



Microsoft Research

Faculty Summit

2013



Publishing *and Thriving* in the 21st c.

Jennifer Lin
Sr. Product Manager
PLOS



PLOS: Public Library of Science

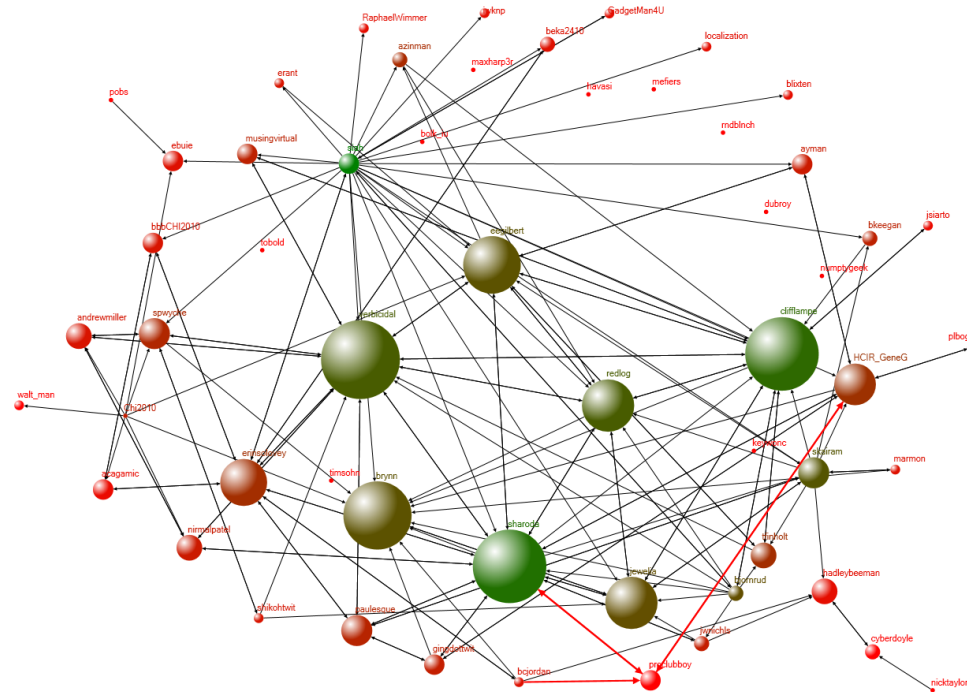
- Founded in 2003 as an open access publisher
- Seven journals today in life sciences and biomedical science
- Published ~80k articles to date
- PLOS ONE is the largest journal in the world
- Mission: transform scholarly communications



PLOS Publication Growth Rate



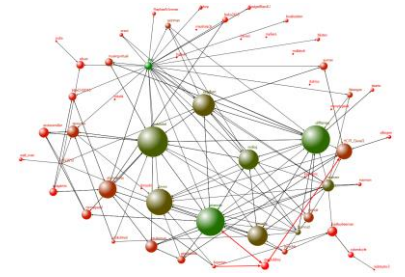
Networked-enabled research is premised on the capacity for connectivity



See Cameron Neylon's Feb 6, 2012 blog post on "network-enabled research"
<http://cameronneylon.net/blog/network-enabled-research/>.



Our Strategy



Optimize network-enabled research by building infrastructure that supports more efficient transactions

How have we done this?

- Pioneered open access publishing model
- Redefined publication criteria
- Inaugurated new framework for research assessment



Research Assessment

How do you measure research?

Journal-level metrics have failed us

Impact =
Use & Reach



Use & Reach

Researchers work within a diverse ecosystem of channels to comment on, share, & critique research:

- article access,
- scholarly and nonscholarly citations,
- blog and news coverage,
- social network sharing
- research community conversations

