



Burrowing through the paywall: Sharing research papers in the real world.

. Ellen Sexton, Lloyd Sealy Library. Faculty Development Day August 2018.

The problem:

Paywalls limit access to three-quarters of the scholarly literature

The open access (partial) solution

Thanks to the open access movement, 50 % of newly published articles are now being made available without paywalls

Green open access = some version of the article is posted on a repository.

Gold open access = the article is freely available on the journal's website

Library responses

1. Subscribe to paid content

Library, vendor & publisher technology works together seamlessly to get user to the paywalled content.

Except.... It's not seamless. And no library has \$\$\$ to subscribe to everything.

2. Interlibrary loan! For everything else.

But... it's not immediate, and it's not seamless.

3. Encourage authors to publish in open access journals, or post a version of their article in the institutional repository.

But... they don't.

Readers' solutions: Ask Twitter....

The image shows a screenshot of a Twitter post. On the left is a sidebar for the search term "#icanhazpdf". The main content is a tweet from Alex Baranski (@Alex_Baranski) dated June 26, 2018, at 6:25 PM. The tweet text is: "#icanhazpdf 'Coherently Driven Ultrafast Complex-Valued Photonic Reservoir Computing', by Mitsumasa Nakajima, Masanobu Inubushi, Takashi Goh, and Toshikazu Hashimoto. Usual methods have failed. Help me Twitter, you're my only hope." The tweet has 3 retweets and 2 likes. Below the tweet, there is a reply from Alex Baranski himself, stating "alexbaranski at gmail dot com".

#icanhazpdf

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Worldwide trends

- Thiago Silva**
142K Tweets
- Gabriel Jesus**
118K Tweets
- Alemanha**
1.39M Tweets
- #SRBBRA**

https://twitter.com/Alex_Baranski/status/1011782626628136960 6/27/2018

Alex Baranski @Alex_Baranski [Follow](#)

#icanhazpdf "Coherently Driven Ultrafast Complex-Valued Photonic Reservoir Computing", by Mitsumasa Nakajima, Masanobu Inubushi, Takashi Goh, and Toshikazu Hashimoto. Usual methods have failed. Help me Twitter, you're my only hope.

6:25 PM - 26 Jun 2018

3 Retweets 2 Likes

1 3 2

Alex Baranski @Alex_Baranski · 20h
alexbaranski at gmail dot com

1 3 2

For authors & readers: Join an academic social network and post articles there: ResearchGate or Academia.edu

- Very popular.

BUT

- 40% of articles sampled breach copyright (Jamali, 2017)
- Subject to take down notices – e.g. Elsevier & ACS, 2017.
- No guarantee of persistence, stability. Could disappear.
- Articles can be accessed only by other members



The pirate “solution”

RESEARCH

Sci-Hub provides access to nearly all scholarly literature

Abstract The website Sci-Hub enables users to download PDF versions of scholarly articles, including many articles that are paywalled at their journal’s site. Sci-Hub has grown rapidly since its creation in 2011, but the extent of its coverage has been unclear. Here we report that, as of March 2017, Sci-Hub’s database contains 68.9% of the 81.6 million scholarly articles registered with Crossref and 85.1% of articles published in toll access journals. We find that coverage varies by discipline and publisher, and that Sci-Hub preferentially covers popular, paywalled content. For toll access articles, we find that Sci-Hub provides greater coverage than the University of Pennsylvania, a major research university in the United States. Green open access to toll access articles via licit services, on the other hand, remains quite limited. Our interactive browser at <https://greenelab.github.io/scihub> allows users to explore these findings in more detail. For the first time, nearly all scholarly literature is available gratis to anyone with an Internet connection, suggesting the toll access business model may become unsustainable.

DOI: <https://doi.org/10.7554/eLife.32822.001>

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Publisher Coverage Table

<https://greenelab.github.io/scihub/#/publishers>

The following table shows Sci-Hub's article coverage, as of March 2017, for each scholarly publisher.

