Manifold Scholarship		Publishing— Monographs	NP
Open Monograph Press	Public Knowledge Project (PKP)	Publishing— Monographs	NP
Scalar		Publishing— Monographs	NP
Pressbooks		Publishing— Monographs	P
Quire		Publishing— Monographs	P
Review Commons		Publishing—Peer Review	NP
Whedon		Publishing—Peer Review	NP
Publons	Clarivate Analytics	Publishing—Peer Review	P
ebub.js		Publishing—Production	NP
Grobid		Publishing—Production	NP
Hy-phen		Publishing—Production	NP
Hyphenopoly		Publishing—Production	NP
Hypher		Publishing—Production	NP
INK	Collaborative Knowledge Foundation (Coko)	Publishing—Production	NP
le-tex Transpect		Publishing—Production	NP
Lens		Publishing—Production	NP
Manubot		Publishing—Production	NP
Open Typesetting Stack	Public Knowledge Project (PKP)	Publishing—Production	NP
Padoc		Publishing—Production	NP
Paged.js		Publishing—Production	NP
Public Access Submission System (PASS)		Publishing—Production	NP
Radium		Publishing—Production	NP

Tectonic		Publishing—Production	NP
Vivliostyle		Publishing—Production	NP
Wax	Collaborative Knowledge Foundation (Coko)	Publishing—Production	NP
xPub	Collaborative Knowledge Foundation (Coko)	Publishing—Production	NP
XSweet	Collaborative Knowledge Foundation (Coko)	Publishing—Production	NP
Electric Book		Publishing—Production	P
Phenom Reviewer		Publishing—Production	P
Phenom Screener		Publishing—Production	P
ReadCube	Digital Science	Publishing—Production	P
Rua		Publishing—Production	P
UNSILO		Publishing—Production	P
RightsLink Author	Copyright Clearance Center	Publishing—Rights Management	P

2.4 Discovery

Discovery tools include a mix of well-established large-scale commercial products, as well as a number of open and nonprofit projects. Some of the latter have remarkable reach, considering the small size of the organizations that created and maintain them (for example, Unpaywall and the Open Access Button). Also of interest is the growth of discovery tools that incorporate artificial intelligence and machine learning (for example, Meta and IRIS.AI).

Project Name	Organization	Function	P or NP
Directory of Open Access Books (DOAB)		Discovery	NP
Directory of Open Access Journals (DOAJ)		Discovery	NP
Enhanced Networked Monographs		Discovery	NP
Get the Research	Our Research	Discovery	NP
Lens.org		Discovery	NP
Meta Science	Chan Zuckerberg Initiative	Discovery	NP
Open Access Button	Open Access Button	Discovery	NP
Open Access Helper		Discovery	NP
Open Access Publishing in European Networks (OAPEN)		Discovery	NP
OpenAIRE Explore Portal	OpenAIRE	Discovery	NP
ROAD: Directory of Open Access Scholarly Resources		Discovery	NP
SeamlessAccess.org (RA21)		Discovery	NP
Semantic Scholar		Discovery	NP
Unpaywall	Our Research	Discovery	NP
WorldCat	OCLC	Discovery	NP
1findr	1science/Elsevier	Discovery	P
DeepDyve		Discovery	P
Google Scholar	Google	Discovery	P
IRIS.AI		Discovery	P
Kopernio	Clarivate Analytics	Discovery	P
Microsoft Academic	Microsoft	Discovery	P
Open Research Library	Knowledge Unlatched	Discovery	P
Quinsight	Quertle	Discovery	P
Scinapse		Discovery	P
Scopus	Elsevier	Discovery	P
Web of Science	Clarivate Analytics	Discovery	P
Yewno Discover		Discovery	P

2.5 Evaluation and Assessment

The most important tools in this area are provided by large for-profit firms, particularly for current research information systems (CRIS). The open nonprofit projects in this area are small and have limited reach by comparison.

Project Name	Organization	Function	P or NP
COUNTER (Project COUNTER)		Assessment	NP
Depsy	Our Research	Assessment	NP
ImpactStory Profiles	Our Research	Assessment	NP
Paperbuzz	Our Research	Assessment	NP
Retraction Watch		Assessment	NP
1figr	1science/Elsevier	Assessment	P
Altmetric	Digital Science	Assessment	P
PlumAnalytics	Elsevier	Assessment	P
Redlink	Atypon/Wiley	Assessment	P
Dspace- CRIS		Assessment—CRIS	NP
VIVO	DuraSpace/Lyrasis	Assessment—CRIS	NP
Converis	Clarivate Analytics	Assessment—CRIS	P
Dimensions	Digital Science	Assessment—CRIS	P
Pure	Elsevier	Assessment—CRIS	P
Symplectic Elements	Digital Science	Assessment—CRIS	P

2.6 Preservation

A number of preservation tools and services are well established and have a record of success—for example, LOCKSS and Portico. Not all have been successful, however: most notably, the Digital Preservation Network.

Nearly all of these preservation tools have been created and are maintained by nonprofit organizations.

Project Name	Organization	Function	P or NP
Academic Preservation Trust (APTrust)		Preservation	NP
Archive-It	Internet Archive	Preservation	NP
BitCurator	Educopia Institute	Preservation	NP
Chronopolis		Preservation	NP
CLOCKSS		Preservation	NP
Digital Preservation Network		Preservation	NP
DuraCloud	DuraSpace/Lyrasis	Preservation	NP
Keepers Registry		Preservation	NP
LOCKSS		Preservation	NP
MetaArchive Cooperative	Educopia Institute	Preservation	NP
Portico	Ithaka	Preservation	NP
Software Preservation Network	Educopia Institute	Preservation	NP
Wayback Machine	Internet Archive	Preservation	NP
Archivematica	Artefactual Systems	Preservation	P
AtoM (Access to Memory)	Artefactual Systems	Preservation	P
Preservica		Preservation	P

2.7 General Services

The tools in this section provide a variety of services that support digital scholarly communication. Nearly all are open and created and maintained by nonprofit organizations.

Project Name	Organization	Function	P or NP
Common Workflow Language		General Services	NP
Creative Commons		General Services	NP
Crossref		General Services	NP
DataCite		General Services	NP
Get Full Text Research (GetFTR)		General Services	NP
Handle System		General Services	NP
International Image Interoperability Framework (IIIF)		General Services	NP
OAIster	OCLC	General Services	NP
Open Science Framework	Center for Open Science	General Services	NP
OpenCitations		General Services	NP
ORCID		General Services	NP
Research Organization Registry (ROR)		General Services	NP
SHARE	Center for Open Science	General Services	NP
The Initiative for Open Citations (14OC)		General Services	NP
Transpose		General Services	NP
Virtual International Authority File (VIAF)	OCLC	General Services	NP
SciCrunch		General Services	P

3.0 Individual Projects and Organizations

Below are descriptions and references for the projects/programs/products and the organizations that house and support them.

If you want to follow a particular project/program/product, you might find that company or project press releases are often a good source of information. However, because of space limitations, I have not included press releases here. Nor have I included blog posts that were less than two or three screens long. There are many bibliometric studies of some projects (for example, Google Scholar or Web of Science), and I have included only sampling of them.

For large, well-known organizations (for example, Internet Archive or Elsevier), I have included only a brief description.

I took most project and organization descriptions in this chapter directly from the related websites or from Wikipedia. When this was done, I have noted “wiki” for Wikipedia or “ws” for website. In these cases, the specific URL is the one found in the reference section. For quotes from other sources, the URL is provided. Sites were visited between February 8 and 11, 2020.

I have included all of the projects included in the “[Mind the Gap](#)” study and have taken some project descriptions from it.* When descriptions are quoted from this study they are indicated with “mtg.” Again, the specific URL is the one listed in the reference section.

* John W Maxwell, Eric Hanson, Leena Desai, Carmen Tiampo, Kim O'Donnell, Avvai Ketheeswaran, Melody Sun, Emma Walter, and Ellen Michelle, *Mind the Gap: A Landscape Analysis of Open Source Publishing Tools and Platforms*, August 2, 2019, <https://mindthegap.pubpub.org>

1figr

Product of 1science/Elsevier

“1figr provides a bibliographic analysis of your organization’s active journal subscriptions. This report reveals what journals your researchers publish in and what journals they cite, and combines this information with download statistics. These metrics are expertly combined to yield uniquely powerful decision-making aids for librarians to make sure libraries are subscribed to the best combination of journals.” (ws)

Website: <https://www.1science.com/1figr/>

1findr

Product of 1science/Elsevier

“1findr aims to grow into the best and most comprehensive abstract indexing system based on expertly curated content. 1findr starts with the world’s most comprehensive list of refereed journals and contains thousands of journals typically absent from existing collections and discovery systems. 1findr is by far the most cost-effective way to expand your collection. It makes use of 1findr link resolver technology, which means that more than 27 million articles published in peer-reviewed journals are directly accessible for download, for free. 1findr radically reduces the time it takes to locate and download papers published in peer-reviewed journals. With 1findr you will quickly find yourself using fee-based & freely accessible scholarly articles, provided they are published in peer-reviewed journals.” (ws)

Website: <https://www.1science.com/1findr/>

1. Ryan Regier, “Coverage and Overlap of 1findr, Dimensions, Scopus, and Web of Science,” *A Way of Happening* [Blog], April 25, 2018, <https://awayofhappening.wordpress.com/2018/04/25/coverage-and-overlap-of-1findr-dimensions-scopus-and-web-of-science/>
2. Aaron Tay, “1findr, Dimensions and Other Free Mega Indexes — A Review of the Space and Numbers Comparison,” *Musings about Librarianship* [Blog], April 30, 2018, <http://musingsaboutlibrarianship.blogspot.com/2018/04/1findr-dimensions-and-other-free-mega.html>

1foldr

Product of 1science/Elsevier

“1foldr comes in two distinct flavors:

- a. 1foldr Hub is the only self-populating, self-updating repository solution on the market
- b. 1foldr Data conveniently delivers metadata, links to OA papers, and tools to download papers and upload data

Both 1foldr Hub and 1foldr Data cost-effectively seek and find the majority of green and gold open access papers published by your researchers in peer-reviewed journals, wherever on the Internet they are archived.” (ws)

Website: <https://www.1science.com/1foldr/>

1science (Elsevier)

Products: 1figr, 1findr, 1foldr

1science develops tools for searching and assessing scholarly literature. It began by focusing on open access literature, but then broadened its focus to include both open and paywalled literature. In 2018, 1science was acquired by Elsevier.

Website: <https://www.1science.com>

4Science

“As a Registered Service Provider and with 2 DSpace Committers, we can provide any kind of service for your Dspace repository: installation, configuration, data management, upgrades, helpdesk, assistance, maintenance, analysis, design, project planning, training, integration, customization, hosting, etc.” (ws)
Author’s note: 4Science is the primary developer of Dspace-CRIS.

Website: <https://www.4science.it/en/>

Academia.edu

“Academia.edu is an American commercial social networking website for academics. The website allows its users to create a profile, upload their work(s), and select areas of interest. Then the user can browse the networks of people with similar interests. As of October 2019, Academia.edu claims just over 99 million users. Although Academia.edu it is not an open access repository per se, the platform can be used by scholars to share papers, monitor readership and paper impacts as measured by Academia.edu’s own metrics... and for users to follow scholars or research in specific fields. The site was launched in September 2008, with 39 million unique visitors per month as of January 2019 and over 21 million uploaded texts.” (wiki)

Website: <https://www.academia.edu>

1. <https://en.wikipedia.org/wiki/Academia.edu>
2. Mike Thelwall and Kayvan Kousha, “Academia.edu: Social network or Academic Network?” *Journal of the Association for Information Science and Technology* 65(4):721–731, April 2014, DOI: <https://doi.org/10.1002/asi.23038>

3. Richard Van Noorden, "Online Collaboration: Scientists and the Social Network," *Nature* 512:126–129, August 15, 2014, DOI: <https://doi.org/10.1038/512126a>
4. Steven Ovadia, "ResearchGate and Academia.edu: Academic Social Networks," *Behavioral & Social Sciences Librarian*, 33(3):165–169, August 2014, DOI: <https://doi.org/10.1080/01639269.2014.934093>
5. Yuri Niyazov, Carl Vogel, Richard Price, Ben Lund, David Judd, Adnan Akil, et al., "Open Access Meets Discoverability: Citations to Articles Posted to Academia.edu," *PLoS ONE* 11(2): e0148257, February 17, 2016, DOI: <https://doi.org/10.1371/journal.pone.0148257>
6. Sarah Bond, "Dear Scholars, Delete Your Account At Academia.Edu," *Forbes*, January 23, 2017, <https://www.forbes.com/sites/drsarahbond/2017/01/23/dear-scholars-delete-your-account-at-academia-edu/#307fd7ab2d62>
7. Brook Erin Duffy and Jefferson D. Pooley, "'Facebook for Academics': The Convergence of Self-Branding and Social Media Logic on Academia.edu," *Social Media + Society* 3(1), March 2017, DOI: <https://doi.org/10.1177/2056305117696523>
8. Stefania Manca, "ResearchGate and Academia.edu as Networked Socio-Technical Systems for Scholarly Communication: A Literature Review," *Research in Learning Technology* 26, 2018, DOI: <https://doi.org/10.25304/rlt.v26.2008>

Academic Preservation Trust (APTrust)

Program hosted by University of Virginia

"The Academic Preservation Trust (APTrust) is a consortium of higher education institutions committed to providing both a preservation repository for digital content and collaboratively developed services related to that content. The APTrust repository accepts digital materials in all formats from member institutions, and provides redundant storage in the cloud. It is managed and operated by the University of Virginia." (<http://aptrust.org/about>)

Website: <http://aptrust.org>

1. Martha Sites, "The APTrust Story: A Collaborative Model for Digital Preservation," April 22, 2013, <http://aptrust.org/aptrust-admin/resources/the-aptrust-story.pdf>
2. Gary Price, "Preserving the Digital Record at the Academic Preservation Trust," *InfoDocket Library Journal*, February 12, 2016, <https://www.infodocket.com/2016/02/12/preserving-the-digital-record-a-look-at-the-academic-preservation-trust/>

Altmetric

Product of Digital Science

"Altmetric, or altmetric.com, is a data science company that tracks where published research is mentioned online, and provides tools and services to institutions, publishers, researchers, funders and other organisations to monitor this activity, commonly referred to as altmetrics." (wiki)

Website: <https://www.altmetric.com>

1. <https://en.wikipedia.org/wiki/Altmetric>
2. "Company Overview of Altmetric LLP," <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=322729253>
3. "What is Altmetric," *Dimensions*, July 29, 2019, <https://dimensions.freshdesk.com/support/solutions/articles/23000018840-what-is-altmetric->

Annotating All Knowledge

"A coalition of some of the world's key scholarly publishers, platforms, libraries, educational institutions, and technology organizations are coming together to create an open, interoperable annotation layer over their content." (ws)

Website: <https://hypothes.is/annotating-all-knowledge/>

Archive-It

Program of the Internet Archive

"Created in early 2006, Archive-It is a web archiving subscription service that allows institutions and individuals to build and preserve collections of digital content and create digital archives. Archive-It allows the user to customize their capture or exclusion of web content they want to preserve for cultural heritage reasons. Through a web application, Archive-It partners can harvest, catalog, manage, browse, search, and view their archived collections." (wiki)

Website: <https://archive-it.org>

1. https://en.wikipedia.org/wiki/Internet_Archive#Archive-It
2. Jillian M. Slater, "Archive-It (review)," *American Archivist*, September 2014, <https://www2.archivists.org/sites/all/files/Archive-It.pdf>
3. Alston B. Cobourn, "Case Study: Washington and Lee's First Year Using Archive-It," *Journal of Western Archives* 8, 2017, <https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1077&context=westernarchives>
4. Shawn M. Jones, Alexandra Nwala, Michele C. Weigle, and Michael L. Nelson, "The Many Shapes of Archive-It," June 2018, [arXiv:1806.06878](https://arxiv.org/abs/1806.06878)

Archivematica

Product of Artefactual Systems

"Archivematica is an integrated suite of open-source software tools that allows users to process digital objects from ingest to access in compliance with the ISO-OAIS functional model. Users monitor and control ingest and preservation micro-services via a web-based dashboard. Archivematica uses METS, PREMIS, Dublin Core, the Library of Congress BagIt specification and other recognized standards to generate trustworthy, authentic, reliable and system-independent Archival Information Packages (AIPs)

for storage in your preferred repository... All Archivemata code is released under a GNU Affero General Public License (A-GPL 3.0)." (ws)

Website: <https://www.archivemata.org/en/>

1. Peter Van Garderen, "Archivemata: Using Micro-Services and Open-Source Software to Deliver a Comprehensive Digital Curation Solution," *IPRES 2010 – Session 4b: Preservation Services*, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.384.7168&rep=rep1&type=pdf#page=145>
2. Bronwen Sprout and Mark Jordan, "Archivemata As a Service: COPPUL's Shared Digital Preservation Platform / Le service Archivemata: La plateforme partagée de conservation de documents numériques du COPPUL," *Canadian Journal of Information and Library Science* 39(2):235–244, June 2015, DOI: [10.1353/ils.2015.0016](https://doi.org/10.1353/ils.2015.0016)
3. Max Eckard, Dallas Pillen, and Mike Shallcross, "Bridging Technologies to Efficiently Arrange and Describe Digital Archives: the Bentley Historical Library's ArchivesSpace-Archivemata-DSpace Workflow Integration Project," *Code4lib Journal* 35, January 2017, <https://journal.code4lib.org/articles/12105>

Artefactual Systems (organization)

Products: Archivemata, AtOM (Access to Memory)

Artefactual Systems Inc. is a privately owned company incorporated in British Columbia, Canada. It provides open-source, open-standard technologies for archival collections and digital repositories. The company was founded in January 2001.

Website: <https://www.artefactual.com>

arXiv

"arXiv (pronounced "archive"—the X represents the Greek letter chi [χ]) is an open-access repository of electronic preprints (known as e-prints) approved for posting after moderation, but not full peer review. It consists of scientific papers in the fields of mathematics, physics, astronomy, electrical engineering, computer sciences, quantitative biology, statistics, mathematical finance and economics, which can be accessed online. In many fields of mathematics and physics, almost all scientific papers are self-archived on the arXiv repository. Begun on August 14, 1991, arXiv.org passed the half-million-article milestone on October 3, 2008, and had hit a million by the end of 2014. By October 2016 the submission rate had grown to more than 10,000 per month." (wiki)

Website: <https://arxiv.org>

1. <https://en.wikipedia.org/wiki/ArXiv>
2. Paul Ginsparg, "Winners and Losers in the Global Research Village," *The Serials Librarian* 30(3-4):83–95, 1997, DOI: https://doi.org/10.1300/J123v30n03_13

3. Stephen Pinfield, "How Do Physicists Use an E-Print Archive?: Implications for Institutional E-Print Services," *D-Lib Magazine* 7(12), December 2001, <http://www.dlib.org/dlib/december01/pinfield/12pinfield.html>
4. Philip Davis and Michael Formerth, "Does the arXiv Lead to Higher Citations and Reduced Publisher Downloads for Mathematics Articles?" *Scientometrics* 71(2): 203–215, May 2007, DOI: <https://doi.org/10.1007/s11192-007-1661-8>
5. Paul Ginsparg, "ArXiv at 20," *Nature*, August 11, 2011, <https://www.nature.com/articles/476145a>
6. Tracy Vence, "Q&A: 1 Million Preprints and Counting: A Conversation with arXiv Founder Paul Ginsparg," *The Scientist*, December 29, 2014, <https://www.the-scientist.com/daily-news/qa-1-million-preprints-and-counting-36168>
7. Elizabeth Gibney, "Open Journals that Piggyback on arXiv Gather Momentum," *Nature*, January 4, 2016, <https://www.nature.com/news/open-journals-that-piggyback-on-arxiv-gather-momentum-1.19102>
8. Sarah Scoles, "A Reboot of the Legendary Physics Site arXiv Could Shape Open Science," *Wired*, May 10, 2016, <https://www.wired.com/2016/05/legendary-sites-reboot-shape-future-open-science/>
9. Paul M. Sutter, "Meet The arXiv, One of The Greatest Inventions of Mankind," *Forbes*, March 30, 2019, <https://www.forbes.com/sites/paulmsutter/2019/03/30/meet-the-arxiv-one-of-the-greatest-inventions-of-mankind/#1037e44f1955>
10. "arXiv Annual Update," January 2020, *arXiv Blog*, January 16, 2020, https://arxiv.org/about/reports/2020_update

ASAPbio

"ASAPbio (Accelerating Science and Publication in biology) is a scientist-driven nonprofit working to address this problem by promoting innovation and transparency in life sciences communication." (<https://asapbio.org/about-us>)

Website: <https://asapbio.org>

1. Ewen Callaway and Kendall Powell, "Biologists Urged to Hug a Preprint: ASAPbio Meeting Discusses the Ins and Outs of Posting Work Online Before Peer Review," *Nature*, February 16, 2016, <https://www.nature.com/news/biologists-urged-to-hug-a-preprint-1.19384>
2. Amy Harmon, "Handful of Biologists Went Rogue and Published Directly to Internet," *New York Times*, March 15, 2016, <https://www.nytimes.com/2016/03/16/science/asap-bio-biologists-published-to-the-internet.html>

Atmire

Atmire is a DSpace service provider.

Website: <https://www.atmire.com>

AtoM (Access to Memory)

Product of Artefactual Systems

“AtoM stands for Access to Memory. It is a web-based, open source application for standards-based archival description and access in a multilingual, multi-repository environment.” (ws)

Website: <https://www.accesstomemory.org/en/>

Atypon (organization)

Products: Authorea, Literatum, RedLink

“Atypon Systems, LLC, is an online publishing platform provider for publishers and other providers of scientific, technical, medical, scholarly, professional, and government content. It is headquartered in Santa Clara, California. It has been owned by John Wiley & Sons since 2016.” (wiki)

Website: <https://www.atypon.com>

1. <https://en.wikipedia.org/wiki/Atypon>
2. “Company Overview of Atypon Systems Incorporated,” <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=7759819>

Authorea

“Authorea allows researchers to write documents together and attach references, figures, data, and source code. Features of the tool include collaborative editing (multiple people editing a document at the same time), automatic citation formatting, tracking changes, and the ability to make any document public or fully private.” (wiki) In 2018, Authorea was acquired by Atypon (Wiley).

Website: <https://www.authorea.com>

1. <https://en.wikipedia.org/wiki/Authorea>
2. “Company Overview of Authorea, Inc.,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=270756453>
3. Damien Irving, “Authorea: The Future of Scientific Writing?” *Dr Climate* [Blog], April 20, 2014, <https://drclimate.wordpress.com/2014/04/20/authorea-the-future-of-scientific-writing/>
4. Brady Dale, “This Software for Academic Paper Writing is Inspired by Git,” *Technical.ly Brooklyn* [Blog], September 12, 2014, <https://technical.ly/brooklyn/2014/09/12/authorea-software-for-academic-paper-writing-is-inspired-by-git/>
5. Jeffrey M. Perkel, “Scientific Writing: The Online Cooperative: Collaborative Browser-Based Tools Aim to Change the Way Researchers Write and Publish Their Papers,” *Nature* 514(7520):127–128, October 2014, DOI: 10.1038/514127a, <https://www.nature.com/news/scientific-writing-the-online-cooperative-1.16039>

6. Matteo Cantiello, "How to Bring Science Publishing into the 21st Century," *Scientific American* [Blog], August 10, 2016, <https://blogs.scientificamerican.com/guest-blog/how-to-bring-science-publishing-into-the-21st-century/>

Avalon Media System

"Avalon Media System is an open source system for managing and providing access to large collections of digital audio and video. The freely available system enables libraries and archives to easily curate, distribute and provide online access to their collections for purposes of teaching, learning and research. The Avalon Community is made up of a dozen educational, media and open-technology institutions. The project is led by the libraries of Indiana University Bloomington and Northwestern and is funded in part by grants from the Institute of Museum and Library Services and the Andrew W. Mellon Foundation." (<https://www.avalonmediasystem.org/project>)

Website: <https://www.avalonmediasystem.org>

1. "Community Spotlight: Avalon Media System," Digital Library Federation, March 12, 2004, <https://www.diglib.org/community-spotlight-avalon-media-system/>
2. Juliet L. Hardesty and Jennifer B. Young, "The Semantics of Metadata: Avalon Media System and the Move to RDF," *Code4lib Journal* 3, July 18, 2017, <https://journal.code4lib.org/articles/12668>
3. Jonathan Manton, "Avalon Media System (review)," *Music Library Association Notes* 74(2):296–299, December 2017, DOI: [10.1353/not.2017.0126](https://doi.org/10.1353/not.2017.0126)
4. Jon W. Dunn, Will Cowan, Juliet L. Hardesty, Karen Cariani, Rebecca Fraimow, and Sadie Roosa, "HydraDAM2: Extending Fedora 4 and Hydra for Media Preservation," March 30, 2018, <https://scholarworks.iu.edu/dspace/bitstream/handle/2022/22001/HydraDAM2%20White%20Paper.pdf?sequence=1&isAllowed=y>

BitCurator Consortium

Program of Educopia Institute

"The BitCurator project was a joint effort led by the School of Information and Library Science at the University of North Carolina, Chapel Hill (SILS) and the Maryland Institute for Technology in the Humanities (MITH) to develop a system for collecting professionals that incorporates the functionality of many digital forensics tools... The BitCurator Environment is built on a stack of free and open source digital forensics tools and associated software libraries, modified and packaged for increased accessibility and functionality for collecting institutions. The BitCurator software is freely distributed under an open source license." (<https://bitcurator.net/bitcurator/>)

Websites: <https://www.bitcuratorconsortium.org> and <https://bitcurator.net/bitcurator-nlp/>

1. Hong Ma, "BitCurator," *Technical Services Quarterly* 32(1):94–95, December 2014, DOI: <https://doi.org/10.1080/07317131.2015.972894>

Blacklight

"Blacklight is an open-source Ruby on Rails engine for creating search interfaces on top of Apache Solr indices. The software is used by libraries to create discovery layers or institutional repositories; by museums and archives to highlight digital collections; and by other information retrieval projects." (wiki)

Website: <https://projectblacklight.org>

1. [https://en.wikipedia.org/wiki/Blacklight_\(software\)](https://en.wikipedia.org/wiki/Blacklight_(software))
2. Elizabeth (Bess) Sadler, "Project Blacklight: a next generation library catalog at a first generation university," *Library Hi Tech* 27(1):57–67, 2009, DOI: <https://doi.org/10.1108/07378830910942919>

Center for Open Science (organization)

Programs: Open Science Framework, OSF Meeting, OSF Preprints, SHARE

"The Center for Open Science is a non-profit technology organization based in Charlottesville, Virginia with a mission to 'increase the openness, integrity, and reproducibility of scientific research.' Brian Nosek and Jeffrey Spies founded the organization in January 2013, funded mainly by the Laura and John Arnold Foundation and others, after implementation and use of the Open Science Framework (OSF)." (wiki)

Website: <https://cos.io>

1. https://en.wikipedia.org/wiki/Center_for_Open_Science
2. John Bohannon, "Psychologists Launch a Bare-All Research Initiative," *Science Insider*, March 5, 2013, <https://web.archive.org/web/20130511064814/http://news.sciencemag.org/scienceinsider/2013/03/psychologists-launch-a-bare-all-.html#>
3. Virginia Gewin, "Data Sharing: An Open Mind on Open Data," *Nature* 529(7584):117–119, January 2016, <https://www.nature.com/nature/journal/v529/n7584/full/nj7584-117a.html>
4. Richard Poynder, "The Open Access Interviews: Rusty Speidel, The Center for Open Science," *Open and Shut?* [Blog], August 29, 2017, <https://poynder.blogspot.com/2017/08/the-open-access-interviews-rusty.html>
5. Joshua New, "5 Q's for Brian Nosek, Executive Director of the Center for Open Science," *Center for Data Innovation* [Blog], April 17, 2019, <https://www.datainnovation.org/2019/04/5-qs-for-brian-nosek-executive-director-of-the-center-for-open-science/>

Chronopolis

Program hosted by University of California at San Diego

“Spanning academic institutions and disciplines, the Chronopolis digital preservation network provides services for the long-term preservation and curation of America’s digital holdings. Because of the ephemeral nature of digital information, it is critical to organize and preserve the digital assets that represent society’s intellectual capital—the core seeds of knowledge that are the basis of future research and education.” (ws)

Website: <https://libraries.ucsd.edu/chronopolis/>

1. David Minor, Don Sutton, Ardys Kozbial, Michael Burek, and Michael Smorul, “141Chronopolis: Preserving our Digital Heritage,” iPRES 2009: The Sixth International Conference on the reservation of Digital Objects, San Francisco, California, October 5–6, 2009, <https://escholarship.org/uc/item/0t2075qc>
2. Judy Pirani and Don Spicer, “The Chronopolis Project: A Grid-based Archival Digital Preservation Solution,” (Case Study 1, 2010), Boulder, Colorado: EDUCAUSE Center for Analysis and Research, 2010, <https://library.educause.edu/resources/2010/2/the-chronopolis-project-a-gridbased-archival-digital-preservation-solution>
3. David Minor, Don Sutton, Ardys Kozbial, Brad Westbrook, Michael Burek, and Michael Smorul, “Chronopolis Digital Preservation Network,” *International Journal of Digital Curation* 5(1), July 2010, DOI: <https://doi.org/10.2218/ijdc.v5i1.147>
4. “Chronopolis Audit Report 2012,” Center for Research Libraries, March 1, 2012, <https://www.crl.edu/reports/chronopolis-audit-report-2012>

Citationsy

“Citationsy is a reference collection and bibliography creation tool for people who value simplicity, privacy, and speed... With Citationsy you can organize your citations into different projects and export them in over 8,500 different styles. (APA, Harvard, Chicago, MLA, DIN, and everything else). It includes search engines for books, music, podcasts, and scientific papers.” (<https://citationsy.com/about>)

Website: <https://citationsy.com>

1. Cenk Özbakır, “A Service I Loved Was Sold and Became Unbearable, So I Built My Own,” *Medium*, July 4, 2017, <https://blog.prototypr.io/on-citationsy-4e143bbafc04>
2. “Cenk Özbakır, Founder of Citationsy,” *7 Questions* [Blog], <https://7questions.co/interview/cenk-ozbakir-founder-citationsy/>

Clarivate Analytics (organization)

Products: Converis, Publons, EndNote, Web of Science

“Clarivate Analytics is a Philadelphia and London-based company formed in 2016, following the acquisition of Thomson Reuters’ Intellectual Property and Science Business by Onex Corporation and

Baring Private Equity Asia. In May 13, 2019, Clarivate Analytics merged with Churchill Capital.” Clarivate Analytics owns and operates a collection of subscription-based services focused largely on analytics, including scientific and academic research, patent intelligence and compliance standards, pharmaceutical and biotech intelligence trademark, domain and brand protection. (wiki)

Website: <https://clarivate.com>

1. https://en.wikipedia.org/wiki/Clarivate_Analytics
2. “Company Overview of Clarivate Analytics Plc,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=373723538>