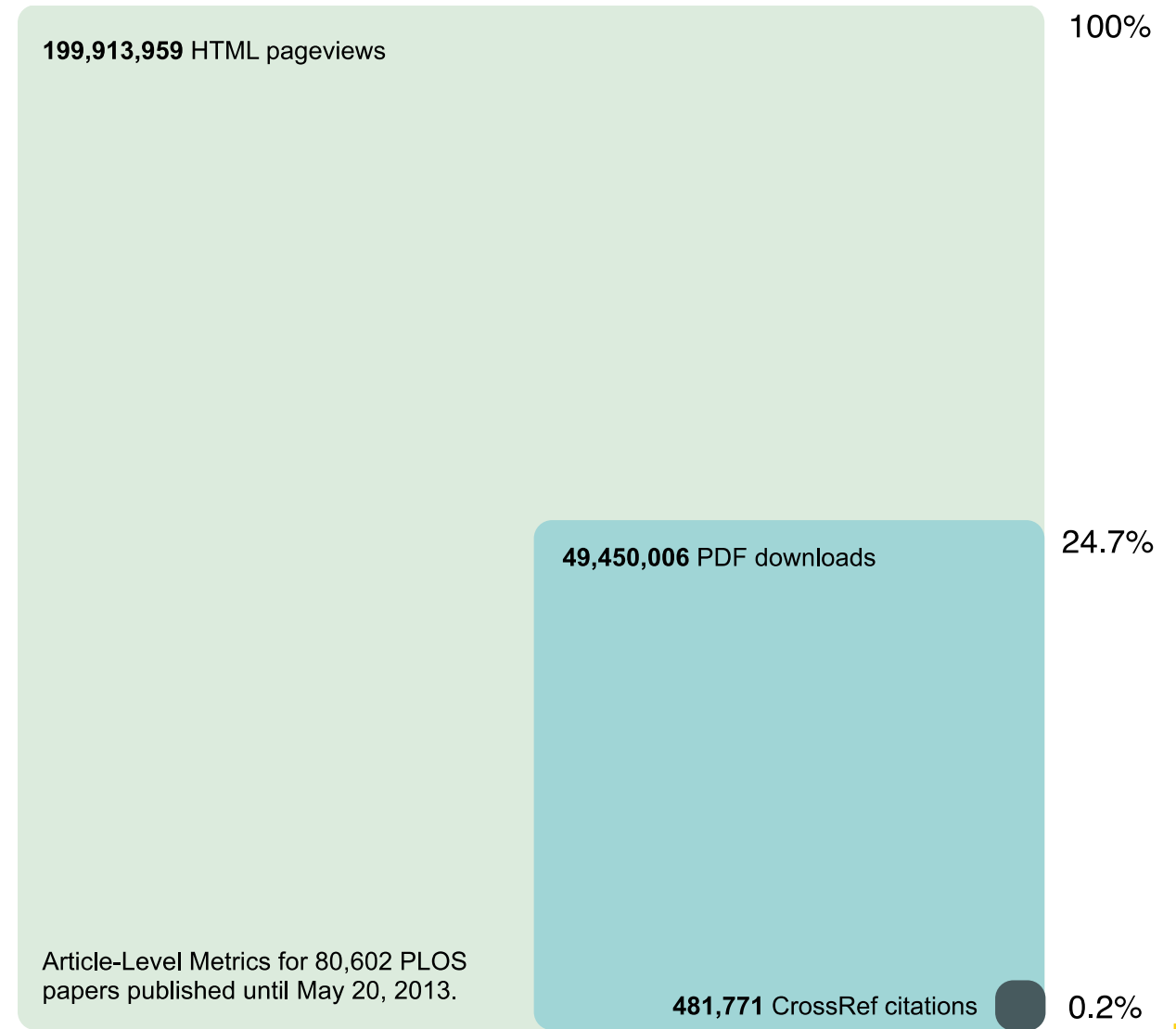


Article-Level Metrics (ALM)

