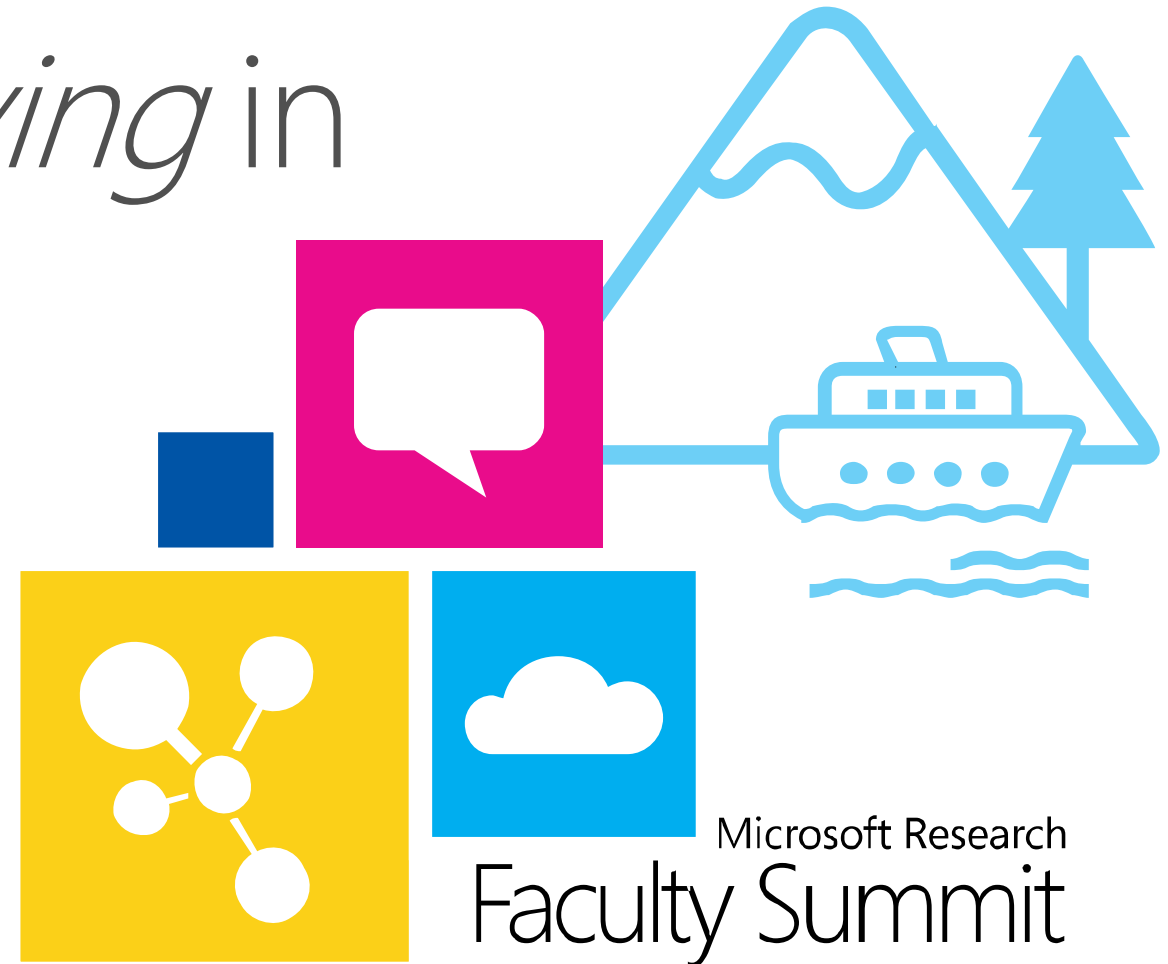


Microsoft Research  
Faculty  
Summit  
**2013**



# Publishing *and Thriving* in the 21<sup>st</sup> c.

Jennifer Lin  
Sr. Product Manager  
PLOS



# PLOS: Public Library of Science

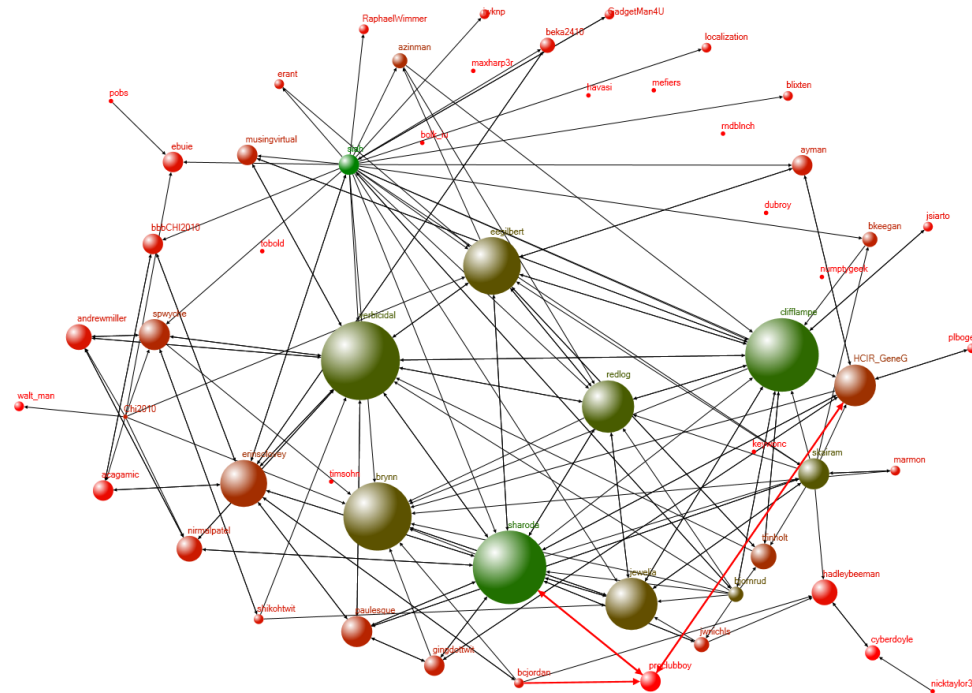
- Founded in 2003 as an open access publisher
- Seven journals today in life sciences and biomedical science
- Published ~80k articles to date
- PLOS ONE is the largest journal in the world
- Mission: transform scholarly communications



# PLOS Publication Growth Rate



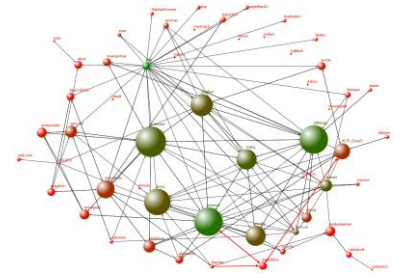
# Networked-enabled research is premised on the capacity for connectivity