CLOCKSS

“CLOCKSS (Controlled LOCKSS) employs a unique approach to archiving (Lots of Copies Keep Stuff Safe) that was initiated by Stanford University librarians in 1999. Digital content is stored in the CLOCKSS archive with no user access unless a ‘trigger’ event occurs. The LOCKSS technology regularly checks the validity of the stored data and preserves it for the long term. CLOCKSS operates 12 archive nodes leading academic institutions worldwide, preserving the authoritative versions of 33 million journal articles, over 26,000 serial and 183,000 book titles, and a growing collection of supplementary materials and metadata information. As of December 2017, 53 titles have been triggered and made available from our archive via open access. CLOCKSS participants include 310 libraries and 260 publishers.” (ws)

Website: <https://clockss.org>

1. <https://en.wikipedia.org/wiki/LOCKSS>
2. Randy S. Kiefer, “Digital Preservation of Scholarly Content, Focusing on the Example of the CLOCKSS Archive,” *Insights* 28 (1):91–96, 2015, DOI: <http://doi.org/10.1629/uksg.215>
3. Roger Schonfeld, “The New CLOCKSS Succession Plan: An Interview with Executive Director Craig Van Dyck,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, November 6, 2018, <https://scholarlykitchen.sspnet.org/2018/11/06/interview-clockss-craig-van-dyck/>
4. Center for Research Libraries, “CLOCKSS Audit Report 2018,” November 8, 2018, <https://www.crl.edu/archiving-preservation/digital-archives/certification-and-assessment-digital-repositories/clockss-report/methodology>

Collaborative Knowledge Foundation (Coko) (organization)

Programs: Editoria, INK, xPub, Wax

The Coko Foundation is a nonprofit organization. “We facilitate research communication organizations and institutions to take control of their infrastructure needs and empower them to work together, producing shared solutions for knowledge creation, production and sharing.” (ws)

Website: <https://coko.foundation>

1. Alice Meadows, "Can You Coko? An Interview with Kristen Ratan of the Collaborative Knowledge Foundation," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, July 26, 2016, <https://scholarlykitchen.sspnet.org/2016/07/26/can-you-coko-an-interview-with-kristen-ratan-of-the-collaborative-knowledge-foundation/>
2. Kristen Ratan, "Driving a Vision of Publisher Efficiency Through Collaboration," *Information Science & Use* 38(1–2):75–80, October 2018, DOI: 10.3233/ISU-180010, <https://content.iospress.com/articles/information-services-and-use/isu180010>
3. Phill Jones, "All Things Coko: A Step Towards a True Shared Infrastructure for Scholarly Communication?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, December 17, 2018, <https://scholarlykitchen.sspnet.org/2018/12/17/is-coko-the-beginnings-of-a-shared-infrastructure/>
4. Alison McGonagle-O'Connell and Kristen Ratan, "Can We Transform Scholarly Communication with Open Source and Community-Owned Infrastructure?" *Learned Publishing* 32(1):75–78, January 2019, DOI: <https://doi.org/10.1002/leap.1215>

Common Workflow Language

"The Common Workflow Language (CWL) is a specification for describing analysis workflows and tools in a way that makes them portable and scalable across a variety of software and hardware environments, from workstations to cluster, cloud, and high performance computing (HPC) environments. CWL is designed to meet the needs of data-intensive science, such as Bioinformatics, Medical Imaging, Astronomy, Physics, and Chemistry." (ws)

Website: <http://www.commonwl.org/index.html>

1. https://en.wikipedia.org/wiki/Common_Workflow_Language

CONTENTdm

Program of OCLC

"CONTENTdm's end-user experience is freshly designed for phones, tablets and workstations. It allows you to easily build and showcase your digital collections on your personalized website, making them more discoverable to people around the world. CONTENTdm also secures and monitors your master files in a cloud-based preservation archive so they remain safe for the future." (ws)

Website: <https://www.oclc.org/en/contentdm.html>

1. Kenning Arlitsch and Jeff Jonsson, "Aggregating Distributed Digital Collections in the Mountain West Digital Library with the CONTENTdm™ Multi-Site Server, *Library Hi Tech* 23(2):220–232, 2005, DOI: <https://doi.org/10.1108/07378830510605179>
2. Maggie Dickson, "CONTENTdm Digital Collection Management Software and End-User Efficacy," *Journal of Web Librarianship* 2(2–3):339–379, October 2008, DOI: <https://doi.org/10.1080/19322900802190852>

3. Greg Zick, "Digital Collections: History and Perspectives," *Journal of Library Administration* 49(7):687–693, October 2009, DOI: <https://doi.org/10.1080/01930820903260465>
4. Maura Valentino, "Creating a Digital Library of Three-Dimensional Objects in CONTENTdm," *OCLC Systems & Services: International Digital Library Perspectives* 28(4):208–220, 2012, DOI: <https://doi.org/10.1108/10650751211279148>
5. Heather Gilbert and Tyler Mobley, "Breaking Up With CONTENTdm: Why and How One Institution Took the Leap to Open Source," *Code4lib Journal* 20, April 2013, <https://journal.code4lib.org/articles/8327>
6. Eve Grunberg, Francesca Francis, and Jennifer Bazeley, "Sailing the Digital Seas: Charting a New Course with CONTENTdm," *The Serials Librarian* 66(1–4): 204–211, May 2014, DOI: <https://doi.org/10.1080/0361526X.2014.880864>

Converis

Product of Clarivate Analytics

"Converis is a powerful interface that links the various institutional systems that capture research-related information, creates standardization for compiling profiles and CVs, and reduces the need for repeated entry of information. Converis serves as a central integration hub for joining repositories, personal libraries, institutional databases, and an institution's systems." (ws)

Website: <https://clarivate.com/products/converis/>

1. Luigi Siciliano, Sabine Schmidt, and Manuel Kinzler, "BoRIS and BIA: CRIS and Institutional Repository Integration at the Free University of Bozen-Bolzano," *Procedia Computer Science* 33:68–73, 2014, DOI: <https://doi.org/10.1016/j.procs.2014.06.011>
2. Thed N. van Leeuwen, Erik van Wijk, and Paul F. Wouters, "Bibliometric Analysis of Output and Impact Based on CRIS data: A Case Study on the Registered Output of a Dutch University," *Scientometrics* 106(1):1–16, January 2016, DOI: <https://doi.org/10.1007/s11192-015-1788-y>

COUNTER (Project COUNTER)

"Project COUNTER (colloquially referred to as COUNTER) is an international nonprofit membership organization of libraries, publishers, and vendors, who continually develop the Code of Practice. The Code of Practice is a standard designed to count the usage of electronic resources, in a library setting." (wiki)

Website: <https://www.projectcounter.org>

1. https://en.wikipedia.org/wiki/Project_COUNTER
2. Jennifer J. Leffler, "Getting Started with COUNTER Statistics," *The Serials Librarian* 70(1–4):556–360, June 2016, DOI: <https://doi.org/10.1080/0361526X.2016.1157740>
3. Oliver Pesch, "A Brief History of COUNTER and SUSHI: The Evolution of Interdependent Standards," *NISO Information Organized*, December 2016, <https://www.niso.org/niso-io/2016/12/brief-history-counter-and-sushi>

4. Todd A. Carpenter, "COUNTER Prepares Release 5 of its Code of Practice," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, January 30, 2017, <https://scholarlykitchen.sspnet.org/2017/01/30/counter-prepares-release-5-code-practice/>
5. Ted Bergstrom, "Do Download Reports Reliably Measure Journal Usage? Trusting the Fox to Count Your Hens?" March 8, 2018, <https://escholarship.org/uc/item/2cd2h7vt>
6. Ted Bergstrom, Richard Uhrig, and Kristin Antelman, "Looking Under the COUNTER for Overcounted Downloads," February 8, 2019, <https://escholarship.org/uc/item/0vf2k2p0>

Creative Commons

"Creative Commons (CC) is an American non-profit organization devoted to expanding the range of creative works available for others to build upon legally and to share. The organization has released several copyright-licenses, known as Creative Commons licenses, free of charge to the public. These licenses allow creators to communicate which rights they reserve and which rights they waive for the benefit of recipients or other creators. An easy-to-understand one-page explanation of rights, with associated visual symbols, explains the specifics of each Creative Commons license." (wiki)

Website: <https://creativecommons.org>

1. https://en.wikipedia.org/wiki/Creative_Commons

Crossref

"Crossref (formerly styled CrossRef) is an official Digital Object Identifier (DOI) Registration Agency of the International DOI Foundation. It is run by the Publishers International Linking Association Inc. (PILA) and was launched in early 2000 as a cooperative effort among publishers to enable persistent cross-publisher citation linking in online academic journals." (wiki)

Website: <https://www.crossref.org>

1. <https://en.wikipedia.org/wiki/Crossref>
2. Ed Pentz, "CrossRef: A Collaborative Linking Network," *Issues in Science and Technology Librarianship* 29, Winter 2001, <http://webdoc.sub.gwdg.de/edoc/aw/ucsb/istl/01-winter/article1.html>
3. Greenhouse Associates, "Business Impact of the Digital Object Identifier (DOI), 2004, http://www.greenhousegrows.com/publications/#id_of_div6
4. Crossref, "The Formation of Crossref: A Short History," 2009, <https://www.crossref.org/pdfs/CrossRef10Years.pdf>
5. Rachael Lammey, "CrossRef Developments and Initiatives: An Update on Services for the Scholarly Publishing Community from CrossRef," *Science Editing* 1(1):13–18, 2014, DOI: <http://dx.doi.org/10.6087/kcse.2014.1.13>
6. Rachael Lammey, "CrossRef Text and Data Mining Services," *Science Editing* 2015; 2(1):22–27, 2015, DOI: <https://doi.org/10.6087/kcse.32>

7. Amy Brand, "Guest Post—Crossref at a Crossroads: All Roads Lead to Crossref," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 22, 2019, <https://scholarlykitchen.sspnet.org/2019/10/22/crossref-at-a-crossroads-all-roads-lead-to-crossref/>
8. Ginny Hendricks, Dominika Tkaczyk, Jennifer Lin, and Patricia Feeney, "Crossref: The Sustainable Source of Community-Owned Scholarly Metadata," *Quantitative Science Studies* 1(1):414-427 Winter 2020, DOI: https://doi.org/10.1162/qss_a_00022

Data2paper

"Data2paper is a cloud-based application to automate the process of compiling and submitting a data paper to a journal without the researcher having to leave the research space or wrestle directly with the journal's submission system." (ws)

Author's note: Part of JISC's Research Data Spring initiative, Data2Paper is now in Phase 4.

Website: <https://data2paper.org>

1. Neil Jefferies, Fiona Murphy, Anusha Ranganathan, and Hollydawn Murray, "Data2paper: Giving Researchers Credit for Their Data," *Publications* 7(2):36, 2019, DOI: <https://doi.org/10.3390/publications7020036>

DataCite

"DataCite is a leading global non-profit organisation that provides persistent identifiers (DOIs) for research data and other research outputs. Organizations within the research community join DataCite as members to be able to assign DOIs to all their research outputs. This way, their outputs become discoverable and associated metadata is made available to the community. DataCite then develops additional services to improve the DOI management experience, making it easier for our members to connect and share their DOIs with the broader research ecosystem and to assess the use of their DOIs within that ecosystem." (<https://datacite.org/mission.html>)

Website: <https://datacite.org>

1. <https://en.wikipedia.org/wiki/DataCite>
2. Jan Brase, "DataCite and Linked Data," *JLIS.it* 4(1), 2013, DOI: <http://dx.doi.org/10.4403/jlis.it-5493>
3. Janna Neumann and Jan Brase, "DataCite and DOI Names for Research Data," *Journal of Computer-Aided Molecular Design* 28(10):1035–1041, October 2014, DOI: <https://doi.org/10.1007/s10822-014-9776-5>
4. Jan Brase and Irina Sens, "The Tenth Anniversary of Assigning DOI Names to Scientific Data and a Five Year History of DataCite," *D-Lib Magazine* 21(1/2), January/February 2015, DOI: 10.1045/january2015-brase, http://orbit.dtu.dk/files/106753746/DataCite_10_year_D_Lib_Magazine.pdf

5. Laura Rueda, Martin Fenner, and Patricia Cruse, "DataCite: Lessons Learned on Persistent Identifiers for Research Data," *International Journal of Digital Curation* 11(2), 2016, DOI: <https://doi.org/10.2218/ijdc.v11i2.421>
6. Nicolas Robinson-Garcia, Philippe Mongeon, Wei Jeng, and Rodrigo Costas, "DataCite as a Novel Bibliometric Source: Coverage, Strengths and Limitations," *Journal of Informetrics* 11(3):841–854, 2017, DOI: <https://doi.org/10.1016/j.joi.2017.07.003>

Dataverse

"The Dataverse is an open source web application to share, preserve, cite, explore and analyze research data. Researchers, data authors, publishers, data distributors, and affiliated institutions all receive appropriate credit via a data citation with a persistent identifier (e.g., DOI, or Handle). A Dataverse repository hosts multiple dataverses. Each dataverse contains dataset(s) or other dataverses, and each dataset contains descriptive metadata and data files (including documentation and code that accompany the data)." (wiki)

Website: <https://dataverse.org>

1. <https://en.wikipedia.org/wiki/Dataverse>
2. Gary King, "An Introduction to the Dataverse Network as an Infrastructure for Data Sharing," *Sociological Methods & Research* 36(2):173–199, November 1, 2007, DOI: <https://doi.org/10.1177/0049124107306660>
3. Mercè Crosas, "The Dataverse Network®: An Open-Source Application for Sharing, Discovering and Preserving Data," *D-Lib Magazine* 17(1/2), January/February 2011, DOI: <http://doi.org/10.1045/january2011-crosas>
4. Thomas J. Leeper, "Archiving Reproducible Research with R and Dataverse," *The R Journal* 6(1):151–158, June 2014, <https://pdfs.semanticscholar.org/7077/c63680dd43e50878ba4b04efba2a96737e48.pdf>
5. Micah Altman, Eleni Castro, Mercè Crosas, Philip Durbin, Alex Garnett, and Jen Whitney, "Open Journal Systems and Dataverse Integration—Helping Journals to Upgrade Data Publication for Reusable Research," *code4lib Journal* 30, October 15, 2015, <https://journal.code4lib.org/articles/10989>
6. Jennifer Doty, Melanie T. Kowalski, Bethany C. Nash, and Simon F. O’Riordan, "Making Student Research Data Discoverable: A Pilot Program Using Dataverse," *Journal of Librarianship and Scholarly Communication* 3(2): eP1234, September 2015, DOI: <http://doi.org/10.7710/2162-3309.1234>

DeepDyve

"DeepDyve is a commercial website launched in late 2010 that provides access to mainly scientific and scholarly articles from a large range of commercial and non-commercial academic publishers. A novel aspect of DeepDyve’s business model is that access is on an affordable, online rental basis for web browser viewing, rather than the conventional buy-and-download access already provided by most academic publishers." (wiki)

Website: <https://www.deepdyve.com/>

1. <https://en.wikipedia.org/wiki/DeepDyve>
2. Bonnie Swoger, "Pragmatism, Idealism and DeepDyve's Five Minutes in Heaven," *Scientific American*, June 5, 2013, <https://blogs.scientificamerican.com/information-culture/pragmatism-idealism-and-deepdyves-five-minutes-in-heaven/>
3. Meredith Schwartz, "DeepDyve: The First Five's Free," *Library Journal*, June 6, 2013, <https://www.libraryjournal.com/?detailStory=deepdyve-the-first-fives-free>

DEIP

"DEIP is an online decentralised research platform for and governed by researchers. The platform offers three essential features:

- Open Access publishing of research papers
- Open Peer Review of draft research papers
- Open Funding of research project applications

DEIP enables researchers to work together and assess research projects and papers in an open environment that rewards all of their scientific contributions. The platform is built on blockchain technology and consists of a decentralised network. This means that DEIP is neither owned by the DEIP team or any other centralised body. The platform is designed to be governed directly by the scientific community so that they can define the activities and future of the platform as well as distribute funding." (<http://eurodoc.net/news/2019/interview-with-alex-shkor-of-the-decentralised-research-platform-deip>)

Website: <https://deip.world>

1. "DEIP — Blockchain for Scientific Research Launched Public Beta," *Medium*, September 6, 2018, <https://medium.com/@deip/deip-first-blockchain-for-science-to-launch-public-testnet-9506ae19dd4a>
2. "Interview with Alex Shkor of the Decentralised Research Platform DEIP," *Eurodoc Blog*, February 25, 2019, <http://eurodoc.net/news/2019/interview-with-alex-shkor-of-the-decentralised-research-platform-deip>

Depsy

Project of Our Research

"Depsy helps build the software-intensive science of the future by promoting credit for software as a fundamental building block of science." (ws)

Author's note: This website is no longer being maintained.

Website: <http://depsy.org>

1. Robin Wilson, "Scientific Software Metrics with Depsy – A Great New Tool!" *Robin's Blog*, December 1, 2015, <http://blog.rtwilson.com/scientific-software-metrics-with-depsy-a-great-new-tool/>
2. Dalmeet Singh Chawla, "The Unsung Heroes of Scientific Software," *Nature*, January 4, 2016, <https://www.nature.com/news/the-unsung-heroes-of-scientific-software-1.19100>

Digital Commons (Bepress)

Product of Elsevier

"Digital Commons is a hosted institutional repository and publishing solution, combining traditional institutional repository functionality with tools for peer-reviewed journal publishing, conference management, and multimedia. Digital Commons supports OAI-PMH version 2.0. Metadata is exposed through the OAI. Content published to Digital Commons institutional repositories is optimized for indexing by Google, Google Scholar, and other major search engines." (wiki)

Website: <https://www.bepress.com>

1. [https://en.wikipedia.org/wiki/Digital_Commons_\(Elsevier\)](https://en.wikipedia.org/wiki/Digital_Commons_(Elsevier))
2. Matt Enis, "Uncommonly Open: The New Digital Commons Network," *Library Journal*, June 19, 2013, <https://www.libraryjournal.com/?detailStory=uncommonly-open-june-15>
3. Richard Poynder, "Interview with Jean-Gabriel Bankier, President & CEO of bepress," *Open and Shut?* [Blog], April 2014, <https://poynder.blogspot.com/2014/04/interview-with-jean-gabriel-bankier.html>
4. McGarvey Ice, "Applications of BePress Digital Commons in Special Collections: Initial Experiences at Abilene Christian University," *Journal of Electronic Resources Librarianship* 28(2):118–120, June 2016, DOI: <https://doi.org/10.1080/1941126X.2016.1167536>
5. Roger C. Schonfeld, "Elsevier Acquires bepress," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 2, 2017, <https://scholarlykitchen.sspnet.org/2017/08/02/elsevier-acquires-bepress/>
6. Lindsay McKenzie, "Elsevier Expands Footprint in Scholarly Workflow," *Inside Higher Ed*, August 3, 2017, <https://www.insidehighered.com/news/2017/08/03/elsevier-makes-move-institutional-repositories-acquisition-bepress>
7. Roger C. Schonfeld, "Reflections on 'Elsevier Acquires bepress': Implications for Library Leaders," *Ithaka S+R*, August 7, 2017, <https://sr.ithaka.org/blog/reflections-on-elsevier-acquires-bepress/>
8. "Elsevier's Acquisition of bepress: What Comes Next?" *Scholastica* [Blog], August 15, 2017, <https://blog.scholasticahq.com/post/elsevier-acquisition-bepress/>
9. Heather Joseph and Kathleen Shearer, "Elsevier Acquisition Highlights the Need for Community-Based Scholarly Communication Infrastructure," *SPARC*, September 6, 2017, <https://sparcopen.org/news/2017/elsevier-acquisition-highlights-the-need-for-community-based-scholarly-communication-infrastructure/>

Digital Preservation Network

Program hosted by Internet2

DPN had a commitment to replicate the data and metadata of research and scholarship across diverse software architectures, organizational structures, geographic regions, and political environments. DPN ceased operations in late 2018.

1. James Hilton, Tom Cramer, Sebastien Korner, and David Minor, "The Case for Building a Digital Preservation Network," *Educause Review*, August 5, 2013, <https://er.educause.edu/articles/2013/8/the-case-for-building-a-digital-preservation-network>
2. Roger C. Schonfeld, "Why Is the Digital Preservation Network Disbanding?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, December 13, 2018, <https://scholarlykitchen.sspnet.org/2018/12/13/digital-preservation-network-disband/>
3. David Rosental, "Digital Preservation Network Is No More," *DSHR's Blog*, January 10, 2019, <https://blog.dshr.org/2019/01/digital-preservation-network-is-no-more.html>
4. Mary Molinaro, Dave Pcolar, and Emily Gore, *DPN Final Report*, February 2019, <https://osf.io/3p9jq/>

Digital Science (organization)

Products: Altmetric, Dimensions, figshare, Overleaf, ReadCube, ScholarOne, Symplectic

"Digital Science is a technology company serving the needs of scientific and research communities at key points along the full cycle of research. We invest in, nurture and support innovative businesses and technologies that make all parts of the research process more open, efficient and effective."

(<https://www.digital-science.com/about-us/>)

Website: <https://www.digital-science.com>

1. https://en.wikipedia.org/wiki/Digital_Science
2. "Company Overview of Digital Science & Research Ltd.," Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=117604376>
3. Roger C. Schonfeld, "When is a Publisher not a Publisher? Cobbling Together the Pieces to Build a Workflow Business," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, February 9, 2017, <https://scholarlykitchen.sspnet.org/2017/02/09/cobbling-together-workflow-businesses/>

Dimensions

Product of Digital Science

Dimensions [is] a dynamic, easy-to-use, linked research data platform that reimagines the way research can be discovered, accessed, and analyzed. Whether you are a researcher, a funder, a publisher, a research administrator, or a librarian, Dimensions makes it easy to navigate the many links between grants, publications, clinical trials, datasets and policy documents." (ws)

Website: <https://www.dimensions.ai>

1. Roger C. Schonfeld, "A New Citation Database Launches Today: Digital Science's Dimensions," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, January 15, 2018, <https://scholarlykitchen.sspnet.org/2018/01/15/new-citation-database-dimensions/>
2. Benedicte Page, "Digital Science Discovery Platform 'Will Transform Scholarly Search'," *The Bookseller*, January 15, 2018, <https://www.thebookseller.com/news/new-digital-science-discovery-platform-transform-scholarly-search-707691>
3. Aaron Tay, "1findr, Dimensions and Other Free Mega Indexes — A Review of the Space and Numbers Comparison," *Musings about Librarianship* [Blog], April 30, 2018, <http://musingsaboutlibrarianship.blogspot.com/2018/04/1findr-dimensions-and-other-free-mega.html>
4. Ryan Regier, "Coverage and Overlap of 1findr, Dimensions, Scopus, and Web of Science," *A Way of Happening* [Blog], April 25, 2018, <https://awayofhappening.wordpress.com/2018/04/25/coverage-and-overlap-of-1findr-dimensions-scopus-and-web-of-science/>
5. Daniel W. Hook, Simon J. Porter, and Christian Herzog, "Dimensions: Building Context for Search and Evaluation," *Frontiers in Research Metrics and Analytics*, August 23, 2018, DOI: <https://doi.org/10.3389/frma.2018.00023>
6. Anne-Wil Harzing, "Two New Kids on the Block: How Do Crossref and Dimensions Compare with Google Scholar, Microsoft Academic, Scopus and the Web of Science," *Scientometrics* 120:341–349, 2019, DOI: <https://doi.org/10.1007/s11192-019-03114-y>

Directory of Open Access Books (DOAB)

"The primary aim of DOAB is to increase discoverability of Open Access books. Academic publishers are invited to provide metadata of their Open Access books to DOAB. Metadata will be harvestable in order to maximize dissemination, visibility and impact. Aggregators can integrate the records in their commercial services and libraries can integrate the directory into their online catalogues, helping scholars and students to discover the books. The directory is open to all publishers who publish academic, peer reviewed books in Open Access and should contain as many books as possible, provided that these publications are in Open Access and meet academic standards." (ws)

Website: <https://www.doabooks.org>

1. Ronald Snijder, "A Higher Impact for Open Access Monographs: Disseminating Through OAPEN and DOAB at AUP," *Insights* 26(1): 55–59, 2013, DOI: <http://doi.org/10.1629/2048-7754.26.1.55>
2. Leslie Whitford, "DOAB: Directory of Open Access Books", *Reference Reviews* 28(3):12-13, 2014, DOI: <https://doi.org/10.1108/RR-10-2013-0269>
3. Sadagopan Dhanavandan, "A Global Analysis of Open Access Books: A Study Based on Directory of Open Access Books," *International Journal of Knowledge Content Development & Technology* 6(1):85-103, 2016, DOI: <https://doi.org/10.5865/IJKCT.2016.6.1.085>
4. Keita Tsuji, "Statistics on Open Access Books Available through the Directory of Open Access Books," *International Journal of Academic Library and Information Science* 6(4):86-100, June 2018, <http://www.academicresearchjournals.org/IJALIS/PDF/2018/June/Tsuji.pdf>

Directory of Open Access Journals (DOAJ)

“DOAJ is a community-curated online directory that indexes and provides access to high quality, open access, peer-reviewed journals. DOAJ is independent. All funding is via donations, 22% of which comes from sponsors and 78% from members and publisher members. All DOAJ services are free of charge including being indexed in DOAJ. All data is freely available.” (ws)

Website: <https://doaj.org>

1. https://en.wikipedia.org/wiki/Directory_of_Open_Access_Journals
2. Anna-Lena Johansson and Ingela Wahlgren, “The One Stop Shop to Open Access Journals – DOAJ,” *ScieCom Info* 4(4), 2008, [https://portal.research.lu.se/portal/en/publications/the-one-stop-shop-to-open-access-journals--doaj\(5791e4a9-73e5-46c6-9124-3d258f70163e\)/export.html#export](https://portal.research.lu.se/portal/en/publications/the-one-stop-shop-to-open-access-journals--doaj(5791e4a9-73e5-46c6-9124-3d258f70163e)/export.html#export)
3. Nirmal Singh, “The Role of BRICS in Open Access Movement: With Special Reference to DOAJ and OpenDOAR,” *Chinese Librarianship: An International Electronic Journal* 38, 2014, https://www.researchgate.net/publication/273383695_The_Role_of_BRICS_in_Open_Access_Movement_With_Special_Reference_to_DOAJ_and_OpenDOAR

discoverygarden

discoverygarden is an Islandora service provider.

Website: <https://www.discoverygarden.ca>

1. “discoverygarden, inc.,” Bloomberg, <https://www.bloomberg.com/profile/company/0137639D:CN>

Dokieli

“dokieli is a general-purpose client-side tool for decentralised article publishing, annotations and social interactions based on open Web standards and best practices. dokieli positions itself in a decentralised and interoperable information space where researchers can exercise their autonomy by controlling their identifiers and identities whilst fulfilling the core functions of scientific communication (registration, awareness, certification, archiving).” (mtg)

Website: <https://dokie.li/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/k7zvn8ar?readingCollection=2e2f6c3f>
2. Sarven Capadislis, Amy Guy, Ruben Verborgh, Christoph Lange, Sören Auer, and Tim Berners-Lee, “Decentralised Authoring, Annotations and Notifications for a Read–Write Web with Dokieli,” in

Jordi Cabot, Roberto de Virgilio, & Riccardo Torlone, eds. Proceedings of the 17th International Conference on Web Engineering, in Lecture Notes in Computer Science, vol. 10360. Springer, 2017, pp. 469–481. DOI:[10.1007/978-3-319-60131-1_33](https://doi.org/10.1007/978-3-319-60131-1_33), <http://csarven.ca/dokieli-rww>

3. Simon Worthington, “An Interview with Sarven Capadisli, Dokieli-Developer, on Autonomous Linked Research,” *Generation R* [Blog], October 26, 2018, <https://genr.eu/wp/an-interview-with-sarven-capadisli-on-autonomous-linked-research/>

Dryad Digital Repository

“Dryad is an international open-access repository of research data, especially data underlying scientific and medical publications (mainly of evolutionary, genetic, and ecology biology). Dryad is a curated general-purpose repository that makes data discoverable, freely reusable, and citable. The scientific, educational, and charitable mission of Dryad is to provide the infrastructure for and promote the re-use of scholarly research data.” (wiki)

Website: <https://datadryad.org>

1. [https://en.wikipedia.org/wiki/Dryad_\(repository\)](https://en.wikipedia.org/wiki/Dryad_(repository))
2. Jane Greenberg, “Theoretical Considerations of Lifecycle Modeling: An Analysis of the Dryad Repository Demonstrating Automatic Metadata Propagation, Inheritance, and Value System Adoption,” *Cataloging & Classification Quarterly* 47(3/4):380–402, April 2009, DOI: <https://doi.org/10.1080/01639370902737547>
3. Todd Vision, “Open Data and the Social Contract of Scientific Publishing. *BioScience* 60(5):330, May 2010, DOI: [10.1525/bio.2010.60.5.2](https://doi.org/10.1525/bio.2010.60.5.2)
4. Neil Beagrie, Lorraine Eakin-Richards, and Tony Vision, “Business Models and Cost Estimation: Dryad Repository Case Study,” iPRES 2010: Proceedings of the 7th International Conference on Preservation of Digital Objects, September 19– 24, 2010, Vienna, Austria, pp. 365–372. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.384.7168&rep=rep1&type=pdf#page=365>
5. Lin He and Vinita Nahar, “Reuse of Scientific Data in Academic Publications: An Investigation of Dryad Digital Repository,” *Aslib Journal of Information Management* 68(4):478–494, 2016, DOI: <https://doi.org/10.1108/AJIM-01-2016-0008>
6. Nancy Maron, “Case Study: Dryad Digital Repository,” prepared for the ESA Workshop on Creating and Implementing Sustainability Plans for Data Repositories, https://esa.org/sbi/wp-content/uploads/2018/05/Case-Study-2_DRYAD.pdf

DSpace

Program of DuraSpace/LYRASIS

“DSpace is an open source repository software package typically used for creating open access repositories for scholarly and/or published digital content. While DSpace shares some feature overlap with content management systems and document management systems, the DSpace repository

software serves a specific need as a digital archives system, focused on the long-term storage, access and preservation of digital content.” (wiki)

Website: <https://duraspace.org/dspace/>

1. <https://en.wikipedia.org/wiki/DSpace>
2. MacKenzie Smith, et al., “DSpace: An Open Source Dynamic Digital Repository,” *D-Lib Magazine* 9(1), January 2003, <http://www.dlib.org/dlib/january03/smith/01smith.html>
3. Robert Tansley, et al., “The DSpace Institutional Digital Repository System: Current Functionality,” in Proceedings of the 2003 Joint Conference on Digital Libraries, May 27–31, 2003, DOI: [10.1109/JCDL.2003.1204846](https://doi.org/10.1109/JCDL.2003.1204846)
4. Robert Tansley, MacKenzie Smith, Julie Harford Walker, “The DSpace Open Source Digital Asset Management System: Challenges and Opportunities,” in Rauber A., Christodoulakis S., Tjoa A.M. (eds), *Research and Advanced Technology for Digital Libraries. ECDL 2005. Lecture Notes in Computer Science*, vol. 3652, September 2005, pp 242–253, <https://dspace.mit.edu/handle/1721.1/29462>
5. Shahkar Trambo, Humma, S. M. Shafi, and Sumeer Gul, “A Study on the Open Source Digital Library Software’s: Special Reference to DSpace, EPrints and Greenstone,” *International Journal of Computer Applications* 59(16), December 2012, <https://arxiv.org/abs/1212.4935>

DSpace-CRIS

“DSpace-CRIS is the first free open-source extension of DSpace for the Research Data and Information Management ever developed. Differently from other (commercial) CRIS/RIMS, DSpace-CRIS has the institutional repository as its core component, providing high visibility on the web to all the collected information and objects. DSpace-CRIS broadens DSpace functionality and expands its data model while remaining aligned with its code base.” (ws)

Website: <https://wiki.duraspace.org/display/DSPACECRIS/DSpace-CRIS+Home>

1. Susanna Mornati, “DSpace-CRIS: The Community is Expanding,” euroCRIS, March 11, 2017, <https://www.eurocris.org/sponsornews/dspace-cris-community-expanding>
2. Jordan Piščanc, et al., “Regional Portal FVG: Effective Interoperability Through DSpace-CRIS and Open Standards,” 13th International Conference on Current Research Information Systems, CRIS2016, June 9–11, 2016, Scotland, UK. *Procedia Computer Science* 106:82–86, 2017, DOI: <https://doi.org/10.1016/j.procs.2017.03.038>

DuraCloud

Program of DuraSpace/LYRASIS

“DuraCloud is an open source technology project for preserving and archiving digital content. DuraCloud is developed by and hosted as a SAAS by DuraSpace. The DuraCloud open source software is available under the terms of the Apache License, Version 2.0.” (wiki)

Website: <https://duraspace.org/duracloud/>

1. <https://en.wikipedia.org/wiki/DuraCloud>
2. Michele Kimpton and Sandy Payette, “Using Cloud Infrastructure as Part of a Digital Preservation Strategy with DuraCloud,” *Educause Review*, June 24, 2010,

<https://er.educause.edu/articles/2010/6/using-cloud-infrastructure-as-part-of-a-digital-preservation-strategy-with-duracloud>

3. Blake E. Relle, "DuraCloud," *The American Archivist Reviews Portal*, September 5, 2017, <https://reviews.americanarchivist.org/2017/09/05/duracloud/>

DuraSpace (division of LYRISIS)

Programs: DuraCloud, DSpace, Fedora, VIVO

"DuraSpace was a 501(c)(3) not-for-profit organization founded in 2009 when the Fedora Commons organization and the DSpace Foundation, two of the largest providers of open source repository software for managing and providing access to digital content, joined their organizations. In July 2019, DuraSpace merged with LYRISIS, becoming a division of that organization." (wiki)

Website: <https://duraspace.org>

1. <https://en.wikipedia.org/wiki/DuraSpace>
2. Roger C. Schonfeld, "More Scholarly Communications Consolidation as Institutional Repository Provider DuraSpace Merges into Lyrisis," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, January 25, 2019, <https://scholarlykitchen.sspnet.org/2019/01/25/lyrisis-duraspace-merger/>

Editoria

Program of Coko

"Editoria is an open-source authoring, editing, and workflow system initially developed by Coko in partnership with the Editoria community underwritten by fiscal sponsor Aspiration Tech and funded by the Mellon Foundation. Editoria is a web-based tool for producing scholarly monographs in both print and ebook forms. Coko's PubSweet framework and Wax editor are underlying technologies in Editoria. Paged.js is available as a print production pathway, as are other format outputs." (mtg)

Website: <https://editoria.pub>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/ik6q5x2s?readingCollection=2e2f6c3f>
2. Adam Hyde, "What's Involved in Building Editoria," *Adam Hyde* [Blog], May 25, 2018, <https://www.adamhyde.net/tag/xsweet/>
3. "Open Source for Open Access: The Editoria Story So Far," *UC Press Blog*, October 2018, <https://www.ucpress.edu/blog/tag/editoria/>
4. Clare Dean, "New Advances in Open Source Infrastructure Support: Accelerated Book Digitization with Editoria," *Insights* 31:43, 2018, DOI: <http://doi.org/10.1629/uksg.442>

Educopia Institute (organization)

Programs: MetaArchive Cooperative, BitCurator Consortium; Project: Software Preservation Network

“The Educopia Institute empowers collaborative communities to create, share, and preserve knowledge. We believe in the power of connection and collaboration. In all of our work, we encourage knowledge sharing and network building across institutions, communities, and sectors. Our strengths include training, neutral community facilitation, and administrative backbone support services for collaborative communities. Educopia also develops and manages applied research projects that benefit our affiliated communities and the broader information fields of libraries, archives, and museums.”