Publisher 	Journals 	Sci-Hub 	Crossref  ▼	Coverage 		
Elsevier	3,410	13,115,639	13,528,561	96.9%	1.6%	91.0%
Springer Nature	2,803	6,147,387	6,856,822	89.7%	7.0%	90.6%
Wiley-Blackwell	1,639	5,786,361	6,107,661	94.7%	1.6%	89.5%
Taylor & Francis	2,710	3,000,211	3,241,697	92.6%	2.4%	90.2%
Wolters Kluwer Health	426	1,481,291	1,864,435	79.4%	4.5%	96.7%
Oxford University Press	316	1,567,250	1,774,511	88.3%	4.0%	98.5%
SAGE	816	1,448,041	1,593,717	90.9%	1.9%	97.7%
American Chemical Society	62	1,388,282	1,405,388	98.8%	0.0%	93.0%
Cambridge University Press	357	965,635	1,137,914	84.9%	0.1%	97.9%
Institute of Electrical and Electronics Engineers	305	881,253	893,756	98.6%	0.5%	86.0%
American Institute of Physics	29	533,464	594,776	89.7%	1.2%	93.6%
American Physical Society	10	555,125	557,414	99.4%	0.7%	50.7%

Journal Coverage Table

<https://greenelab.github.io/scihub/#/journals>

The following table shows Sci-Hub's article coverage, as of March 2017, for each journal.

criminal

	Journal [?]	Sci-Hub [?]	Crossref [?] ▼	Coverage [?]
✓	Journal of Criminal Justice	3,802	3,807	99.9%
✗	Journal of Criminal Law, Criminology and Police Science	2,448	2,448	100.0%
✓	Howard Journal of Criminal Justice	2,376	2,436	97.5%
✓	Criminal Justice Review	2,389	2,409	99.2%
✗	The Journal of criminal law and criminology, including the American	2,173	2,173	100.0%
✓	Criminal Justice and Behavior	1,983	2,007	98.8%
✓	Journal of Criminal Law and Criminology	1,719	1,719	100.0%
✓	Criminal Justice Matters	1,646	1,649	99.8%
✓	Journal of International Criminal Justice	1,310	1,331	98.4%
✓	Criminal Behaviour and Mental Health	1,060	1,323	80.1%
✓	International Criminal Justice Review	1,161	1,175	98.8%
✓	Journal of Contemporary Criminal Justice	940	970	96.9%
✓	American Journal of Criminal Justice	855	933	91.6%

“Sci-Hub....retrieves and distributes scholarly literature without regard to copyright. ...**note that, in many jurisdictions, use of Sci-Hub may constitute copyright infringement.** Users of Sci-Hub do so at their own risk. This study is not an endorsement of using Sci-Hub, and its authors and publishers accept no responsibility on behalf of readers. There is a possibility that Sci-Hub users — especially those not using privacy-enhancing services such as Tor — could have their usage history unmasked and **face legal or reputational consequences.**”

Analysis of Sci-Hub

The following activities have all been reported and linked specifically to Sci-Hub:

- ✘ Bombarding University IT systems with phishing attempts and dictionary attacks for days.
- ✘ Hacking personal accounts to hijack phone numbers used for dual factor authentication.
- ✘ Intrusions resulting in thousands of articles being stolen in a single attack.
- ✘ Circumvention of CAPTCHA.
- ✘ Stolen credentials used to plant viruses.
- ✘ Accessing via proxies and stolen user credentials



What else are they looking at
or stealing?