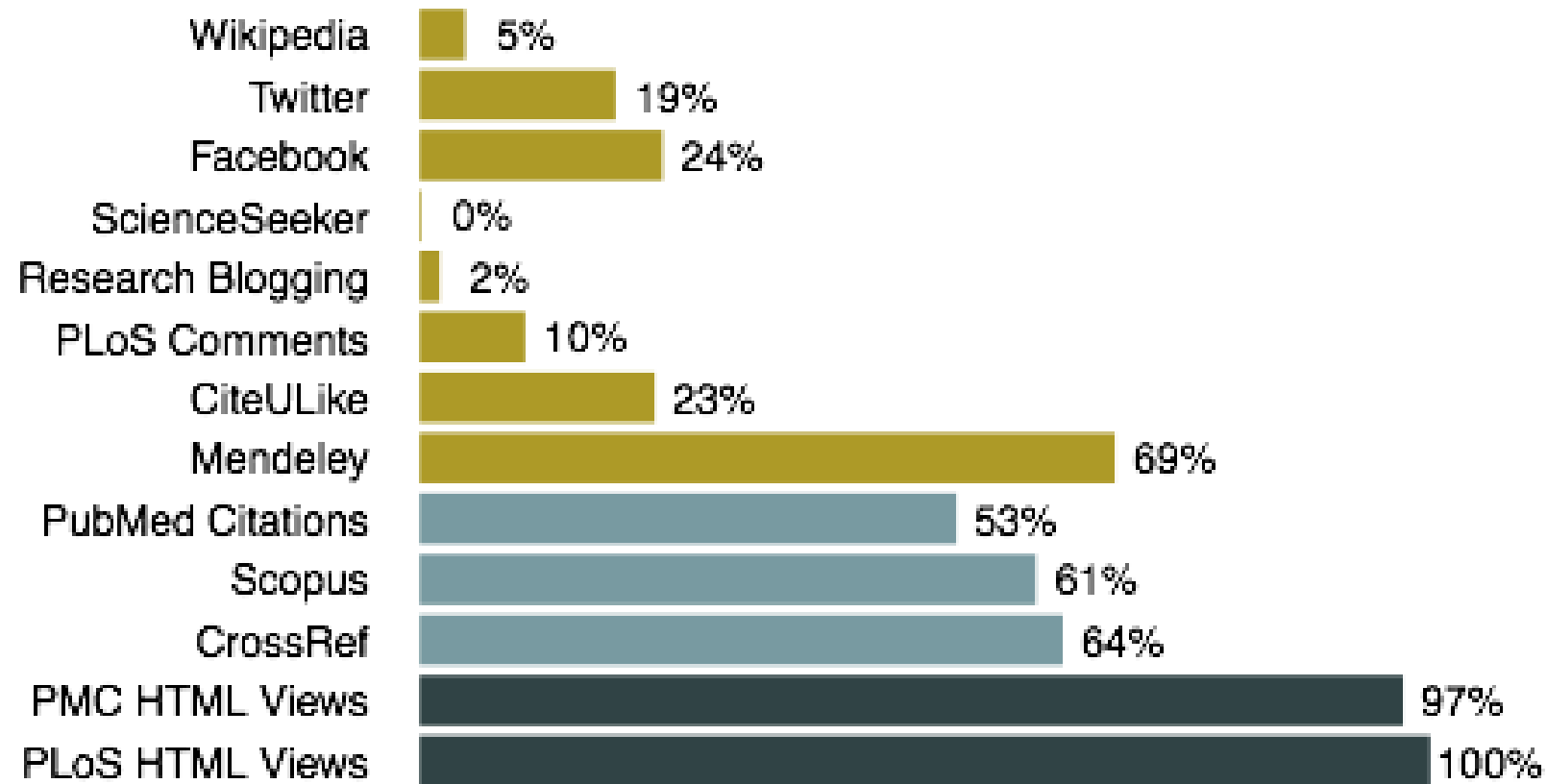
Article-Level Metrics captures the online engagement of researchers in the community and measures it in a transparent and comprehensive manner.



Conventional measures are a part of the puzzle...



A broader view of research engagement



Proportion of articles covered by source
Metrics for 77,385 PLOS articles. Data collected April 11, 2013



ALMs: greater granularity, more dimensionality

Usage

PLOS Journals
(HTML, PDF,
XML)

PubMed Central
(HTML, PDF)