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



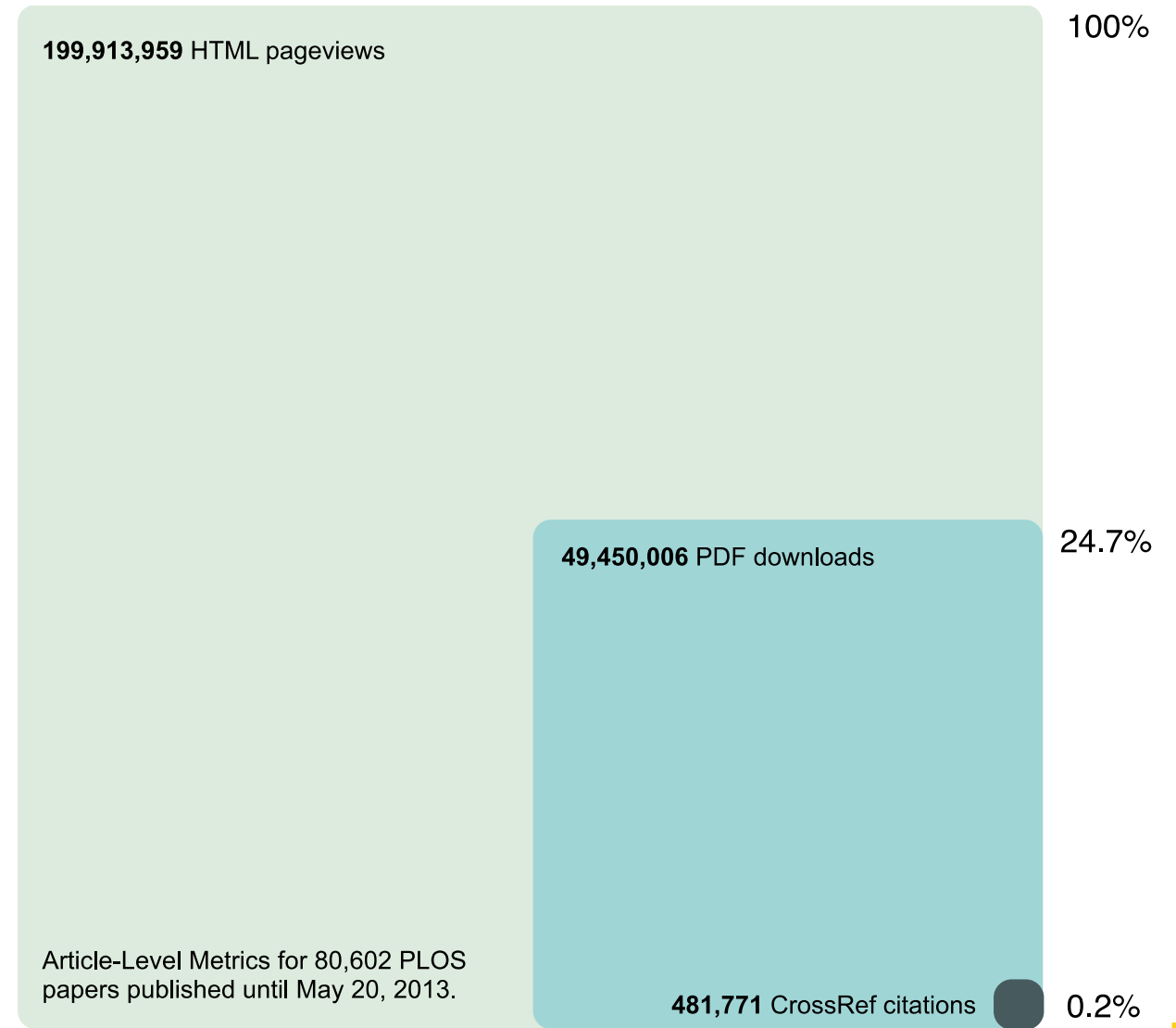


# Article-Level Metrics (ALM)

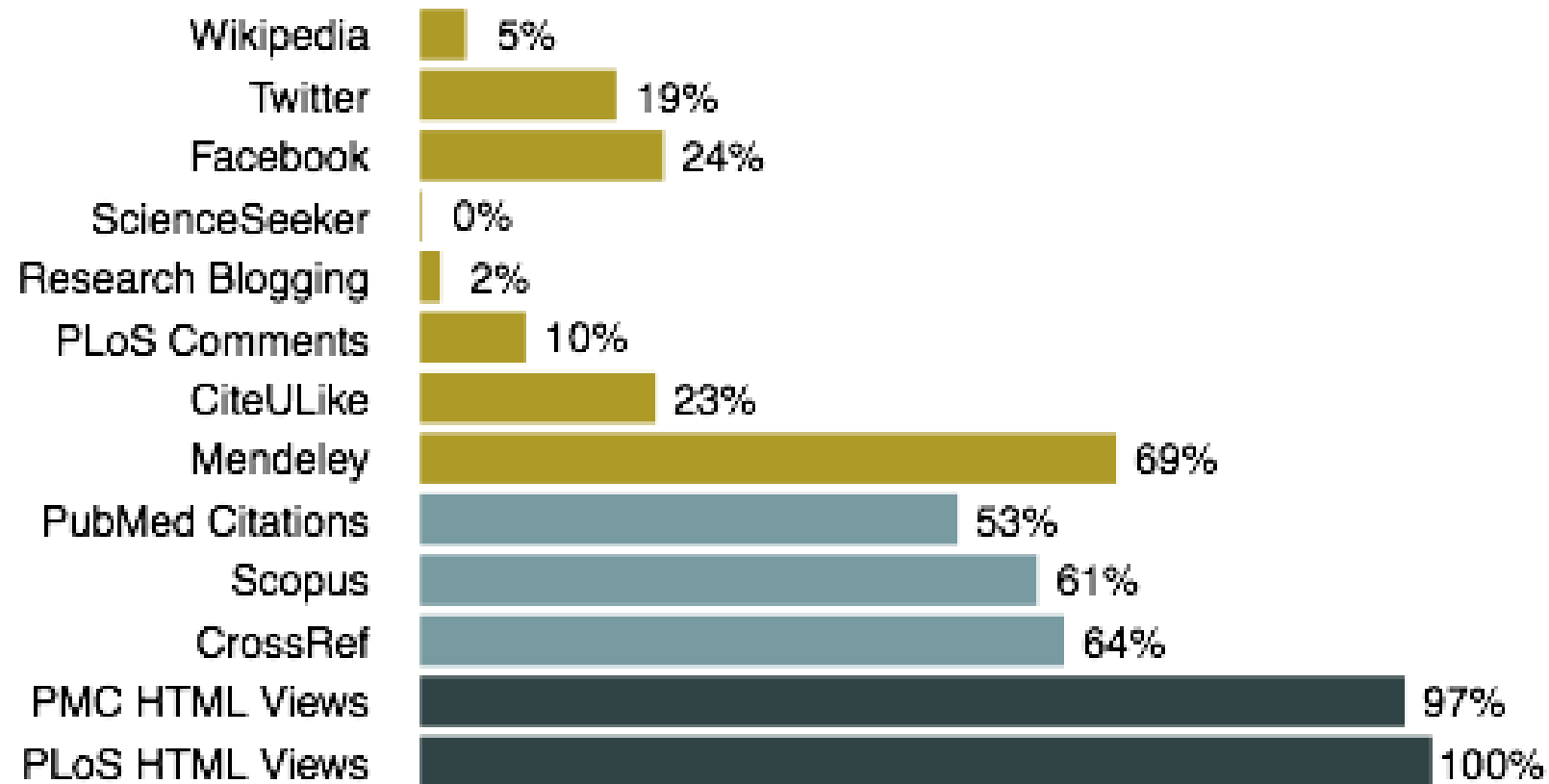
Article-Level Metrics captures the online engagement of researchers in the community and measures it in a transparent and comprehensive manner.