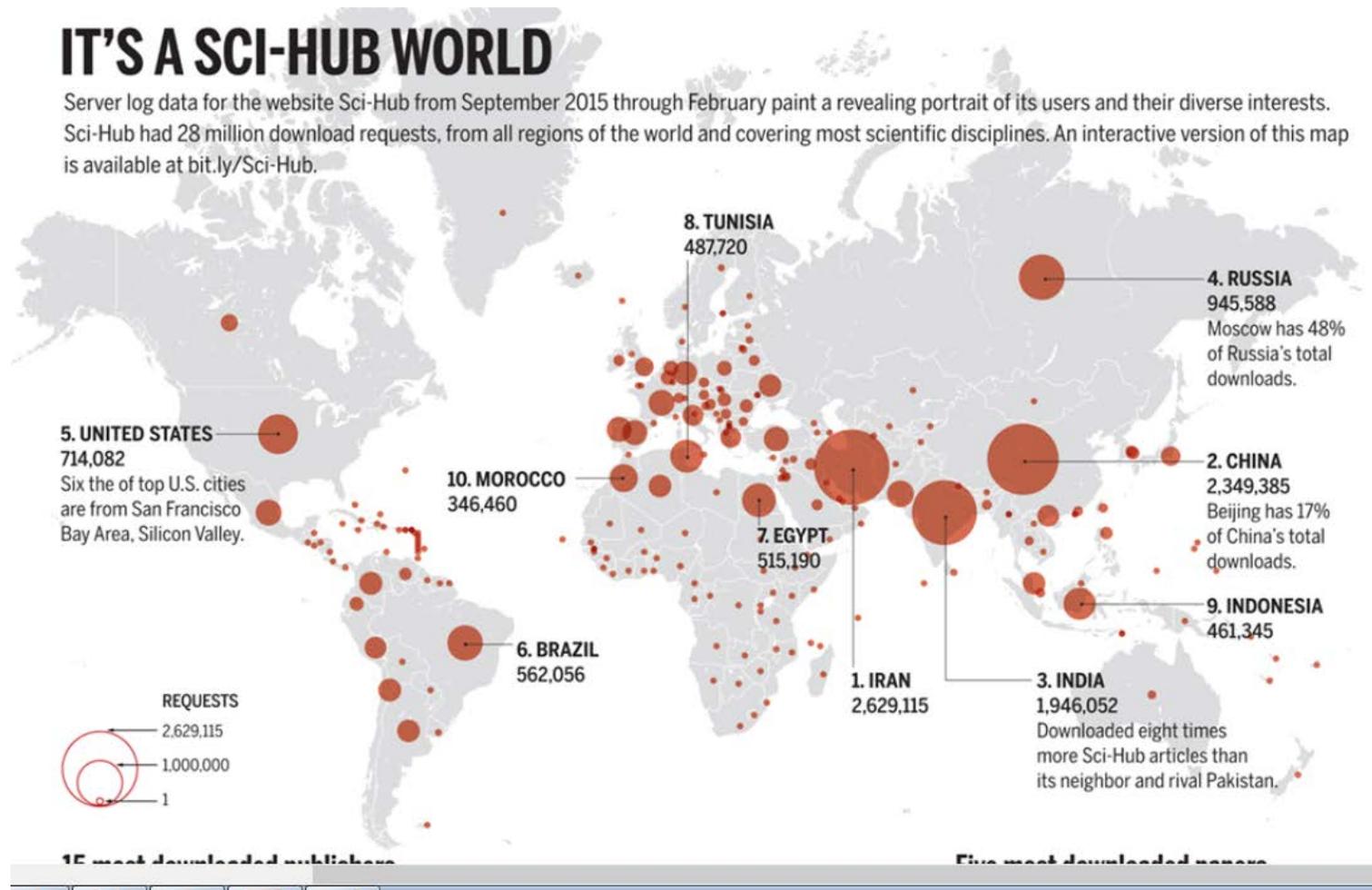


Who's downloading pirated papers? Everyone.