Citations

CrossRef
Scopus
Web of Science
PubMed Central

Altmetrics

PLOS Comments

Mendeley
CiteULike
ResearchBlogging

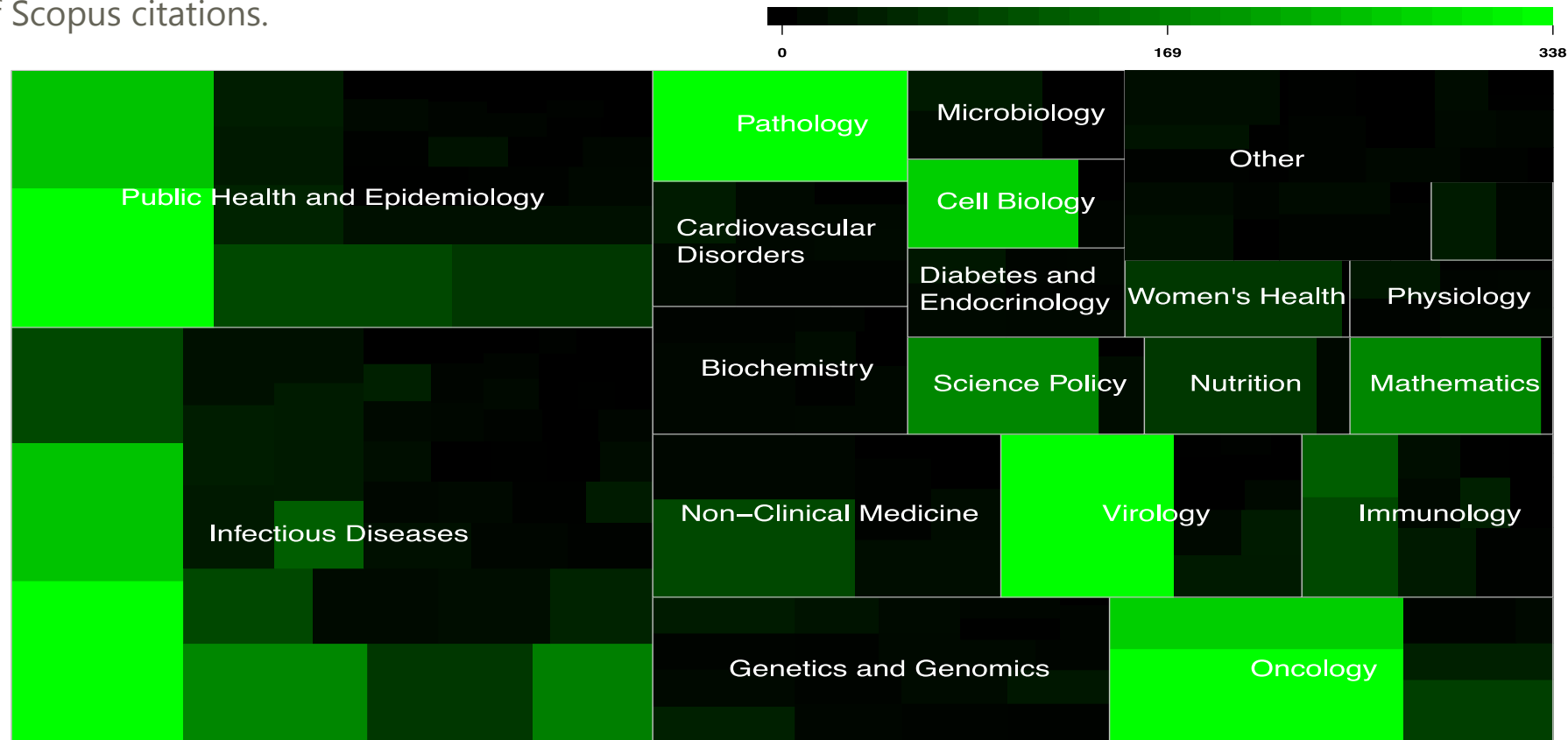
Facebook
Twitter
Wikipedia



ALMs reveal *what* articles are used

PLOS articles funded by Doris Duke Foundation

Rectangle size correlates with total views (HTML and PDF) from PLOS website. Color intensity correlates with number of Scopus citations.