(<https://educopia.org/about/>)

Website: <https://educopia.org>

1. Katina Strauch and Tom Gilson, “ATG Interviews Katherine Skinner, Executive Director, Educopia Institute,” *Against the Grain* 29(1): Article 19, January 2019, DOI: <https://doi.org/10.7771/2380-176X.7718>

Elsevier (organization)

Products: Digital Commons (Bepress), Mendeley, Pure, Scopus, SSRN

“Elsevier... is a Dutch publishing and analytics company specializing in scientific, technical, and medical content. It is a part of the RELX Group, known until 2015 as Reed Elsevier. Its products include journals such as *The Lancet* and *Cell*, the ScienceDirect collection of electronic journals,... the online citation database Scopus, and the ClinicalKey search engine for clinicians. Elsevier’s products also include digital tools for data-management, instruction, and assessment. Elsevier publishes more than 470,000 articles annually in 2,500 journals. Its archives contain over 16 million documents and 30,000 e-books. Total yearly downloads amount to more than 1 billion. Elsevier’s high operating profit margins (37% in 2018) and 950 million pounds in profits, often on publicly funded research works and its copyright practices have subjected it to criticism by researchers.” (wiki)

Website: <https://www.elsevier.com>

1. <https://en.wikipedia.org/wiki/Elsevier>
2. “Company Overview of Elsevier Inc.,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=696248>

Electric Book

“Electric Book is a Jekyll-based tool for producing print PDF, digital PDF, EPUB, website, and app versions of books from a single markdown, YAML, and HTML-based content source. It was developed by consultancy and service provider Electric Book Works.” (mtg)

Website: <http://electricbook.works/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/r36na5r8?readingCollection=2e2f6c3f>

EndNote

Product of Clarivate Analytics

“EndNote is a commercial reference management software package, used to manage bibliographies and references when writing essays and articles.” (wiki)

Website: <https://endnote.com>

1. <https://en.wikipedia.org/wiki/EndNote>
2. Megan Fitzgibbons and Deborah Meert, “Are Bibliographic Management Software Search Interfaces Reliable?: A Comparison between Search Results Obtained Using Database Interfaces and the EndNote Online Search Function,” *Journal of Academic Librarianship* 36(2):144–150, March 2010, DOI: <https://doi.org/10.1016/j.acalib.2010.01.005>
3. Camille Ivey and Janet Crum, “Choosing the Right Citation Management Tool: Endnote, Mendeley, Refworks, or Zotero,” *Journal of the Medical Library Association* 106(3):399–403, July 2018, DOI: <https://doi.org/10.5195/JMLA.2018.468>

Enhanced Network Monographs

“Enhanced Networked Monographs (ENM) is an experimental project developed by New York University. It provides a free platform for topic-based and full-text searching on a corpus of books from NYU Press, University of Minnesota Press, and the University of Michigan Press. The platform consists of the ENM search application plus generated topic pages and the customized version of the Topic Curation Toolkit (TCT) used to power/generate them.” (mtg)

Website: <https://wp.nyu.edu/enmproject/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/rprmq0sa?readingCollection=2e2f6c3f>
2. Alexandra Provo, “From Index to Network: Topic Maps in the Enhanced Networked Monographs Project,” *Indexer: The International Journal of Indexing* 37(1), 2019, DOI: <https://doi.org/10.3828/indexer.2019.3>

EPrints

“EPrints is a free and open-source software package for building open access repositories that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting. It shares many of the features commonly seen in document management systems, but is primarily used for institutional repositories and scientific journals. EPrints has been developed at the University of Southampton School of Electronics and Computer Science and released under a GPL license.” (wiki)

Website: <https://www.eprints.org/uk/>

1. <https://en.wikipedia.org/wiki/EPrints>
2. Robert Tansley and Steven Harnad, "Eprints.org Software for Creating Institutional and Individual Open Archives," *D-Lib Magazine* 6(10), October 2000, <http://www.dlib.org/dlib/october00/10inbrief.html#HARNAD>
3. Jane Garner, Lynne Horwood, and Shirley Sullivan, "The Place of EPrints in Scholarly Information Delivery," *Online Information Review* 25(4):250–253, 2001, DOI: <https://doi.org/10.1108/EUM0000000005742>
4. Nigel Stanger and Graham McGregor, "EPrints Makes Its Mark," *OCLC Systems & Services: International digital library perspectives* 23(2):133–141, June 2007, DOI: <https://doi.org/10.1108/10650750710748432>
5. Mike R. Beazley, "Eprints Institutional Repository Software: A Review," *Partnership: The Canadian Journal of Library and Information Practice and Research* 5(2), 2011, DOI: <https://doi.org/10.21083/partnership.v5i2.1234>
6. Shahkar Trambo, Humma, S. M. Shafi, and Sumeer Gul, "A Study on the Open Source Digital Library Software's: Special Reference to DSpace, EPrints and Greenstone," *International Journal of Computer Applications* 59(16), December 2012, <https://arxiv.org/abs/1212.4935>

epub.js

"epub.js is a javascript library that provides a robust drop-in ePub renderer that powers book readers for websites and mobile applications; providing navigation, themes, annotations and persistence. The project comes from FuturePress, an offshoot of the UC Berkeley School of Information." (mtg)

Website: <http://futurepress.org/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/uvehoi0v?readingCollection=2e2f6c3f>

F1000 (Faculty of 1000) Research

Product of Taylor & Francis

"*F1000Research* is an open access, open peer-review scientific publishing platform covering the life sciences. Articles are published first and peer reviewed after publication by invited referees. The peer reviewer's names and comments are visible on the site. As part of its open science model, the data behind each article are also published and are downloadable. *F1000Research* publishes multiple article types including traditional research articles, single findings, case reports, protocols, replications and null or negative results. The journal has been criticized for unclear peer-review standards in relation to its inclusion in PubMed, but has since clarified how articles are indexed in the PubMed and PubMed Central databases. *F1000Research* also publishes posters and slide presentations in biology and medicine." (wiki)

Author's note: In January 2020, *F1000Research* was acquired by Taylor & Francis.

Website: <https://f1000.com/about>

1. https://en.wikipedia.org/wiki/Faculty_of_1000
2. David A. Wardle, "Do 'Faculty of 1000' (F1000) Ratings of Ecological Publications Serve as Reasonable Predictors of Their Future Impact?" *Ideas in Ecology and Evolution* 3:11–15, 2010, DOI: 10.4033/iee.2010.3.3.c, <https://ojs.library.queensu.ca/index.php/IEE/article/view/2379>
3. Xuemei Li and Mike Thelwall, "F1000, Mendeley and Traditional Bibliometric Indicators," Proceedings of the 17th International Conference on Science and Technology Indicators, 2012, <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.363.3171>
4. Tim Vines, "How Rigorous Is the Post-publication Review Process at F1000 Research?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, March 27, 2013, <https://scholarlykitchen.sspnet.org/2013/03/27/how-rigorous-is-the-post-publication-review-process-at-f1000-research/>
5. Lutz Bornmann and Loet Leydesdorff, "The Validation of (Advanced) Bibliometric Indicators Through Peer Assessments: A Comparative Study Using Data from InCites and F1000," *Journal of Informetrics* 7(2):286–291, April 2013, DOI: <https://doi.org/10.1016/j.joi.2012.12.003>
6. Ehsan Mohammadi and Mike Thelwall, "Assessing non-standard article impact using F1000 labels," *Scientometrics* 97:383–395, November 2013, DOI: <https://doi.org/10.1007/s11192-013-0993-9>
7. Richard Poynder, "The Open Access Interviews: F1000 Founder Vitek Tracz," *Open and Shut?* [Blog], September 20, 2015, <https://poynder.blogspot.com/2015/09/the-open-access-interviews-f1000.html>
8. Vitek Tracz and Rebecca Lawrence, "Towards an Open Science Publishing Platform," *F1000 Research* 5:130, February 3, 2016, DOI: [10.12688/f1000research.7968.1](https://doi.org/10.12688/f1000research.7968.1)
9. Andrea C. Kepsel, "A Review of F1000," *Doody's Collection Development Monthly* [Blog], May 22, 2018, <https://dcdm.doody.com/2018/05/a-review-of-f1000/>
10. Jamie Kirkham and David Moher, "Who and Why Do Researchers Opt to Publish in Post-Publication Peer Review Platforms? - Findings from a Review and Survey of F1000 Research." *F1000 Research* 7:920, June 27, 2018, DOI: 10.12688/f1000research.15436.1, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6053701/>
11. Benedicte Page, "Taylor & Francis Buys F1000 Research," *The Bookseller*, January 10, 2020, <https://www.thebookseller.com/news/taylor-francis-buys-f1000-research-ltd-1150791>

Fedora Repository

Program of DuraSpace/LYRASIS

"Fedora (or Flexible Extensible Digital Object Repository Architecture) is a digital asset management (DAM) architecture upon which institutional repositories, digital archives, and digital library systems might be built. Fedora is the underlying architecture for a digital repository, and is not a complete management, indexing, discovery, and delivery application. It is a modular architecture built on the principle that interoperability and extensibility are best achieved by the integration of data, interfaces, and mechanisms (i.e., executable programs) as clearly defined modules." (wiki)

Website: <https://wiki.duraspace.org/display/FF/Fedora+Repository+Home>

1. https://en.wikipedia.org/wiki/Fedora_Commons

2. Sandra Payette and Carl Lagoze, "Flexible and Extensible Digital Object and Repository Architecture (FEDORA)," European Conference on Research and Advanced Technology for Digital Libraries, Heraklion, Crete, published in Lecture Notes in Computer Science, Springer, 1998, [arXiv:1312.1258v1](https://arxiv.org/abs/1312.1258v1)
3. Thornton Staples and Ross Wayland, "Virginia Dons FEDORA: A Prototype for a Digital Object Repository," *D-Lib Magazine* 6(7/8), July/August 2000, <http://www.dlib.org/dlib/july00/staples/07staples.html>
4. Carl Lagoze, Sandy Payette, Edwin Shin, and Chris Wilper, "Fedora: An Architecture for Complex Objects and Their Relationships," *International Journal on Digital Libraries* 6:124–138, April 2006, DOI: <https://doi.org/10.1007/s00799-005-0130-3>
5. David Wilcox, "Supporting FAIR Data Principles with Fedora," *LIBER Quarterly*, 28(1):1–8, August 2018, DOI: <http://doi.org/10.18352/lq.10247>

Fidus Writer

"Fidus Writer is a web-based, collaborative editor made for academics who need to use citations and/or formulas. Fidus Writer offers a visual editing interface, real-time editing collaboration, a commenting/review workflow system, and a variety of export formats. Fidus provides hosting and styled templates for a monthly fee." (mtg)

Website: <https://www.fiduswriter.org/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/qq7mv8d1?readingCollection=2e2f6c3f>
2. Ruth Holloway, "Writing an academic paper? Try Fidus Writer," *Opensource.com*, August 19, 2016, <https://opensource.com/life/16/8/collaborative-academic-writing-fidus-writer>
3. "Fidus Writer: Modern Writing Tools for the Social Sciences," *Team ZBM MediaTalk*, June 27, 2017, <https://www.zbw-mediatalk.eu/2017/06/fidus-writer-modern-writing-tools-for-the-social-sciences/>

figshare

Product of Digital Science

"Figshare is an online open access repository where researchers can preserve and share their research outputs, including figures, datasets, images, and videos. It is free to upload content and free to access, in adherence to the principle of open data." (wiki)

Website: <https://figshare.com>

1. <https://en.wikipedia.org/wiki/Figshare>
2. Tom Gilson, "Sharing Research Data—New figshare for Institutions," *Against the Grain*, September 16, 2013, <https://www.against-the-grain.com/2013/09/sharing-research-data-new-figshare-for-institutions-2/>
3. "Startup of the Week: Figshare," *Wired*, July 25, 2014, <https://www.wired.co.uk/article/figshare>

4. Peter Kraker, Elisabeth Lex, Juan Gorraiz, Christian Gumpenberger, and Isabella Peters, "Research Data Explored II: The Anatomy and Reception of figshare," *Proceedings of the 20th International Conference on Science and Technology Indicators*, 2015, <https://arxiv.org/abs/1503.01298>
5. Mike Thelwall and Kayvan Kousha, "Figshare: A Universal Repository for Academic Resource Sharing?" *Online Information Review* 40(3):333–346, June 2016, DOI: <https://doi.org/10.1108/OIR-06-2015-0190>
6. Paul Stacey, "Figshare," Made with Creative Commons, *Medium*, September 15, 2017, <https://medium.com/made-with-creative-commons/figshare-81fddc806013>

Fulcrum

Program hosted by University of Michigan Library

"Fulcrum is the University of Michigan Library's ebook hosting, preservation, and media integration platform, developed on top of the Samvera repository platform. Fulcrum allows authors and publishers to integrate multimedia elements into a book—linked from a print book or directly integrated in an ebook—while providing a robust, richly described, and accessible reader environment and a discoverability platform for ebook collections. Fulcrum is a platform available to the University of Michigan Press authors, as well as a service offered to other publishers. Fulcrum makes use of epub.js, AblePlayer, Hypothes.is, and Editoria (in testing) to provide basic and enhanced functionality." (mtg)

Website: <https://www.fulcrum.org>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/1o0j23vx?readingCollection=2e2f6c3f>
2. Charles Watkinson, "A Platform Built on Shared Values: Reflecting on the Fulcrum/HEB Partnership," *ACLS Humanities E-Book* [Blog], August 1, 2018, <https://www.humanitiesebook.org/a-platform-built-on-shared-values-reflecting-on-the-fulcrum-heb-partnership/>

Get Full Text Research

"Get Full Text Research (GetFTR) is a new, free to use solution that enables faster access for researchers to the published journal articles they need. When researchers are using online tools to search for research, GetFTR will provide seamless pathways to the published journal articles they want. Researchers will be able to link directly to the most up to date and best version of an article. To create a seamless experience, researchers will be taken directly to the article, and just the article, from a wide variety of discovery tools that they are already using. Even if a researcher does not have the relevant institutional access to an article, publishers can provide an alternative version of the content. Importantly, GetFTR enables users to access content in this way both off-campus and on-campus." (<https://www.getfulltextresearch.com/introducing-getftr/>)

Website: <https://www.getfulltextresearch.com>

1. Roger C. Schonfeld, "Publishers Announce a Major New Service to Plug Leakage," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, December 3, 2019, <https://scholarlykitchen.sspnet.org/2019/12/03/publishers-announce-plug-leakage/>
2. Peter Murray, "Publishers Going-it-Alone (for now?) with GetFTR," *Disruptive Library Technology Jester* [Blog], December 3, 2019, <https://dltj.org/article/publishers-alone-with-getftr/>
3. Lisa Janicke Hinchliffe, "Why are Librarians Concerned about GetFTR?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, December 10, 2019, <https://scholarlykitchen.sspnet.org/2019/12/10/why-are-librarians-concerned-about-getftr/>

Get The Research

Program of Our Research

"Get The Research is a website where regular people can find, read, and understand the scholarly research on any topic. It'll be built on the 20 million open access articles in the Unpaywall index, and feature AI-powered tools that help make the content and context of scholarly articles more clear to readers." (<https://scholarlykitchen.sspnet.org/2018/11/12/get-the-research-impactstory-announces-a-new-science-finding-tool-for-the-general-public/>)

Website: <https://gettheresearch.org>

1. Rick Anderson, "Get The Research: Impactstory Announces a New Science-Finding Tool for the General Public," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, November 12, 2018, <https://scholarlykitchen.sspnet.org/2018/11/12/get-the-research-impactstory-announces-a-new-science-finding-tool-for-the-general-public/>

Google Scholar

"Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. Released in beta in November 2004, the Google Scholar index includes most peer-reviewed online academic journals and books, conference papers, theses and dissertations, preprints, abstracts, technical reports, and other scholarly literature, including court opinions and patents. While Google does not publish the size of Google Scholar's database, scientometric researchers estimated it to contain roughly 389 million documents including articles, citations and patents making it the world's largest academic search engine in January 2018." (wiki)

Webpage: <https://scholar.google.com>

1. https://en.wikipedia.org/wiki/Google_Scholar
2. Nisa Bakkalbais, Kathleen Bauer, Janis Glover, and Lei Wang, "Three Options for Citation Tracking: Google Scholar, Scopus and Web of Science," *Biomedical Digital Libraries* (3):7, June 2006, DOI:<https://doi.org/10.1186/1742-5581-3-7>

3. Matthew E. Falagas, Eleni I. Pitsouni, George A. Malietzis, and Georgios Pappas, "Comparison of PubMed, Scopus, Web of Science, and Google Scholar: Strengths and Weaknesses," *The FASEB Journal* 22(2), February 2008, DOI: <https://doi.org/10.1096/fj.07-9492LSF>
4. Abhaya V. Kulkarni, Brittany Aziz, Iffat Shams, and Jason W. Busse, "Comparisons of Citations in Web of Science, Scopus, and Google Scholar for Articles Published in General Medical Journals," *JAMA* 302(10):1092–1096, September 9, 2009, DOI: <https://doi.org/10.1001/jama.2009.1307>
5. Richard Van Noorden, "Online Collaboration: Scientists and the Social Network," *Nature* 512:126–129, August 15, 2014, DOI: <https://doi.org/10.1038/512126a>

Grobid

"GROBID (or Grobid) stands for GeneRation Of Bibliographic Data. It is a machine-learning library for extracting, parsing, and re-structuring journal articles in PDF format into structured TEI-encoded documents that can then be transformed to JATS XML. Grobid represents a best-of-breed example (see <https://arxiv.org/abs/1802.01168>) of the shift from traditional parser-based approaches to machine-learning models for converting legacy documents to XML. Grobid is employed in the PKP's Open Typesetting Stack." (mtg)

Website: <https://grobid.readthedocs.io/en/latest/Introduction/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/1hwnqb3r?readingCollection=2e2f6c3f>
2. Laurent Romary and Patrice Lopez, "GROBID - Information Extraction from Scientific Publications," *ERCIM News 100*, ERCIM, 2015, <https://ercim-news.ercim.eu/en100/r-i/grobid-information-extraction-from-scientific-publications>
3. Dominika Tkaczyk, Andrew Collins, Paraic Sheridan, and Joeran Beel, "Machine Learning vs. Rules and Out-of-the-Box vs. Retrained: An Evaluation of Open-Source Bibliographic Reference and Citation Parsers," *Proceedings of the 18th ACM/IEEE Joint Conference on Digital Libraries*, 2018, pp. 99–108. DOI: <http://doi.org/10.1145/3197026.3197048>, [arXiv:1802.01168v3](https://arxiv.org/abs/1802.01168v3)

Handle System

"The Handle System is the [Corporation for National Research Initiatives](#)' proprietary registry assigning [persistent identifiers](#), or [handles](#), to information resources, and for resolving 'those handles into the information necessary to locate, access, and otherwise make use of the resources.'" (wiki)

Website: <http://www.handle.net>

1. https://en.wikipedia.org/wiki/Handle_System

HathiTrust

Program hosted by University of Michigan Library

“HathiTrust is a large-scale collaborative repository of digital content from research libraries including content digitized via the Google Books project and Internet Archive digitization initiatives, as well as content digitized locally by libraries.” (wiki)

Website: <https://www.hathitrust.org>

1. <https://en.wikipedia.org/wiki/HathiTrust>
2. Miguel Helft, “An Elephant Backs Up Google’s Library,” *New York Times*, October 13, 2008, <https://bits.blogs.nytimes.com/2008/10/13/an-elephant-backs-up-googles-library/>
3. Center for Research Libraries, “HathiTrust Audit Report,” March 1, 2011, <https://www.crl.edu/reports/hathitrust-audit-report-2011>
4. Heather Christenson, “HathiTrust,” *Library Resources & Technical Services* 55(2):93–102, April 2011, DOI: <http://dx.doi.org/10.5860/lrts.55n2.93>
5. Julie Bosman, “Lawsuit Seeks the Removal of a Digital Book Collection,” *New York Times*, September 12, 2011, <https://www.nytimes.com/2011/09/13/business/media/authors-sue-to-remove-books-from-digital-archive.html>
6. Diane Parr Walker, “HathiTrust: Transforming the Library Landscape,” *Indiana Libraries* 31(1), January 2012, <https://journals.iupui.edu/index.php/IndianaLibraries/article/view/2069>
7. Andrew Albanese, “Google Scanning Is Fair Use Says Judge,” *Publishers Weekly*, October 11, 2012, <https://www.publishersweekly.com/pw/by-topic/digital/copyright/article/54321-in-hathitrust-ruling-judge-says-google-scanning-is-fair-use.html>
8. Alissa Centivany, “The Dark History of HathiTrust,” in proceedings of the 50th Annual Hawaii International Conference on Systems Science, 2017, <https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1124&context=fimspub>

HIRMEOS Project

“HIRMEOS seeks to build functionality for research monographs in the European open-science infrastructure. This metrics project normalizes book identifiers (ISBNs, DOIs), provides modular “drivers” to gather various metrics (Google Analytics, JSTOR, COUNTER, etc.) and altmetrics (social media sources), and then aggregates these so publishers have access to usage and traffic data on ebooks. The usage data code has been developed by the UK-based Open Book Publishers. Altmetrics code has been developed by Ubiquity Press.” (mtg)

Website: <https://www.hirmeos.eu>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/8gk367el?readingCollection=2e2f6c3f>
2. Brian Hole, Francesco de Virgilio, and Chealsye Bowley, “Shared Infrastructure for Next-Generation Books: HIRMEOS,” *ELPUB 2018*, June 2018, Toronto, Canada, DOI: [10.4000/proceedings.elpub.2018.14](https://doi.org/10.4000/proceedings.elpub.2018.14)
3. Andrea Bertino, Luca Foppiano, Laurent Romary, and Pierre Mounier, “Leveraging Concepts in Open Access Publications,” *PUBMET 2018*, 5th Conference on Scholarly Publishing in the Context of Open Science, September 2018, Zadar, Croatia. <https://hal.inria.fr/hal-01900303/>

Humanities Commons

Program hosted by Michigan State University

“*Humanities Commons* is a trusted, nonprofit network where humanities scholars can create a professional profile, discuss common interests, develop new publications, and share their work. The *Humanities Commons* network is open to anyone.” (Founded at the Modern Languages Association; now hosted by Michigan State University.)
(<https://hcommons.org/about/>)

Website: <https://hcommons.org>

1. Colleen Flaherty, “MLA Launches Humanities Commons,” *Inside Higher Ed*, December 8, 2016, <https://www.insidehighered.com/quicktakes/2016/12/08/mla-launches-humanities-commons>
2. Alison Muddit, “Humanities Commons: Networking the Humanities through Open Access, Open Source and Not-for-Profit,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, December 21, 2016, <https://scholarlykitchen.sspnet.org/2016/12/21/humanities-commons-networking-the-humanities-through-open-access-open-source-and-not-for-profit/>
3. Rebecca Ruth Gould, “Humanities Commons: A New Resource for Writers & Scholars,” *The Writing Cooperative* [Blog], August 15, 2018, <https://writingcooperative.com/great-new-resource-for-websites-1a624a06c426>
4. Dan Knauss, “An Interview with the MLA’s Humanities Commons Team,” *Post Status* [Blog], September 21, 2018, <https://poststatus.com/notes/an-interview-with-the-mlas-humanities-commons-team/>

Hy-phen

“Hy-phen is a JavaScript implementation of Francis Liang’s TeX hyphenation algorithm.” (mtg)

Website: <https://github.com/ytiurin/hyphen>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/e2tk97gl?readingCollection=2e2f6c3f>

Hyku (Hydra in a Box)

“Hyku is the official name of the repository product that is a main deliverable of the Hydra-in-a-Box project. We settled on the name in November 2016 and announced it in early December 2016. Prior to that time, we referred to it as “the Hydra-in-a-Box repository” or “Lerna” as a temporary placeholder name. In all these cases, we are talking about the same thing: a polished, turnkey, feature-complete repository application product created by the Hydra-in-a-Box project.” (ws)

Website: <https://hyku.samvera.org>

1. Roy Tennant, "Ambitious "Hydra-in-a-Box" Effort Funded by IMLS," *The Digital Shift* [Blog], April 15, 2015, <http://www.thedigitalshift.com/2015/04/roy-tennant-digital-libraries/ambitious-hydra-in-a-box-effort-funded-by-impls/>
2. Courtney C. Mumma, *Texas Digital Library Hyku Pilot – 2018: Final Report*, July 31, 2018, <https://tdl-ir.tdl.org/handle/2249.1/87490>

Hyphenopoly

"Hyphenopoly is a JavaScript library for providing robust hyphenation in HTML, especially while hyphenation remains patchily supported by web browsers, especially across multiple languages. Hyphenopoly provides hyphenation dictionaries and algorithms derived from Francis M Liang's classic TeX hyphenation algorithm. Hyphenopoly can be dropped in to any website. Hyphenopoly supercedes an earlier JS system Hyphenator." (mtg)

Website: <http://mnater.github.io/Hyphenopoly/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/1p3b8vze?readingCollection=2e2f6c3f>

Hypher

"Hypher is a hyphenation engine written in JavaScript for web browsers using jQuery. It comes with hyphenation dictionaries for more than 30 languages." (mtg)

Website: <http://www.bramstein.com/working/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/5hazhwb4?readingCollection=2e2f6c3f>

Hypothes.is

"Hypothes.is is a 501(c) open-source software project that aims to collect comments about statements made in any web-accessible content, and filter and rank those comments to assess each statement's credibility. It has been summarized as 'a peer review layer for the entire Internet.'" (wiki)

"The Hypothesis Project is a new effort to implement an old idea: A conversation layer over the entire web that works everywhere, without needing implementation by any underlying site. Our team creates open source software, pushes for standards, and fosters community. Using annotation, we enable sentence-level note taking or critique on top of news, blogs, scientific articles, books, terms of service, ballot initiatives, legislation and more." (<https://web.hypothes.is/about/>)

Website: <https://web.hypothes.is>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/nhmym6ye?readingCollection=2e2f6c3f>
2. Erick Schonfeld, "Hypothes.is: A Kickstarter Project To Peer Review the Web," *TechCrunch*, October 31, 2011, <https://techcrunch.com/2011/10/31/hypothes-is/>
3. Haydn Shaughnessy, "Would Your Blog Stand up To Criticism? Here Comes Peer Review," *Forbes*, October 21, 2011, <https://www.forbes.com/sites/haydnshaughnessy/2011/10/21/would-your-blog-stand-up-to-criticism-and-should-you-care/#430d2abfb84c>
4. Jeffrey M. Perkel, "Annotating the Scholarly Web," *Nature* 528(7580), December 1, 2015, <https://www.nature.com/news/annotating-the-scholarly-web-1.18900>
5. Giacomo Gilmozzi, Vincent Puig and Yves-Marie Haussonne, "Contributive Research: Hypothes.is Implementation for Academic Research Purpose," NEXTLEAP, April 2018, <http://nextleap.eu/articles/linkedresearch.html>

ImpactStory Profiles

Program of Our Research

"An open source, web-based tool that provides [altmetrics](#) to help researchers measure the impacts of their research outputs including journal articles, blog posts, datasets, and software. It aims to change the focus of the scholarly reward system to value and encourage web-native scholarship." (wiki)

Website: <https://profiles.impactstory.org>

1. <https://en.wikipedia.org/wiki/ImpactStory>
2. Jason Priem and Heather Piwowar, "The Launch of ImpactStory: Using Altmetrics to Tell Data-Driven Stories," *LSE Impact Blog*, September 25, 2012, <https://blogs.lse.ac.uk/impactofsocialsciences/2012/09/25/the-launch-of-impactstor/>

Initiative for Open Citations (I4OC)

"The Initiative for Open Citations I4OC is a collaboration between scholarly publishers, researchers, and other interested parties to promote the unrestricted availability of scholarly citation data." (ws)

Website: <https://i4oc.org>

1. https://en.wikipedia.org/wiki/Initiative_for_Open_Citations
2. Quirin Schiermeier, "Initiative aims to break science's citation paywall," *Nature*, April 7, 2017, <https://www.nature.com/news/initiative-aims-to-break-science-s-citation-paywall-1.21800>
3. Megan Molteni, "Tearing Down Science's Citation Paywall, One Link at a Time," *Wired*, April 7, 2017, <https://www.wired.com/2017/04/tearing-sciences-citation-paywall-one-link-time/>
4. Helen Eassom, "Opening Up Research Citations: A Q&A with Dario Taraborelli," *The Wiley Network* [Blog], April 27, 2017, <https://www.wiley.com/network/researchers/licensing-and-open-access/opening-up-research-citations-a-q-amp-a-with-dario-taraborelli>
5. Aaron Tay, "Understanding the Implications of Open Citations — How Far Along Are We?" *Medium*, April 30, 2018, <https://medium.com/a-academic-librarians-thoughts-on-open-access/understanding-open-citations-f31b2f3a2533>

INK

Project of Collaborative Knowledge Foundation (Coko)

INK is Coko's ingestion, conversion, and syndication environment, which converts content and data from one format to another, tags with identifiers, and normalizes metadata.

