

PLOS ALM Reports

Harnessing analytics to
characterize research impact

Article-Level Metrics at PLOS

ALM: enable the comprehensive analysis of the post-publication activity around a paper, employing usage stats, citations and altmetrics.

<http://article-level-metrics.plos.org/alm-info/>

Started in 2009 at PLOS, freely available for all PLOS publications

100k articles, 20 data sources

ALMs provide a broader view of article engagement

Usage

PLOS Journals
(HTML, PDF,
XML)

PubMed Central
(HTML, PDF)

figshare

Citations

CrossRef
Scopus
Web of Science
PubMed Central

PMC Europe
PMC Europe Data-
base Citations

DataCite

Altmetrics

PLOS Comments
F1000 Prime
Mendeley
CiteULike
ResearchBlogging
ScienceSeeker
Facebook
Twitter
Wikipedia
Reddit

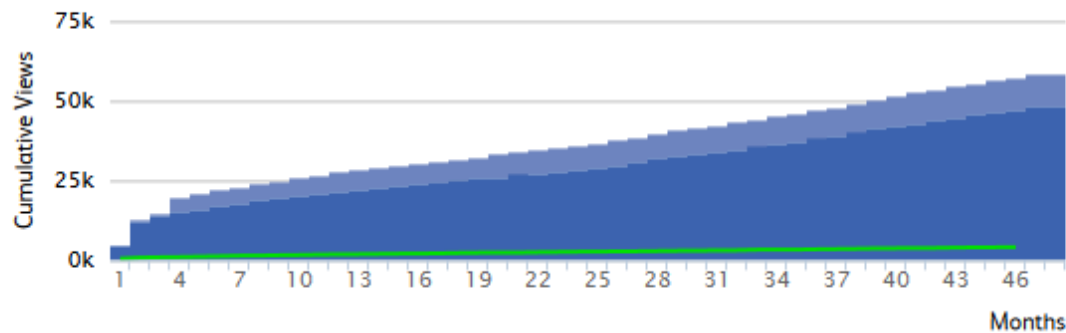
Authors want to see the reach of their publications

Viewed ?

Total Article Views		HTML Page Views	PDF Downloads	XML Downloads	Totals
58,424	PLOS	40,213	8,216	144	48,573
	PMC	8,704	1,147	n.a.	9,851
	Totals	48,917	9,363	144	58,424
Dec 24, 2009 (publication date) through Nov 7, 2013* 19.14% of article views led to PDF downloads					

Saved ?

citeulike 	MENDELEY 
185	501




Cited ?

SCOPUS	crossref	PMC	ISI Web of SCIENCE
6	1	3	5


Discussed ?


Research Blogging	nature.com/blogs	twitter	facebook	Comments
1	1	12	64	8





Readers want to find relevant papers...

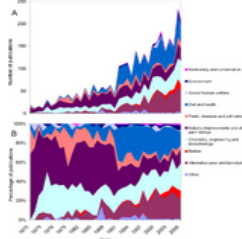
University of Oklahoma  **advanced**

filter by + **Clear all filters**

PLOS ONE 

Most bookmarked 

54,832 results for University of Oklahoma View as:  **Figures** |  **List** **SEARCH ALERT**  

