



1science

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Science-Matrix

Why is the world switching to open access?

- ▶ **Ineffectiveness**

- ▶ \$450 billion public investments in research is largely inaccessible due to subscription paywalls

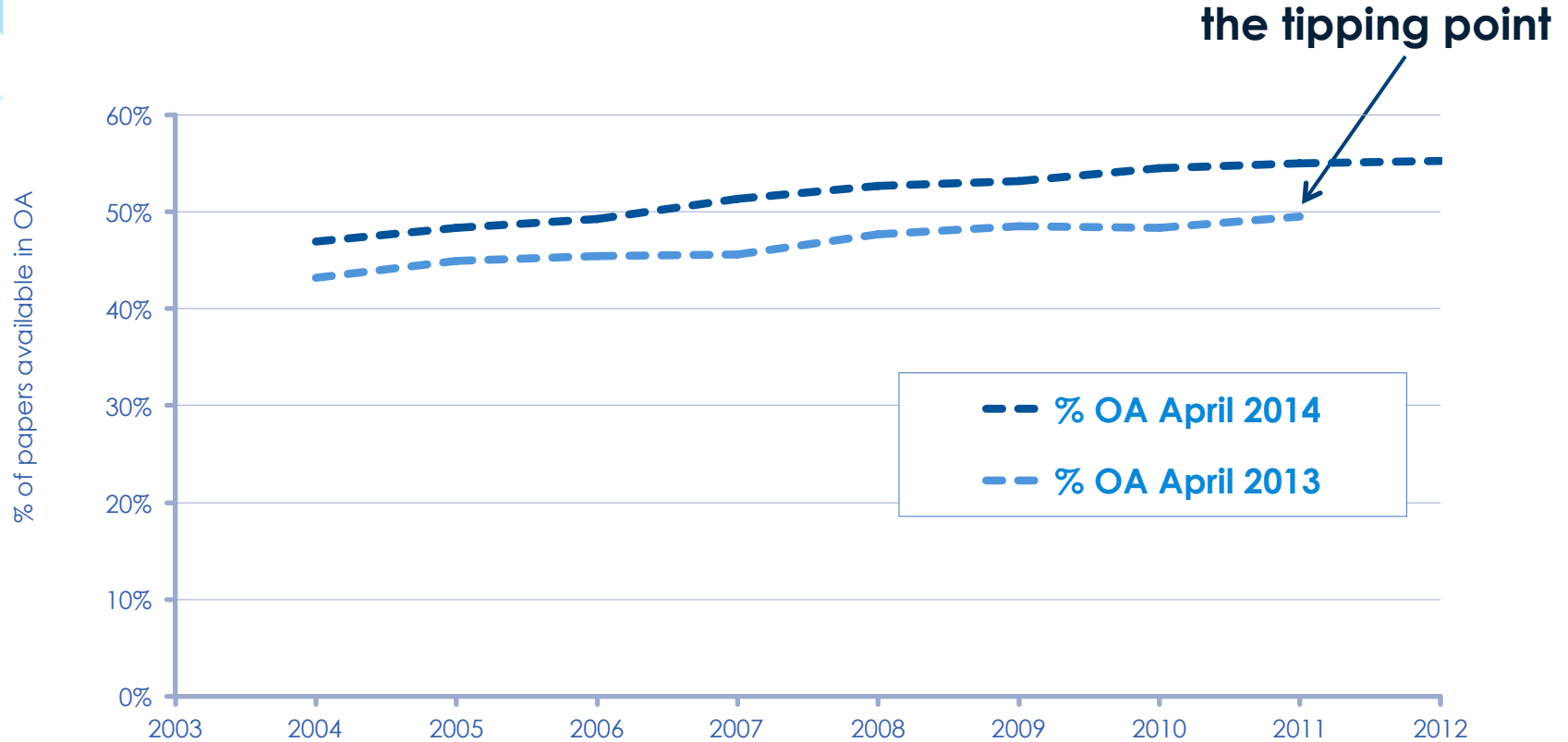
- ▶ **Inequity**

- ▶ Academia provides original contributions and manpower, but copyrights and profits go exclusively to publishers

- ▶ **Unsustainability**

- ▶ Continuous price increases not sustainable considering flat or falling library budgets