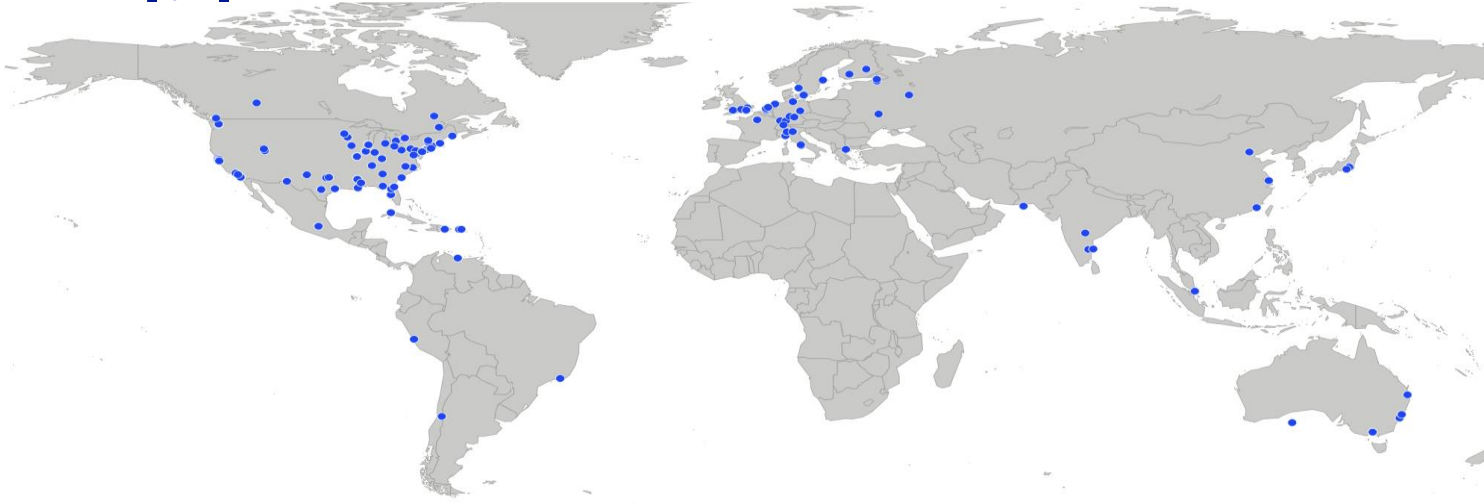
Article Usage and Citations by Subject Category