1. <https://coko.foundation/ink-1-0-is-here/>

International Image Interoperability Framework (IIIF)

"The International Image Interoperability Framework (IIIF) defines several application programming interfaces that provide a standardised method of describing and delivering images over the web, as well as 'presentation based metadata' (that is, structural metadata) about structured sequences of images. If institutions holding artworks, books, newspapers, manuscripts, maps, scrolls, single sheet collections, and archival materials provide IIIF endpoints for their content, any IIIF-compliant viewer or application can consume and display both the images and their structural and presentation metadata." (wiki)

Website: <https://iiif.io>

1. https://en.wikipedia.org/wiki/International_Image_Interoperability_Framework
2. Robert Kiley and Tom Crane, "Publishing Scientific Images Using the IIIF," *eLife Labs* [Blog], May 16, 2016, <https://elifesciences.org/labs/aabe94cd/publishing-scientific-images-using-the-iiif>
3. Tom Crane, "An Introduction to IIIF," *Digirati* [Blog], March 2017, <https://resources.digirati.com/iiif/an-introduction-to-iiif/>
4. Sheila Rabun, "IIIF Update: Interoperability for Audio & Video Resources," *CLIR Connect* [Blog], August 17, 2017, <https://connect.clir.org/blogs/sheila-rabun/2017/08/17/iiif-update-av-resources>
5. Abbey Potter, "IIIF at the Library of Congress," *The Signal* [Blog], May 3, 2018, <https://blogs.loc.gov/thesignal/2018/05/iiif-at-the-library-of-congress/>

Internet Archive (organization)

Programs: Archive-It, Wayback Machine

"The Internet Archive is an American digital library with the stated mission of 'universal access to all knowledge.' It provides free public access to collections of digitized materials, including websites, software applications/games, music, movies/videos, moving images, and millions of public-domain books. In addition to its archiving function, the Archive is an activist organization, advocating for a free and open Internet. The Internet Archive allows the public to upload and download digital material to its data cluster, but the bulk of its data is collected automatically by its web crawlers, which work to preserve as much of the public web as possible. Its web archive, the Wayback Machine, contains

hundreds of billions of web captures. The Archive also oversees one of the world's largest book digitization projects." (wiki)

Website: <https://archive.org>

1. https://en.wikipedia.org/wiki/Internet_Archive
2. Rory Carroll, "Brewster's Trillions: Internet Archive Strives to Keep Web History Alive," *Guardian*, April 26, 2013, <https://www.theguardian.com/technology/2013/apr/26/brewster-kahle-internet-archive>
3. David Streitfeld, "The Internet Archive, Trying to Encompass All Creation," *New York Times*, October 31, 2014, <https://bits.blogs.nytimes.com/2014/10/31/the-internet-archive-trying-to-encompass-all-creation/>
4. Jill Lepore, "Can the Internet Be Archived?" *New Yorker*, January 19, 2015, <https://www.newyorker.com/magazine/2015/01/26/cobweb>
5. Kalev Leetaru, "The Internet Archive Turns 20: A Behind The Scenes Look At Archiving The Web," *Forbes*, January 18, 2016, <https://www.forbes.com/sites/kalevleetaru/2016/01/18/the-internet-archive-turns-20-a-behind-the-scenes-look-at-archiving-the-web/#6396f47082e0>

IRIS.AI

"The Iris.ai products are process tools aimed specifically at researchers in the early phase of a new project. They are especially suitable for interdisciplinary projects where the combination of knowledge from across a range of research fields will be vital to the project's success. Consistently outperforming old school search tools, Iris.ai builds an interdisciplinary research map based on a problem statement or research paper of your choice. Iris.ai does this by building a 'fingerprint' using machine extracted keywords, contextual synonyms and hypernyms, then matches the fingerprint against more than 70M Open Access papers." (<https://iris.ai/features/#explore-tool>)

Website: <https://iris.ai>

1. Alice Meadows, "A New Approach to Article Sharing: Interview with Maria Ritola of Iris.ai," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, August 27, 2018, <https://scholarlykitchen.sspnet.org/2018/08/27/new-approach-article-sharing-interview-maria-ritola-iris-ai/>
2. Andy Extance, "How AI Technology Can Tame the Scientific Literature," *Nature*, September 10, 2018, <https://www.nature.com/articles/d41586-018-06617-5>
3. Alex Moltzau, "IRIS.AI Your Science Assistant: Research Discovery and Open Science with Artificial Intelligence," *Medium*, June 18, 2019, <https://medium.com/swlh/iris-ai-your-science-assistant-60eefd3628ab>

Islandora

“Islandora is an open-source digital repository system based on Fedora Commons, Drupal and a host of additional applications. It is open source software (released under the GNU General Public License and was originally developed at the University of Prince Edward Island by the Robertson Library. Islandora may be used to create large, searchable collections of digital assets of any type and is domain-agnostic in terms of the type of content it can steward. It has a highly modular architecture with a number of key features.” (wiki)

Website: <https://islandora.ca>

1. <https://en.wikipedia.org/wiki/Islandora>
2. Donald Moses and Kirsta Stapelfeldt, “Renewing UPEI’s Institutional Repository: New Features for an Islandora-based Environment,” *Code{4}lib Journal* 21, July 15, 2013, <http://journal.code4lib.org/articles/8763>
3. Shea-Tinn Yeh, Fernando Reyes, Jeff Rynhart, and Philip Bain, “Deploying Islandora as a Digital Repository Platform: A Multifaceted Experience at the University of Denver Libraries,” *D-Lib Magazine* 22(7/8), July/August 2016, DOI: [10.1045/july2016-yeh](https://doi.org/10.1045/july2016-yeh)
4. Tim Hutchinson, “Archidora: Integrating Archivematica and Islandora,” *Code{4}lib Journal* 39, February 2018, <https://journal.code4lib.org/articles/13150>
5. Trevor Owens, “Islandora’s Open Source Ecosystem and Digital Preservation: An Interview with Mark Leggott,” *The Signal* [Blog], March 4, 2013, <https://blogs.loc.gov/thesignal/2013/03/islandoras-open-source-ecosystem-and-digital-preservation-an-interview-with-mark-leggott/>
6. Kirsta Stapelfeldt and Donald Moses, “Islandora and TEI: Current and Emerging Applications/Approaches,” *Journal of the Text Encoding Initiative* 5, June 2013, <https://journals.openedition.org/jtei/790>

JAMS (Journal & Article Management System)

Product of MDPI

“JAMS is a modular set of journal management services combining:

- editorial processes, including peer review
- production services
- invoicing of APCs and other per paper charges.

Choose from our standard or customized options to create a workflow that suits your needs and size of your publishing operation. JAMS was created by MDPI, an open access publisher with over 20 years’ experience in open access publishing. Our services are designed to be efficient, user-friendly and give flexibility to publishers of all sizes.” (ws)

Website: <http://jams.pub>

Janeway

“Janeway is journal management software developed by the Birkbeck Centre for Technology and Publishing for the Open Library of Humanities (OLH) at Birkbeck, University of London. Janeway integrates Crossref, iThenticate, Portico, and CLOCKSS services to provide a full-featured OA journal publishing platform. Janeway is a Django-based web application.” (mtg)

Website: <https://www.openlibhums.org/site/janeway/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/af1gfako?readingCollection=2e2f6c3f>
2. Martin Paul Eve and Andy Byers, “Janeway: A Scholarly Communications Platform,” *Insights* 31:15, 2018. DOI: <http://doi.org/10.1629/uksg.396>

JISC (organization)

Projects: Publications Router

“Jisc (formerly the Joint Information Systems Committee) is a United Kingdom not-for-profit company whose role is to support post-16 and higher education, and research, by providing relevant and useful advice, digital resources and network and technology services, while researching and developing new technologies and ways of working. It is funded by a combination of the UK further and higher education funding bodies, and individual higher education institutions.” (wiki)

Website: <https://www.jisc.ac.uk/>

1. <https://en.wikipedia.org/wiki/Jisc>

Jupyter Notebook

“Jupyter Notebook (formerly IPython Notebooks) is a web-based interactive computational environment for creating Jupyter notebook documents. The ‘notebook’ term can colloquially make reference to many different entities, mainly the Jupyter web application, Jupyter Python web server, or Jupyter document format depending on context. A Jupyter Notebook document is a JSON document, following a versioned schema, and containing an ordered list of input/output cells which can contain code, text (using Markdown), mathematics, plots and rich media, usually ending with the ‘.ipynb’ extension.” (wiki)

Website: <http://jupyter.org/>

1. https://en.wikipedia.org/wiki/Project_Jupyter
2. Mind the Gap: <https://mindthegap.pubpub.org/pub/54mxhtwq?readingCollection=2e2f6c3f>
3. Sebastian Eschweiler, “Getting Started With Jupyter Notebook for Python,” *Medium*, December 9, 2017, <https://medium.com/codingthesmartway-com-blog/getting-started-with-jupyter-notebook-for-python-4e7082bd5d46>

4. Mike Driscoll, "Jupyter Notebook: An Introduction," *Real Python*, January 28, 2019, <https://realpython.com/jupyter-notebook-introduction/>
5. Parul Pandey, "Jupyter Lab: Evolution of the Jupyter Notebook," *Medium*, February 22, 2019, <https://towardsdatascience.com/jupyter-lab-evolution-of-the-jupyter-notebook-5297cacde6b>
6. Serdar Yegulalp, "What is Jupyter Notebook? Data Analysis Made Easier," *InfoWorld*, April 22, 2019, <https://www.infoworld.com/article/3347406/what-is-jupyter-notebook-data-analysis-made-easier.html>
7. Michael Cheng and Viacheslav Kovalevskiy, "Jupyter Notebook Manifesto: Best Practices That Can Improve the Life of Any Developer Using Jupyter Notebooks," AI & Machine Learning Google Cloud, June 12, 2019, <https://cloud.google.com/blog/products/ai-machine-learning/best-practices-that-can-improve-the-life-of-any-developer-using-jupyter-notebooks>

KaTeX

"KaTeX is a LaTeX-based typesetting tool for mathematical expressions developed by the Khan Academy. It is billed as the fastest math typesetting library for the web because it renders math in real time without the need to reflow the page. It is self-contained with no dependencies and can run server-side or in the browser." (mtg)

Website: <https://katex.org/>

1. <https://en.wikipedia.org/wiki/KaTeX>
2. Mind the Gap: <https://mindthegap.pubpub.org/pub/7efyq6ww?readingCollection=2e2f6c3f>
3. Murray Bourne, "KaTeX and MathJax Comparison Demo," *Interactive Mathematics* [Blog], July 9, 2019, <https://www.intmath.com/cg5/katex-mathjax-comparison.php>

Keepers Registry

Program of ISSN International Centre

"The Keepers Registry acts as a global monitor on the archiving arrangements for digital content issued as continuing resources including e-serials. The Registry has three main purposes:

- a. To enable librarians and policy makers to find out who is looking after what e-content, how, and with what terms of access.
- b. To highlight e-journals which are still "at risk of loss" and need to be archived.
- c. To showcase the archiving organisations around the world, i.e. the Keepers, which provide the digital shelves for access to content over the long term.

ISSN International Centre assumed principal responsibility for the functioning of the Registry in late 2019 following endorsement from its Governing Board about the value the Keepers Registry as part of the global identification infrastructure for serials." (<https://keepers.issn.org/keepers-registry>)

Website: <https://keepers.issn.org>

1. Peter Burnhill, "Tales from The Keepers Registry: Serial Issues About Archiving & the Web," *Serials Review* 39(1):3–20, March 2013, DOI: <https://doi.org/10.1016/j.serrev.2013.02.003>

2. Erin Engle, "Mapping the Digital Galaxy: The Keepers Registry Expands its Tool Kit," *The Signal* [Blog], August 5, 2015, <https://blogs.loc.gov/thesignal/2015/08/mapping-the-digital-galaxy-the-keepers-registry-expands-its-tool-kit/>
3. Mary Mallery, "The Keepers Registry: Supporting Long-term Access to Journal Content," *Technical Services Quarterly* 33(1):101–102, December 2015, DOI: <https://doi.org/10.1080/07317131.2015.1093858>
4. Mike Ashenfelder "The Keepers Registry: Ensuring the Future of the Digital Scholarly Record," *The Signal* [Blog], January 10, 2017, <https://blogs.loc.gov/thesignal/2017/01/the-keepers-registry-ensuring-the-future-of-the-digital-scholarly-record/>

Knowledgr

"Knowledgr is a network of structured, open-access micro-publications shared on a public blockchain that empowers scientists to self-govern how their research outputs are judged and rewarded. Knowledgr employs a transparent, community-derived, social-consensus algorithm that rewards observations, questions, and hypotheses with KNLG in proportion to each post's intellectual value, as defined by the greater scientific community user base." (ws)

Website: <http://beta.knowledgr.io/created>

1. Mousebelt Labs, "New Accelerator Participant — Knowledgr is Crowdsourcing Scientific Research," *Medium*, August 27, 2018, <https://medium.com/mousebelt/co-lab-crowdsourcing-scientific-research-with-mousebelt-accelerator-58c77eb2e767>

Kopernio

Product of Clarivate Analytics

"Kopernio is a technology startup which aims to allow researchers to easily and legally read the full texts of scientific journal articles. Using artificial intelligence, the company's namesake tool automatically records the institutional subscriptions each user has and searches for full-text versions of selected papers to which the user may have access." (wiki)

Website: <https://kopernio.com/for-libraries>

1. <https://en.wikipedia.org/wiki/Kopernio>
2. Holly Else, "Web of Science Owner Buys Tool that Offers One-Click Access to Journal Articles," *Nature*, April 10, 2018, <https://www.nature.com/articles/d41586-018-04414-8>
3. "Clarivate buys AI-technology start-up Kopernio," *Research Information*, April 10, 2018, <https://www.researchinformation.info/news/clarivate-buys-ai-technology-start-kopernio>

le-tex Transpect

“le-tex Transpect is an XProc- and XSLT-based framework and suite of modules for managing, schema checking, and converting from/to XML-based formats such as .docx, IDML, EPUB, HTML, DocBook, TEI and JATS. le-tex Transpect also provides a framework for combining modules into publishing workflows with revision control and custom, cascade-based configuration. le-tex Transpect can run standalone or integrated into publishing workflows. A simple upload interface and an HTTP API is available, as is hosted operation and maintenance agreements for professional use.” (mtg)

Website: <https://transpect.github.io/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/6rgvu72q?readingCollection=2e2f6c3f>

Lens

“Lens is an online article-reading environment developed by eLife that—by treating a JATS journal article as a database—makes it possible to explore figures, figure descriptions, references and more without losing one’s place in the article text. Lens was designed using the Substance libraries. Much of its functionality is now in eLife’s Libero Producer tool.” (mtg)

Website: <https://lens.elifesciences.org/about/#info/all>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/54xps359?readingCollection=2e2f6c3f>
2. Michael Aufreiter, “Self-host a Scientific Journal with eLife Lens,” *Medium*, April 14, 2015, https://medium.com/@_mql/self-host-a-scientific-journal-with-elife-lens-f420afb678aa

Lens.org (formerly Patent Lens)

“The Lens is an online patent search facility and knowledge resource, provided by Cambia, an independent, international non-profit organization dedicated to democratizing innovation. Launched in 2000, the Patent Lens allowed free searching of over 10 million full-text patent documents... In 2013 the Patent Lens was officially replaced with Cambia’s new site The Lens. The Lens made improvements in the visual presentation of patent analysis and workspace management. It also features a biological facility with a number of advanced tools for searching and analysing sequences found in patents.” (wiki)

Website: <https://www.lens.org>

1. https://en.wikipedia.org/wiki/Patent_Lens
2. Aaron Tay, “The Rise of the ‘Open’ Discovery Indexes? Lens.org, Semantic Scholar and Scinapse,” *Musings on Librarianship* [Blog], December 22, 2019, <https://musingsaboutlibrarianship.blogspot.com/2019/12/the-rise-of-open-discovery-indexes.html>

Libero

“Libero Publisher is designed to help publishers deliver beautifully presented content to readers on any device, wherever they are. It is just one component of Libero, a community-driven and open-source platform of services and applications being built to help content providers do more with everything they publish.” (<https://libero.pub/elifе-introduces-first-demonstration-of-the-open-source-publishing-platform-libero-publisher/>)

Author’s note: Libero has four modules: Libero Producer, Libero Reviewer, Libero Publisher, and Libero Data Hub.

Website: <https://libero.pub>

1. Mind the Gap: Libero Producer <https://mindthegap.pubpub.org/pub/lh1l8u8g?readingCollection=2e2f6c3f>, Libero Publisher <https://mindthegap.pubpub.org/pub/a9gth0ve?readingCollection=2e2f6c3f>, and Libero Reviewer <https://mindthegap.pubpub.org/pub/jq9bg9g2?readingCollection=2e2f6c3f>
2. “eLife, Coko, Hindawi Limited and Digirati Commit to Libero for Open-Source Publishing,” *STM Publishing News* [Blog], November 26, 2018, <http://www.stm-publishing.com/elifе-coko-hindawi-limited-and-digirati-commit-to-libero-for-open-source-publishing/>

Literatum

Product of Atypon

“Literatum is a comprehensive platform for every type of publisher and any type of content... Literatum’s six modules integrate easily with technologies in your existing publishing ecosystem—and can often even replace them. It’s scalable, so it adapts as your business evolves and powers growth without requiring additional staff. And its support for every content type fosters collaboration among traditionally siloed departments: marketing, editorial, and communications.” (ws)

Website: <https://www.atypon.com/products/literatum/>

LOCKSS

Program of Stanford University Libraries

“The LOCKSS (“Lots of Copies Keep Stuff Safe”) project, under the auspices of Stanford University, is a peer-to-peer network that develops and supports an open source system allowing libraries to collect, preserve and provide their readers with access to material published on the Web. Its main goal is digital preservation.” (wiki)

Website: <https://www.lockss.org>

1. <https://en.wikipedia.org/wiki/LOCKSS>
2. David S. H. Rosenthal, Thomas Lipkis, Thomas S. Robertson, and Seth Morabito, "Transparent Format Migration of Preserved Web Content," *D-Lib Magazine* 11(1), January 2005, <http://www.dlib.org/dlib/january05/rosenthal/01rosenthal.html>
3. Petros Maniatis, et al., "The LOCKSS Peer-to-Peer Digital Preservation System," *ACM Transactions on Computer Systems* 23(1):2–50, February 2005, DOI: <http://doi.org/10.1145/1047915.1047917>
4. Victoria Reich and David Rosenthal, "Distributed Digital Preservation: Private LOCKSS Networks as Business, Social, and Technical Frameworks," *Library Trends* 57(3):461–475, Winter 2009, DOI: [10.1353/lib.0.0047](https://doi.org/10.1353/lib.0.0047), <https://muse.jhu.edu/article/265529/summary>
5. David S. H. Rosenthal and Daniel L. Vargas, "LOCKSS Boxes in the Cloud," 2012, https://web.stanford.edu/group/lockss/resources/2012-09_LOCKSS_Boxes_in_the_Cloud.pdf

Lodel

"Lodel is the journal publishing software for the French OpenEdition publishing platform. It provides content management and import/conversion to bring word processor documents into an XML-based article production environment." (mtg)

Website: <http://www.lodel.org/index.html>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/bncqwirt?readingCollection=2e2f6c3f>
2. Lucia Randone, "OJS and Lodel Possible Interoperability within Open Access Publications: Some Indications from Turin-based Italian Journals Use Cases," Zenodo, January 9, 2019, DOI: <https://doi.org/10.5281/zenodo.2536599>

Manifold Scholarship

"Manifold is a collaborative, web-based scholarly publishing system designed by the University of Minnesota Press and the CUNY Graduate Center. Manifold provides a dynamic approach to publishing book-length works capable of gathering commentary, annotation, and revisions within the publication. Built to publish long-form digital monographs, Manifold is also used in service of open educational resources, journals, and collaborative scholarly projects. It is currently used by twenty-eight publishers, including the University of Minnesota Press, the City University of New York, and the University of Arizona Press, as well as digital humanities centers and teaching and learning centers." (mtg)

Website: <https://manifoldapp.org>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/kksiqfts?readingCollection=2e2f6c3f>
2. Danielle M. Kasprzak and Terence Smyre, "Forerunners and Manifold: A Case Study in Iterative Publishing," *Journal of Scholarly Publishing* 48(2):90–98, January 2017, <https://muse.jhu.edu/article/646365>

3. Carl Straumsheim, "Manifold Uses," *Inside Higher Ed*, April 7, 2017, <https://www.insidehighered.com/news/2017/04/07/hybrid-publishing-platform-manifold-enters-public-beta-phase>
4. Gary Price, "MANIFOLD 1.0: "An Open-Source Platform to Publish and Read Networked, Interactive, Media-Rich Books Online" Officially Launches," *InfoDocket/Library Journal*, March 30, 2018, <https://www.infodocket.com/2018/03/30/manifold-1-0-an-open-source-platform-to-publish-and-read-networked-interactive-media-rich-books-online-officially-launches/>

Manubot

"Manubot is a workflow and set of tools for the next generation of scholarly publishing. Write your manuscript in markdown [markup language] track it with git, automatically convert it to .html, .pdf, or .docx, and deploy it to your destination of choice." (ws)

Website: <https://manubot.org>

1. Jeffrey Perkel, "TechBlog: Manubot Powers a Crowdsourced 'Deep-Learning' Review," *Naturejobs* [Blog], February 20, 2018, <http://blogs.nature.com/naturejobs/2018/02/20/techblog-manubot-powers-a-crowdsourced-deep-learning-review/>
2. Daniel S. Himmelstein, Vincent Rubineti, David R. Slochower, Dongbo Hu, Venkat S. Malladi, Casey S. Greene, and Anthony Gitter, "Open collaborative writing with Manubot," *PLOS Computational Biology* 15(6): e1007128, June 2019, DOI: <http://doi.org/10.1371/journal.pcbi.1007128>

MathJax

"MathJax is a JavaScript display engine for mathematics typesetting that works in web browsers. It provides support for LaTeX, MathML, and AsciiMath in the web based interface." (mtg)

Author's note: The MathJax project is managed by the American Mathematical Society.

Website: <https://www.mathjax.org/>

1. <https://en.wikipedia.org/wiki/MathJax>
2. Mind the Gap: <https://mindthegap.pubpub.org/pub/ltv3k8tb?readingCollection=2e2f6c3f>
3. Murray Bourne, "KaTeX and MathJax Comparison Demo," *Interactive Mathematics* [Blog], July 9, 2019, <https://www.intmath.com/cg5/katex-mathjax-comparison.php>

MDPI (organization)

Products: JAMS (Journal & Article Management System), SciForum

“MDPI is one of the leading scholarly open access Publishers. It was founded by researchers in Basel, Switzerland in 1996 as an institute to collect, preserve and redistribute rare chemical samples for research purposes... In 2010 MDPI AG was formally registered in Basel as a professional publishing house... Authors retain the copyright of their papers, and all papers are released under the Creative Commons by Attribution (CC-BY) license, thus allowing maximum dissemination and re-use of the research reported in our journals.” (<https://www.mdpi.com/librarians#overview>)

Website: <https://www.mdpi.com>

1. <https://en.wikipedia.org/wiki/MDPI>

Mendeley

Product of Elsevier

“Mendeley is a company based in London, UK, which provides products and services for academic researchers. It is most known for its reference manager which is used to manage and share research papers and generate Bibliographies for scholarly articles.” (wiki)

Website: <https://www.mendeley.com/>

1. <https://en.wikipedia.org/wiki/Mendeley>
2. “Company Overview of Mendeley Ltd.,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=53343626>
3. Holt Zaugg, Richard E. West, Isaku Tateishi, Daniel L. Randall, “Mendeley: Creating Communities of Scholarly Inquiry Through Research Collaboration,” *TechTrends* 55(1):32–36, January 2011, DOI: <https://doi.org/10.1007/s11528-011-0467-y>
4. Don MacMillan, “Mendeley: Teaching Scholarly Communication and Collaboration Through Social Networking,” *Library Management* 33(8/9):561–569, 2012, DOI: <https://doi.org/10.1108/01435121211279902>
5. Xuemei Li and Mike Thelwall, “F1000, Mendeley and Traditional Bibliometric Indicators,” Proceedings of the 17th International Conference on Science and Technology Indicators, 2012, <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.363.3171>
6. Ingrid Lunden, “Confirmed: Elsevier Has Bought Mendeley for \$69M-\$100M to Expand Its Open, Social Education Data Efforts,” *TechCrunch*, April 8, 2013, <https://techcrunch.com/2013/04/08/confirmed-elsevier-has-bought-mendeley-for-69m-100m-to-expand-open-social-education-data-efforts/>
7. David Dobbs, “When the Rebel Alliance Sells Out,” *New Yorker*, April 12, 2013, <https://www.newyorker.com/tech/annals-of-technology/when-the-rebel-alliance-sells-out>
8. Wei Jeng, Daqing He, and Jiepu Jiang, “User Participation in an Academic Social Networking Service: A Survey of Open Group Users on Mendeley,” *Journal of the Association for Information Science and Technology* 66(5):890–904, June 2014, DOI: <https://doi.org/10.1002/asi.23225>
9. Richard Van Noorden, “Online Collaboration: Scientists and the Social Network,” *Nature* 512:126–129, August 15, 2014, DOI: <https://doi.org/10.1038/512126a>
10. Stefanie Haustein, Vincent Larivière, Mike Thelwall, Didier Amyot, and Isabella Peters, “Tweets vs. Mendeley readers: How do these two social media metrics differ?” *it - Information Technology* 56(5):207–215, September 2014, DOI: <https://doi.org/10.1515/itit-2014-1048>

11. Camille Ivey and Janet Crum, "Choosing the Right Citation Management Tool: Endnote, Mendeley, Refworks, or Zotero," *Journal of the Medical Library Association* 106(3):399–403, July 2018, DOI: <https://doi.org/10.5195/JMLA.2018.468>

Meta Science

Program of the Chan Zuckerberg Initiative

"Meta includes coverage of the biomedical sciences with real-time updates from PubMed and other sources. The website provides access to over 22 million papers with publication dates as early as the 1800s. By sifting through papers and learning from user behavior, the service pinpoints key pieces of research and provides relevant search results. Meta also provides visualizations about a field of research by organizing papers by their date of publication and citation count and then presenting the information in a way that allows users to quickly identify key historical papers." (wiki)

Author's note: The company was acquired by the Chan Zuckerberg Initiative in 2017.