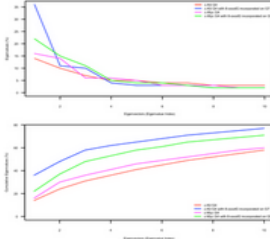


13 Feb 2008

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

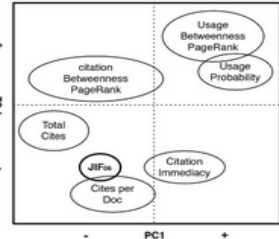


22 Aug 2012

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




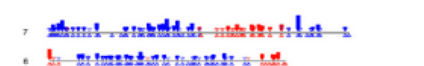
29 Jun 2009


A Principal Component Analysis of 39 Scientific Impact Measures

Johan Bollen, Herbert Van de Sompel, Aric Hagberg, Ryan Chute

Views: 30,173 • Citations: 73 • Bookmarks: 441







... and navigate through the literature

The screenshot shows the PLOS MEDICINE website interface. At the top, there is a navigation bar with 'Browse', 'For Authors', and 'About Us' links, and a search bar. Below the navigation bar, a statistics box displays: 829,438 VIEWS, 915 CITATIONS, 4,571 SAVES, and 5,408 SHARES. The article title is 'Why Most Published Research Findings Are False' by John P. A. Ioannidis. The article is categorized as an 'ESSAY' and is 'OPEN ACCESS'. A horizontal menu allows navigation between 'Article', 'About the Author', 'Metrics', 'Comments', and 'Related Content'. Below this menu, there are four preview cards: two tables and two line graphs. On the right side, there are buttons for 'Download', 'Print', and 'Share'. Below these are 'Related PLOS Articles' with titles like 'When Should Potentially False Research Findings Be Considered Acceptable?' and 'Most Published Research Findings Are False—But a Little Replication Goes a Long Way'. At the bottom, there is an 'Abstract' section with a 'Summary' and a 'Comments' section.

PLOS MEDICINE Browse For Authors About Us Search advanced search

OPEN ACCESS

ESSAY

Why Most Published Research Findings Are False

John P. A. Ioannidis

829,438 VIEWS 915 CITATIONS 4,571 SAVES 5,408 SHARES

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

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

Funders and institutions?

Funders want to monitor the research that they support

Wellcome Trust spends ~ £650 million on research per year. What happens to it?

Médecins Sans Frontières: How do they know the reach of their article?

Institutions want to see how their researchers are making a change

Stanford University: Do administrators and librarians know what research was published by Stanford labs?

Tracking research impact is laborious

- While raw data for individual articles is available, it's still not easy!
- Aggregate data for all articles? Hard to do
- Follow tweets? Not likely
- News/blog stories? Hard to find correct sources

ALM Reports

almreports.plos.org

A web-based tool for researchers, institutions & funders to:

- Create a report of the latest metrics for a set of PLOS articles
- Examine visualizations that summarize views of the data

The screenshot shows the PLOS ALM Reports website interface. At the top, the PLOS logo and 'REPORTS ARTICLE-LEVEL METRICS' are visible. The page title is 'ALM: Measuring the Impact of Research', with a 'Your List' button showing '32' items. Below the title, there is a navigation bar with three steps: '1 Select Articles' (highlighted in orange), '2 Preview List', and '3 View Report'. The main content area features a search section with the heading 'Search all Articles' and a link to 'Advanced Search'. The search form includes fields for 'Keyword', 'Author', 'Author Country', 'Institution', 'Publication date' (with a dropdown menu set to 'All Time'), 'Subject Area', 'Journal' (with a dropdown menu set to 'All Journals'), and 'Funder name or funding number'. There are 'Search' and 'Clear All' buttons. To the right, under 'Find Specific Articles', there are buttons for 'By DOI/PMID' and 'Upload File'. Below the search section, there is a link to 'Browse the 'Best in Class' articles from PLOS'. At the bottom, there are five buttons for sorting: '★ Top Views', '📌 Top Bookmarked', '🐦 Top Tweets', '📈 Top Cited', and '👤 Top Shares'.

Report with real-time data

1 Select Articles 2 Preview List 3 View Report

Metrics Data Visualizations Edit List Start Over

21-25 of 25 articles

21 A Prospective Study of Red and Processed Meat Intake in Relation to Cancer Risk
Amanda J Cross, Michael F Leitzmann, Mitchell H Gail, Albert R Hollenbeck, Arthur Schatzkin, Rashmi Sinha
Research Article | published 11 Dec 2007 | PLOS Medicine
10.1371/journal.pmed.0040325
Show all ALMs ▾

Usage	Social Network
PLOS views	CiteULike
PLOS PDF downloads	Mendeley
PLOS XML downloads	Facebook
PMC views	
PMC PDF downloads	
Total usage	

28,895	1
3,828	44
150	51
4,219	
1,828	
38,920	

Citation	Blogs & Media
PubMed Central	Nature Blogs
CrossRef	Wikipedia
Scopus	

34	1
72	6
105	

Downloads

- Metrics Data 1.2MB - CSV file
- Visualizations 5.7MB - PNGS in ZIP file
- Your List of Article DOIs 157K - CSV file