Open access at the crossroads

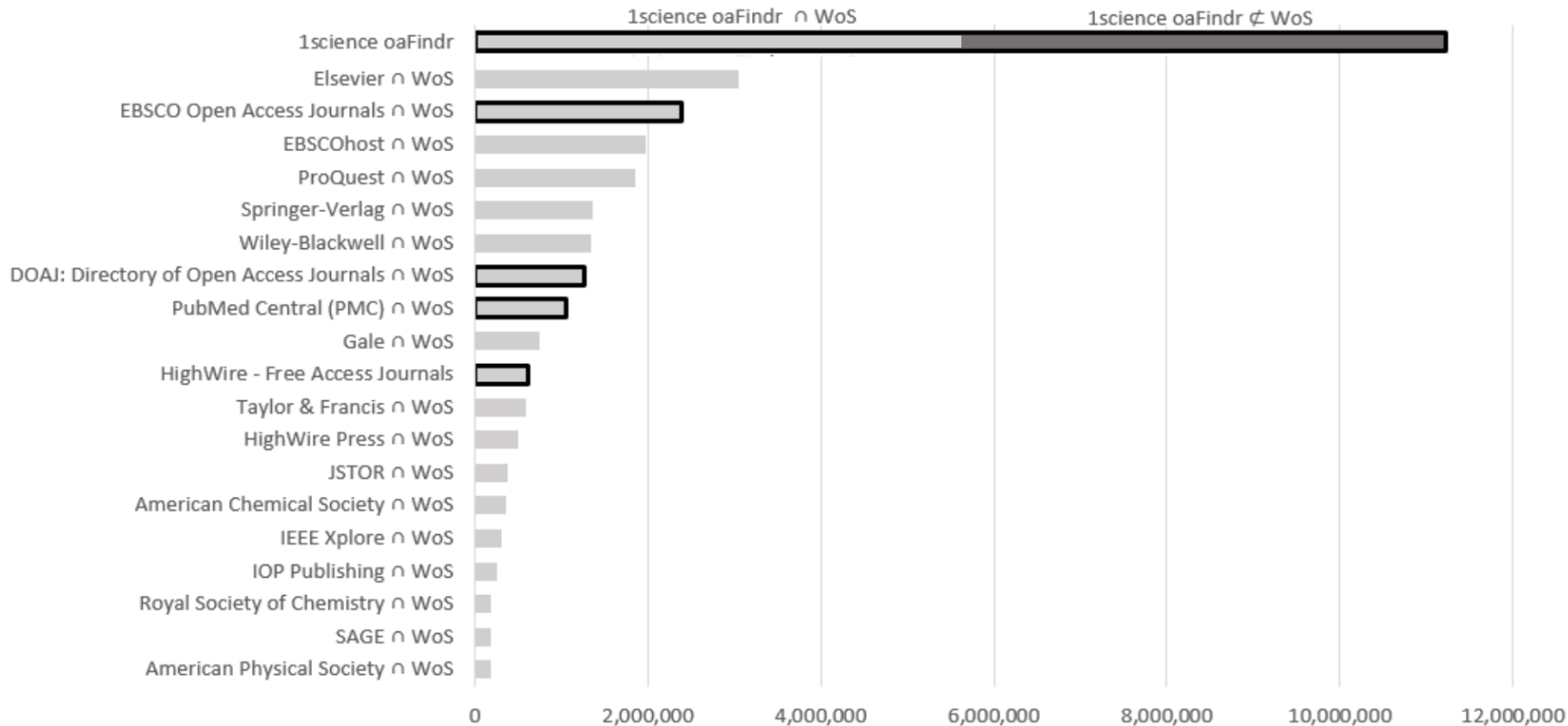


Source: Originally published in Archambault, E., et al. 2013. Proportion of Open Access Peer-Reviewed Papers at the European and World Levels—2004-2011. Produced by Science-Metrix for the European Commission.

Inclusion criteria

- ▶ Published (includes green preprints if published)
- ▶ Peer-reviewed journal
- ▶ Discoverable
- ▶ Downloadable (PDF only for now)
- ▶ Gratis OA (also contains Libre OA)