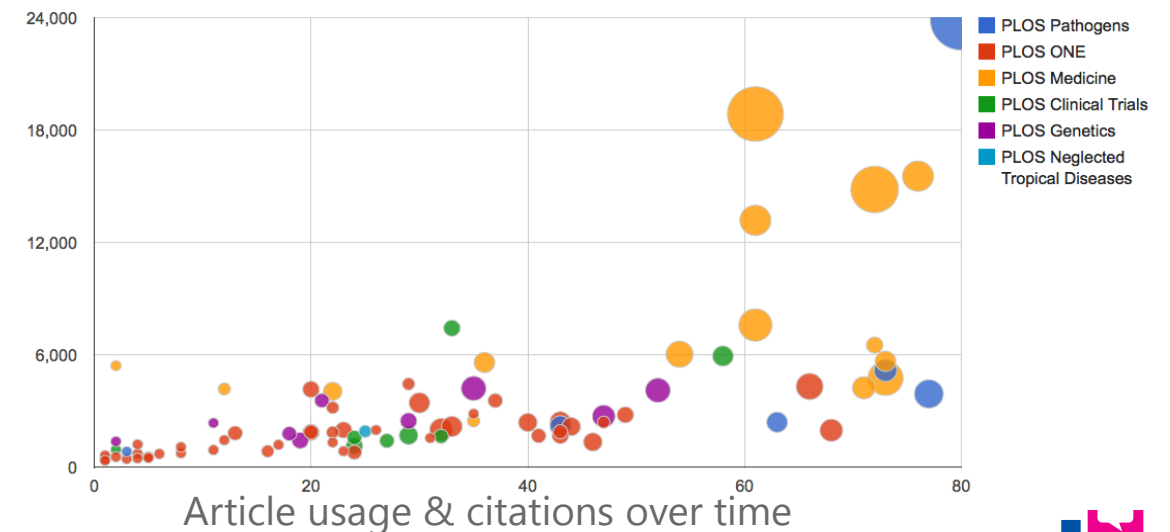
ALMs reveal *where* articles are used

Alzheimer's Association funded PLOS

Geolocation of 410 authors for 84 articles



ALMs reveal *how & when* they are used

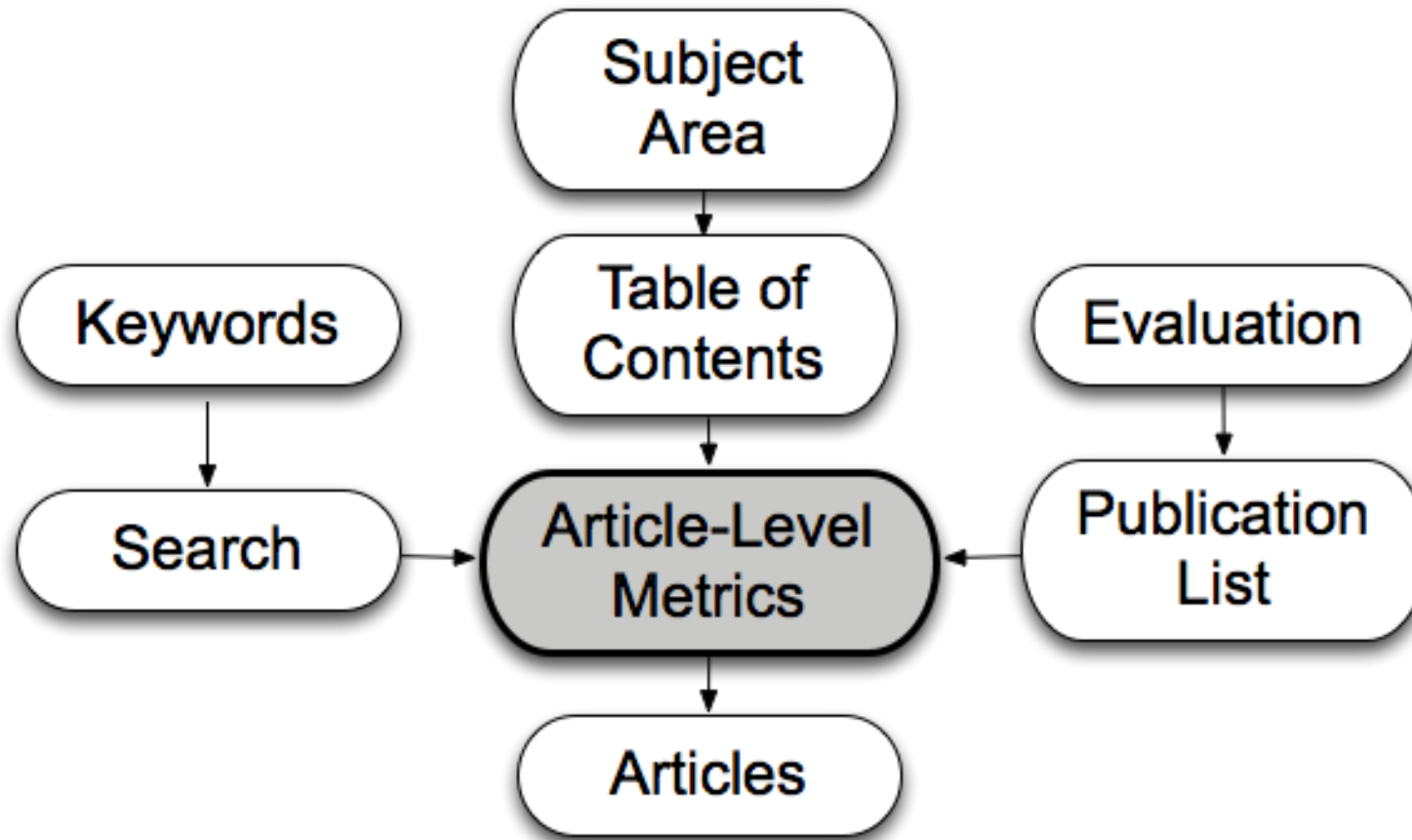


Benefits:

- Diverse and efficient measurement
- Increased diversity without losing traditional value
- Accelerated measurement response
- Easier to own and manage
- Flexibly accommodates varied uses



ALMs & research discovery



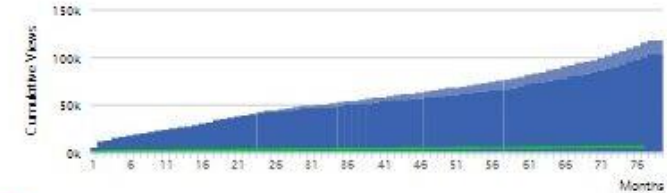
ALMs at work:

- article signposts
- search result listings
- sorting search results
- related content author listings
- RSS feeds
- [article recommendations]
- [researcher profiles]
- [editor assignments]

Viewed ?