By John Bohannon. *Science*, 29 Apr 2016: 508-512. <http://science.sciencemag.org/content/352/6285/508>

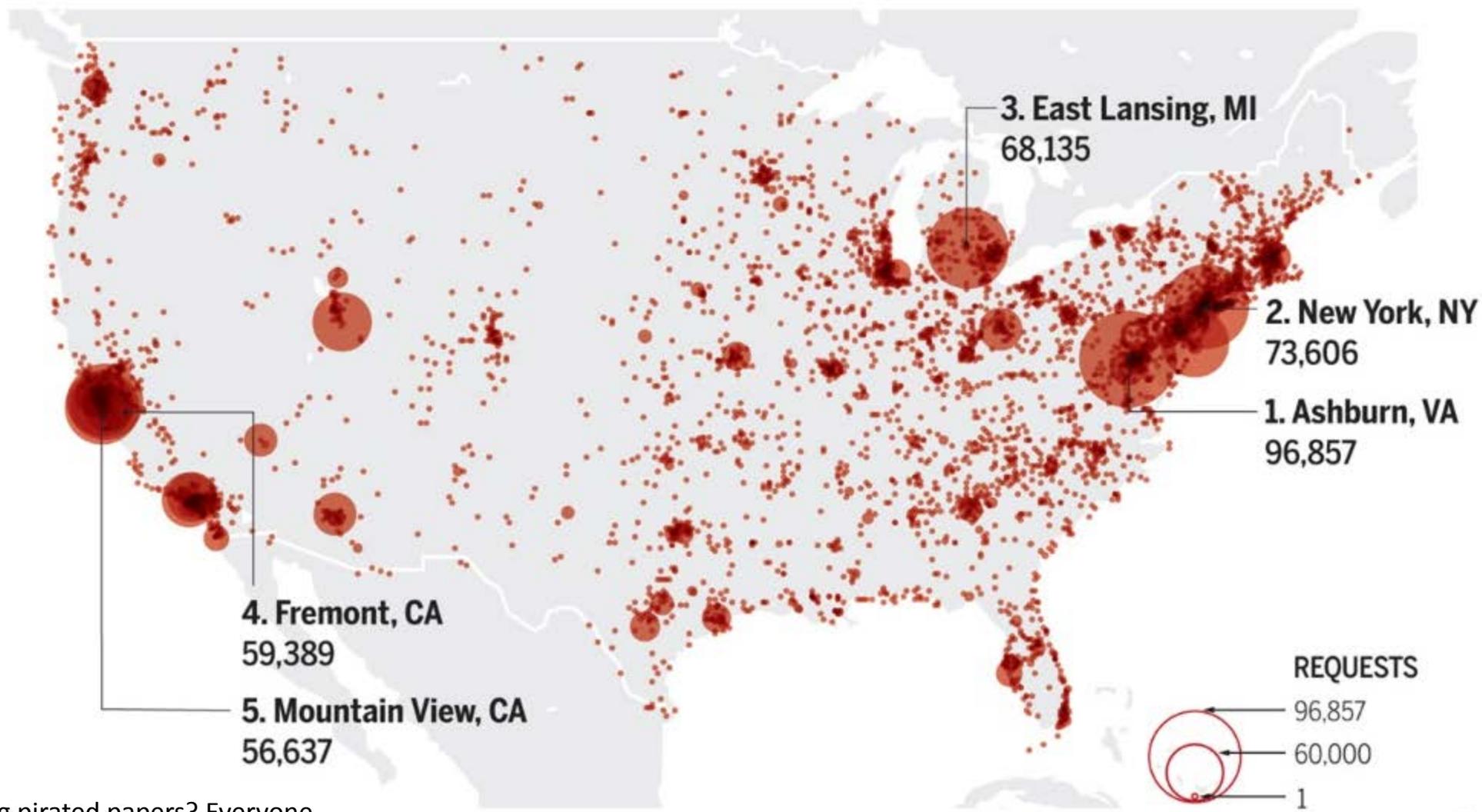
IT'S A SCI-HUB WORLD

Server log data for the website Sci-Hub from September 2015 through February paint a revealing portrait of its users and their diverse interests. Sci-Hub had 28 million download requests, from all regions of the world and covering most scientific disciplines. An interactive version of this map is available at bit.ly/Sci-Hub.