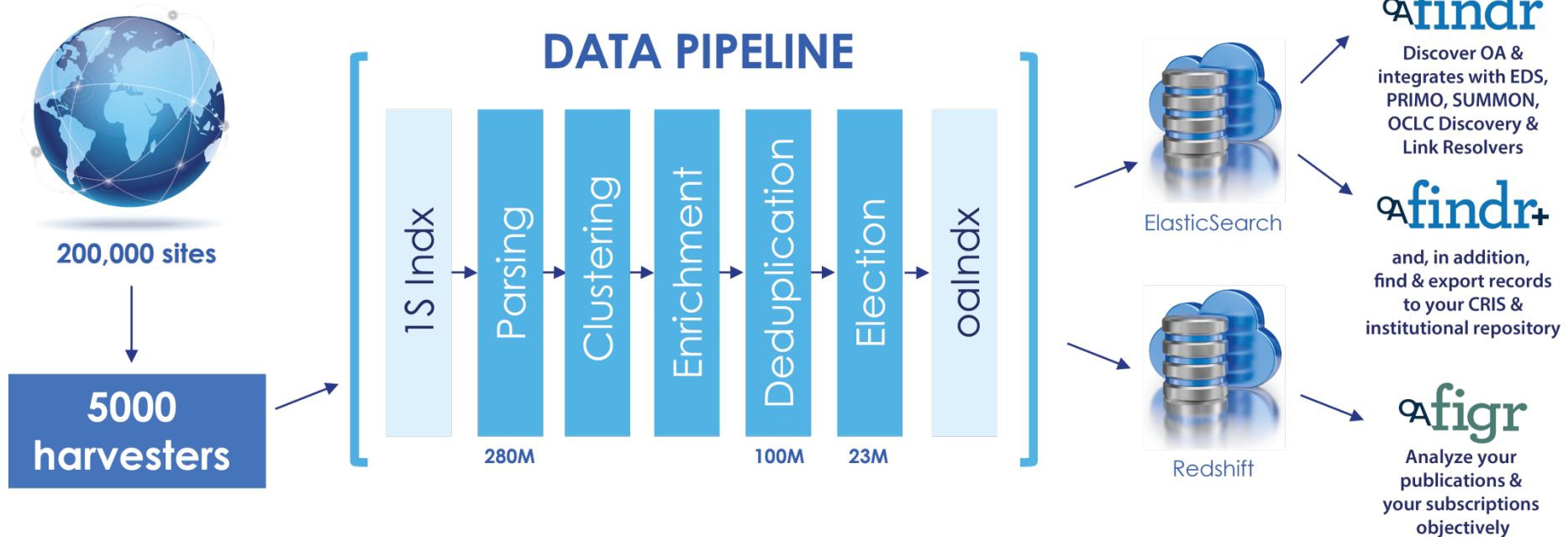
Papers per aggregators and publishers, 2006-2015



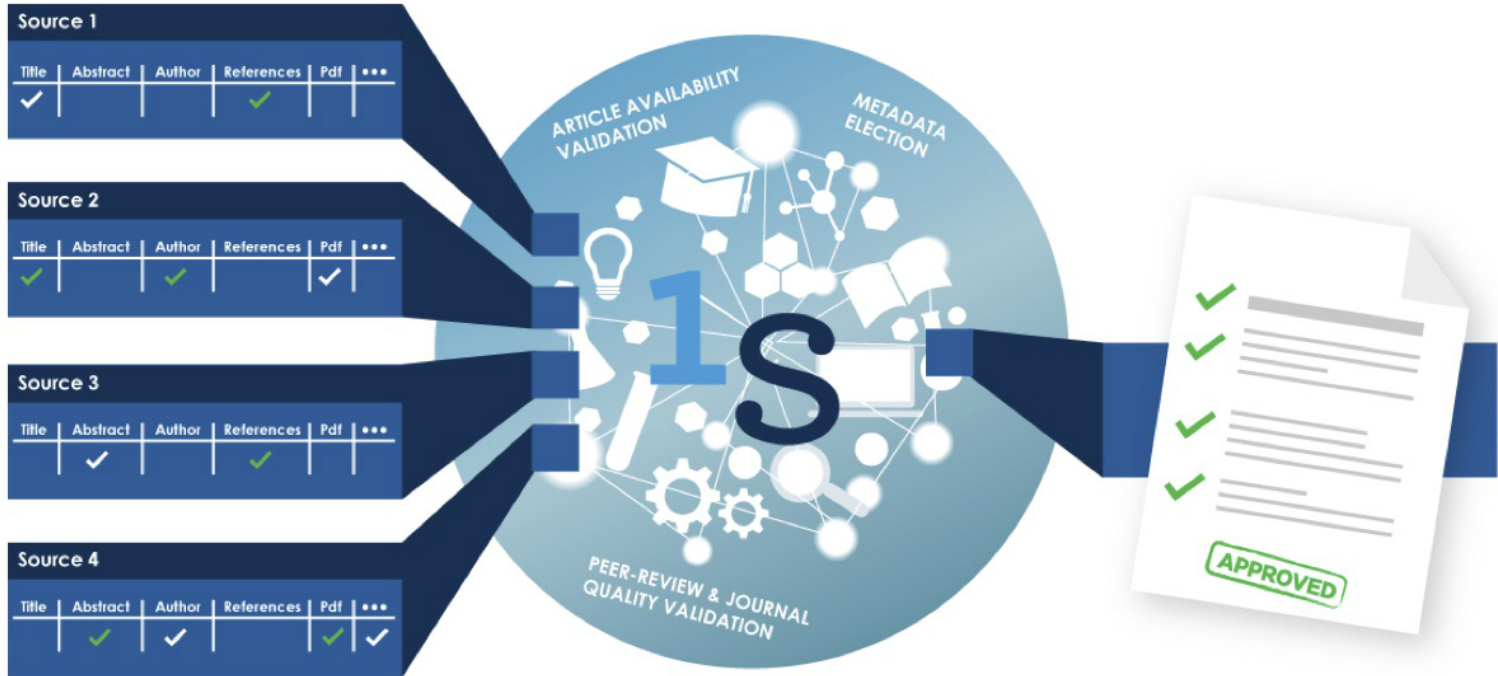
Source: Computed by Science-Metrix using Counter data, WoS, 1science oaIndx.