Total Article Views	HTML Page Views	PDF Downloads	XML Downloads	Totals
118,523	72,082	31,292	497	103,871
Nov 28, 2009 (publication date) through May 7, 2012*	8,918	6,734	n.a.	14,862
Totals	81,000	37,026	497	118,523

46.71% of article views led to PDF downloads



BETA

Compare average usage for articles published in 2006 in the subject area:

Microbiology

Show reference set

*Although we update our data on a daily basis, there may be a 48-hour delay before the most recent numbers are available. PMC data is posted on a monthly basis and will be made available once received.

Cited ?

SCOPUS	Crossref	PMC	ISI/Clarivate SCIENCE	Google Scholar
1399	805	419	968	Search

Saved ?

citeulike	Connotea	MENDELEY
6	7	296

Discussed ?

nature.com/blogs	Wikipedia	Google
3	10	Search



University of Oklahoma



advanced

filter by +

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PLOS ONE X

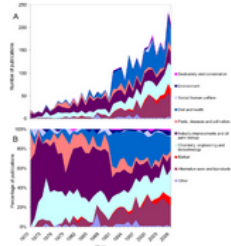
Most bookmarked



54,832 results for University of Oklahoma

View as: Figures List

SEARCH ALERT

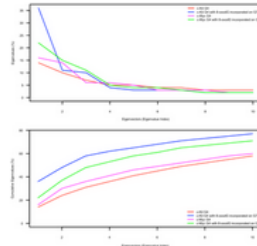


13 Feb 2008

Oil Palm Research in Context: Identifying the Need for Biodiversity Assessment

Edgar C. Turner, Jake L. Snaddon, Tom M. Fayle, William A. Foster

Views: 10,674 • Citations: 21 • Bookmarks: 1169

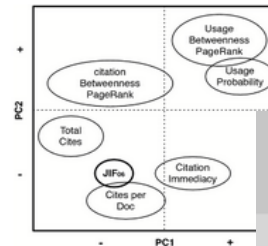


22 Aug 2012

An *In Silico* Study of the Differential Effect of Oxidation on Two Biologically Relevant G-Quadruplexes:...

William J. D. Stebbeds, Joseph Lunec, Lee D. Larcombe

Views: 676 • Citations: None • Bookmarks: 446



29 Jun 2009

A Principal Component Analysis of Scientific Impact Measures

Johan Bollen, Herbert Van de Hagberg, Ryan Chute

Views: 30,173 • Citations: 73 • Bookmarks: 1169



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ESSAY

Why Most Published Research Findings Are False

Johan P. A. Ioannidis

Article

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Metrics

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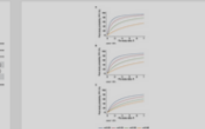
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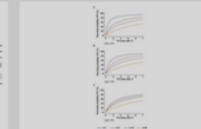
Print

Share

Researcher	Year Published	No.	Total
Ioannidis	2005	1	1
Ioannidis	2006	1	1
Ioannidis	2007	1	1
Ioannidis	2008	1	1
Ioannidis	2009	1	1
Ioannidis	2010	1	1
Ioannidis	2011	1	1
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Ioannidis	2015	1	1
Ioannidis	2016	1	1
Ioannidis	2017	1	1
Ioannidis	2018	1	1
Ioannidis	2019	1	1
Ioannidis	2020	1	1
Ioannidis	2021	1	1
Ioannidis	2022	1	1
Ioannidis	2023	1	1
Ioannidis	2024	1	1
Ioannidis	2025	1	1



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Ioannidis	2019	1	1
Ioannidis	2020	1	1
Ioannidis	2021	1	1
Ioannidis	2022	1	1
Ioannidis	2023	1	1
Ioannidis	2024	1	1
Ioannidis	2025	1	1



Hide Figures

Abstract

Modeling the Framework for False Positive Findings

Bias

Testing by Several Independent Teams

Abstract

Summary

There is increasing concern that most current published research findings are false. The probability that a research claim is true may depend on study power and bias, the number of

726,188

VIEWS

915

CITATIONS

375

ACADEMIC BOOKMARKS

10,053

SOCIAL SHARES

Related PLOS Articles

When Should Potentially False Research Findings Be Considered Acceptable?