Need or convenience?

Sci-Hub users in the United States seem to congregate near universities and likely have institutional access to the articles they request. This map excludes 27,000 download requests from anonymous U.S. IP addresses.



Who's downloading pirated papers? Everyone.

By John Bohannon. *Science*, 29 Apr 2016: 508-512. <http://science.sciencemag.org/content/352/6285/508>

Who is financing it all, and why? (who is really behind SciHUB?)

- Minutes 40:06 to 41:43 at <https://www.sspnet.org/?library=scihub-are-publishers-just-going-to-play-whack-a-mole-forever-or-can-they-actually-do-something> Andrew Pitts speaking, co-founder of PSI PublisherSolutions International.

What can libraries, authors and publishers do
to make the user experience as frictionless as
stealing?

(paraphrasing Andrew Pitts)

For readers: Browser plugins

- Unpaywall
 - Web site & browser extension. Searches legitimate open access repositories, soon to work with Elsevier/SCOPUS.
- Kopernio
 - REALLY PROMISING! Searches legitimate open access repositories AND library subscriptions - JJ library is working to enable this, not ready yet.

Also:

- Open Access Button ((web site & Firefox extension)
- Lazy Scholar (browser extension)

Unpaywall browser plug in example

The image shows a screenshot of a web browser displaying a PubMed article page. The browser's address bar shows the URL `ov/pubmed/12188784`. The page content includes the PubMed logo, a search bar, and the article title "Jamming transitions and avalanches in the game of Dots-and-Boxes." by Metzler R¹, Engel A. The abstract text is visible, starting with "We study the game of Dots-and-Boxes from a statistical point of view." A red arrow points to the lock icon in the browser's address bar, and another red arrow points to a green lock icon in the bottom right corner of the browser window.

Jamming transitions and avalanches in the game of Dots-and-Boxes. - PubMed - NCBI

NCBI Resources How To Sign in to NCBI

PubMed.gov US National Library of Medicine National Institutes of Health

PubMed Search Help

Format: Abstract

Phys Rev E Stat Nonlin Soft Matter Phys. 2002 Jun;65(6 Pt 2):066108. Epub 2002 Jun 14.

Jamming transitions and avalanches in the game of Dots-and-Boxes.

Metzler R¹, Engel A.

Author information

Abstract

We study the game of Dots-and-Boxes from a statistical point of view. The early game can be treated as a case of random sequential adsorption, with a jamming transition that marks the beginning of the end game. We derive a set of differential equations to make predictions about the state of the lattice at the transition, and thus about the distribution of avalanches in the end game.

PMID: 12188784 DOI: [10.1103/PhysRevE.65.066108](https://doi.org/10.1103/PhysRevE.65.066108)

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For authors: Publish your articles open access

Thanks to the open access movement, 50 % of newly published articles are now being made available without paywalls

Green open access = some version of the article is posted on a repository, e.g. *CUNY Academic Works*.

Gold open access = the article is freely available on the journal's website (may involve author charges)

For authors: Get your ORCID and use it!

Persistent identifiers help identify and disambiguate disparate items. Articles have DOIs, authors have ORCIDS.

This REALLY helps the scholarly communications infrastructure (crossref, etc)

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SJ Chao, B Evans, R Phillips, MA Polger, B Posner... - 2017
- Developing Sustainable International Library Exchange Model**
SJ Chao, B Evans, R Phillips, MA Polger, B Posner... - 2013

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SciHub, Are Publishers Just Going to Play Whack a Mole Forever? Or Can They Actually Do Something? (2018). Society for Scholarly Publishing Annual Meeting. Available at <https://www.sspnet.org/?library=sci-hub-are-publishers-just-going-to-play-whack-a-mole-forever-or-can-they-actually-do-something>