Website: <https://meta.org>

1. [https://en.wikipedia.org/wiki/Meta_\(academic_company\)](https://en.wikipedia.org/wiki/Meta_(academic_company))
2. Carl Staumsheim, "Predictive Analytics for Publishing," *Inside Higher Ed*, May 10, 2016, <https://www.insidehighered.com/news/2016/05/10/start-sees-data-analytics-information-overload-cure-researchers-publishers>
3. Josh Constine, "Chan Zuckerberg Initiative Acquires and Will Free Up Science Search Engine Meta," *TechCrunch*, January 23, 2017, <https://techcrunch.com/2017/01/23/chan-zuckerberg-initiative-meta/>
4. Liat Clark, "Why the Chan Zuckerberg Initiative is Buying AI Search Tool Meta," *Wired*, January 24, 2017, <https://www.wired.co.uk/article/chan-zuckerberg-initiative-buys-ai-scientific-search-tool-meta>

MetaArchive Cooperative

Program hosted by Educopia Institute

"The MetaArchive Cooperative is an international digital preservation network composed of libraries, archives, and other memory institutions. As of August 2011, the MetaArchive preservation network is composed of 24 secure servers (referred to as "caches") in four countries with a collective capacity of over 300TB. Forty-eight institutions are actively preserving their digital collections in the network. The MetaArchive Cooperative preserves a wide variety of data types and many genres of content, including electronic theses and dissertations, digital newspapers, archival content such as photograph collections and A/V materials, business/e-records, and datasets." (wiki)

Website: <https://metaarchive.org>

1. https://en.wikipedia.org/wiki/MetaArchive_Cooperative
2. Katherine Skinner and Martin Halbert, "MetaArchive: A Cooperative Approach to Distributed Digital Preservation," *Against the Grain* 21(1):36–42, February 2009,

<https://web.archive.org/web/20110504040607/http://www.against-the-grain.com/d/TOCIssue?&volsearch=21&issuesearch=1>

3. Tyler O. Walters and Katherine Skinner, "Economics, Sustainability, and the Cooperative Model in Digital Preservation," *Library Hi Tech* 28(2):259–272, 2010, <https://doi.org/10.1108/07378831011047668>

Microsoft Academic

"Microsoft Academic is a free public web search engine for academic publications and literature, developed by Microsoft Research. Re-launched in 2016, the tool features an entirely new data structure and search engine using semantic search technologies. It currently indexes over 220 million publications, 88 million of which are journal articles." (wiki)

Website: <https://academic.microsoft.com/home>

1. https://en.wikipedia.org/wiki/Microsoft_Academic
2. Richard Van Noorden, "The Decline and Fall of Microsoft Academic Search," *Nature News Blog*, May 20, 2014, <http://blogs.nature.com/news/2014/05/the-decline-and-fall-of-microsoft-academic-search.html>
3. Anne-Wil Harzing, "Microsoft Academic (Search): A Phoenix Arisen from the Ashes?" *Scientometrics* 108(23):1637–1647, September 2016, DOI: <https://doi.org/10.1007/s11192-016-2026-y>
4. Anne-Wil Harzing and Satu Alakangas, "Microsoft Academic: Is the Phoenix Getting Wings?" *Scientometrics* 110(1):371–383, January 2017, DOI: <https://doi.org/10.1007/s11192-016-2185-x>
5. Anne-Wil Harzing and Satu Alakangas, "Microsoft Academic is One Year Old: The Phoenix is Ready to Leave the Nest," *Scientometrics*, 112(3):1887–1894, September 2017, DOI: <https://doi.org/10.1007/s11192-017-2454-3>

Mirador

"Mirador is a configurable, extensible, and easy-to-integrate image viewer, which enables image annotation and comparison of images from repositories dispersed around the world. Mirador has been optimized to display resources from repositories that support the International Image Interoperability Framework (IIIF) API's. It provides a tiling windowed environment for comparing multiple image-based resources, synchronized structural and visual navigation of content using OpenSeadragon, Open Annotation complaint annotation creation and viewing on deep-zoomable canvases, metadata display, book reading, bookmarking and more." (ws)

Website: <https://projectmirador.org>

1. Jeffrey P. Emanuel, Christopher M. Morse, and Luke Hollis, "The New Interactive: Reimagining Visual Collections as Immersive Environments," *Visual Resources Association Bulletin* 43(2), December 2016, <https://online.vraweb.org/index.php/vrab/article/view/52>

Morressier

“Morressier (www.morressier.com) is the home for early stage research published in the form of conference posters, presentations and abstracts, along with datasets, videos and negative results. Inspired by the vital exchange happening at academic conferences round the world, the platform creates a digital place where science is discovered, disseminated and elevated – and where new signals in research first come to light. It is a unique opportunity for universities to showcase their pre-published content, especially that written by early-career researchers, in an Open Access environment at very attractive cost.” (<https://www.knowledgeunlatched.org/morressier/>)

Website: <https://www.morressier.com>

1. “Morressier GmbH,” Bloomberg, <https://www.bloomberg.com/profile/company/1556158D:GR>
2. John Biggs, “Morressier Makes it Easy to Share Early Research,” *TechCrunch*, December 19, 2018, <https://techcrunch.com/2018/12/19/morressier-makes-it-easy-to-share-early-research/>
3. Alice Meadows, “Sharing and Recognizing Early Stage Research: An Interview with Sami Benchekroun of Morressier,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, December 19, 2018, <https://scholarlykitchen.sspnet.org/2018/12/19/sharing-and-recognizing-early-stage-research-an-interview-with-sami-benchekroun-of-morressier/>

Mukurtu

“Mukurtu is a content management system developed by Washington State University to serve as a repository for Indigenous communities to manage, share, and exchange their digital heritage in culturally relevant and ethically minded ways. Mukurtu has innovated significantly in developing access-oriented metadata that goes beyond typical OA ideals to support fine-grained Traditional Knowledge access protocols.” (mtg)

Website: <http://mukurtu.org/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/kajt7jsu?readingCollection=2e2f6c3f>
2. Michael Shepard, “Review of Mukurtu Content Management System,” *Language Documentation & Conservation* 8:315–325, 2014, <https://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/24610/shepard.pdf>
3. Kimberly Christen, Alex Merrill, and Michael Wynne, “A Community of Relations: Mukurtu Hubs and Spokes,” *D-Lib Magazine* 23(5/6), May/June 2017, DOI: <https://doi.org/10.1045/may2017-christen>
4. “Mukurtu CMS: An Indigenous Archive and Publishing Tool,” *Humanities for All*, 2019, <https://humanitiesforall.org/projects/mukurtu-an-indigenous-archive-and-publishing-tool>
5. Nina Maile Gordon and Sunanda Creagh, “Mukurtu: An Online Dilly Bag for Keeping Indigenous Digital Archives Safe,” *The Conversation* [Blog], April 15, 2019, <https://theconversation.com/mukurtu-an-online-dilly-bag-for-keeping-indigenous-digital-archives-safe-112949>

6. Shiraz Dindar, "Getting Started with Mukurtu CMS," *Kanopi Studios Blog*, July 10, 2019, <https://www.kanopistudios.com/blog/mukurtu-cms-designed-in-partnership-with-indigenous-people-to-preserve-cultural-heritage/>

OA Switchboard

"The OA Switchboard initiative is a collaboration between funders, institutions and publishers to facilitate the fulfilment of open access strategies across business models, policies and agreements. When operational, the OA Switchboard will be a central hub connecting systems and improving open access-related article-level information exchange between authors, publishers, funders and institutions." (<https://www.oaswitchboard.org>) Project of the Open Access Scholarly Publishers Association (OASPA). In development.

Website: <https://www.oaswitchboard.org>

OAIster

Program of OCLC

"OAIster is an online combined bibliographic catalog of open access material aggregated using OAI-PMH. It began at the University of Michigan in 2002 funded by a grant from the Andrew W. Mellon Foundation and with the purpose of establishing a retrieval service for publicly available digital library resources provided by the research library community. During its tenure at the University of Michigan, OAIster grew to become one of the largest aggregations of records pointing to open access collections in the world. In 2009, OCLC formed a partnership with the University of Michigan to provide continued access to open access collections aggregated in OAIster. Since OCLC began managing OAIster, it has grown to include over 30 million records contributed by over 1,500 organizations. OCLC is evolving OAIster to a model of self-service contribution for all open access digital repositories to ensure the long-term sustainability of this rich collection of open access materials. OAIster data is harvested from Open Archives Initiative (OAI)-compliant digital libraries, institutional repositories, and online journals the self-service WorldCat Digital Collection Gateway." (wiki)

Website: <https://www.oclc.org/en/oaister.html>

1. <https://en.wikipedia.org/wiki/OAIster>
2. Kat Hagedorn, "OAIster: A "No Dead Ends" OAI Service Provider," *Library Hi Tech* 21(2):170–181, June 2003, <https://doi.org/10.1108/07378830310479811>
3. Roy Tennant, "The Straight Dope on OAIster," *Hanging Together* [the OCLC Research blog], September 21, 2009, <https://hangingtogether.org/?p=738>
4. Peake, Michael, "Open Archives Initiative Protocol for Metadata Harvesting, Dublin Core and Accessibility in the OAIster Repository," *Library Philosophy and Practice* 892, Winter 2012, <http://digitalcommons.unl.edu/libphilprac/892>
5. David J. Gaines and Jody Condit Fagan, "OAIster on EBSCO Discovery Service, FirstSearch, and OAIster.worldcat.org," *Charleston Advisor* 16(4):5–12, April 2015, DOI: <https://doi.org/10.5260/chara.16.4.5>,

<https://commons.lib.jmu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1059&context=letfspubs>

OCLC (organization)

Programs: CONTENTdm, OAlster, Virtual International Authority File (VIAF), WorldCat

“OCLC Online Computer Library Center, Incorporated is an American nonprofit cooperative organization ‘dedicated to the public purposes of furthering access to the world’s information and reducing information costs’. It was founded in 1967 as the Ohio College Library Center. OCLC and its member libraries cooperatively produce and maintain WorldCat, the largest online public access catalog (OPAC) in the world. OCLC is funded mainly by the fees that libraries have to pay for its services (around \$200 million annually as of 2016). OCLC also maintains the Dewey Decimal Classification system.” (wiki)

Website: <https://www.oclc.org/en/home.html>

1. <https://en.wikipedia.org/wiki/OCLC>

Omeka

“Omeka is a free, open-source content management system for online digital collections. As a web application, it allows users to publish and exhibit cultural heritage objects, and extend its functionality with themes and plugins. A lightweight solution. In comparison to traditional institutional repository software like DSpace and Fedora, Omeka has a focus on display and uses an unqualified Dublin Core metadata standard.” (wiki)

Website: <https://omeka.org>

1. <https://en.wikipedia.org/wiki/Omeka>
2. Mind the Gap: <https://mindthegap.pubpub.org/pub/02hnru2f?readingCollection=2e2f6c3f>
3. Tom Scheinfeldt, “Omeka: Open Source Web Publishing for Research, Collections and Exhibitions,” *Open Source Business Resource*, December 2008, <http://timreview.ca/article/211>
4. Jason Kucsma, Kevin Reiss, and Angela Sidman, “Using Omeka to Build Digital Collections: The METRO Case Study,” *D-Lib Magazine* 16(3/4), March/April 2010, DOI: 10.1045/march2010-kucsma, <http://webdoc.sub.gwdg.de/edoc/aw/d-lib/dlib/march10/kucsma/03kucsma.html>
5. Juliet L. Hardesty, “Exhibiting Library Collections Online: Omeka in Context,” *New Library World* 115(3/4):75–86, 2014, DOI: <https://doi.org/10.1108/NLW-01-2014-0013>
6. Haley Antell, Joe Corall, Virginia Dressler, and Cara Gilgenbach, “Extending Omeka for a Large-Scale Digital Project,” *Code4lib Journal* 37, July 2017, <https://journal.code4lib.org/articles/12529>

Open Access Button

“The Open Access Button is a browser bookmarklet which registers when people hit a paywall to an academic article and cannot access it. It attempts to locate a free legal copy of the item being sought. It is supported by Medsin UK and the Right to Research Coalition.” (wiki)

Website: <https://openaccessbutton.org>

1. https://en.wikipedia.org/wiki/Open_Access_Button
2. David Carroll and Joseph McArthur, “The Open Access Button: It’s Time We Capture Individual Moments of Paywall Injustice and Turn Them into Positive Change,” *LSE Impact Blog*, September 2013, <https://blogs.lse.ac.uk/impactofsocialsciences/2013/09/02/the-open-access-button-carroll-mcarthur/>
3. Stephen Curry, “Push Button for Open Access,” *Guardian*, November 18, 2013, <https://www.theguardian.com/science/2013/nov/18/open-access-button-push>
4. Tania Browne, “Let’s Shine a Light on Paywalls That Deny Open Access To Scientific Research,” *Guardian*, April 29, 2014, <https://www.theguardian.com/science/blog/2014/apr/29/paywalls-open-access-button-scientific-research>

Open Access Helper

“There are more than 23 million Open Access versions of otherwise “paywalled” scientific articles. Open Access Helper for iOS and Open Access Helper for Safari (macOS) are designed to help you get easy access to these articles, with a lot of help from the awesome APIs from unpaywall.org and core.ac.uk.” (ws)

Website: <https://www.oahelper.org>

1. Are You an iOS User? Access Scientific Articles in Your Device Without Hitting a Paywall [interview with Claus Wolf],” *CORE Blog*, February 11, 2020, <https://blog.core.ac.uk/2020/02/11/are-you-an-ios-user-access-scientific-articles-in-your-device-without-hitting-a-paywall/>

Open Access Publishing in European Networks (OAPEN)

“OAPEN promotes and supports the transition to open access for academic books by providing open infrastructure services to stakeholders in scholarly communication. We work with publishers to build a quality-controlled collection of open access books and provide services for publishers, libraries, and research funders in the areas of hosting, deposit, quality assurance, dissemination, and digital preservation.” (ws)

Website: <https://oapen.org>

1. Phil Davis, "OAPEN — Open Access Book Experiment in Humanities, Social Sciences," *Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 27, 2010, <https://scholarlykitchen.sspnet.org/2010/10/27/oapen/>
2. Ronald Snijder, "A Higher Impact for Open Access Monographs: Disseminating Through OAPEN and DOAB at AUP," *Insights* 26(1): 55–59, 2013, DOI: <http://doi.org/10.1629/2048-7754.26.1.55>

Open Humans

"Open Humans is dedicated to empowering individuals and communities around their personal data, to explore and share for the purposes of education, health, and research. We want to help people access and understand their personal data, and to help them do and share things that use that data. For individuals, we have community support for self-research, tools for personal data access, and data analysis notebooks you can run in your browser. For communities, we make it easy to choose to share your data with group studies and activities. We provide the same features to researchers and citizen scientists alike: all members can adapt and share new data analysis notebooks, as well as create new group activities & tools for data import." (ws)

Website: <https://www.openhumans.org/about/>

1. Laura Lorenzetti, "'Open Humans' Platform Wants to Democratize Your DNA for Better Medical Research," *Fortune*, March 24, 2015, <http://fortune.com/2015/03/24/open-humans-platform-dna/>
2. Aaron Krol, "Open Humans Aims to Be the Social Network for Science Volunteerism," *Bio IT World*, April 9, 2015, <http://www.bio-itworld.com/2015/4/9/open-humans-aims-social-network-science-volunteerism.html>
3. Bastian Greshake Tzovaras, Misha Angrist, Kevin Arvai, Mairi Dulaney, Vero Estrada-Galiñanes, Beau Gunderson, Tim Head, Dana Lewis, Oded Nov, Orit Shaer, Athina Tzovara, Jason Bobe, and Mad Price Ball, "Open Humans: A Platform for Participant-Centered Research and Personal Data Exploration," *bioRxiv*, November 14, 2018, DOI: <https://doi.org/10.1101/469189>

Open Journal Systems (OJS)

Program of the Public Knowledge Project (PKP)

"Open Journal Systems (OJS) is an open-source software for the management of peer-reviewed academic journals, and is created by the Public Knowledge Project released under the GNU General Public License." (wiki)

"Open Journal Systems (OJS) is the world's most widely used open-source journal management and publishing system. Developed by the Public Knowledge Project (PKP), OJS can be downloaded and installed locally but is also commonly hosted by library or institutional IT services. OJS manages workflow for the entire refereed publishing process, providing a common model for the operational processes of a peer-reviewed journal. Through the PKP, OJS also connects with myriad indexing, identification, discoverability, and preservation services." (mtg)

Website: <https://pkp.sfu.ca/ojs/>

1. https://en.wikipedia.org/wiki/Open_Journal_Systems
2. Mind the Gap: <https://mindthegap.pubpub.org/pub/v4e5tspp?readingCollection=2e2f6c3f>
3. John Willinsky, "Open Journal Systems: An Example of Open Source Software for Journal Management and Publishing," *Library Hi Tech* 23(4):504–519, 2005, DOI: <https://doi.org/10.1108/07378830510636300>
4. Brian D. Edgar and John Willinsky, "A Survey of the Scholarly Journals Using Open Journal Systems," *Scholarly and Research Communication* 1(2), 2010, <https://src-online.ca/index.php/src/article/view/24/40>
5. Brian Owen and Kevin Stranack, "The Public Knowledge and Open Journal Systems: Open Source Options for Small Publishers," *Learned Publishing* 25: 138–144, April 2012, DOI: 10.1087/20120208, <https://onlinelibrary.wiley.com/doi/pdf/10.1087/20120208>

Open Knowledge Maps

"Our Goal is to revolutionize discovery of scientific knowledge. We are building a visual interface that dramatically increases the visibility of research findings for science and society alike. We are a non-profit organization and we believe that a better way to explore and discover scientific knowledge will benefit us all." (ws)

Website: <https://openknowledgemaps.org>

1. Peter Kraker, Christopher Kittel, and Asura Enkhbayar, "Open Knowledge Maps: Creating a Visual Interface to the World's Scientific Knowledge Based on Natural Language Processing," *Zeitschrift für Bibliothekskultur / Journal for Library Culture* 4(2), 2016, DOI: <http://dx.doi.org/10.12685/027.7-4-2-157>
2. "Open Science, All the Way: Open Knowledge Maps," ZBW Mediatalk, July 18, 2017, <https://www.zbw-mediatalk.eu/2017/07/open-science-ohne-kompromisse-open-knowledge-maps/>

Open Monograph Press

Program of the Public Knowledge Project (PKP)

"Open Monograph Press (OMP) is a book-oriented workflow manager and online publishing platform. Developed by the Public Knowledge Project, it shares its codebase with Open Journal Systems. OMP can handle monographs and edited volumes with multiple authors, as well as manage author submissions, editor assignments, reviewers, indexers, and others in book production. OMP is one of very few open-source tools that produce the trade-industry standard ONIX metadata. Its public-facing side can feature thumbnail covers in a catalog view, as well as Spotlight marketing features." (mtg)

Website: <https://pkp.sfu.ca/omp/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/ixumpro4?readingCollection=2e2f6c3f>

2. John Willinsky, "Toward the Design of an Open Monograph Press," *The Journal of Electronic Publishing* 12(1): February 2009, DOI: <http://dx.doi.org/10.3998/3336451.0012.103>

Open Research Library

Program of Knowledge Unlatched

"The Open Research Library (ORL) is planned to include all Open Access book content worldwide on one platform for user-friendly discovery, offering a seamless experience navigating more than 20,000 Open Access books. This vital infrastructure is slated to comprise the most comprehensive collection of peer-reviewed Open Access books accessible for everyone. Libraries investing in the Open Research Library contribute to the development of a dedicated infrastructure for the global research community, while participating libraries have the opportunity to benefit from a set of exclusive services." (ws)

Website: <http://www.knowledgeunlatched.org/openresearchlibrary/>

1. Porter Anderson, "Sven Fund on Knowledge Unlatched's New Open Research Library," *Publishing Perspectives*, May 16, 2019, <https://publishingperspectives.com/2019/05/sven-fund-knowledge-unlatched-open-research-library-open-access-2019/>
2. "Knowledge Unlatched and Partners Launch Open Research Library," *Lyrasis Now* [Blog], May 17, 2019, <https://lyrasisnow.org/knowledge-unlatched-and-partners-launch-open-research-library/>
3. Lucy Barnes and Rupert Gatti, "Open Book Publishers' statement on Knowledge Unlatched and the Open Research Library," *Open Book Publishers Blog*, May 21, 2019, <http://blogs.openbookpublishers.com/open-book-publishers-statement-on-knowledge-unlatched-and-the-open-research-library/>
4. Elisabeth Ernst, "In Support of Open Infrastructures: A Statement from OPERAS in Response to the 'Open Research Library', a New Initiative from Knowledge Unlatched," *OPERAS Blog*, May 20, 2019, <https://operas.hypotheses.org/2658>
5. Marcel Knöchelmann, "The Open Research Library: Centralisation with Openness," *LSE Impact Blog*, May 31, 2019, <https://blogs.lse.ac.uk/impactofsocialsciences/2019/05/31/the-open-research-library-centralisation-without-openness/>
6. Joseph Esposito, "Internal Contradictions with Open Access Books," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, June 4, 2019, <https://scholarlykitchen.sspnet.org/2019/06/04/internal-contradictions-with-open-access-books/>

Open Science Framework

Program of the Center for Open Science

"The Open Science Framework (OSF) is an open source software project that facilitates open collaboration in science research. This framework was used to work on a project on the reproducibility of psychology research. The current reproducibility project is a crowdsourced empirical investigation of the reproducibility of a variety of studies from psychological literature." (wiki)

Website: <https://osf.io>

1. https://en.wikipedia.org/wiki/Center_for_Open_Science
2. Erin D. Foster and Ariel Deardorff, "Open Science Framework (OSF)," *Journal of the Medical Library Association* 105(2):203–206, April 2017, DOI: [10.5195/jmla.2017.88](https://doi.org/10.5195/jmla.2017.88)
3. Megan Potterbusch and Gaetano Lotrecchiano, "Shifting Paradigms in Information Flow: An Open Science Framework (OSF) for Knowledge Sharing Teams," *Informing Science: the International Journal of an Emerging Transdiscipline* 21, 2018, <http://www.inform.nu/Articles/Vol21/ISJv21p179-199Potterbusch4090.pdf>
4. Ian Sullivan, Alexander DeHaven, and David Mellor, "Open and Reproducible Research on Open Science Framework," *Current Protocols* 18(1):e32, June 2019, DOI: <https://doi.org/10.1002/cpet.32>

Open Typesetting Stack

Program of Public Knowledge Project

"Open Typesetting Stack (OTS) is an article conversion/ingest service developed by the Public Knowledge Project to convert word-processor and PDF versions of articles into JATS XML for publication. OTS integrates a host of other parsing and conversion tools (including the machine-learning tool Grobid) and external services to provide the most accurate possible XML without additional user input. This service—and its OJS plugin integration—is intended to decrease the labour involved in production, and to facilitate the creation of archive-friendly and web-native article formats. OTS is in maintenance mode as of this writing." (mtg) May no longer be in production.

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/s9oylag6?readingCollection=2e2f6c3f>
2. Alex Garnett, Juan Pablo Alperin, and John Willinsky, "The Public Knowledge Project XML Publishing Service and meTypeset: Don't Call It 'Yet Another Word-to-JATS Conversion Kit'," in: *Journal Article Tag Suite Conference (JATS-Con) Proceedings* Bethesda (MD): National Center for Biotechnology Information, 2015, <https://www.ncbi.nlm.nih.gov/books/NBK279666/>

OpenAIRE (organization)

Programs: OpenAIRE Broker, OpenAIRE Content Provider Dashboard, OpenAIRE Explore Portal, OpenAIRE Mining Service, OpenAIRE ScholeXplorer, OpenAIRE Usage Statistics, Zenodo

"OpenAIRE's mission is closely linked to the mission of the European Commission: to provide unlimited, barrier free, open access to research outputs financed by public funding in Europe. OpenAIRE fulfills the EOSC vision substantially, as its operations already provide the glue for many of the user and research driven functionalities, whether these come from the long tail of science (repositories and local support) or domain disciplined research communities or Research Infrastructures." (ws)

Website: <https://www.openaire.eu>

1. Paolo Manghi, Natalia Manola, Wolfram Horstmann, and Dale Peters, "An Infrastructure for Managing EC Funded Research Output - The OpenAIRE Project," *The Grey Journal (TGJ): An International Journal on Grey Literature* 6(1):31–40, 2010, <https://pub.uni-bielefeld.de/record/1972842>
2. Najla Rettberg and Birgit Schmidt, "OpenAIRE — Building a Collaborative Open Access Infrastructure for European Researchers," *Liber Quarterly* 22(3):160–175, 2012, <https://goedoc.uni-goettingen.de/handle/1/8424>
3. Nikos Houssos, Brigitte Jorg, Jan Dvorak, Pedro Principe, Eloy Rodrigues, Paolo Manghi and Mikael K. Elbaek, "OpenAIRE Guidelines: supporting interoperability for Literature Repositories, Data Archives and CRIS," *Procedia Computer Science* 33:33–38, 2014, DOI: <https://doi.org/10.1016/j.procs.2014.06.006>
4. Najla Rettberg and Birgit Schmidt, "OpenAIRE: Supporting a European Open Access Mandate," *College & Research Libraries News* 76(6):306–310, June 2015, DOI: <https://doi.org/10.5860/crln.76.6.9326>
5. Giorgos Alexiou, Sahar Vahdati, Christoph Lange, George Papastefanatos, Steffen Lohmann, "OpenAIRE LOD Services: Scholarly Communication Data as Linked Data," in González-Beltrán A., Osborne F., Peroni S. (eds) *Semantics, Analytics, Visualization. Enhancing Scholarly Data. SAVE-SD 2016, Lecture Notes in Computer Science*, vol. 9792. https://link.springer.com/chapter/10.1007/978-3-319-53637-8_6

OpenAIRE Broker

Program of OpenAIRE

"Content providers can use the OpenAIRE Broker Service via the OpenAIRE Content Provider Dashboard. Thanks to the Broker, repositories, publishers or aggregators can exchange metadata and enrich their local metadata collection by subscribing to notifications of different types. The Broker is able to notify providers when the OpenAIRE Graph contains information that is not available in the original collection of the provider." (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_broker

1. Michele Artini, Claudio Atzori, Alessia Bardi, Sandro La Bruzzo, Paolo Manghi and Andrea Mannocci, "The OpenAIRE Literature Broker Service for Institutional Repositories," *D-Lib Magazine* 21(11/12), November/December 2015, DOI: <https://doi.org/10.1045/november2015-artini>

OpenAIRE Content Provider Dashboard

Program of OpenAIRE

"The OpenAIRE Content Provider Dashboard is a one-stop-shop web service where data providers (repository, data archive, journal, aggregator, CRIS system) interact with OpenAIRE. It provides the front-end access to many of OpenAIRE's backend services." (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_data_provider_dashboard

OpenAIRE Explore Portal

Program of OpenAIRE

“The OpenAIRE Discovery portal provides access to Open Access research content. It is based on OpenAIRE’s open scholarly communication graph that includes all research and scholarly activities, spanning all phases of the research life cycle. The OpenAIRE scholarly communication graph is created bi-monthly by aggregating, cleaning, transforming and inferring content retrieved from OpenAIRE’s European and global network of validated OA data providers. In addition to the usual search and browse mechanisms, the OpenAIRE Discovery portal provides end user functionalities which allow users to: find the most fitting repository to deposit their publication or data, authoritatively enrich the underlying content (e.g., linking research results to funding, linking research results to external sources), view and download reports or graphs of aggregated research outcomes (e.g., per funder, project, institution) and their stats.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_discovery_portal

OpenAIRE Mining Service

Program of OpenAIRE

“This service performs text mining (entity resolution) on the metadata and the fulltext of publications and extracts information on:

- links to projects/grants and funders;
- data citations or links to scientific database entries (e.g. links to entries in PDB - Protein Data Bank);
- document classification according to several taxonomies;
- software citations;
- author affiliations;
- references;
- document similarity.

The service is a standalone service that is also used to enrich the OpenAIRE Graph and results are presented in the OpenAIRE discovery portal.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_inference

OpenAIRE ScholeXplorer

Program of OpenAIRE

“ScholeXplorer populates and provides access to a graph of relationships between datasets and literature, and between datasets and datasets. Objects and relationships are provided by data sources managed by publishers (e.g. CrossRef), data centers (e.g. DataCite and non-DataCite data archives),

repositories (e.g. OpenAIRE itself and similars). The service aggregates links expressed in Scholix format and offers programmatic access (APIs) that allow third-party services to run queries/provision of the links in the graph. Among known consumers the service API accounts for Science Direct, Scopus, and several data repositories.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_scholexplorer

OpenAIRE Usage Statistics

Program of OpenAIRE

“OpenAIRE’s Usage Statistics Service contributes towards impact evaluation of usage activity in Open Access Repositories. Managers of OpenAIRE compliant repositories can enable the service via the OpenAIRE Content Provider Dashboard. Once enabled, the service collects and analyzes usage data from the repository and exploits usage metrics like downloads and metadata views. Counters about the usage of a repository and its individual items are available in the relative detail page on the OpenAIRE Discovery Portal. Taking advantage of OpenAIRE’s Graph service de-duplication mechanism, the service aggregates/merges usage statistics that come from different repositories and relate to the same object. OpenAIRE’s Usage Statistics service uses the Matomo Open Source Analytics platform (matomo.org) to track usage activity. Statistics are generated using the COUNTER Code of practice directives and reports can be collected from SUSHI-Lite compatible endpoints.” (ws)

Website: http://catalogue.openaire.eu/service/openaire.openaire_usage_statistics

OpenCitations (organization)

“OpenCitations is an independent infrastructure organization for open scholarship dedicated to the publication of open bibliographic and citation data by the use of Semantic Web (Linked Data) technologies. It is also engaged in advocacy for open citations, particularly in its role as a key founding member of the Initiative for Open Citations (I4OC). For administrative convenience, OpenCitations is managed by the separate newly formed Research Centre for Open Scholarly Metadata at the University of Bologna. OpenCitations espouses fully the founding principles of Open Science. It complies with the FAIR data principles by Force 11 that data should be findable, accessible, interoperable and re-usable, and it complies with the recommendations of I4OC that citation data in particular should be structured, separable, and open. On the latter topic, OpenCitations has recently published a formal definition of an Open Citation, and has launched a system for globally unique and persistent identifiers (PIDs) for bibliographic citations – Open Citation Identifiers (OCIs).” (ws)

Website: <http://opencitations.net>

1. <https://en.wikipedia.org/wiki/OpenCitations>
2. Anna Małgorzata Kamińska, “The OpenCitations Corpus: An Open Citations Database for Scientific Publications,” Zenodo, December 6, 2017, DOI: <https://doi.org/10.5281/zenodo.1095661>

3. Ivan Heibi, Silvio Peroni, and David Shotton, "COCI, the OpenCitations Index of Crossref Open DOI-to-DOI Citations," ArXiv, June 2019, [arXiv:1904.06052](https://arxiv.org/abs/1904.06052)
4. Yongjun Zhu, Erjia Yan, Silvio Peroni, and Chao Che, "Nine Million Books and Eleven Million Citations: A Study of Book-Based Scholarly Communication Using OpenCitations," ArXiv, June 14, 2019, <https://arxiv.org/abs/1906.06039>
5. Ivan Heibi, Silvio Peroni, and David Shotton, "Software Review: COCI, the OpenCitations Index of Crossref Open DOI-to-DOI Citations," *Scientometrics* 121(2):1213–1228, November 2019, DOI: <https://doi.org/10.1007/s11192-019-03217-6>

OpenDOAR Directory of Open Access Repositories

"OpenDOAR: Directory of Open Access Repositories is a UK-based website that lists academic open access repositories. It is searchable by locale, content and other measures. The service does not require complete repository details and does not search repositories' metadata. OpenDOAR is maintained by the University of Nottingham under the SHERPA umbrella of services and was developed in collaboration with Lund University." (wiki)

Website: <http://v2.sherpa.ac.uk/opendoar/>

1. <https://en.wikipedia.org/wiki/OpenDOAR>
2. Heather Lea Moulaison, Felicity Dykas, and Kristen Gallant, "OpenDOAR Repositories and Metadata Practices," *D-Lib Magazine* 21(3/4), March/April 2015, DOI: <https://doi.org/10.1045/march2015-moulaison>

OpenEdition

Program of Centre pour l'Édition Électronique Ouverte

"OpenEdition is a comprehensive electronic infrastructure for academic communication in the humanities and social sciences. It combines four platforms dedicated to books, journals, research blogs, and academic announcements respectively. With their majority of Open Access content, the four platforms have received 64 million visits in 2018. Complimentary services are offered via libraries and subscribing institutions." (<https://www.openedition.org/10918>)

Website: <https://www.openedition.org>

1. https://en.wikipedia.org/wiki/Centre_pour_l%27Édition_Électronique_Ouverte
2. <https://fr.wikipedia.org/wiki/OpenEdition>
3. Marie Lebert, "OpenEdition, A Platform for Academic Journals and Books," April 2012, <https://marielebert.wordpress.com/2012/04/20/openedition/>
4. Gwen Franck, "Insights into the Economy of Open Scholarship: A Look into OpenEdition with Pierre Mounier, Deputy Director," Zenodo, 2019, DOI: <http://doi.org/10.5281/zenodo.3084406>

ORCID

“The ORCID - Open Researcher and Contributor ID) is a nonproprietary [alphanumeric code](#) to uniquely identify [scientific](#) and other [academic authors](#) and contributors. This addresses the problem that a particular author’s contributions to the [scientific literature](#) or publications in the humanities can be hard to recognize as most personal names are not unique, they can change ([such as with marriage](#)), have cultural differences in name order, contain inconsistent use of first-name abbreviations and employ different [writing systems](#). It provides a persistent identity for humans, similar to that created for content-related entities on digital networks by [digital object identifiers](#) (DOIs). The ORCID organization, ORCID Inc., offers an open and independent registry intended to be the *de facto* standard for contributor identification in research and [academic publishing](#). On 16 October 2012, ORCID launched its registry services and started issuing user identifiers.” (wiki)

Website: <https://orcid.org>

1. <https://en.wikipedia.org/wiki/ORCID>
2. “Credit Where Credit is Due,” *Nature* 462(825), December 17, 2009, <https://www.nature.com/articles/462825a>
3. Laurel L. Haak, Martin Fenner, Laura Paglione, Ed Pentz, and Howard Ratner, “ORCID: A System to Uniquely Identify Researchers,” *Learned Publishing* 25(4): 259–264, 2012, DOI: <https://doi.org/10.1087/20120404>
4. Declan Butler, “Scientists: Your Number is Up,” *Nature*, May 30, 2012, <https://www.nature.com/news/scientists-your-number-is-up-1.10740>
5. Wm. Joseph Thomas, Barbara Chen, and Gail Clement, “ORCID Identifiers: Planned and Potential Uses by Associations, Publishers, and Librarians,” *Serials Librarian* 68(1–4):332–341, May 2015, DOI: [10.1080/0361526X.2015.1017713](https://doi.org/10.1080/0361526X.2015.1017713)
6. Vera Koester, “ORCID – Unique Author Identifier: An Interview with Alice Meadows,” *ChemViews Magazine*, October 6, 2015, https://www.chemistryviews.org/details/ezone/8359901/ORCID__Unique_Author_Identifier.html
7. Alice Meadows, “Why Some Publishers are Requiring ORCID IDs for Authors: An Interview with Stuart Taylor, The Royal Society,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, January 7, 2016, <https://scholarlykitchen.sspnet.org/2016/01/07/why-some-publishers-are-requiring-orcid-ids-for-authors-an-interview-with-stuart-taylor-the-royal-society/>
8. Sheila Rabun, “ORCID for System Interoperability in Scholarly Communication Workflows,” *IndraStra Global*, March 29, 2019, <https://www.indrastra.com/2019/03/ORCID-System-Interoperability-Scholarly-Communication-Workflows-005-03-2019-0077.html>

OSF Meeting

Project of the Center for Open Science

“Researchers share ideas and findings at academic meetings, producing presentations, posters, and conference proceedings. OSF Meetings is an easy way to share this research content, providing conference organizers with a branded landing page, simple submission process, and simple search and discovery. Researchers who share materials can add supplementary data, code, preprints, or other material alongside their poster or slides.” (ws)

Website: <https://cos.io/our-products/osf-meetings/>

OSF Preprints

Program of the Center for Open Science

“The launch of OSF Preprints branded services continues COS’s ongoing commitment to open and transparent research practices. The new preprints service is built on our flagship platform, OSF, which helps researchers design and manage their project workflow, data storage, DOI management, and collaboration.” (<https://cos.io/our-products/osf-preprints/>)

Website: <https://osf.io/preprints/>

Our Research (prior to July 2019 ImpactStory)

Programs: ImpactStory, Unpaywall, Get the Research, Depsy, Paperbuzz

“We build tools to make scholarly research more open, connected, and reusable—for everyone. Our free, open-source tools serve millions of API requests every day, and are relied on by research funders, universities, researchers, and thousands of academic libraries worldwide.” (ws)

Website: <https://our-research.org>

Overleaf

Product of Digital Science

Overleaf is an online collaborative writing and publishing tool that makes the process of writing, editing and publishing scientific documents quick and easy. Overleaf provides an easy-to-use LaTeX editor with real-time collaboration and the fully compiled output produced automatically in the background.