Most Published Research Findings Are False—But a Little Replication Goes a Long Way

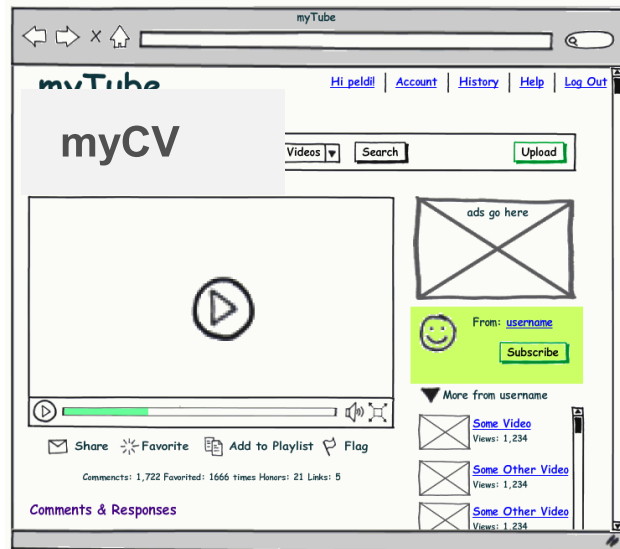
Minimizing Mistakes and Embracing Uncertainty

Comments

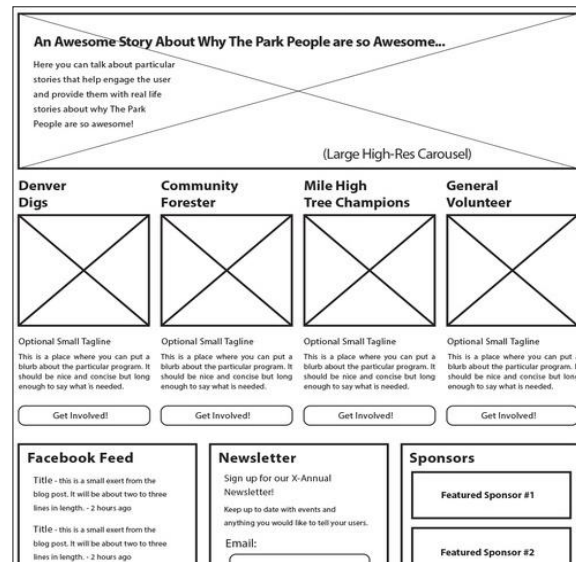
Open Access and the Skewness of Science: It Can't Be Cream All the Way Down



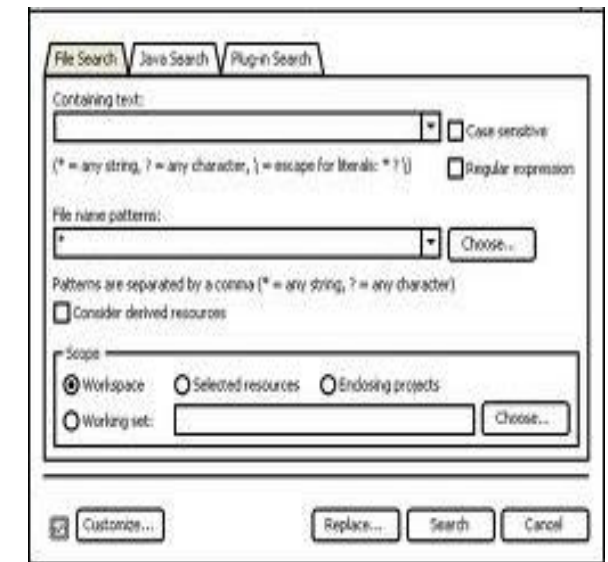
On the horizon...



Researcher CV



Tenure Portfolio



Funding Application



Next steps for ALMs

- Coordination & standardization between data aggregators
- Breakthrough technologies to measure the current “unmeasurables” (downstream impact)
- Data validation and anti-gaming mechanisms
- New services
- More bibliometric research



Publish & ~~Perish~~? Thrive!

- More channels to share your research
- Open access movement reaching tipping point
- Broader diversity of research objects formally recognized (for credit)
- Greater alignment of incentive structures with researcher workflows to encourage sharing
- Power of digital tools to find, mine, use, & reuse content
- Creative experiments in peer review & story telling, &tc...



Access is Critical Keep it Open

Thank You

Jennifer Lin

PLOS, Senior Product Manager

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[@plosalm](#)