Share

22 Meat Consumption and Cancer Risk
Jeanine M Genkinger, Anita Koushik
Research Article | published 11 Dec 2007 | PLOS Medicine

Aggregate data together into a narrative

Create a report by searching on:

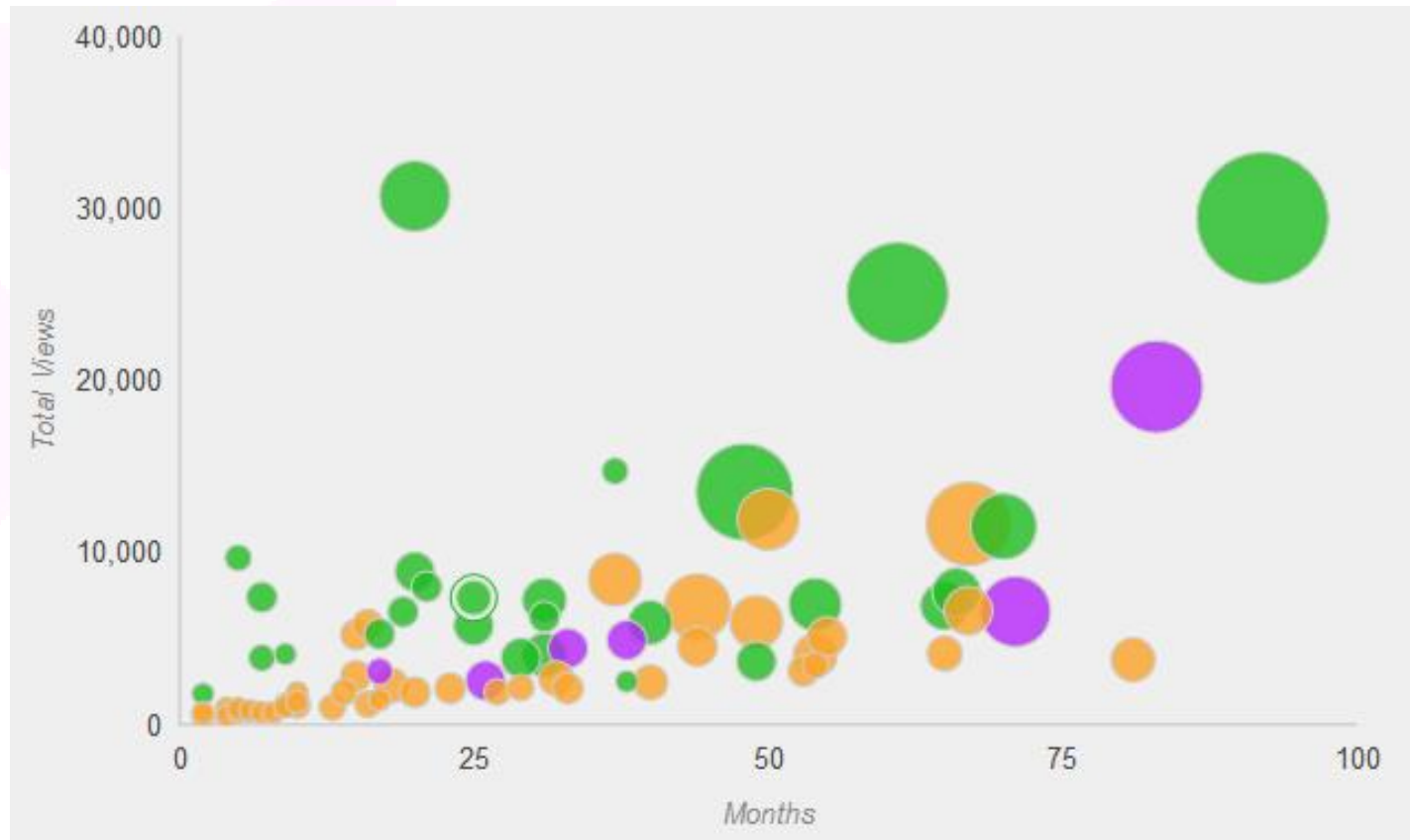
- Keyword
- Author name & country
- Institutional affiliation
- Publication date
- Subject areas
- Funder