Note: Aggregates with black outlines are open access; oaFindr aggregates are additive (one comprises articles in journals indexed in the WoS while the second part comprises articles in journals not indexed in the WoS. Articles in WoS comprise DocType = Articles, Notes and Reviews)

Harvesting, processing & accessing data



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1science growing client list





A figur

2 components

institution Examines scholarly output & impact and the state of OA advance of your researchers in 200 areas of scholarly activities

subscription Optimize subscriptions based on rigorously produced usage statistics and knowledge of OA alternative solutions



Librarians can use oaFigr to

- ▶ Measure and monitor OA in their IR and their universities' papers made available for free by researchers and publishers all over the Web
- ▶ Gain knowledge to plan their OA strategies and tactics: see what benefits their OA strategy yields
- ▶ Strategically plan library's subscriptions by aligning them with their researcher's patterns of use
- ▶ Help decide whether to prune subscriptions to little-used packages and journals that are largely substitutable by OA content



Qfinder & Qfinder+

▶ What is oaFindr?

A new generation of hybrid bibliographic database, born to maximize the use of open access articles

- in all fields of scholarly and research activities
- in all languages
- from all over the world

▶ What does it include?

A growing collection of 23 million metadata records & [carefully maintained hyperlinks](#) to green, hybrid, and gold open access papers published in peer-reviewed journals

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Plate Micro-fins in Natural Convection: An Opportunity for Passive Concentrating Photovoltaic Cooling

by +Leonardo Micheli et al.
+Energy Procedia (2015)

The raise in temperature is a non-negligible issue for concentrating photovoltaics (CPV), where the sunlight is concentrated up to thousands of times and a large amount of heat is collected on the solar cells. Micro-fins have been identified as one of the most promising solutions for CPV cooling; despite its potentials, the number of publications on this subject is still limited. The present paper resumes the state-of-the-art of the research on micro-fins, in order to identify the most convenient fin geometry for CPV applications. The results of the investigation conducted in this work show that, compared to a conventional heat sink, micro-fins can improve the thermal performance and, at the same time, lower the weight of a system. For this reason, they are particularly beneficial for tracked systems, such as CPV, where a reduced weight means a reduced load for the tracker. The heat transfer coefficients measured through an experimental setup are used to predict the performance of a micro-finned CPV system in natural convection; an optimized fin array is found able to enhance the mass specific power up to 50% compared to an unfinned surface.

Available online at www.sciencedirect.com
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Energy Procedia 52 (2015) 301–308

ATI 2015 - 70th Conference of the ATI Engineering Association

Plate micro-fins in natural convection: an opportunity for passive concentrating photovoltaic cooling

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Abstract

The raise in temperature is a non-negligible issue for concentrating photovoltaics (CPV), where the sunlight is concentrated up to thousands of times and a large amount of heat is collected on the solar cells. Micro-fins have been identified as one of the most promising solutions for CPV cooling; despite its potentials, the number of publications on this subject is still limited. The present paper resumes the state-of-the-art of the research on micro-fins, in order to identify the most convenient fin geometry for CPV applications. The results of the investigation conducted in this work show that, compared to a conventional heat sink, micro-fins can improve the thermal performance and, at the same time, lower the weight of a system. For this reason, they are particularly beneficial for tracked systems, such as CPV, where a reduced weight means a reduced load for the tracker. The heat transfer coefficients measured through an experimental setup are used to predict the performance of a micro-finned CPV system in natural convection; an optimized fin array is found able to enhance the mass specific power up to 50% compared to an unfinned surface.

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Peer-review under responsibility of the Scientific Committee of ATI 2015

Keywords: concentrating photovoltaics, micro-fins, natural convection, passive cooling.