Website: <https://www.overleaf.com>

Paged.js

“Paged.js is a comprehensive print-oriented production system that runs on CSS and JavaScript in a web browser. Developed by the PagedMedia initiative, it aims to offer a best-of-breed CSS-based typesetter as open-source software. It can display both paginated output and editable CSS on a page so that the CSS can be tweaked and changes can be viewed in real time.” (mtg)

Website: pagedjs.org

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/y6pabshe?readingCollection=2e2f6c3f>

Pandoc

“Pandoc is a robust, multi-format document conversion tool that can read from and write to a vast number of file formats. Pandoc can work with a range of markup formats, markdown, word-processor files, and it supports integration with tools like LaTeX and reference managers, as well as a host of web-based formats. Several different input and exports formats for math are handled, including MathJax, LaTeX, and translation to MathML. Pandoc also includes a powerful system for automatic citations and bibliographies. Pandoc is usable as a command-line tool as well as an integrated library, and is used in several other publishing toolkits.” (mtg)

Website: <https://pandoc.org/>

1. <https://en.wikipedia.org/wiki/Pandoc>
2. Mind the Gap: <https://mindthegap.pubpub.org/pub/xb674wae?readingCollection=2e2f6c3f>
3. Albert Krewinkel and Robert Winkler, “Formatting Open Science: Agilely Creating Multiple Document Formats for Academic Manuscripts with Pandoc Scholar,” *PeerJ Computer Science* 3:e112, May 2017, DOI: <https://doi.org/10.7717/peerj-cs.112>

Paper Digest

“Paper Digest is an AI-based academic article summarization service. The algorithm tries to determine seemingly important sentences from across the full text and list them out in a single page summary. The goal is to list the most central concepts in the paper so you can quickly decide whether to read the whole thing.” (<https://scholarlykitchen.sspnet.org/2019/08/07/articles-summaries-paper-digest/>)

Website: <https://www.paper-digest.com>

1. Alex Jackson, “Tokyo Researchers’ Paper Digest Makes Academic Jargon a Cinch,” *The Japan Times*, October 24, 2018, <https://www.japantimes.co.jp/news/2018/10/24/business/tech/tokyo-researchers-paper-digest-makes-academia-jargon-cinch/#.XUsHeC2ZOgQ>
2. Lisa Janicke Hinchliffe, “Articles Summaries that ‘Spoil’ the Paper to Save Reader Time,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, August 7, 2019, <https://scholarlykitchen.sspnet.org/2019/08/07/articles-summaries-paper-digest/>

Paperbuzz

Program of Our Research

“Paperbuzz is a tool that calculates metrics from Crossref Event Data: sharing, linking, and referencing articles online. Paperbuzz is developed and maintained by Our Research with the support of the Public Knowledge Project (PKP). Paperbuzz offers an API that is used by PaperbuzzViz, a JavaScript library to visualize the metrics and by the Paperbuzz OJS Plugin that brings these visualization to OJS article pages, both of which are developed and maintained by PKP.” (mtg)

Website: <https://www.paperbuzz.org/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/pj8497yl?readingCollection=2e2f6c3f>
2. Jeffrey Perkel, “New Tools Track Article Buzz Online,” *Nature Index*, March 9, 2018, <https://www.natureindex.com/news-blog/new-tools-track-article-buzz-online>

PaperHive

“PaperHive is a cross-publisher collaborative research platform enabling citable in-document discussions of academic texts. The platform transforms reading from an isolated activity into a process of active collaboration, helping researchers and students communicate. PaperHive is used in e-learning, proofreading, post-publication peer review, publishers’ marketing campaigns.”

(<https://www.highwirepress.com/discovery-and-analytics/highwire-press-and-paperhive-partner-to-enable-research-annotation-and-collaboration-workflows/>)

Website: <https://paperhive.org>

1. “Understanding Collaborative Tools: An Interview with PaperHive,” Enago Academy, May 28, 2018, <https://www.enago.com/academy/understanding-collaborative-tools-an-interview-with-paperhive/>

Permissions Checker

Program of Open Access Button

“These tools aim to make permission checking faster, easier, and clearer so that you can unlock the power of mediated deposit and more easily manage your repository. In this prototype, powered by open, community-editable, machine-readable data, we allow librarians to do permission checking on 100s of articles or journals in seconds and, for each one, to receive embargos, completed deposit statements, metadata, open access availability, and more. We cover 20,000 journals, 250 publisher, 80 university policies, several funders, and even author’s negotiated contracts or waivers.” (ws)

Website: <http://openaccessbutton.org/permissions>

Phenom Reviewer

“Phenom Reviewer is Hindawi’s article submission and editorial workflow module. It is built on the Coko Foundation’s PubSweet framework and is designed in collaboration with Coko and eLife. Phenom Reviewer is part of a larger suite of tools in early development, which will comprise “Producer” and “Publisher” modules similar to eLife’s Libero suite.” (mtg)

Website: <https://demo.review.hindawi.com>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/Ogdcei4n?readingCollection=2e2f6c3fv>

Phenom Screener

“Phenom Screener is Hindawi’s module that performs ethical and technical checks on article submissions including plagiarism screening, identity verification, materials checking, and fraud prevention.” (mtg)

Website: <https://demo.review.hindawi.com>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/mupi7al3?readingCollection=2e2f6c3f>

PlumAnalytics

Product of Elsevier

“Plum Analytics is a Philadelphia, Pennsylvania-based altmetrics company dedicated to measuring the influence of scientific research. It was founded in 2011 by Andrea Michalek, who is its current president, and Mike Buschman. It was acquired by Elsevier in February 2017, which purchased it from EBSCO Information Services for an undisclosed amount. Its metrics were immediately incorporated into Elsevier’s existing products, including Mendeley and Scopus.” (wiki)

Website: <https://plumanalytics.com>

1. https://en.wikipedia.org/wiki/Plum_Analytics
2. Mike Buschman and Andrea Michalek, “Are alternative metrics still alternative?” *Bulletin of the American Society for Information Science and Technology* 39(4):35–39, April 2013, DOI: <https://doi.org/10.1002/bult.2013.1720390411>
3. J. Michael Lindsay, “PlumX from Plum Analytics: Not Just Altmetrics,” *Journal of Electronic Resources in Medical Libraries* 13(1):8–17, April 2016, DOI: [10.1080/15424065.2016.1142836](https://doi.org/10.1080/15424065.2016.1142836)
4. Rebecca Raszewski, “Review Update: Plum Analytics,” *Doody’s Collection Development Monthly* [Blog], December 18, 2018, <https://dcdm.doody.com/2018/12/review-update-plum-analytics/>

Portico

Program of Ithaka

“Portico was created by JSTOR in 2002 as the *Electronic-Archiving Initiative*. It was transferred to ITHAKA in 2004. Portico operates as a “dim’ archive for e-journal content’ that stores information from scholarly journals so it cannot be lost, an example being when the part of it housing the *Graft: Organ and Cell Transplantation* journal was “lit up” and became publicly accessible after access to that journal’s website was removed by its publisher. In 2014, Portico generated \$5.7 million in revenue.” (wiki)

“Portico is a community-supported preservation archive that safeguards access to e-journals, e-books, and digital collections. Our unique, trusted process ensures that the content we preserve will remain accessible and usable for researchers, scholars, and students in the future.” (ws)

Website: <https://www.portico.org>

1. https://en.wikipedia.org/wiki/Ithaka_Harbors#Portico
2. Eileen Gifford Fenton, “An Overview of Portico: An Electronic Archiving Service,” *Serials Review* 32(2):81–86, 2006, DOI: [10.1080/00987913.2006.10765036](https://doi.org/10.1080/00987913.2006.10765036)
3. Eileen G. Fenton, “Responding to the Preservation Challenge: Portico, an Electronic Archiving Service,” *Journal of Library Administration* 48:1, 31–40, October 2008, DOI: [10.1080/01930820802029169](https://doi.org/10.1080/01930820802029169)
4. Amy J. Kirchhoff, “Digital Preservation: Challenges and Implementation,” *Learned Publishing* 21(4):285–294, October 2008, DOI: <https://doi.org/10.1087/095315108X356716>
5. Amy J. Kirchhoff, “Expanding the Preservation Network: Lessons from Portico,” *Library Trends* 57(3):476–489, Winter 2009, DOI: <http://doi.org/10.1353/lib.0.0048>
6. Center for Research Libraries, “Portico Audit Report 2010,” January 1, 2010, <https://www.crl.edu/reports/portico-audit-report-2010>
7. Sheila M. Morrissey, John Meyer, Sushil Bhattarai, Sachin Kurdikar, Jie Ling, Matthew Stoeffler, and Umadevi Thanneeru, “Portico: A Case Study in the Use of the Journal Archiving and Interchange Tag Set for the Long Term Preservation of Scholarly Journals,” *Journal Article Tag Suite Conference (JATS-Con) Proceedings 2010*, Bethesda, Maryland: National Center for Biotechnology Information 2010, <https://www.ncbi.nlm.nih.gov/books/NBK47087/>
8. Amy Kirchhoff, Sheila Morrissey, Eileen Gifford Fenton, and Stephanie Orphan, “Becoming A Certified Trustworthy Digital Repository: The Portico Experience,” *iPRES 2010*, <https://www.semanticscholar.org/paper/Becoming-A-Certified-Trustworthy-Digital-The-Kirchhoff-Morrissey/a8852c483a004756131a6126bebe8c18579273ec# citing-papers>
9. Kate Wittenberg and Sheila Morrissey, “Guest Post — The Evolution of Infrastructure: Making a Renewed Investment in Preservation at Portico,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, October 17, 2018, <https://scholarlykitchen.sspnet.org/2018/10/17/guest-post-the-evolution-of-infrastructure-making-a-renewed-investment-in-preservation-at-portico/>
10. Kate Wittenberg, Sarah Glasser, Amy Kirchhoff, Sheila Morrissey, and Stephanie Orphan, “Challenges and Opportunities in the Evolving Digital Preservation Landscape: Reflections from Portico,” *Insights* 31:28, 2018, DOI: <http://doi.org/10.1629/uksg.421>

PREreview

“PREreview (Post, Read, and Engage with preprint reviews) provides a centralized hub in which participants of scientific journal clubs can share their feedback about preprints with other groups. Preprints are freely available scientific manuscripts that have not yet undergone editorial peer review.” (ws)

Website: <https://www.authorea.com/inst/14743-prereview>

1. Samantha Hindles and Daniela Saderi, “PREreview — A New Resource for the Collaborative Review of Preprints,” *eLife Labs* [Blog], October 25, 2017, <https://elifesciences.org/labs/57d6b284/prereview-a-new-resource-for-the-collaborative-review-of-preprints>
2. Meredith Whitaker, “Guest Post: Learning about preprints with PREreview,” *PLOS ECR Community*, October 18, 2018, <https://blogs.plos.org/thestudentblog/2018/10/18/guest-post-learning-about-preprints-with-prereview/>

Preservica

“Preservica is a single, seamless application that brings together all the core elements of successful long-term digital preservation. The combination of durable storage, format updates and secure immediate access is a holistic approach we call active digital preservation.” (ws)

Website: <https://preservica.com/>

1. “Company Overview of Preservica,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=325346928>
2. “AWS Partner Story: Preservica,” Amazon Web Services [n.d.], <https://aws.amazon.com/partners/success/preservica/>
3. Kevin O’Farrelly, et al., “Access and Preservation in the Cloud: Lessons from Operating Preservica Cloud Edition,” Proceedings of the DLM Forum – 7th Triennial Conference Making the Information Governance Landscape in Europe, November 10–14, 2014, Lisbon, Portugal, pp. 115–118, http://purl.pt/26107/1/DLM2014_PDF/dlm2014-Proceedings_V1.pdf#page=124
4. Keith Foote, “Preservica Delivers New Research and Innovation in Digital Preservation, Dataversity, June 25, 2018, <https://www.dataversity.net/preservica-delivers-new-research-innovation-digital-preservation/>
5. Marie Vans and Patricia Franks, “A Blueprint for Preserving Virtual World Cultural Heritage using Preservica & Custom Metadata Schema,” Archiving Conference 2019 Final Program and Proceedings, Society for Imaging Science and Technology, pp. 42–46(5), DOI: <https://doi.org/10.2352/issn.2168-3204.2019.1.0.10>

Pressbooks

“Pressbooks is a simple book production software, built with the web in mind. Create Pressbooks is a web-based book editing and production system that exports in multiple formats: ebooks, webbooks, print-ready PDF, and various XML types. The system is built on top of Wordpress, but makes significant changes to the admin interface, presentation layer, and export routines to for web, ebook, and print

formats. Pressbooks is widely used in the open textbook and open educational resources community.” (mtg)

Website: <https://pressbooks.com>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/q9k7ri0a?readingCollection=2e2f6c3f>
2. Danny Chadwick, “Pressbooks Review,” *TopTenReviews* [Blog], April 8, 2015, <https://www.toptenreviews.com/software/multimedia/best-ebooks-creators/pressbooks-review/>
3. “Review of Pressbooks,” *Independent Publishing Magazine*, March 18, 2015, <http://www.theindependentpublishingmagazine.com/2015/03/pressbooks-reviewed.html>

ProseMirror

“ProseMirror is a JavaScript framework to develop visual text editors online. It can support collaborative editing in real time. It has a modular architecture that makes sure users only load the code they need, and can replace parts of the system as needed. ProseMirror supports extensible document schemas that allow users to edit documents with a custom structure without writing their own editor from scratch. It has a plugin system that allows users to easily enable additional functionality, and package their own extensions in a convenient format. Prosemirror is used by several major online news sources (NYTimes, Guardian), as well as inside tools like PubPub and Coko Foundation’s Wax editor.” (mtg)

Website: <http://prosemirror.net/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/ncbv1w4l?readingCollection=2e2f6c3f>
2. Richard Beddington, “Leaving Scribe,” *The Guardian*, January 24, 2019, <https://www.theguardian.com/info/2019/jan/24/leaving-scribe>

Protocols.io

“Scientists are constantly re-discovering knowledge that others have not had the time to publish and improving existing methods without the ability to share the improvements. Our mission is to change this with a free, up-to-date, crowd-sourced protocol repository for researchers.” (<https://www.protocols.io/about>)

Website: <https://www.protocols.io>

1. “Sharing and Discovering Science Methods: Open Science Platform Protocols.io,” *ZBW Mediatalk*, January 24, 2018, <https://www.zbw-mediatalk.eu/2018/01/forschungsmethoden-teilen-und-finden-open-science-plattform-protocols-io/>

2. “Protocols.io: Online Protocol Repository Supporting Academic Research,” Enago Academy, May 23, 2018, <https://www.enago.com/academy/protocols-io-online-protocol-repository-supporting-academic-research/>
3. Leonid Teytelman, Alexei Stoliartchouk, Lori Kindler, and Bonnie L. Hurwitz, “Protocols.io: Virtual Communities for Protocol Development and Discussion, *PLOS Biology*, August 22, 2016, DOI: <https://doi.org/10.1371/journal.pbio.1002538>

Public Access Submission System (PASS)

“Use PASS to submit your manuscripts to funder and institutional publication repositories (e.g. PubMed Central, JScholarship) and comply with access policies. Using the web-based PASS system, you can: avoid paying article processing charges to make your publication open to the public, simultaneously send your manuscript to multiple repositories seamlessly, and populate forms automatically with publication and author information by providing DOIs and ORCID IDs.” (ws)

Website: <https://pass.jhu.edu>

1. Gary Price, “Johns Hopkins University’s Sheridan Libraries, with Harvard and MIT to Launch Public Access Submission System (Pass) and Support Open Access,” *InfoDocket/Library Journal*, November 13, 2018, <https://www.infodocket.com/2018/11/13/johns-hopkins-universitys-sheridan-libraries-with-harvard-and-mit-to-launch-public-access-submission-system-pass-and-support-open-access/>

Public Knowledge Project (PKP) (organization)

Programs: Open Journal System, One Monograph Press, Open Typesetting Stack

“The Public Knowledge Project (PKP) is a non-profit research initiative that is focused on the importance of making the results of publicly funded research freely available through open access policies, and on developing strategies for making this possible including software solutions. It is a partnership between the Faculty of Education at the University of British Columbia, the Canadian Centre for Studies in Publishing at Simon Fraser University, the University of Pittsburgh, Ontario Council of University Libraries, the California Digital Library and the School of Education at Stanford University. It seeks to improve the scholarly and public quality of academic research through the development of innovative online environments.” (wiki)

Website: <https://pkp.sfu.ca>

1. https://en.wikipedia.org/wiki/Public_Knowledge_Project
2. G. W. Brian Owen and Kevin Stranack, “The Public Knowledge Project and the Simon Fraser University Library: A Partnership in Open Source and Open Access,” *Serials Librarian* 55(1-2):140–167, October 2008, DOI: [10.1080/03615260801970840](https://doi.org/10.1080/03615260801970840)
3. James MacGregor, Kevin Stranack, and John Willinsky, “The Public Knowledge Project: Open Source Tools for Open Access to Scholarly Communication,” in Sönke Bartling and Sascha Friesike (eds.), *Opening Science: The Evolving Guide on How the Internet is Changing*

Research, Collaboration and Scholarly Publishing, New York: Springer Cham, 2014, DOI: http://doi.org/10.1007/978-3-319-00026-8_11

4. Juan Alperin, John Willinsky, Brian Owen, James Macgregor, Alec Smecher, and Kevin Stranack, "The Public Knowledge Project: Reflections and Directions After Its First Two Decades," *ELPUB* 2018, June 2018, Toronto, Canada, DOI: <https://doi.org/10.4000/proceedings.elpub.2018.18>

Publications Router

Program of JISC

"Publications Router is an alerting service that automatically sends notifications about research articles to institutions' systems such as their repositories or CRISs. These notifications indicate, for example, that an article has been accepted for publication or that it has been published. They often include the articles themselves in the version agreed by the publisher, or they may just consist of metadata."

(<https://pubrouter.jisc.ac.uk/about/>)

Website: <https://pubrouter.jisc.ac.uk>

Publons

Publons product of Clarivate Analytics

"A project of Clarivate Analytics, Publons is a commercial website that provides a free service for academics to track, verify, and showcase their peer review and editorial contributions for academic journals. It was launched in 2012 and by 2018 more than 500,000 researchers have joined the site, adding more than one million reviews across 25,000 journals. Publons' mission is to "speed up science by harnessing the power of peer review." Publons claims that by turning peer review into a measurable research output, academics can use their review and editorial record as evidence of their standing and influence in their field. Publons says its business model is based on partnering with publishers." (wiki)

Website: <https://publons.com/about/home/>

1. <https://en.wikipedia.org/wiki/Publons>
David Roy Smith, "Will Publons Popularize the Scientific Peer-Review Process?" *BioScience* (66)4:265–266, April 1, 2016, DOI: <https://doi.org/10.1093/biosci/biw010>
2. José Luis Ortega, "Are Peer-Review Activities Related to Reviewer Bibliometric Performance? A Scientometric Analysis of Publons," *Scientometrics* 112(2):947–962, April 2017, DOI: <https://doi.org/10.1007/s11192-017-2399-6>
3. Richard Van Noorden, "Web of Science Owner Buys Up Booming Peer-Review Platform," *Nature*, June 1, 2017, <https://www.nature.com/news/web-of-science-owner-buys-up-booming-peer-review-platform-1.22094>
4. Stephen Curry, "Peer Review is Essential to Good Science – It's Time to Credit Expert Reviewers," *Guardian*, June 1, 2017, <https://www.theguardian.com/science/2017/jun/01/peer-review-is-essential-to-good-science-its-time-to-credit-expert-reviewers>
5. Jamie A. Teixeira da Silva and Aceil Al-Khatib, "The Clarivate™ Analytics Acquisition of Publons – An Evolution or Commodification of Peer Review?" *Research Ethics*, November 2017, DOI: <https://doi.org/10.1177/1747016117739941>

PubPub

“PubPub is an online authoring and publishing platform developed by MIT Press and the MIT Knowledge Futures Group. It supports community-based collaborative drafting, review, and publication of scholarly work ‘using an integrated and iterative process.’ It supports journals, books, lab communications and events. PubPub is designed to be centrally hosted, and PubPub provides publishing services as part of a tiered-price hosting packages.” (mtg)

Website: <https://www.pubpub.org>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/3kwfdfi4?readingCollection=2e2f6c3f>
2. “The PubPub Is Open! Collaborative Publishing for All,” Enago Academy, May 23, 2018, <https://www.enago.com/academy/the-pubpub-is-open-collaborative-publishing-for-all/>
3. Lisa Peet, “MIT Press, Media Lab Launch Knowledge Futures Group,” *Library Journal*, November 14, 2018, <https://www.libraryjournal.com/?detailStory=181114-MITKnowledgeFuturesGroup>

PubSweet

Program of Collaborative Knowledge Foundation (Coko)

“PubSweet is a foundational system developed by Coko as a “component-based framework” upon which to build publishing tools. PubSweet is a simple but flexible way to adapt to different kinds of system needs. For instance, both the book-oriented Editoria and the journal-oriented Libero Reviewer are built on PubSweet foundations. PubSweet’s community includes Hindawi, eLife, Wormbase, Digital Science, and the EBI’s Europe PMC Plus platform.” (mtg)

Website: <https://coko.foundation/category/pubsweet/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/ua66jyne?readingCollection=2e2f6c3f>

Pure

Product of Elsevier

“As a versatile, interoperable software solution, Pure can be configured to the growing requirements of your institution. Pure’s industry-proven data model unearths multifaceted insights about the overall research lifecycle, supporting both fact-based decision making and industrial-strength expertise discovery. Pure facilitates an evidence-based execution of strategy to unlock your full research potential, leading to increased funding, improved international collaboration and greater visibility.” (ws)

Website: <https://www.elsevier.com/solutions/pure>

1. Anna Clements and Valerie McCutcheon, "Research Data Meets Research Information Management: Two Case Studies Using (a) Pure CERIF-CRIS and (b) EPrints Repository Platform with CERIF Extensions," *Procedia Computer Science* 33:199–206, 2014, DOI: <https://doi.org/10.1016/j.procs.2014.06.033>
2. Stevan Harnad, "Elsevier's PURE: Self-Interest and Exploitation," *Open Access Archivangelism* [Blog], November 12, 2015, <http://openaccess.eprints.org/index.php/?archives/1164-Elseviers-PURE-self-interest-and-exploitation.html>

Quinsight

Product of Quertle

"Quertle has developed a suite of analytic technologies to support knowledge discovery in text information. The company has combined multiple artificial intelligence methods with quantum logic, computational linguistics, and statistics a unique literature discovery solution. This combined approach includes a set of methods for identifying and understanding specific terms. The method enables case-sensitive searching and word sense disambiguation of polysemic terms. The company is also using artificial intelligence for automated identification of concepts within documents that are specifically related to why the documents match selection criteria. Quertle also applies predictive visual analytics based on the text of the result documents, which enable understanding and exploration." (wiki)

Website: <https://quertle.com>

1. <https://en.wikipedia.org/wiki/Quertle>
2. Penny Coppernoll-Blach, "Quertle: The Conceptual Relationships Alternative Search Engine for PubMed," *Journal of the Medical Library Association* 99(2): 176–177, April 2011, DOI: [10.3163/1536-5050.99.2.017](https://doi.org/10.3163/1536-5050.99.2.017)
3. Andrew Friedheim, "Artificial Intelligence and Systematic Reviews," June 25, 2019, <https://quertle.com/artificial-intelligence-and-systematic-reviews/>

Quire

"Quire is a book production tool developed by the J Paul Getty Trust. It is a multiformat publishing framework that can create digital and print books, such as museum and gallery exhibition catalogues, collected volumes, and scholarly monographs. Quire is designed around the Hugo static-site generator tool, which can compile and export books, working from markdown source. Quire has extensive support for media, including rich image metadata handling. It is currently without an explicit open-source license." (mtg)

Website: <https://github.com/gettypubs/quire>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/6vi4uhn7?readingCollection=2e2f6c3f>

ReadCube

Product of Digital Science

“ReadCube is a technology company developing software for researchers, publishers, academic and commercial organizations. ReadCube’s product line includes the reference manager ReadCube Papers, Anywhere Access and custom services for publishers. It is part of the Digital Science’s portfolio.” (wiki) “[ReadCube] Papers offers web, desktop, and mobile reference management apps designed to dramatically improve the way researchers find, access, organize, read, share, and cite research literature. ReadCube brings publishers researcher-focused, state-of-the-art technology guaranteed to enhance on-platform reader engagement, grow readership, and expand revenue channels.” (ws)

Website: <https://www.readcube.com/home>

1. <https://en.wikipedia.org/wiki/ReadCube>
2. Mark England and Rick Anderson, “Patron-Driven Acquisition of Journal Articles Using ReadCube at the University of Utah,” *Insights*, November 6, 2013, DOI: <http://doi.org/10.1629/2048-7754.77>
3. Krista Graham, “Navigating the Research Process with ReadCube,” *LOEX Quarterly* 41(2):4–9, 2014, https://commons.emich.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/scholar?hl=en&as_sdt=0%2C39&q=readcube&btnG=&httpsredir=1&article=1238&context=loexquarterly
4. Mark England, Liza Weisbrod, and Christy Jarvis, “Article Delivery Using ReadCube Access: A Report on Use in Five US Libraries,” *Interlending & Document Supply* 43(4):189–198, November 2015, DOI: <https://doi.org/10.1108/ILDS-07-2015-0023>
5. Adelia Grabowsky, “Expanding Access: An Evaluation of ReadCube Access as an ILL Alternative,” *Medical Reference Services Quarterly* 35(1):16–26, January 2016, DOI: <https://doi.org/10.1080/02763869.2016.1117285>
6. “Experts’ Take: Managing Research Articles with ReadCube,” Enago Academy, May 24, 2018, <https://www.enago.com/academy/managing-research-articles-with-readcube/>

Readium

“Readium provides a ‘set of software building blocks’ for the development of standardized EPUB and web publication reader applications for a variety of contexts—browser-based, mobile app, and desktop. Readium is a set of libraries and frameworks, and also a foundation and international community dedicated to ebook implementation standards.” (mtg)

Website: <https://readium.org/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/jfqzj227?readingCollection=2e2f6c3f>

Rebus Ink

“Rebus Ink is a web-based digital reading application built to help scholars construct arguments. It’s a personal, online workspace that lets you do more with digital texts, focusing on scholarly reading and research, note-taking, citations, and collections management. Rebus Ink is built on open principles: open source, open web, open APIs, with a focus on user-data portability and privacy.” (mtg)

Website: <https://rebus.ink/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/m1qww2gc?readingCollection=2e2f6c3f>

RedLink

Product of Atypon

RedLink provides visualizations to help to analyze and interpret the data for libraries, library consortiums, and publishers. RedLink was acquired by Atypon in July 2019.