And/or add specific articles individually or
upload by bulk DOI/PMID

A custom report of research activity

Stanford University + National Cancer Institute

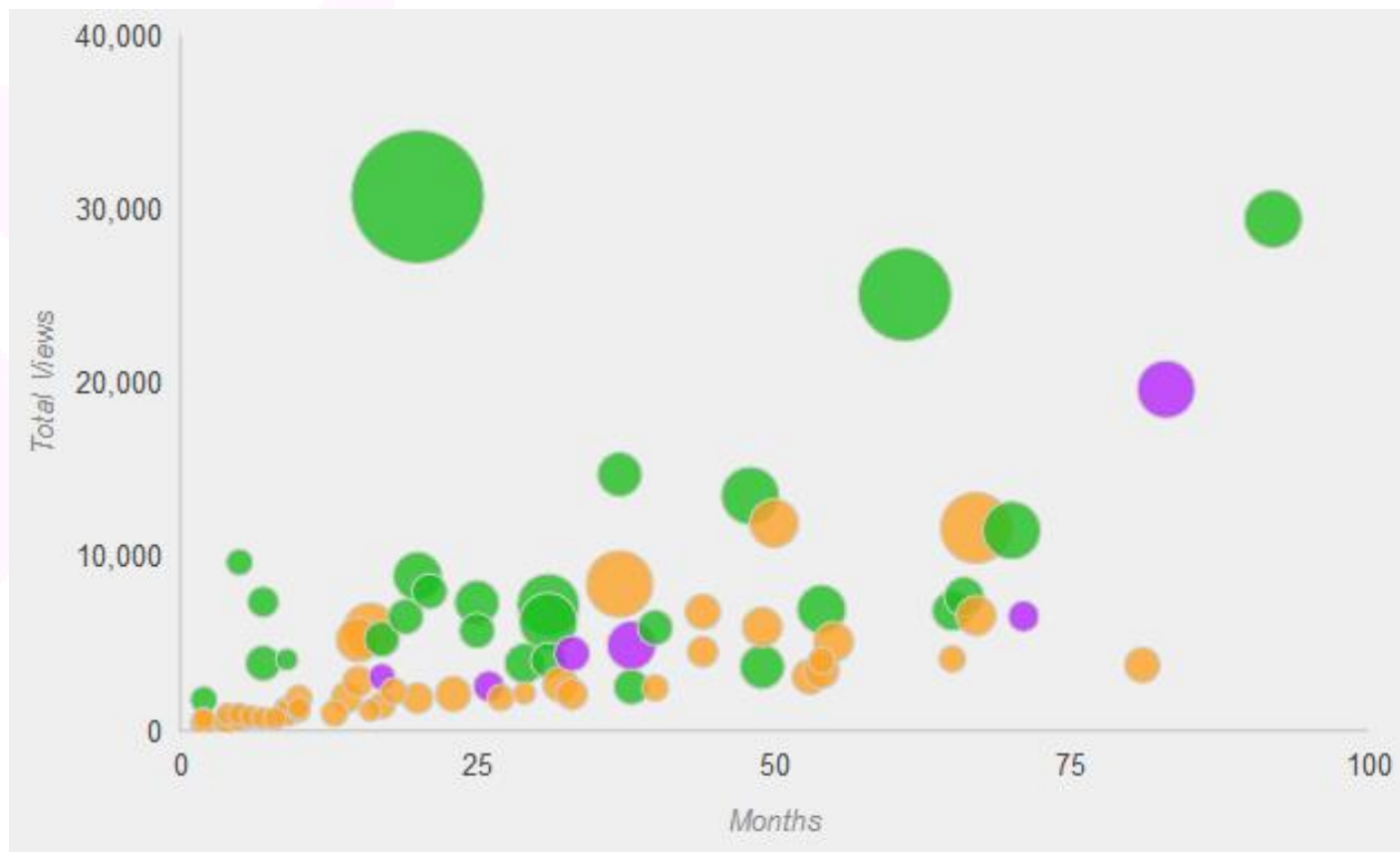
Total usage includes page views and downloads from PLOS and PMC. Bubble size correlates with Scopus citations and bubble color with the PLOS journal.