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Effective use of time—select and upload papers to IR

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Title	Authors	Journal title	DOI	Year	Vol	Iss	First	Last	ISSNs	PDF 1	PDF 2
Judge Warren L. Jones and the Supreme Court of Louisiana	Allison Herren Lee William Sha	Louisiana Law Review		1998	59	1	8		0024-6859	http://digitalcommons.law.lsu.edu/cgi/viewcontent.cgi?art	
Conformational Analysis of Singlet-Triplet State	Andrei G. Kutateladze	Journal of the American Chem	10.1021/ja0	2001	123	38	9279	9282	0002-7863	http://biochem.du.edu/rstrctd/pdf/jacs_2001_9279.pdf	
Phosphorylation-Dependent Changes in Structure	Andrew N. Hoofnagle James W.	Biophysical Journal	10.1016/S00	2004	86	1	395	403	0006-3495	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1303804/pdf	
Corporate Governance, the Securities and Exchange Act	Brown Jr., J. Robert	CATHOLIC UNIVERSITY LAW REVIEW		2007	57	1	45		0008-8390	http://scholarship.law.edu/cgi/viewcontent.cgi?article=109	
Beyond Different Worlds: A "Postgender" Approach	CARMEN KNUDSON-MARTIN AN	Family Process	10.1111/j.15	1999	38	3	325	340	0014-7370	http://newriver.edu/images/stories/library/Stennett_Psych	
Intuitive Theories of Human Immunodeficiency Virus	Carol K. Sigelman Antonio L. Est	JOURNAL OF PEDIATRIC PSYCH	10.1093/jpe	1996	21	4	555	572	0146-8693	http://jpepsy.oxfordjournals.org/content/21/4/555.full.pdf	
Undocumented Workers and Concepts of Fault: A	Christine Cimini	VANDERBILT LAW REVIEW		2012	65	18-12	389		0042-2533	https://www.vanderbiltlawreview.org/wp-content/uploads	
Ghana's 2000 elections: consolidating multi-party	Daniel Smith	Electoral Studies	10.1016/S02	2002	21	3	473	533	0261-3794	http://www.clas.ufl.edu/users/dasmith/es.pdf	
Electron spin echo envelope modulation evidence	Eaton, Sandra S Dubach, J Eat	Journal of Biological Chemistry		1990	265	13	7138	7141	0021-9258	http://www.jbc.org/content/265/13/7138.full.pdf	
Glass Ceilings and Dead Ends: Professional Ideology	Eli Wald	FORDHAM LAW REVIEW		2010	78		10	8	0015-704X	http://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=4	
Heavy ozone enrichments from ATMOS infrared	F. W. Irion M. R. Gunson C. P. J.	GEOPHYSICAL RESEARCH LETTE	10.1029/96	1996	23	17	2377	2380	0094-8276	http://authors.library.caltech.edu/48660/1/grl9399.pdf	
Increased primary production shifts the structure	Gina M. Wimp Shannon M. Murphy	ECOLOGY	10.1890/09-	2010	91	11	3303	3311	0012-9658	http://mysite.du.edu/~smurph71/Research_Nutrients_files/	
Why Americans Eat What They Do: Taste, Nutrient	Glanz, Karen Basil, Michael Mi	JOURNAL OF THE AMERICAN DIETETIC ASSC		1998	98	10	1118	1126	0002-8223	http://www.med.upenn.edu/chbr/documents/1998-Glanz-V	
Racial-Ethnic Self-Schemas and Segmented Assimilation	Assin I. Altschul D. Oyserman D. Byt	SOCIAL PSYCHO									
Quantitative-trait locus for specific language and	J Gayán S D Smith S S Cherny	AM JHUM GEN									
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A survey of ethical decision making among practi	Nancy E. Chevalier Mark A. Lyon	Psychology in t									
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Helioseismic Constraints on the Structure of the	P. Charbonneau J. Christensen	The Astrophys									

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Prepare Batch for Upload to IR 