Website: <https://www.redlink.com>

1. Kent Anderson, “Start-up Story; IP and access challenges: Introducing RedLink Network - A New Community-Based Registry to Create Efficiencies for Libraries.” *Insights* 30(1):91–95, March 2017, <https://insights.uksg.org/articles/10.1629/uksg.329/>

RefWorks

Product of ProQuest

“RefWorks is a web-based commercial reference management software package. It is produced by Ex Libris, a ProQuest company. RefWorks LLC was founded in 2001 and the software was marketed by Cambridge Scientific Abstracts from 2002 until being acquired by ProQuest in 2008.” (wiki)

Website: <http://www.refworks-cos.com/refworks/>

1. <https://en.wikipedia.org/wiki/RefWorks>
2. Camille Ivey and Janet Crum, “Choosing the Right Citation Management Tool: Endnote, Mendeley, Refworks, or Zotero,” *Journal of the Medical Library Association* 106(3):399–403, July 2018, DOI: <https://doi.org/10.5195/JMLA.2018.468>

Registry of Open Access Repositories (ROAR)

“The Registry of Open Access Repositories (ROAR) is a searchable international database indexing the creation, location and growth of open access institutional repositories and their contents. ROAR was

created by EPrints at University of Southampton, UK, in 2003. It began as the *Institutional Archives Registry* and was renamed *Registry of Open Access Repositories* in 2006. To date, over 3,000 institutional and cross-institutional repositories have been registered.” (wiki)

Website: <http://roar.eprints.org>

1. https://en.wikipedia.org/wiki/Registry_of_Open_Access_Repositories

Research Organization Registry (ROR)

“ROR is a community-led project to develop an open, sustainable, usable, and unique identifier for every research organization in the world.” (ws)

Website: <https://ror.community>

1. Maria Gould and Ginny Hendricks, “ROR Announces the First Org ID Prototype,” *Crossref Blog*, February 10, 2019, <https://www.crossref.org/blog/ror-announces-the-first-org-id-prototype/>
2. Alice Meadows, “Are You Ready to ROR? An Inside Look at this New Organization Identifier Registry,” *Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, December 4, 2019, <https://scholarlykitchen.sspnet.org/2019/12/04/are-you-ready-to-ror-an-inside-look-at-this-new-organization-identifier-registry/>

ResearchGate

“ResearchGate is a European commercial social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators. According to a 2014 study by *Nature* and a 2016 article in *Times Higher Education* it is the largest academic social network in terms of active users, although other services have more registered users, and a 2015–2016 survey suggests that almost as many academics have Google Scholar profiles.” (wiki)

Website: <https://www.researchgate.net>

1. <https://en.wikipedia.org/wiki/ResearchGate>
2. “Company Overview of ResearchGate GmbH,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=110003306>
3. Kerry A. Dolan, “How Ijad Madisch Aims to Disrupt Science Research With a Social Network,” *Forbes*, July 19, 2012, <https://www.forbes.com/sites/kerryadolan/2012/07/19/how-ijad-madisch-aims-to-disrupt-science-research-with-a-social-network/#135062a012a5>
4. Richard Van Noorden, “Online Collaboration: Scientists and the Social Network,” *Nature* 512:126–129, August 15, 2014, DOI: <https://doi.org/10.1038/512126a>
5. Mike Thelwall and Kayvan Kousha, “ResearchGate: Disseminating, Communicating, and Measuring Scholarship?” *Journal of the American Association for Information Science and Technology* 65(5):876–889, May 2015, DOI: <https://doi.org/10.1002/asi.23236>

6. Omar Alheyasat, "Examination Expertise Sharing in Academic Social Networks Using Graphs: The Case of ResearchGate," *Contemporary Engineering Sciences* 8(3):137–151, 2015, DOI: <http://dx.doi.org/10.12988/ces.2015.515>
7. Steven Ovia, "ResearchGate and Academia.edu: Academic Social Networks," *Behavioral & Social Sciences Librarian*, 33(3):165–169, August 2014, DOI: <https://doi.org/10.1080/01639269.2014.934093>
8. David Matthews, "Do Academic Social Networks Share Academics' Interests?" *Times Higher Education*, April 7, 2016, <https://www.timeshighereducation.com/features/do-academic-social-networks-share-academics-interests>
9. Hamid R. Jamali, "Copyright compliance and infringement in ResearchGate full-text journal articles," *Scientometrics* 112(1):241–254, July 2017, DOI: <https://doi.org/10.1007/s11192-017-2291-4>
10. Dalmeet Singh Chawla, "Publishers Go After Networking Site for Illicit Sharing of Journal Papers," *Science*, September 20, 2017, <https://www.sciencemag.org/news/2017/09/publishers-go-after-networking-site-illicit-sharing-journal-papers>
11. Robert Harington, "ResearchGate: Publishers Take Formal Steps to Force Copyright Compliance," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, October 6, 2017, <https://scholarlykitchen.sspnet.org/2017/10/06/researchgate-publishers-take-formal-steps-force-copyright-compliance/>
12. Richard Van Noorden, "Publishers Threaten to Remove Millions of Papers from ResearchGate," *Nature*, October 10, 2017, <https://www.nature.com/news/publishers-threaten-to-remove-millions-of-papers-from-researchgate-1.22793>
13. Coalition for Responsible Sharing, "Coalition for Responsible Sharing: Status Report on ResearchGate," April 8, 2018, <http://www.responsiblesharing.org/coalition-for-responsible-sharing-status-report-on-researchgate/> and Coalition for Responsible Sharing, "Status Report," June 13, 2019, <http://www.responsiblesharing.org/wp-content/uploads/2019/06/CfRS-status-report-2019-06-13.pdf>
14. Rebecca Trager, "ResearchGate Reaches Deal with Science Publishers," *Chemistry World*, April 25, 2018, <https://www.chemistryworld.com/news/researchgate-reaches-deal-with-science-publishers/3008943.article>
15. Stefania Manca, "ResearchGate and Academia.edu as Networked Socio-Technical Systems for Scholarly Communication: A Literature Review," *Research in Learning Technology* 26, 2018, DOI: <https://doi.org/10.25304/rlt.v26.2008>
16. Lisa Janicke Hinchliff, "Springer Nature Syndicates Content to ResearchGate," March 1, 2019, *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, <https://scholarlykitchen.sspnet.org/2019/03/01/springer-nature-syndicates-content-to-researchgate/>
17. Jongwook Lee, Sanghee Oh, Hang Dong, Fang Wang, and Gary Burnett, "Motivations for Self-Archiving on an Academic Social Networking Site: A Study on Researchgate," *Journal of the American Association for Information Science and Technology* 70(6):563–574, June 2019, DOI: <https://doi.org/10.1002/asi.24138>
18. Juan José Prieto-Gutiérrez, "Ten Years of Research on ResearchGate: A Scoping Review Using Google Scholar (2008–2017)," *European Science Editing*, 45(2):60–64, August 2019, DOI: <http://doi.org/10.20316/ESE.2019.45.18023>

Retraction Watch

Program of Center for Scientific Integrity

“Retraction Watch is a blog that reports on retractions of scientific papers and on related topics. The blog was launched in August 2010 and is produced by science writers Ivan Oransky (Vice President, Editorial *Medscape*) and Adam Marcus (editor of *Gastroenterology & Endoscopy News*). Its parent organization is the Center for Scientific Integrity.” (wiki)

Website: <http://retractionwatch.com> and <http://retractiondatabase.org/RetractionSearch.aspx>

1. https://en.wikipedia.org/wiki/Retraction_Watch
2. Craig Silverman, “Retraction Action,” *Columbia Journalism Review*, August 9, 2010, https://archives.cjr.org/the_observatory/retraction_action.php
3. Stephen Strauss, “Searching for Truth in Published Research,” *CBC News*, April 7, 2011, <https://www.cbc.ca/news/technology/searching-for-truth-in-published-research-1.998697>
4. Adam Marcus and Ivan Oransky, “More Science than You Think Is Retracted. Even More Should Be,” *Washington Post*, December 26, 2018, https://www.washingtonpost.com/opinions/more-science-than-you-think-is-retracted-even-more-should-be/2018/12/26/dc14fa98-0950-11e9-a3f0-71c95106d96a_story.html?utm_term=.bdfbe4465a5b

Review Commons

“*Review Commons* provides authors with a Refereed Preprint, which includes the authors’ manuscript, reports from a single round of peer review and the authors’ response. *Review Commons* also facilitates author-directed submission of Refereed Preprints to affiliate journals to expedite editorial consideration, reduce serial re-review and streamline publication. *Review Commons* transfers Refereed Preprints on behalf of the authors to bioRxiv and 17 affiliate journals from EMBO Press, eLife, ASCB, The Company of Biologists, Rockefeller University Press and PLOS.” (ws)

Website: www.reviewcommons.org

1. Tilmann Kießling, “Review Commons, A Pre-Journal Portable Review Platform,” EMBO, December 9, 2019, <https://www.embo.org/news/press-releases/2019/review-commons-a-pre-journal-portable-review-platform>

RightsLink Author

Program of the Copyright Clearance Center

“The RightsLink platform creates an author-centric workflow for automating the payment and collection of traditional publication charges for any journal—pure OA, hybrid or subscription... Standard APIs allow key author, manuscript, publisher, institution and funder metadata to be shared between the publisher’s upstream submission and/or production system(s) and RightsLink, enabling the publisher to embed the payment workflow within their own author workflow. This rich metadata is used by

RightsLink’s sophisticated pricing engine to deliver a completely custom price (including discounts to each and every author, based on the journal’s business rules.” (ws)

Website: <http://go.copyright.com/rightslinkforoa>

River Valley Technologies

“Our mission is to simplify the scholarly publishing process! We are a UK based software and publishing services company with the goal of streamlining the publishing process through automation and our easy-to-use platforms for authors, publishers and peer reviewers. We help publishers manage their content more efficiently and to deliver content to readers faster and with greater accuracy.” (ws)

River Valley Technologies offers modules to support scholarly publishing including RVHost, ReView, RVRite, RVFormatter, and RVReporter. It is content agnostic and can deliver any kind of content, including books and Multimedia. It fully supports Open Access publishing.

Website: <https://rivervalleytechnologies.com>

ROAD: The Directory of Open Access Scholarly Resources

“ROAD has been developed with the support of the Communication and Information Sector of UNESCO, it provides a free access to a subset of the ISSN Register. This subset comprises bibliographic records which describe scholarly resources in Open Access identified by an ISSN: journals, monographic series, conference proceedings and academic repositories. ROAD records are enriched by metadata about the coverage of the resources by indexing and abstracting databases, registries and journals indicators. They are downloadable as a MARC XML dump and will be available as RDF triples in 2014.”

(<https://www.issn.org/the-issn-international-is-pleased-to-introduce-road/>)

Website: <https://road.issn.org>

1. Nathalie Cornic, “ROAD: the Directory of Open Access Scholarly Resources to Promote Open Access Worldwide,” in F. Loizides and B. Schmidt (eds.), *Positioning and Power in Academic Publishing: Players, Agents and Agendas*, IOS Press 2016, pp. 37–41, DOI: <http://doi.org/10.3233/978-1-61499-649-1-37>, https://elpub.architexturez.net/system/files/120_elpub2016.pdf

ROARMAP

“ROAR’s companion Registry of Open Access Repository Mandates and Policies (ROARMAP) is a searchable international database of policies. It charts the growth of open access mandates and policies adopted by universities, research institutions and research funders that require their researchers to

provide open access to their peer-reviewed research article output by depositing it in an open access repository. It was created by EPrints at University of Southampton in 2003.” (wiki)

Website: <https://roarmap.eprints.org>

1. https://en.wikipedia.org/wiki/Registry_of_Open_Access_Repositories
2. Rick Anderson, “Errors and Misinformation in the ROARMAP Open Access Registry,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, February 13, 2014, <https://scholarlykitchen.sspnet.org/2014/02/13/errors-and-misinformation-in-the-roarmap-open-access-registry/>
3. Rick Anderson, “The ROARMAP Open Access Registry: New and Greatly Improved,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, April 13, 2015, <https://scholarlykitchen.sspnet.org/2015/04/13/the-roarmap-open-access-registry-new-and-greatly-improved/>

Rua

“Rua is a book publishing workflow management application developed by Ubiquity Press and is ‘designed to assist with the monograph publishing life cycle’ from proposal to publication. Rua forms the core of the Ubiquity Book Manager service. Rua is designed around the Django framework.” (mtg)

Website: <https://github.com/ubiquitypress/rua>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/c84a2q7s?readingCollection=2e2f6c3f>

Samvera (formerly Hydra)

“Samvera, originally known as Hydra, is an open-source digital repository software product. Samvera main components are Fedora Commons, SOLr, Blacklight, and HydraHead (a Ruby on Rails plugin and gem, respectively). Each Samvera implementation is called a ‘head’.” (wiki)

Website: <https://samvera.org/>

1. <https://en.wikipedia.org/wiki/Samvera>
2. Chris Awre, et al., “Project Hydra: Designing & Building a Reusable Framework for Multipurpose, Multifunction, Multi-institutional Repository-Powered Solutions,” 4th International Conference on Open Repositories, Atlanta, Georgia, June 20, 2009, <http://hdl.handle.net/1853/28496>
3. Karen Cariani, “Hydra’s Open Source Approach: An Interview with Tom Cramer,” *The Signal* [Blog], May 13, 2013, <https://blogs.loc.gov/thesignal/2013/05/hydras-open-source-approach-an-interview-with-tom-cramer/>
4. Christopher Awre and Richard Green, “From Hydra to Samvera: An Open Source Community Journey,” *Insights* 30(3):82–88, 2017, DOI: <http://doi.org/10.1629/uksg.383>

Scalar

“Scalar is a free, open source authoring and publishing platform that’s designed to make it easy for authors to write long-form, born-digital scholarship online. Scalar enables users to assemble media from multiple sources and juxtapose them with their own writing in a variety of ways, with minimal technical expertise required.” (ws)

Website: <https://scalar.me/anvc/scalar/>

1. Anastasia Salter, “Digital Scholarship with Scalar 2,” ProfHacker [Blog], *Chronicle of Higher Education*, January 28, 2016, <https://www.chronicle.com/blogs/profhacker/digital-scholarship-with-scalar-2/61585>
2. Eddie Nevarez, “Scalar: Open-Source Authoring for Born-Digital Scholarship,” *Digital Rhetoric Collaborative* [Blog], November 27, 2017, <https://www.digitalrhetoriccollaborative.org/2017/11/27/scalar-open-source-authoring-for-born-digital-scholarship/>

Scholarcy

“Scholarcy, the online article summarizer tool, reads your research articles, reports and book chapters in seconds and breaks them down into bite-sized sections – so you can quickly assess how important any document is to your work.” (ws)

Website: <https://www.scholarcy.com>

1. Aaron Tay, “Scholarcy — Reference Extraction Made Easy & Thoughts on Potential of Crowdsourcing of Open Citations,” *Musings About Librarianship* [Blog], June 24, 2018, <http://musingsaboutlibrarianship.blogspot.com/2018/06/scholarcy-reference-extraction-made.html>
2. Phil Gooch, “How Scholarcy Contributes to and Makes Use of Open Citations,” *Medium*, December 18, 2018, <https://medium.com/@philgooch/how-scholarcy-contributes-to-and-makes-use-of-open-citations-a74366477985>

Scholastica

“Scholastica is a web-based software platform for managing academic journals with integrated peer review and open access publishing tools.” (wiki)

Website: <https://scholasticahq.com>

1. [https://en.wikipedia.org/wiki/Scholastica_\(company\)](https://en.wikipedia.org/wiki/Scholastica_(company))

2. Anastasia Salter, "Scholastica and DIY Open Access Journals," *Chronicle of Higher Education*, July 5, 2012, <https://www.chronicle.com/blogs/profhacker/scholastica-and-diy-open-access-journals/41141>
3. Hadas Shema, "Interview with Mr. Rob Walsh, Scholastica," *Scientific American*, November 30, 2012, <https://blogs.scientificamerican.com/information-culture/interview-with-mr-rob-walsh-scholastica/>
4. Steven R. Strahler, "The Tumblr of Academic Journals: Tiny Startup Aiming to Slice the Costs of Journal Publishing," *Crain's Chicago Business*, May 31, 2014, <https://www.chicagobusiness.com/article/20140531/ISSUE01/305319938/scholastica-finds-niche-in-academic-journal-publishing>

ScholarOne

Product of Clarivate Analytics

"Comprehensive workflow-management systems for scholarly journals, books and conferences... ScholarOne Manuscripts - With the world of research constantly moving, *ScholarOne Manuscripts* make the submission and peer-review process simpler for authors, editors and reviewers, while providing publishers – large or small – with a reliable, stable tool... ScholarOne Abstracts - Manage your scientific meeting with a professional-grade abstract and conference proceedings management system that speeds up abstract review and acceptance, scheduling, invitations and post-invitation data collection... ScholarOne Books - Manage your book-publishing process from acquisition and content approval through content review, assembly and release to production. Your editorial and production offices can focus on manuscripts, not system configuration and administration." (ws)

Website: <https://clarivate.com/products/scholarone/>

1. "Company Overview of ScholarOne, Inc.," Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=889149>

Sci-Hub

"Sci-Hub is a website that provides free access to millions of research papers and books, without regard to copyright, by bypassing publishers' paywalls in various ways.

Sci-Hub was founded by Alexandra Elbakyan in 2011 in Kazakhstan in response to the high cost of research papers behind paywalls. The site is widely used in both developed and developing countries. In January 2020 it said that it contained 78 million academic articles and served approximately 400,000 requests per day." (wiki)

Website: <https://sci-hub.tw/#about>

1. <https://en.wikipedia.org/wiki/Sci-Hub>

2. David Smith, "Sci-Hub: How Does it Work?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, February 25, 2016, <https://scholarlykitchen.sspnet.org/2016/02/25/sci-hub-how-does-it-work/>
3. Michael S. Rosenwald, "This Student Put 50 Million Stolen Research Articles Online. And They're Free," *Washington Post*, March 30, 2016, https://www.washingtonpost.com/local/this-student-put-50-million-stolen-research-articles-online-and-theyre-free/2016/03/30/7714ffb4-eaf7-11e5-b0fd-073d5930a7b7_story.html?utm_term=.3c153c09a829
4. John Bohannon, "The Frustrated Science Student Behind Sci-Hub," *Science*, April 28, 2016, <https://www.sciencemag.org/news/2016/04/frustrated-science-student-behind-sci-hub?IntCmp=sci-hub-1-11>
5. James Heathers, "Why Sci-Hub Will Win," *Medium*, May 2, 2016, <https://medium.com/@jamesheathers/why-sci-hub-will-win-595b53aae9fa>
6. Marcus Banks, "Sci-Hub: What It Is and Why It Matters: The Essentials on an Open Access Controversy," *American Libraries*, May 31, 2016, <https://americanlibrariesmagazine.org/2016/05/31/why-sci-hub-matters/>
7. Quirin Schiermeier, "US Court Grants Elsevier Millions in Damages from Sci-Hub," *Nature*, June 22, 2017, <https://www.nature.com/news/us-court-grants-elsevier-millions-in-damages-from-sci-hub-1.22196>
8. Life Extension Advocacy Foundation, "Interview with Alexandra Elbakyan: Sci-Hub and the Importance of Open Scientific Knowledge | LEAF," June 27, 2017, <https://www.youtube.com/watch?v=dz1Uj20tZvs>
9. Alexandra Elbakyan, "Some Facts on Sci-Hub That Wikipedia Gets Wrong," *engineering* [Blog], July 2, 2017, <https://engineering.wordpress.com/2017/07/02/some-facts-on-sci-hub-that-wikipedia-gets-wrong/>
10. Ian Graber-Stiehl, "Science's Pirate Queen: Alexandra Elbakyan is Plundering the Academic Publishing Establishment," *The Verge*, February 8, 2018, <https://www.theverge.com/2018/2/8/16985666/alexandra-elbakyan-sci-hub-open-access-science-papers-lawsuit>
11. Daniel S. Himmelstein, et al., "Research: Sci-Hub Provides Access to Nearly All Scholarly Literature," *eLife*, February 9, 2018, DOI: [10.7554/eLife.32822](https://doi.org/10.7554/eLife.32822)
12. Sneha Kulkarni, "Latest Data Shows That Sci-Hub Thrives Despite Infrastructure Losses," *Editage Insights* [Blog], February 27, 2018, DOI: <https://doi.org/10.34193/EI-A-5328>
13. John Bohannon, "Who's Downloading Pirated Papers? Everyone," *Science*, April 28, 2016, <https://www.sciencemag.org/news/2016/04/whos-downloading-pirated-papers-everyone>
14. Wadim Strielkowski, "Will the Rise of Sci-Hub Pave the Road for the Subscription-Based Access to Publishing Databases?" *Information Development* 33(5):540-542 November 2017, DOI: <https://doi.org/10.1177/0266666917728674>
15. Andrew Pitts, "Guest Post: Think Sci-Hub is Just Downloading PDFs? Think Again," *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, September 18, 2018, <https://scholarlykitchen.sspnet.org/2018/09/18/guest-post-think-sci-hub-is-just-downloading-pdfs-think-again/>
16. David Nicholas, Cherifa Boukacem-Zeghmouri, Jie Xu, Eti Hrman, David Clark, Abdullah Abrizah, Blanca Rodríguez-Bravo, and Marzena Świgoń, "Sci-Hub: The New and Ultimate Disruptor? View from the Front," *Learned Publishing* 32(2):147-153, November 2018, <https://onlinelibrary.wiley.com/doi/abs/10.1002/leap.1206>
17. Brian M. Till, et al., "Who is Pirating Medical Literature? A Bibliometric Review of 28 Million Sci-Hub Downloads," *Lancet Global Health* 7(1): PE30-E31, January 1, 2019, DOI: [https://doi.org/10.1016/S2214-109X\(18\)30388-7](https://doi.org/10.1016/S2214-109X(18)30388-7)

18. Alexandra Elbakyan, "Sci-Hub and Alexandra Basic Information," *engineering* [Blog], March 31, 2019, <https://engineering.wordpress.com>

SciCrunch

"SciCrunch is a collaboratively edited knowledge base about scientific resources, a community portal for researchers and a content management system for data and databases. It is intended to provide a common source of data to the research community and the data about Research Resource Identifiers (RRIDs), which can be used in scientific publications." (wiki)

Website: <https://scicrunch.org>

1. <https://en.wikipedia.org/wiki/SciCrunch>
2. Jeffrey S. Grethe, et al., "SciCrunch: A Cooperative and Collaborative Data and Resource Discovery Platform for Scientific Communities," Conference Abstract: Neuroinformatics 2014, Frontiers, DOI: <https://doi.org/10.3389/conf.fninf.2014.18.00069>
3. Dalmeet Singh Chawla, "Researchers Argue for Standard Format to Cite Lab Resources," *Nature*, May 29, 2015, <https://www.nature.com/news/researchers-argue-for-standard-format-to-cite-lab-resources-1.17652>
4. Anita Bandrowski, et al. "The Resource Identification Initiative: A Cultural Shift in Publishing," *Journal of Comparative Neurology* 524(1):8–22, January 1, 2016, DOI: <https://doi.org/10.1002/cne.23913>
5. "Know More About SciCrunch and RRIDs: An Interview with Dr. Anita Bandrowski (Part 1)," Enago Academy, May 21, 2018, <https://www.enago.com/academy/know-more-about-scicrunch-and-rrids-an-interview-with-dr-anita-bandrowski-part-1/>
6. "Know More About SciCrunch and RRIDs: An Interview with Dr. Anita Bandrowski (Part 2)," Enago Academy, May 21, 2018, <https://www.enago.com/academy/know-more-about-scicrunch-and-rrids-an-interview-with-dr-anita-bandrowski-part-2/>

ScienceOpen

"ScienceOpen is a website. It is freely accessible for all and offers hosting and promotional services within the platform for publishers and institutes." (wiki)

"*ScienceOpen* is a discovery platform with interactive features for scholars to enhance their research in the open, make an impact, and receive credit for it. We provide context building services for publishers, to bring researchers closer to the content than ever before. Our advanced search and discovery functions, combined with post-publication peer review, recommendation, social sharing, and collection-building features make *ScienceOpen* the only research platform you'll ever need." (ws)

Website: <https://www.scienceopen.com>

1. <https://en.wikipedia.org/wiki/ScienceOpen>

2. Richard Poynder, "The OA Interviews: ScienceOpen's Alexander Grossmann," *Open and Shut?* [Blog], November 16, 2015, <https://poynder.blogspot.com/2015/11/the-oa-interviews-scienceopens.html>
3. Jayashree Rajagopalan, "How Researchers Can Make the Most of Open Access Publishing: Interview with Stephanie Dawson," *Editage Insights* [Blog], July 18, 2016, <https://www.editage.com/insights/how-researchers-can-make-the-most-of-open-access-publishing>
4. Inasa Bibic, "Interactive and Easy Scholarly Exchange on ScienceOpen – a Research Discovery Platform," *University of Kent Office for Scholarly Communication* [Blog], February 18, 2019, <https://blogs.kent.ac.uk/osc/2019/02/18/interactive-and-easy-scholarly-exchange-on-scienceopen-a-research-discovery-platform/>

SciForum

Product of MDPI

"Sciforum is an event planning platform that supports open science by offering the opportunity to host and participate in academic conferences. It provides an environment for scholarly exchange, discussion of topics of current interest, building of networks and establishing collaborations. Sciforum was launched in 2009 by MDPI, an academic open-access publisher with headquarters in Basel, Switzerland. Sciforum does not only offer the possibility to participate in conferences, but invites scientists to organize their own conferences. The organizers reduce their administrative efforts thanks to an online tool that supports all aspects of conference organization, including setting up and maintaining the conference website, managing the peer-review process, publishing the conference proceedings, handling and coordinating the conference schedule, registration, billing, sponsors, etc. Organizers can choose between physical and online conferences and whether they require administrative support from Sciforum staff." (ws)

Website: <https://sciforum.net>

Scinapse

Scinapse is a discovery tool for the academic literature. It is free to use. It provides a solution geared toward academic libraries and offers subscription journal collection optimization support. Scinapse was developed by Pluto Inc. and is based on blockchain technology.

Website: <https://scinapse.io>

1. Aaron Tay, "The Rise of the 'Open' Discovery Indexes? Lens.org, Semantic Scholar and Scinapse," *Musings on Librarianship* [Blog], December 22, 2019, <https://musingsaboutlibrarianship.blogspot.com/2019/12/the-rise-of-open-discovery-indexes.html>

Scopus

Product of Elsevier

“Scopus is Elsevier’s abstract and citation database launched in 2004. Scopus covers nearly 36,377 titles (22,794 active titles and 13,583 inactive titles) from approximately 11,678 publishers, of which 34,346 are peer-reviewed journals in top-level subject fields: life sciences, social science, physical sciences and health sciences. It covers three types of sources: book series, journals, and trade journals.” (wiki)

Website: <https://www.scopus.com>

1. <https://en.wikipedia.org/wiki/Scopus>
2. Judy F. Burnham, “Scopus Database: A Review,” *Biomedical Digital Libraries* 3(1), 2006, DOI: <https://doi.org/10.1186/1742-5581-3-1>
3. Félix de Moya-Anegón, Zaida Chinchilla-Rodríguez, Benjamin Vargas-Quesada, et al., “Coverage Analysis of Scopus: A Journal Metric Approach,” *Scientometrics* 73:53–78, October 2007, DOI: <https://doi.org/10.1007/s11192-007-1681-4>
4. Matthew E. Falagas, Eleni I. Pitsouni, George A. Malietzis, and Georgios Pappas, “Comparison of PubMed, Scopus, Web of Science, and Google Scholar: Strengths and Weaknesses,” *FASEB Journal* 22(2), February 2008, DOI: <https://doi.org/10.1096/fj.07-9492LSF>
5. Frances Boyle and Damien Sherman, “Scopus™: The Product and Its Development,” *Serials Librarian*, 49(3):147–153, September 2008, DOI: [10.1300/J123v49n03_12](https://doi.org/10.1300/J123v49n03_12)
6. Eric Archambault, David Campbell, Yves Gingras, and Vincent Larivière, “Comparing Bibliometric Statistics Obtained from the Web of Science and Scopus,” *Journal of the Association for Information Science and Technology* 60(7):1320–1326, July 2009, DOI: <https://doi.org/10.1002/asi.21062>
7. Abhaya V. Kulkarni, Brittany Aziz, Iffat Shams, and Jason W. Busse, “Comparisons of Citations in Web of Science, Scopus, and Google Scholar for Articles Published in General Medical Journals,” *JAMA* 302(10):1092–1096, September 9, 2009, DOI: <https://doi.org/10.1001/jama.2009.1307>
8. Sandra Miguel, Zaida Chinchilla-Rodríguez, and Félix de Moya-Anegón, “Open Access and Scopus: A New Approach to Scientific Visibility from the Standpoint of Access,” *Journal of the Association for Information Science and Technology* 62(6):1130–1145, June 2011, DOI: <https://doi.org/10.1002/asi.21532>
9. Juan-Carlos Valderrama-Zurian, Remedios Aguilar-Moya, David Melero-Fuentes, and Rafael Aleixandre-Benavent, “A Systematic Analysis of Duplicate Records in Scopus,” *Journal of Informetrics* 9(3):570–576, July 2015, DOI: <https://doi.org/10.1016/j.joi.2015.05.002>
10. Fiorenzo Franceschini, Domenico Maisano, Luca Mastrogiacomo, “The Museum of Errors/Horrors in Scopus,” *Journal of Informetrics* 10(1):174–182, February 2016, DOI: <https://doi.org/10.1016/j.joi.2015.11.006>

SeamlessAccess.org (RA21)

“Seamless Access is the new, convenient way to access digital scholarly content and services that builds on the guidelines resulting from the Resource Access in the 21st Century (RA21) initiative. It sets a standard for digital authentication based on a single sign on through your own home institution. The Coalition for Seamless Access is a non-profit initiative geared towards supporting research and scholarship.” (ws)

Website: <https://seamlessaccess.org>

1. Lisa Janicke Hinchliffe, "What Will You Do When They Come for Your Proxy Server?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, January 16, 2018, <https://scholarlykitchen.sspnet.org/2018/01/16/what-will-you-do-when-they-come-for-your-proxy-server-ra21/>
2. Molly Buccini, "RA21 to Begin Transition into an Operational Service: 'The Coalition for Seamless Access'," Copyright Clearance Center, *Velocity of Content* [Blog], June 5, 2019, <https://www.copyright.com/blog/ra21-coalition-for-seamless-access/>
3. Todd Carpenter, "Technology and Use: Moving Towards Seamless Access," *NISO I/O*, August 2019, <https://www.niso.org/niso-io/2019/08/technology-and-use-moving-towards-seamless-access>
4. Jeffrey Brainard, "Move by Journals to 'Seamless' Off-Campus Access Raises Privacy Concerns," *Science*, November 15, 2019, <https://www.sciencemag.org/news/2019/11/move-journals-seamless-campus-access-raises-privacy-concerns>

Semantic Scholar

"Semantic Scholar is a project developed at the Allen Institute for Artificial Intelligence. Publicly released in November 2015, it is designed to be an AI-backed search engine for scientific journal articles. The project uses a combination of machine learning, natural language processing, and machine vision to add a layer of semantic analysis to the traditional methods of citation analysis, and to extract relevant figures, entities, and venues from papers. In comparison to Google Scholar and PubMed, Semantic Scholar is designed to highlight the most important and influential papers, and to identify the connections between them." (wiki)

Website: <https://www.semanticscholar.org>

1. https://en.wikipedia.org/wiki/Semantic_Scholar
2. Ariana Eunjung Cha, "Paul Allen's AI Research Group Unveils Program That Aims to Shake Up How We Search Scientific Knowledge. Give It a Try," *Washington Post*, November 2, 2015, <https://www.washingtonpost.com/news/to-your-health/wp/2015/11/02/paul-allens-ai-research-group-unveils-program-that-aims-to-shake-up-how-we-search-scientific-knowledge-give-it-a-try/>
3. John Bohannon, "A Computer Program Just Ranked the Most Influential Brain Scientists of the Modern Era," *Science*, November 11, 2016, <https://www.sciencemag.org/news/2016/11/computer-program-just-ranked-most-influential-brain-scientists-modern-era>
4. Nicola Jones, "AI Science Search Engines Expand Their Reach," *Nature*, November 11, 2016, <https://www.nature.com/news/ai-science-search-engines-expand-their-reach-1.20964>
5. Adam Stetzer, "How a New AI Powered Search Engine is Changing How Neuroscientists Do Research," *Search Engine Watch*, January 4, 2017, <https://www.searchenginewatch.com/2017/01/04/how-a-new-ai-powered-search-engine-is-changing-how-neuroscientists-do-research/>

SHARE

Program of the Center for Open Science

“SHARE is an open-source community developing tools and services to connect related research outputs for new kinds of scholarly discovery.” (ws)

Website: <http://www.share-research.org>

1. Kaylyn Groves, “Judy Ruttenberg Talks with *Library Journal* about SHARE and Institutional Repository Interoperability,” *ARL News*, June 10, 2016, <https://www.arl.org/news/arl-news/4042-judy-ruttenberg-talks-with-library-journal-about-share-and-institutional-repository-interoperability#.XOw0OC2ZOgQ>

ShareYourPaper.org

Project of Open Access Button

“Sharing should be simple. With shareyourpaper.org, we’ll make sure that deposit into any repository is just that. We’re building a workflow that removes barriers we’ve seen after asking thousands of authors to self-archive, as well as easily upgrades the deposit workflow in thousands of repositories.”