# 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

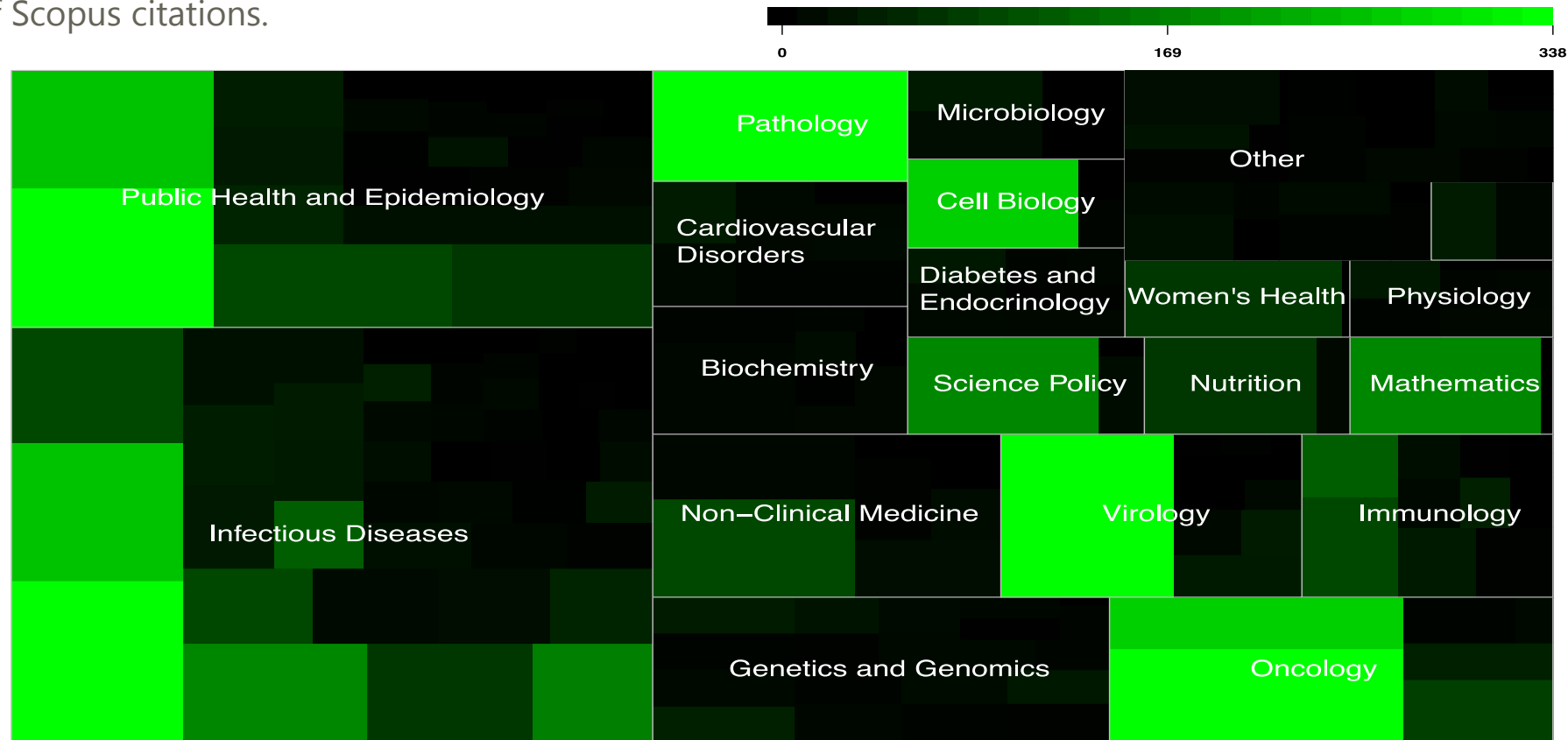
Facebook  
Twitter  
Wikipedia



# 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.



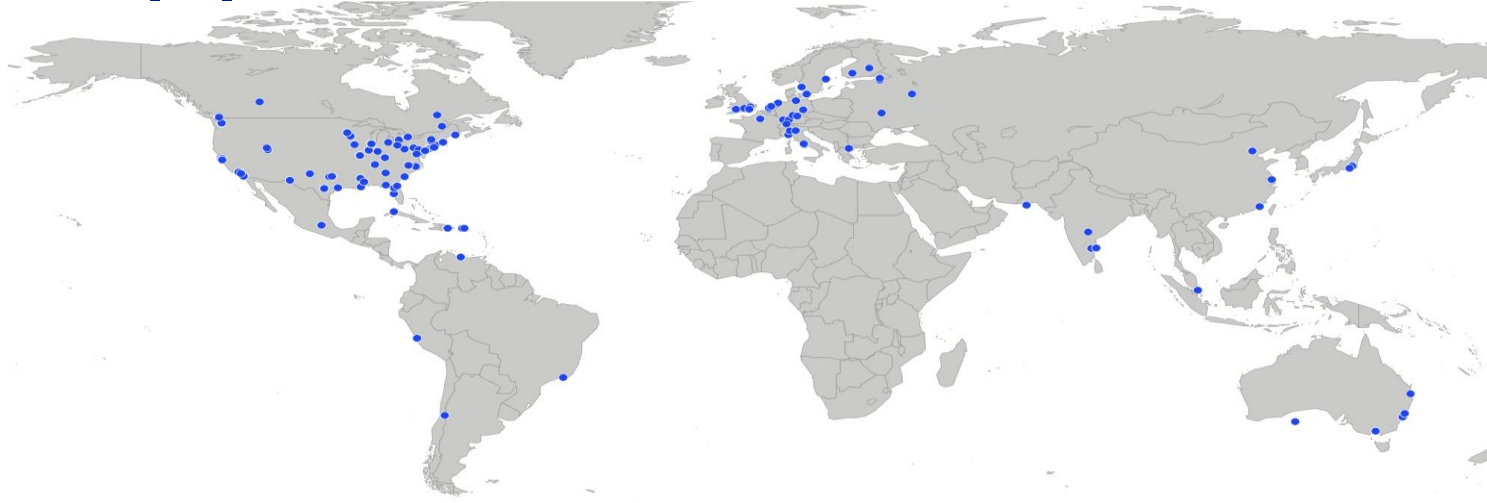
Article Usage and Citations by Subject Category