Ready Scroll Lock

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Cost-shifting

Pricing from the British Library per Article

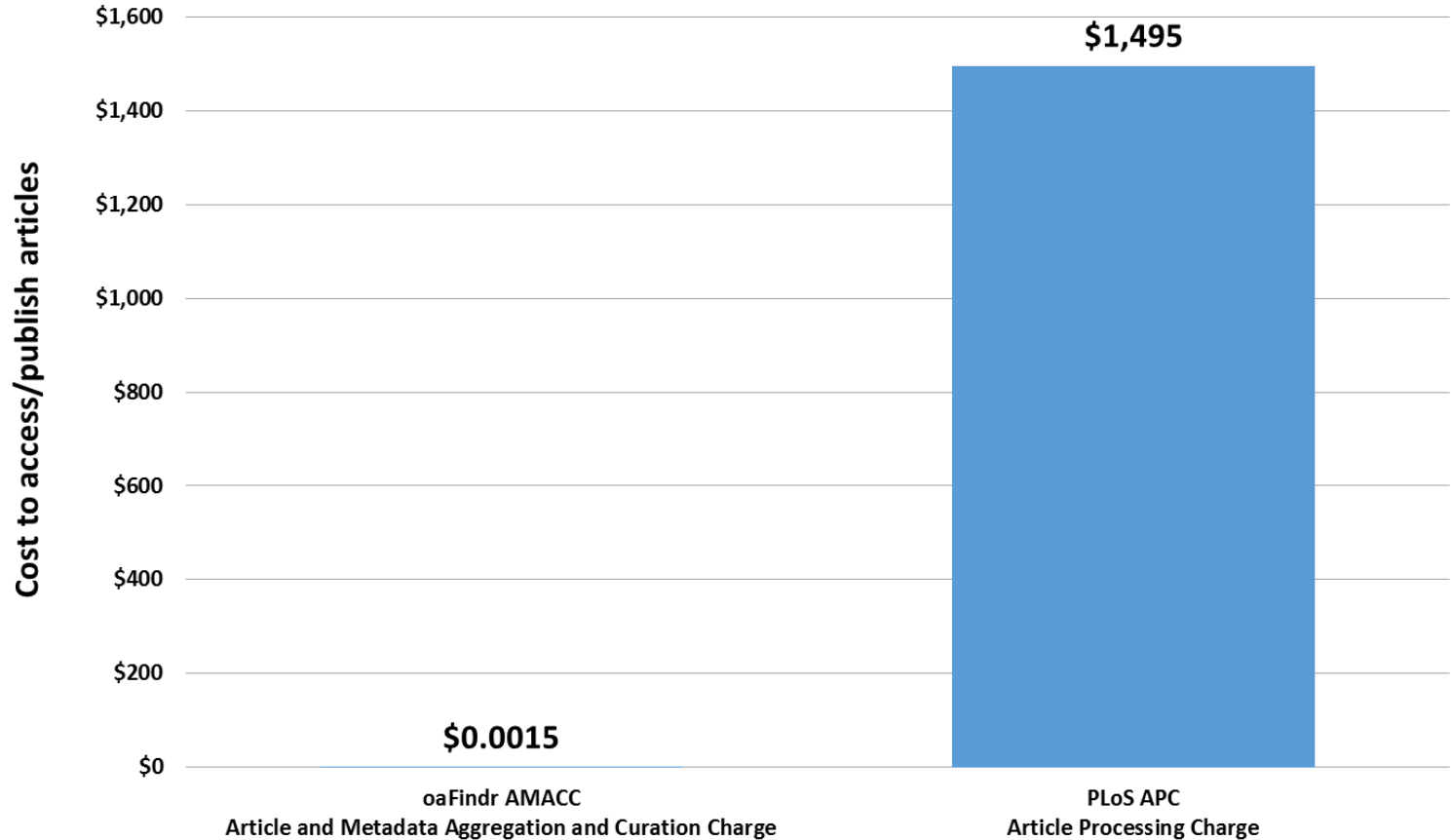
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Papers in oaFindr vs. common packages, 2006-2015