(<https://shareyourpaper.org/libraries>)

Website: <https://openaccessbutton.org/shareyourpaper.org>

1. Open Access Button, “Building Shareyourpaper.org to Make Self-Archiving the Simplest Way to Increase a Paper’s Impact,” *Medium*, June 7, 2019, <https://blog.openaccessbutton.org/building-shareyourpaper-org-to-make-self-archiving-the-simplest-way-to-increase-a-papers-impact-7af42b6903e1>

Sherpa/Romeo

“SHERPA/RoMEO is a service run by SHERPA to show the copyright and open access self-archiving policies of academic journals. The database uses a color-coding scheme to classify publishers according to their self-archiving policy. This shows authors whether the journal allows preprint or postprint archiving in their copyright transfer agreements. It currently holds records for over 22,000 journals.” (wiki)

Website: <https://v2.sherpa.ac.uk/romeo/>

1. <https://en.wikipedia.org/wiki/SHERPA/RoMEO>
2. Celia Jenkins, Steve Proberts, Charles Oppenheim, and Bill Hubbard, “RoMEO Studies 8: Self-archiving: the logic behind the colour-coding used in the Copyright Knowledge Bank,” *Program*:

electronic library and information systems 4(2):124–133, May 2007, DOI:
<https://doi.org/10.1108/00330330710742908>

3. Laurel Kristick, “Using Journal Citation Reports and SHERPA RoMEO to Facilitate Conversations on Institutional Repositories,” *Collection Management* 34(1):49–52, January 2009, DOI:
<https://doi.org/10.1080/01462670802527860>

Shiny

“Shiny is an authoring and editorial development software developed by RStudio. It allows users to interact with web-based interactive applications that contain data and analysis using R. Shiny can create standalone apps on a webpage or embed them in R Markdown documents or build dashboards. Shiny requires only a R installation and a web browser.” (mtg)

Website: <https://shiny.rstudio.com>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/mcrep3m2?readingCollection=2e2f6c3f>

Silverchair

“Scholarly and professional publishers use the Silverchair Platform to deliver distinctive online sites and products from their unique content. Silverchair includes comprehensive product development and migration services, online management tools, and ongoing support to ensure publishers achieve their product vision.” (ws)

Website: <https://www.silverchair.com>

1. “Company Overview of Silverchair Science + Communications, Inc.,” Bloomberg,
<https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=9461068>
2. Lisa Provence, “Semantics: The Meaning of Thane Kerner’s Silverchair Success,” *The Hook*, July 9, 2012, <http://www.readthehook.com/104422/semantics-thane-kerner-finds-meaning-and-profit-silverchair>
3. “Impact and Beyond: Silverchair’s Publishing Landscape,” *NFAIS: Internet Advanced Information*, August 3, 2017, <https://www.silverchair.com/news/impact-beyond/>
4. “IWA Publishing Launches Next-Generation Digital Product Platform with Silverchair,” *Association of Learned & Professional Society Publishers: Member News*, July 10, 2018, <https://www.silverchair.com/news/iwa-publishing-launches/>
5. Lindsay McKenzie, “Closing the Gap Between University Presses and Libraries,” *Inside Higher Ed*, October 18, 2018, <https://www.insidehighered.com/news/2018/10/18/university-presses-take-control-ebook-distribution>

SlideShare

“LinkedIn SlideShare is a hosting service for professional content including presentations, infographics, documents, and videos. Users can upload files privately or publicly in PowerPoint, Word, PDF, or OpenDocument format. Content can then be viewed on the site itself, on hand held devices or embedded on other sites. Launched on October 4, 2006, the website is considered to be similar to YouTube, but for slideshows. It was acquired by LinkedIn in 2012.” (wiki)

Website: <https://www.slideshare.net>

1. <https://en.wikipedia.org/wiki/SlideShare>
2. “Company Overview of SlideShare Inc.,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=44541895>

Software Preservation Network

Project of Educopia Institute

“The Software Preservation Network (SPN) is a leading organization established to advance software preservation through collective action. SPN preserves software through its Affiliated Projects, Strategic Partnerships and member engagement across five core activity areas.” (ws)

Website: <https://www.softwarepreservationnetwork.org>

1. Jessica Meyerson, et al., “The Software Preservation Network (SPN): A Community Effort to Ensure Long Term Access to Digital Cultural Heritage,” *D-Lib Magazine* 23(5/6), May/June 2017, DOI: <https://doi.org/10.1045/may2017-meyerson>

SSRN (Social Science Research Network)

Product of Elsevier

“The SSRN, formerly known as Social Science Research Network, is a repository and international journal devoted to the rapid dissemination of scholarly research in the social sciences and humanities and more. Elsevier bought SSRN from Social Science Electronic Publishing Inc. in May 2016.” (wiki)

Website: <https://www.ssrn.com/index.cfm/en/>

1. https://en.wikipedia.org/wiki/Social_Science_Research_Network
2. Paul Gowder, “SSRN has Been Captured by the Enemy of Open Knowledge,” *Medium*, May 17, 2016, <https://medium.com/@PaulGowder/ssrn-has-been-captured-by-the-enemy-of-open-knowledge-b3e5bca6751d>
3. Roger C. Schonfeld, “Elsevier Acquires SSRN,” *The Scholarly Kitchen: What’s Hot and Cooking in Scholarly Publishing*, May 17, 2016, <https://scholarlykitchen.sspnet.org/2016/05/17/elsevier-acquires-ssrn/>

4. Christopher M. Kelty, "It's the Data, Stupid: What Elsevier's Purchase of SSRN Also Means," *Savage Minds: Notes and Queries in Anthropology* [Blog], May 18, 2016, <https://savageminds.org/2016/05/18/its-the-data-stupid-what-elseviers-purchase-of-ssrn-also-means/>
5. Carl Straumsheim, "There Isn't Some Big Conspiracy Happening," *Inside Higher Ed*, July 19, 2016, <https://www.insidehighered.com/news/2016/07/19/social-science-research-network-confusion-leads-calls-boycott>

Stencila

"Stencila is an authoring and editorial development software developed by Code for Science & Society. It provides an integrated word processor, coding (R, Python, and SQL), and spreadsheet interface in the browser, and the resulting interactive document (using the same file format used by the Texture editor, with which Stencila shares code) is shareable and publishable. Stencila's "Converters" module is a Pandoc-based collection of import and export routines. eLife's "Reproducible Document Stack" initiative is based on Stencila." (mtg)

Website: <https://stenci.la>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/seujsrdr?readingCollection=2e2f6c3f>
2. Tony Hirst, "Interactive Authoring Environments for Reproducible Media: Stencila," *OUseful.Info, the blog...*, May 17, 2018, <https://blog.ouseful.info/2018/05/17/interactive-authoring-environments-for-reproducible-media/>
3. Michael Aufreiter, Aleksandra Pawlik, and Nokome Bentley, "Stencila – An Office Suite for Reproducible Research," *eLife Labs* [Blog], July 2, 2018, <https://elifesciences.org/labs/c496b8bb/stencila-an-office-suite-for-reproducible-research>

Symplectic Elements

Product of Digital Science

"Symplectic creates software that helps researchers, librarians, and their institutions collect, manage, analyse and showcase their research. Their flagship product, Elements, is the world's leading research information management system enabling an institution's scholarly activities to be unified and understood with minimal manual input from academics. With researcher profiling, Open Access support, automatic bibliographic data harvesting, and integration with all major open repositories, Elements is a complete institutional software solution." (<https://www.digital-science.com/products/symplectic/>)

Website: <https://symplectic.co.uk>

Synapse Platform

Product of Sage BioNetwork

“Synapse allows researchers to share and describe data, analyses, and other content. Data and analyses can be stored in many types of locations, including private servers, local hard drives, or cloud storage. Synapse provides a common interface to describe these data or analyses, where they come from, and how to use them. Synapse also provides mechanisms for adding and retrieving data, analyses, and their respective descriptions.” (<https://docs.synapse.org/articles/faq.html>)

Website: <https://www.synapse.org>

Tectonic

“Tectonic is a modern LaTeX typesetting application, designed to be self-contained and easy to install. It automatically downloads support files so users don’t have to install a full LaTeX system in order to start using Tectonic. Tectonic can use modern OpenType fonts and is fully Unicode-enabled.” (mtg)

Website: <https://tectonic-typesetting.github.io/en-US/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/frv9eb05?readingCollection=2e2f6c3f>

Texture

Project of Substance Software

“Texture is an XML-based authoring and editing tool developed by the Substance Consortium, which includes PKP and eLife. Texture is a visual editor that natively produces a subset of JATS XML (inspired by JATS4R), which it encapsulates along with media and dependencies in its DAR file format. Texture offers a user-friendly editing XML interface, and can be integrated into other tools, such as OJS. eLife’s Libero Producer is based on Texture, as is Stencila.” (mtg) May no longer be in production.

Webpage: <http://substance.io/texture/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/x98rb6c4?readingCollection=2e2f6c3f>
2. Michael Aufreiter, “Texture - An Open Science Manuscript Editor,” *eLife Labs* [Blog], July 24, 2017, <https://elifesciences.org/labs/8de87c33/texture-an-open-science-manuscript-editor>

TIND Research Data Management

CERN spin-off data management system

Website: <https://info.tind.io/RDM>

TIND Institutional Repository
CERN spin-off institutional repository.

Website: <https://info.tind.io/ir>

1. Matt Enis, "Academic Libraries Implement New ILS, IR Developed by CERN," *Library Journal*, June 1, 2017, <https://www.libraryjournal.com/?detailStory=academic-libraries-implement-new-ils-ir-developed-by-cern>

Transpose

"Transpose (TRANsparency in Scholarly Publishing for Open Scholarship Evolution) is an initiative to build a database of journal policies. We're focusing on three areas: open peer review, co-reviewing, and detailed preprinting policies. We welcome contributions from anyone, but seek verification from journal and publishers. Our goal is to foster new practices while increasing awareness among authors, editors, and other stakeholders, and we seek to provide resources to assist journals in setting, sharing, and clarifying policies." (<https://transpose-publishing.github.io/#/about>)

Website: <https://transpose-publishing.github.io/#/>

1. Chris Woolston, "Unravelling the Mysteries of Preprints and Peer Review," *Nature*, June 18, 2019, <https://www.nature.com/articles/d41586-019-01947-4>

Ubiquity Press

"Ubiquity Press is a United Kingdom-based academic publisher focusing on open access publication. It was established in 2012. It is a member of the Committee on Publications Ethics, the Association of Learned and Professional Society Publishers, and the Open Access Scholarly Publishers Association. The press operates on an article processing charge basis." (wiki)

Website: <https://www.ubiquitypress.com>

1. https://en.wikipedia.org/wiki/Ubiquity_Press
2. Adeline Koh, "Open Access Ahoy: An Interview with Ubiquity Press," *Chronicle of Higher Education*, October 22, 2012, <https://www.chronicle.com/blogs/profhacker/ubiquity/43312>

Unpaywall
Project of Our Research

“Unpaywall is a browser extension, which finds free versions of (paywalled) articles. In July 2018 it was reported to provide free access to 20 million articles, and about 47% of the articles that people search with Unpaywall.” (wiki)

Website: <https://unpaywall.org>

1. <https://en.wikipedia.org/wiki/ImpactStory>
2. Maha Nali, “Find Open Access Articles Faster with UnPayWall,” ProHacker [Blog], *Chronicle of Higher Education*, March 27, 2017, <https://www.chronicle.com/blogs/prohacker/find-open-access-articles-faster-with-unpaywall/63793>
3. Dalmeet Singh Chawla, “Unpaywall Finds Free Versions of Paywalled Papers,” *Nature*, April 4, 2017, <https://www.nature.com/news/unpaywall-finds-free-versions-of-paywalled-papers-1.21765>
4. Devin Coldewey, “Unpaywall Scours the Web for Free Versions of Scientific Papers,” *TechCrunch* [Blog], April 5, 2017, <https://techcrunch.com/2017/04/05/unpaywall-scours-the-web-for-free-versions-of-scientific-papers/>
5. Cory Doctorow, “Unpaywall: A Search-Engine for Authorized, Freely Accessible Versions of Scholarly Journal Articles,” *BoingBoing* [Blog], February 6, 2018, <https://boingboing.net/2018/02/06/search-engine-arbitrage.html>
6. Holly Else, “How Unpaywall is Transforming Open Science,” *Nature*, August 15, 2018, <https://www.nature.com/articles/d41586-018-05968-3>
7. Kerry Dhakal, “Unpaywall,” *Journal of the Medical Library Association* 107(2): 286–288, April 2019, DOI: [10.5195/jmla.2019.650](https://doi.org/10.5195/jmla.2019.650)

UNSILO

“UNSILO provides artificial intelligence tools and solutions for publishers to grow new business opportunities and improve customer experience and publishing workflows.” (ws)

Website: <https://unsilo.ai>

1. “Company Overview of Unsilo A/S,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=247421633>
2. Sarah B. Haider, “Aarhus-based Startup Going Global with Its Innovative Technology,” *Jutland Station*, February 9, 2017, <http://www.jutlandstation.dk/unsilo-aarhus-startup/>
3. Frank Krings, “Publishing Will Become Increasingly Personalised!: Interview with AI-Publisher UNSILO,” *Frankfurter Buchmesse*, July 9, 2018, <https://www.buchmesse.de/en/news/interview-ai-publisher-unsilo>
4. Douglas Heaven, “AI Peer Reviewers Unleashed to Ease Publishing Grind,” *Nature*, November 22, 2018, <https://www.nature.com/articles/d41586-018-07245-9>
5. Porter Anderson, “Industry Notes: Denmark’s UNSILO in AI Partnership with Wiley in Manuscript Evaluation,” *Publishing Perspectives*, May 24, 2019, <https://publishingperspectives.com/2019/05/industry-notes-denmark-unsilo-partnership-with-wiley-on-ai-manuscript-evaluation/>

Vega Publishing

Program hosted by Wayne State University

“Vega is a media-rich authoring and editorial development platform hosted at Wayne State University Libraries. It offers a range of features and workflows to create, review, and share data, media, and text. Its ability to include information in a variety of representations (text, image, sound) makes it easier to communicate scholarly information to different audiences. Vega also supports typical academic publishing processes and gives users control over editorial and peer review workflows.” (mtg)

Website: <http://www.vegapublish.info>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/twoaplgh?readingCollection=2e2f6c3f>
2. Cheryl E. Ball, “Vega: An Academic Publishing System for the 21st Century,” Septentrio Conference Series 2018, DOI: <https://doi.org/10.7557/5.4545>

Vimeo

“Vimeo is an ad-free video platform headquartered in New York City, providing free video viewing services as a competitor to YouTube. In 2007, Vimeo became the first video sharing site to support high-definition video. It has launched several products that enable quality video creation at scale, most recently with the launch of Vimeo Stock in fall of 2018. Vimeo is a software as a service (SaaS) business, and offers subscription plans that service various customer segments. Vimeo was founded in November 2004 by Jake Lodwick and Zach Klein. Anjali Sud has been CEO of Vimeo since July 2017.” (wiki)

Website: <https://www.vimeo.com>

1. <https://en.wikipedia.org/wiki/Vimeo>
2. “Company Overview of Vimeo, Inc.,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=105810806>

Virtual International Authority File (VIAF)

Program of OCLC

“The Virtual International Authority File (VIAF) is an international authority file. It is a joint project of several national libraries and operated by the Online Computer Library Center (OCLC).” (wiki)

Website: <https://viaf.org> and <https://www.oclc.org/en/viaf.html>

1. https://en.wikipedia.org/wiki/Virtual_International_Authority_File
2. Maximilian Klein and Alex Kyrios, “VIAFbot and the Integration of Library Data on Wikipedia,” *Code4lib Journal* 22, October 14, 2013, <http://journal.code4lib.org/articles/8964>
3. Thomas B. Hickey and Jenny A. Toves, “Managing Ambiguity In VIAF,” *D-Lib Magazine* 20(7/8), July/August 2014, <http://www.dlib.org/dlib/july14/hickey/07hickey.html>

Vivliostyle

“Vivliostyle is a CSS- and browser-based typesetting tool for digital and print publishing that adds book typography and layout capability of web browsers, supporting paginated EPUB and web publications or export to PDF. Vivliostyle complies with W3C standardization of CSS typesetting specifications. Vivliostyle.js was designed based on Peter Sorotokin’s EPUB Adaptive Layout implementation.” (mtg)

Website: <https://vivliostyle.org/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/v17vpbcf?readingCollection=2e2f6c3f>
2. Adam Hyde, “Why Vivliostyle is Important,” *Adam Hyde* [Blog], January 26, 2017, <https://www.adamhyde.net/why-vivliostyle-is-important/>

VIVO

Program of DuraSpace/LYRASIS

“VIVO is a web-based, open-source suite of computer software for managing data about researchers, scientists, and faculty members. VIVO uses Semantic Web techniques to represent people and their work.” (wiki)

“VIVO is member-supported, open source software and an ontology for representing scholarship. VIVO supports recording, editing, searching, browsing, and visualizing scholarly activity. VIVO encourages showcasing the scholarly record, research discovery, expert finding, network analysis, and assessment of research impact. VIVO is easily extended to support additional domains of scholarly activity.” (ws)

Website: <https://duraspace.org/vivo/>

1. [https://en.wikipedia.org/wiki/VIVO_\(software\)](https://en.wikipedia.org/wiki/VIVO_(software))
2. Medha Devare, Jon Corson-Rikert, Brian Caruso, Brian Lowe, Kathy Chiang, and Janet McCue, “VIVO: Connecting People, Creating a Virtual Life Sciences Community,” *D-Lib Magazine* 13(7/8), July/August 2007, <http://www.dlib.org/dlib/july07/devare/07devare.html>
3. Tamy Chambers, Sahil Shah, Ashish Urankar, Venkat Kalyan, Andrea Scharnhorst, Linda Reijnhoudt, Laura Rideour, Christophe Guéret, and Ying Ding, “Bilingual Researcher Profiles: Modeling Dutch Researchers in Both English and Dutch Using the VIVO Ontology,” *Proceedings of the American Society for Information Science and Technology* 50(1):1–4, May 2014, DOI: <https://doi.org/10.1002/meet.14505001137>

Wax

Program of Collaborative Knowledge Foundation (Coko)

“Wax is a web-based word processor developed by Coko. It is the styling/formatting interface in use within Editoria, and the manuscript annotation and presentation portal in use in PubSweet platforms such as eLife’s Libero Reviewer, and Hindawi’s Phenom. Editoria provides context-sensitive tagging and formatting and a track-changes workflow, as well as many features driven by the needs of university press workflows. The initial version of Wax was based on the Substance.io library (as with Texture); Wax 2 is based on the ProseMirror library.” (mtg)

Website: <https://coko.foundation/category/wax-editor/>

1. Mind the Gap: <https://mindthegap.pubpub.org/pub/j6fg1s5v?readingCollection=2e2f6c3f>

Wayback Machine

Program of the Internet Archive

“The Wayback Machine is a digital archive of the World Wide Web, founded by the Internet Archive, a nonprofit organization based in San Francisco. Its founders, Brewster Kahle and Bruce Gilliat developed the Wayback Machine with the intention of providing ‘universal access to all knowledge’ by preserving archived copies of defunct webpages. Since its launch in 2001, over 452 billion pages have been added to the archive. The service has also sparked controversy over whether or not creating archived pages without the owner’s permission constitutes copyright infringement in certain jurisdictions.” (wiki)

Website: <https://web.archive.org>

1. https://en.wikipedia.org/wiki/Wayback_Machine
2. Kendra Mayfield, “Wayback Goes Way Back on Web,” *Wired*, October 29, 2001, <https://www.wired.com/2001/10/wayback-goes-way-back-on-web/>
3. Judy Tong, “RESPONSIBLE PARTY -- BREWSTER KAHLE; A Library Of the Web, On the Web,” *New York Times*, September 8, 2002, <https://www.nytimes.com/2002/09/08/business/responsible-party-brewster-kahle-a-library-of-the-web-on-the-web.html>
4. Jill Lepor, “What the Internet Said Yesterday,” *New Yorker*, January 19, 2015, <https://www.newyorker.com/magazine/2015/01/26/cobweb>
5. Kaley Leetaru, “How Much of The Internet Does the Wayback Machine Really Archive?” *Forbes*, November 16, 2015, <https://www.forbes.com/sites/kalevleetaru/2015/11/16/how-much-of-the-internet-does-the-wayback-machine-really-archive/#17296fba9446>
6. Kaley Leetaru, “The Internet Archive Turns 20: A Behind the Scenes Look at Archiving The Web,” *Forbes*, January 18, 2016, <https://www.forbes.com/sites/kalevleetaru/2016/01/18/the-internet-archive-turns-20-a-behind-the-scenes-look-at-archiving-the-web/#6ba14c7682e0>

Web of Science

Product of Clarivate Analytics

“Web of Science (previously known as Web of Knowledge) is an online subscription-based scientific citation indexing service originally produced by the Institute for Scientific Information (ISI), later maintained by Clarivate Analytics.” (wiki)

Website: <http://login.webofknowledge.com>

1. https://en.wikipedia.org/wiki/Web_of_Science
2. Nisa Bakkalbasi, Kathleen Bauer, Janis Glover, and Lei Wang, “Three Options for Citation Tracking: Google Scholar, Scopus and Web of Science,” *Biomedical Digital Libraries* 3, June 2006, DOI: <https://doi.org/10.1186/1742-5581-3-7>
3. Matthew E. Falagas, Eleni I. Pitsouni, George A. Malietzis, and Georgios Pappas, “Comparison of PubMed, Scopus, Web of Science, and Google Scholar: Strengths and Weaknesses,” *FASEB Journal* 22(2), February 2008, DOI: <https://doi.org/10.1096/fj.07-9492LSF>
4. Abhaya V. Kulkarni, Brittany Aziz, Iffat Shams, and Jason W. Busse, “Comparisons of Citations in Web of Science, Scopus, and Google Scholar for Articles Published in General Medical Journals,” *JAMA* 302(10):1092–1096, September 9, 2009, DOI: <https://doi.org/10.1001/jama.2009.1307>
5. Eric Archambault, David Campbell, Yves Gingras, and Vincent Lariviere, “Comparing Bibliometric Statistics Obtained from the Web of Science and Scopus,” *Journal of the Association for Information Science and Technology* 60(7):1320–1326, July 2009, DOI: <https://doi.org/10.1002/asi.21062>

Whedon (@Whedon)

Whedon is an editorial bot that interacts with authors, reviewers, and editors. It is used by the Journal of Open Source Software (JOSS) and allows the easy creation of software papers.

Website: <https://joss.readthedocs.io/en/latest/whedon.html>

WorldCat

Program of OCLC

“WorldCat is a union catalog that itemizes the collections of 17,900 libraries in 123 countries and territories that participate in the Online Computer Library Center (OCLC) global cooperative. It is operated by OCLC, Inc. The subscribing member libraries collectively maintain WorldCat’s database, the world’s largest bibliographic database. OCLC makes WorldCat itself available free to libraries, but the catalog is the foundation for other subscription OCLC services (such as resource sharing and collection management). WorldCat is used by the general public and by librarians for cataloging and research.” (Wiki)

Website: <https://www.worldcat.org>

1. <https://en.wikipedia.org/wiki/WorldCat>

xPub

Website: <http://xpub.coko.foundation/>

Project of Collaborative Knowledge Foundation (Coko)

1. Adam Hyde, "What is xPub?" *Adam Hyde* [Blog], August 9, 2018, <https://www.adamhyde.net/what-is-xpub/>

XSweet

Website: <http://xsweet.coko.foundation/>

Project of Collaborative Knowledge Foundation (Coko)

[XSweet](#) is a set of scripts that take a docx file and convert it to HTML. It is modular and can be easily extended and improved. It can also be customized per use case.

1. Adam Hyde, "XSweet 1.0!" *Adam Hyde* [Blog], May 8, 2018, <https://www.adamhyde.net/xsweet-1-0/>

Yewno Discover

"Yewno's mission is that of extracting knowledge from an overwhelming quantity of unstructured and structured data. Our technology helps to overcome the "Information Overload" problem and to research and to understand the world in a more natural manner. It is inspired by the way humans process information from multiple sensorial channels and it leverages state-of-the-art Computational Linguistics, Network Theory, Machine Learning, as well as methods from the classical Artificial Intelligence." (<https://www.yewno.com/about>)

Website: <https://www.yewno.com>

1. "Company Overview of Yewno, Inc.," Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapid=365234720>
2. "Transforming Information into Knowledge: Yewno," *Silicon Review* [n.d.], <https://thesiliconreview.com/magazines/transforming-information-into-knowledge-yewno/>
3. Ruggero Gramatica and Ruth Pickering, "Startup story: Yewno: An AI-driven Path to a Knowledge-based Future," *Insights*, May 31, 2017, <https://insights.uksg.org/articles/10.1629/uksg.369/print/>
4. Alice Meadows, "Do You Know About Yewno?" *The Scholarly Kitchen: What's Hot and Cooking in Scholarly Publishing*, June 7, 2017, <https://scholarlykitchen.sspnet.org/2017/06/07/do-you-know-about-yewno/>

YouTube

“YouTube is an American video-sharing website headquartered in San Bruno, California. Three former PayPal employees—Chad Hurley, Steve Chen, and Jawed Karim—created the service in February 2005. Google bought the site in November 2006 for US\$1.65 billion; YouTube now operates as one of Google’s subsidiaries. YouTube allows users to upload, view, rate, share, add to playlists, report, comment on videos, and subscribe to other users. It offers a wide variety of user-generated and corporate media videos.” (wiki)

Webste: <https://www.youtube.com>

1. <https://en.wikipedia.org/wiki/YouTube>
2. “Company Overview of YouTube, LLC,” Bloomberg, <https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=24603346>

Zenodo

Program of OpenAire

“Zenodo is a general-purpose open-access repository developed under the European [OpenAIRE](#) program and operated by CERN. It allows researchers to deposit data sets, research software, reports, and any other research related digital artifacts. For each submission, a persistent digital object identifier (DOI) is minted, which makes the stored items easily citeable.” (wiki)

Website: <https://zenodo.org>

1. <https://en.wikipedia.org/wiki/Zenodo>
2. Andrew Purcell, “CERN and OpenAIREplus Launch New European Research Repository,” *ScienceNode* [Blog] May 13, 2013, <https://sciencenode.org/feature/cern-and-openaireplus-launch-new-european-research-repository.php>
3. Megan Potter and Tim Smith, “Making code citable with Zenodo and GitHub,” *Software Sustainability Institute* [Blog], July 28, 2015, <https://www.software.ac.uk/blog/2016-09-26-making-code-citable-zenodo-and-github>
4. Miguel-Angel Sicilia, Elena García-Barriocanal, and Salvador Sánchez-Alonso, “Community Curation in Open Dataset Repositories: Insights from Zenodo,” *Procedia Computer Science* 106:54–60, 2017, DOI: <https://doi.org/10.1016/j.procs.2017.03.009>
5. Isabella Peters, Peter Kraker, Elisabeth Lex, Christian Gumpenberger, and Juan Ignacio Gorraiz, “Zenodo in the Spotlight of Traditional and New Metrics,” *Frontiers in Research Metrics and Analytics*, December 2017, DOI: <https://doi.org/10.3389/frma.2017.00013>
6. Susanna Kohler, “AAS Publishing News: What Should Astronomers Do with Their Software?” *AAS Nova*, February 4, 2019, <https://aasnova.org/2019/02/04/what-should-astronomers-do-with-their-software/>

Zotero

Program hosted by George Mason University

“Zotero is a free and open-source reference management software to manage bibliographic data and related research materials (such as PDF files). Notable features include web browser integration, online syncing, generation of in-text citations, footnotes, and bibliographies, as well as integration with the word processors Microsoft Word, LibreOffice Writer, and Google Docs. It is produced by the Center for History and New Media at George Mason University.” (wiki)

Website: <https://www.zotero.org>

1. <https://en.wikipedia.org/wiki/Zotero>
2. Thomas E. Vanhecke, “Zotero,” *Journal of the Medical Library Association* 96(3):275–276, July 2008, DOI: [10.3163/1536-5050.96.3.022](https://doi.org/10.3163/1536-5050.96.3.022)
3. Daniel J. Cohen, “Creating Scholarly Tools and Resources for the Digital Ecosystem: Building Connections in the Zotero Project,” *First Monday* 13(8), August 2008, DOI: <https://doi.org/10.5210/fm.v13i8.2233>
4. Jessica Trinoskey, Frances A. Brahmi, and Carole Gall, “Zotero: A Product Review,” *Journal of Electronic Resources in Medical Libraries* 6(3):224–229, September 2009, DOI: <https://doi.org/10.1080/15424060903167229>
5. Veronica Arellano, “A Case for Zotero,” *Public Services Quarterly*, 6(4):364–366, November 2010, DOI: [10.1080/15228951003772546](https://doi.org/10.1080/15228951003772546)
6. Alexander Watkins, “Zotero for Personal Image Management,” *Art Documentation: Journal of the Art Libraries Society of North America* 32(2):301–313, Fall 2013, DOI: <https://doi.org/10.1086/673519>
7. Camille Ivey and Janet Crum, “Choosing the Right Citation Management Tool: Endnote, Mendeley, Refworks, or Zotero,” *Journal of the Medical Library Association* 106(3):399–403, July 2018, DOI: <https://doi.org/10.5195/JMLA.2018.468>