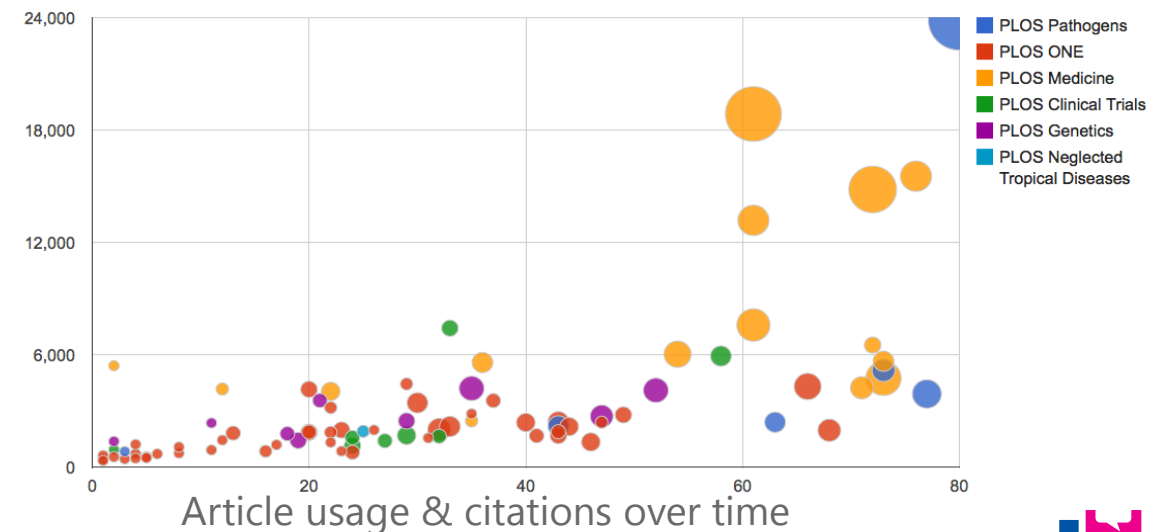
# ALMs reveal *where* articles are used

## Alzheimer's Association funded PLOS

Geolocation of 410 authors for 84 articles



ALMs reveal *how & when*  
they are used

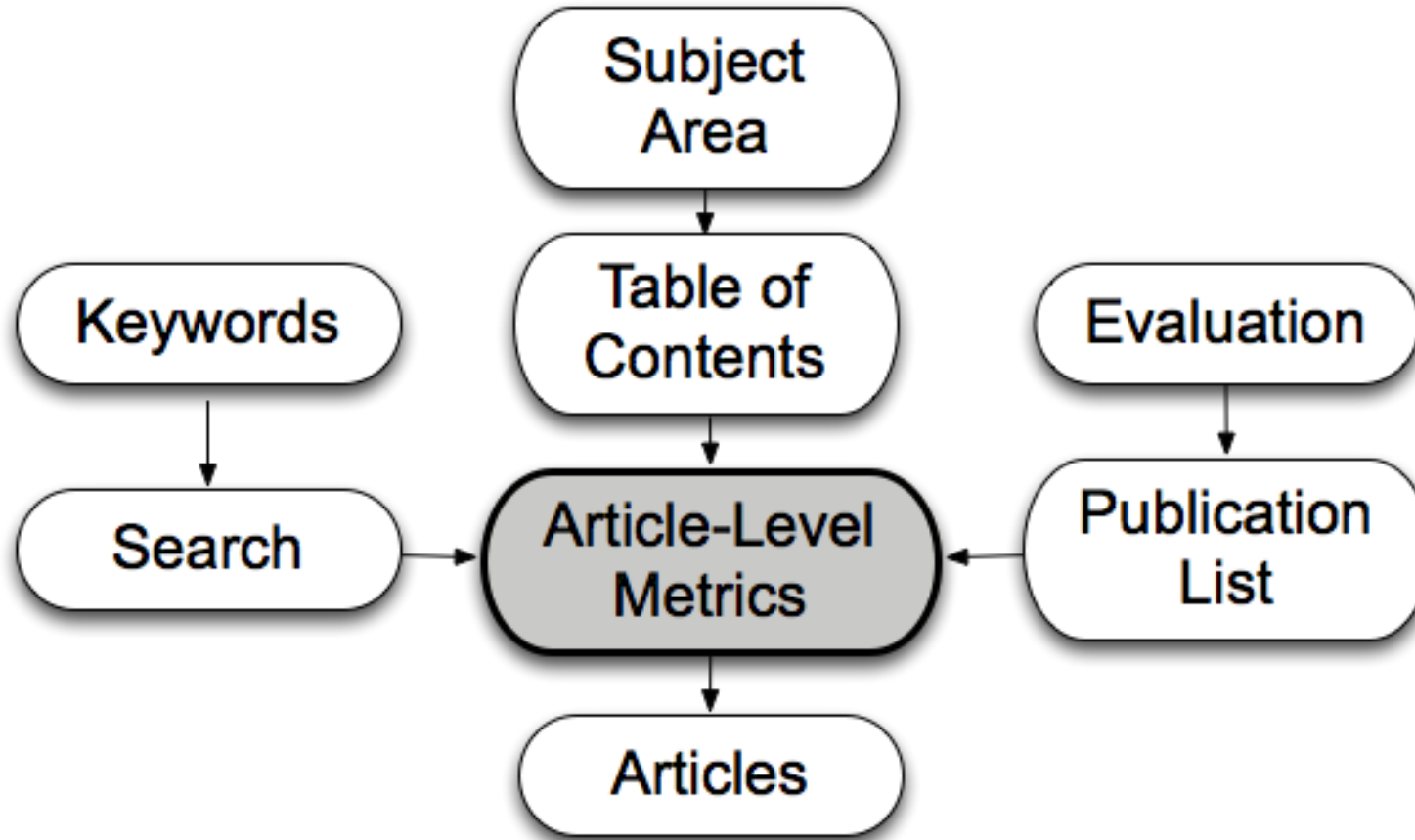


# Benefits:

- 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





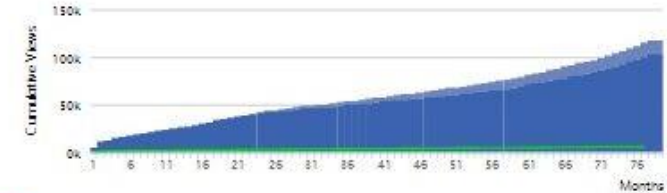
# ALMs at work:

- 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	BDE Downloads	XML Downloads	Totals
<b>118,523</b>	<b>PLOR</b> 72,082	31,292	497	103,871
<small>Nov 28, 2009 (publication date) through May 7, 2012*</small>	<b>PWC</b> 8,918	6,734	n.a.	14,862
	<b>Totals</b> 81,000	37,026	497	118,523

46.71% of article views led to BDE 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. PWC data is posted on a monthly basis and will be made available once received.

## Cited

 1399	 805	 419	 968	 Search
---------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------

## Saved

 6	 7	 296
-------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------

## Discussed

 3	 10	 Search
--------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------





filter by + Clear all filters

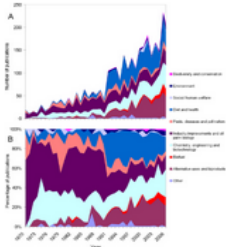
PLOS ONE x

Most bookmarked

54,832 results for University of Oklahoma

View as: Figures List

SEARCH ALERT

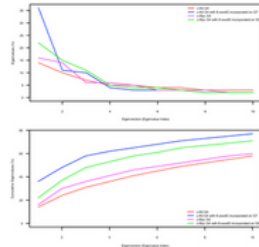


13 Feb 2008

### 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

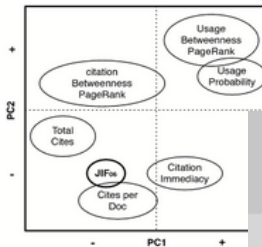


22 Aug 2012

### 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 A Scientific Impact Measure

Johan Bollen, Herbert Van de Hagberg, Ryan Chute

Views: 30,173 • Citations: 73 • B...