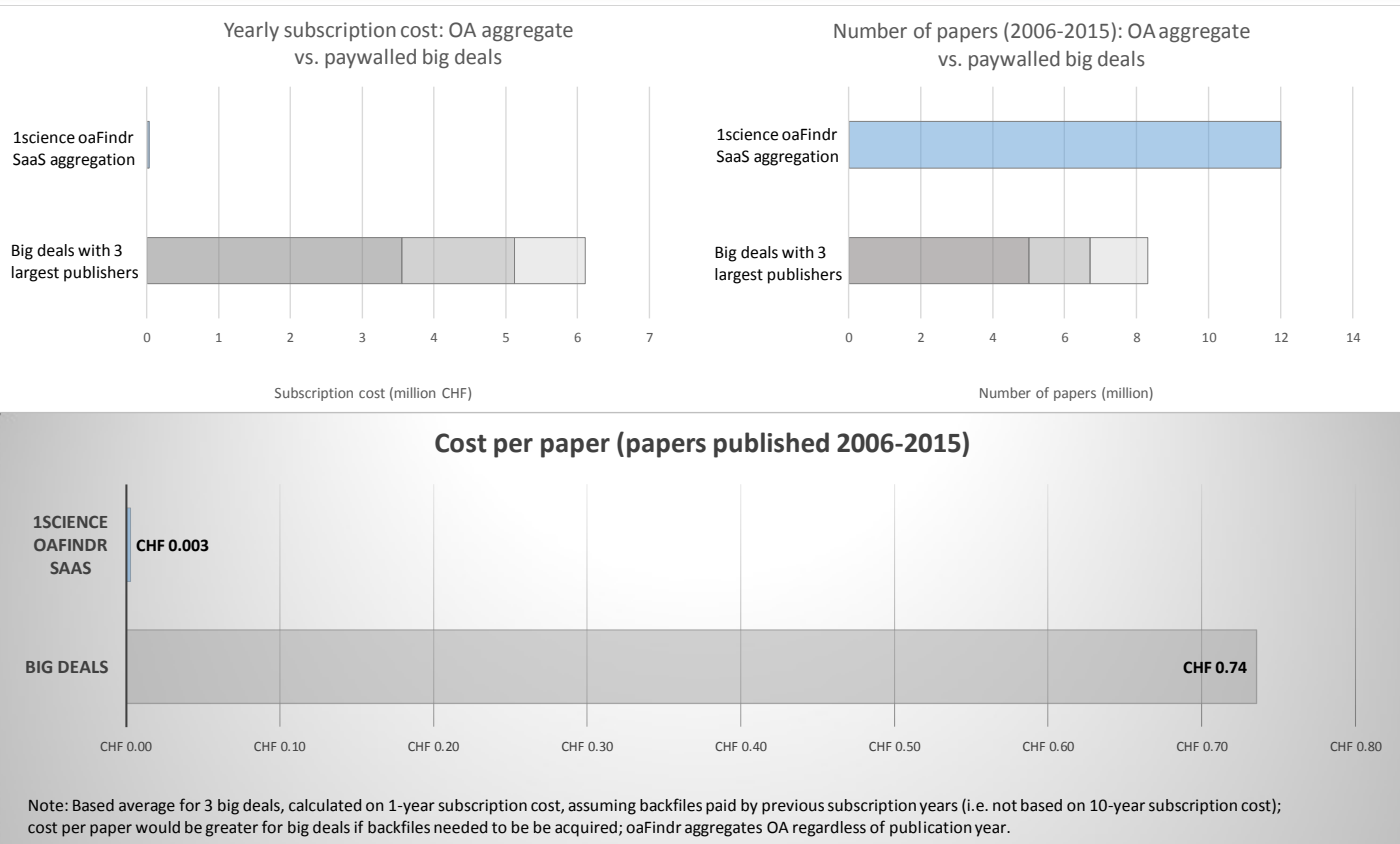
Provider	Number of papers in 1science oaFindr										Total 2006-2015
	2006	2008	2009	2009	2010	2011	2012	2013	2014	2015*	
TOTAL 1science oaFindr (within and outside WoS)	790,541	820,161	1,105,105	1,105,409	1,221,581	1,294,514	1,258,858	1,309,099	1,324,930	989,876	11,220,074
1science oaFindr - only papers outside of WoS	385,294	365,446	595,304	556,378	634,280	665,421	602,456	616,137	640,728	531,637	5,593,081

Provider / Package	Number of papers by providers (intersection with WoS - typical packages)										Total 2006-2015
	2006	2008	2009	2009	2010	2011	2012	2013	2014	2015*	
1science oaFindr	405,247	454,715	509,801	549,031	587,301	629,093	656,402	692,962	684,202	458,239	5,626,993
Elsevier	248,702	266,879	276,089	287,514	287,881	307,244	315,018	346,019	354,735	352,301	3,042,382
EBSCO	139,061	154,054	169,460	177,864	187,581	203,372	224,125	242,864	247,107	234,267	1,979,755
ProQuest	131,888	145,081	158,745	168,727	181,680	193,373	203,825	219,120	228,876	220,948	1,852,263
Springer	94,005	107,072	120,004	127,476	138,003	147,890	159,969	171,664	178,203	174,599	1,418,885
Wiley-Blackwell	116,982	127,636	132,732	133,133	137,041	140,041	140,175	141,596	142,636	139,105	1,351,077
Taylor & Francis	39,329	43,751	51,015	55,293	57,949	61,275	64,329	68,473	70,388	69,654	581,456
Gale	39,876	45,704	52,459	56,512	64,415	75,477	93,715	109,715	114,413	101,813	754,099
American Chemical Society	29,140	31,295	33,853	34,876	37,180	36,428	38,291	39,251	41,180	39,417	360,911
HighWire Press	28,098	30,623	31,727	32,942	34,133	34,862	36,616	37,521	37,613	36,753	340,888
IEEE	25,304	26,498	26,832	27,473	27,469	30,590	32,290	34,751	35,590	33,612	300,409
JSTOR	25,151	25,893	27,386	28,524	28,711	28,830	29,345	29,840	30,063	28,807	282,550
IOP Publishing	21,275	22,850	24,591	25,159	24,609	25,013	25,875	26,102	24,918	24,326	244,718
Oxford Journals	19,929	21,273	21,733	22,372	23,937	25,285	26,115	25,678	26,779	25,955	239,056
Royal Society of Chemistry	5,326	5,760	7,169	10,162	13,118	19,955	23,116	27,155	36,204	42,199	190,164
SAGE Publications	12,524	13,800	15,673	16,688	17,624	18,685	19,856	21,030	21,708	21,610	179,198