**PLOS MEDICINE** Browse For Authors About Us Search

726,188 VIEWS   915 CITATIONS   375 ACADEMIC BOOKMARKS   10,053 SOCIAL SHARES

OPEN ACCESS

ESSAY

## Why Most Published Research Findings Are False

Johan P. A. Ioannidis

Article | About the Author | Metrics | Comments | Related Content

Download | Print | Share

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

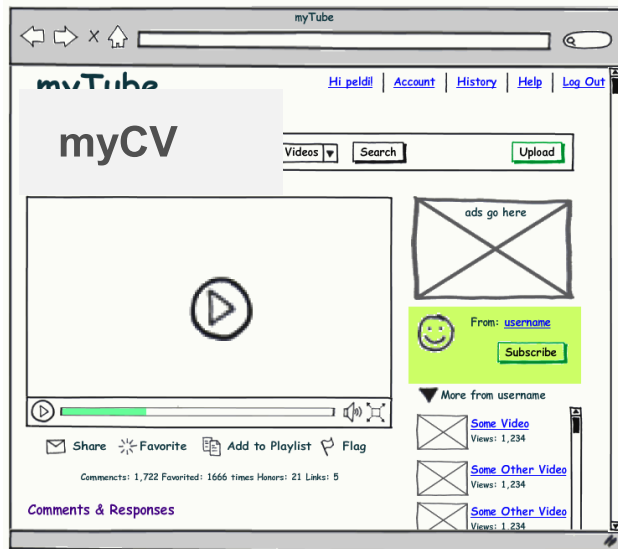
Abstract

Summary

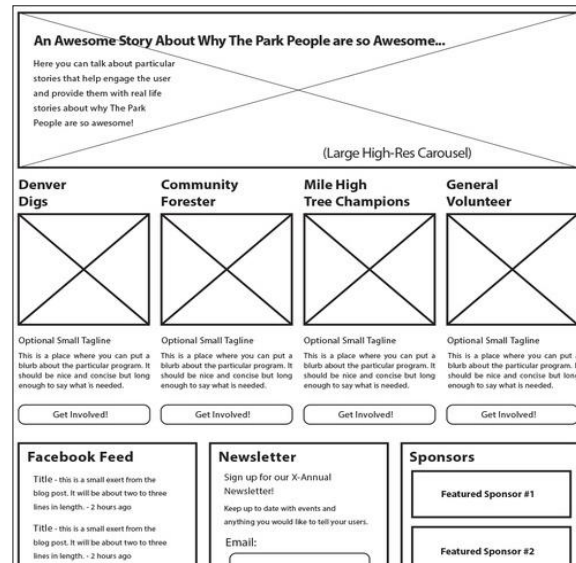
There is increasing concern that most current published research findings are false. The probability that a research claim is true may depend on study power and bias, the number of



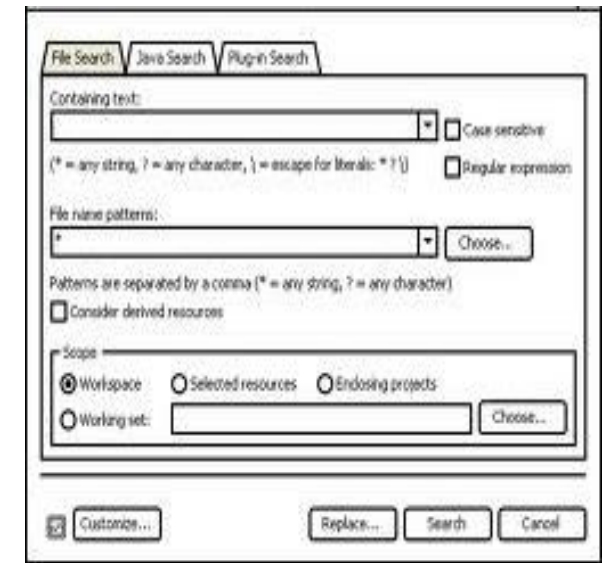
# On the horizon...



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  
jlin@plos.org  
@plosalm