Paradigm shift - cost shifts from access to publication



Cost advantage of OA aggregation vs. paywall access



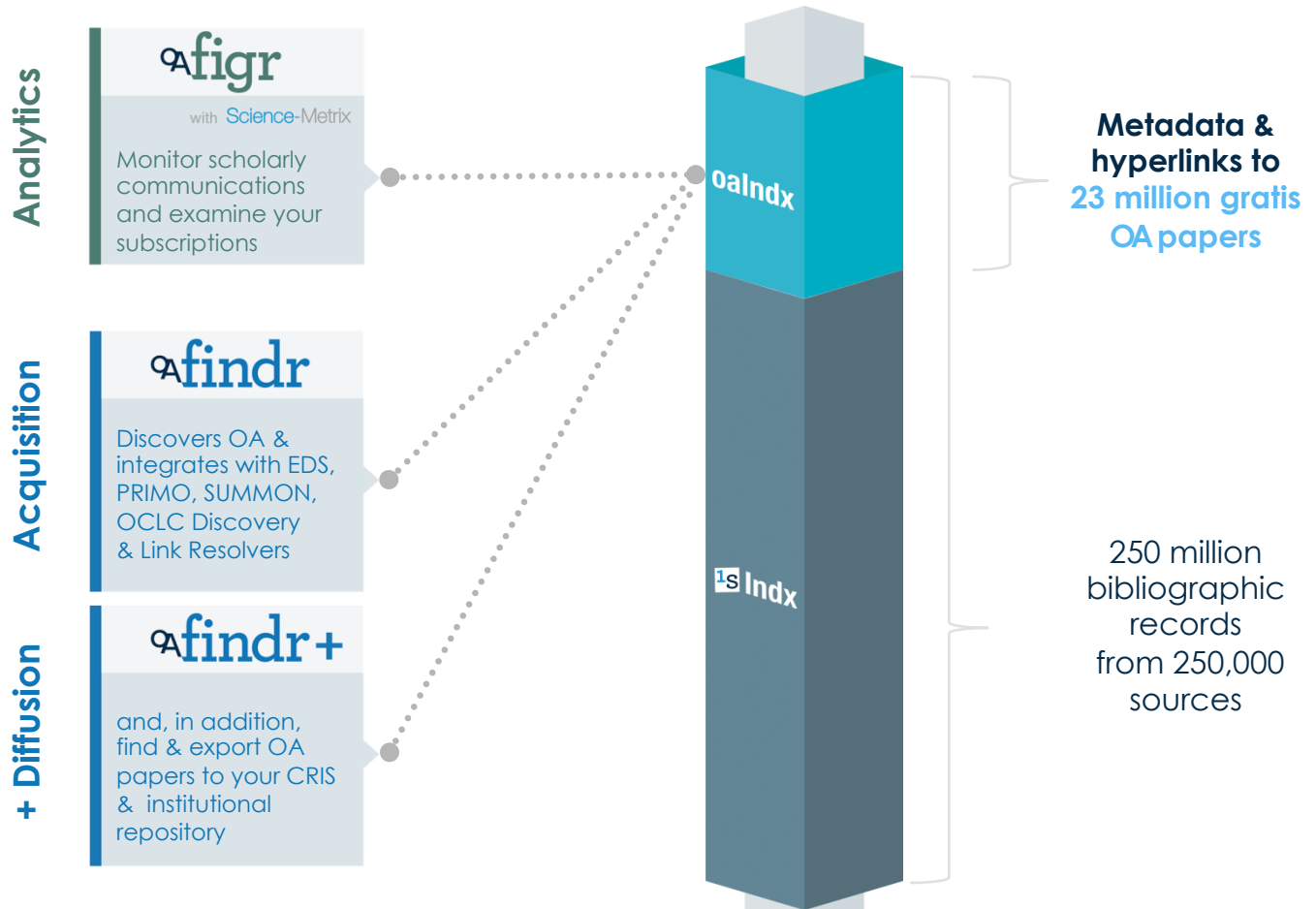
Example based on price paid by ETH Zurich for subscriptions as revealed in <https://wisspub.net/2015/08/29/zahlungen-der-eth-zuerich-an-elsevier-springer-und-wiley-nun-oeffentlich>

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7	\$5,000	\$6,500	\$5,000
6	\$7,500	\$10,000	\$6,000
5	\$10,000	\$13,250	\$8,000
4	\$15,000	\$20,000	\$10,000
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oaFindr+ comprises oaFindr; prices are in US dollars

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Thank You

Erik-Jan van Kleef

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