Page views and citations over time

Stanford University + National Cancer Institute

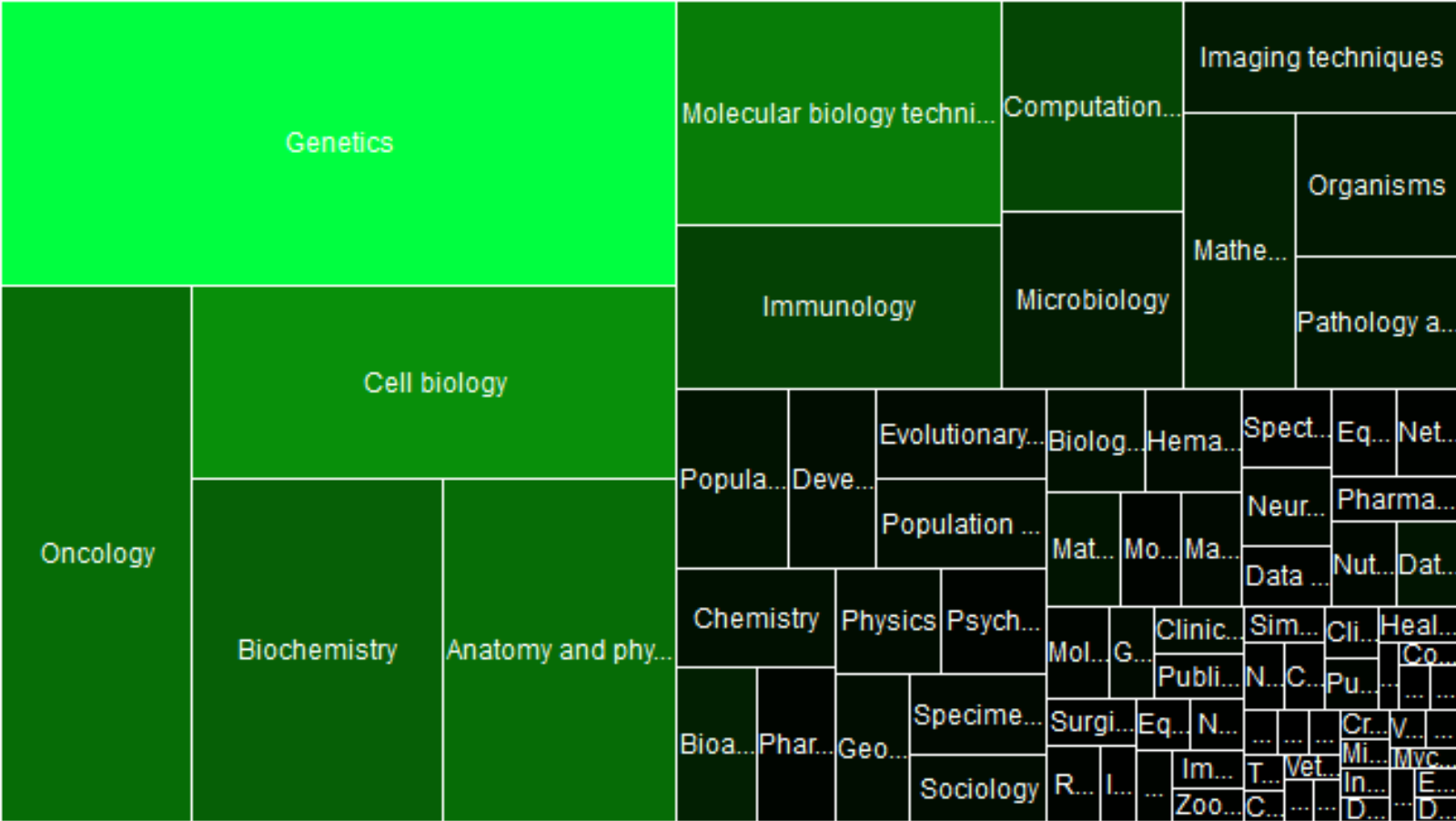
Total usage includes page views and downloads from PLOS and PMC. Bubble size correlates with Mendeley bookmarks and bubble color with the PLOS journal.



Page views and Mendeley bookmarks over time

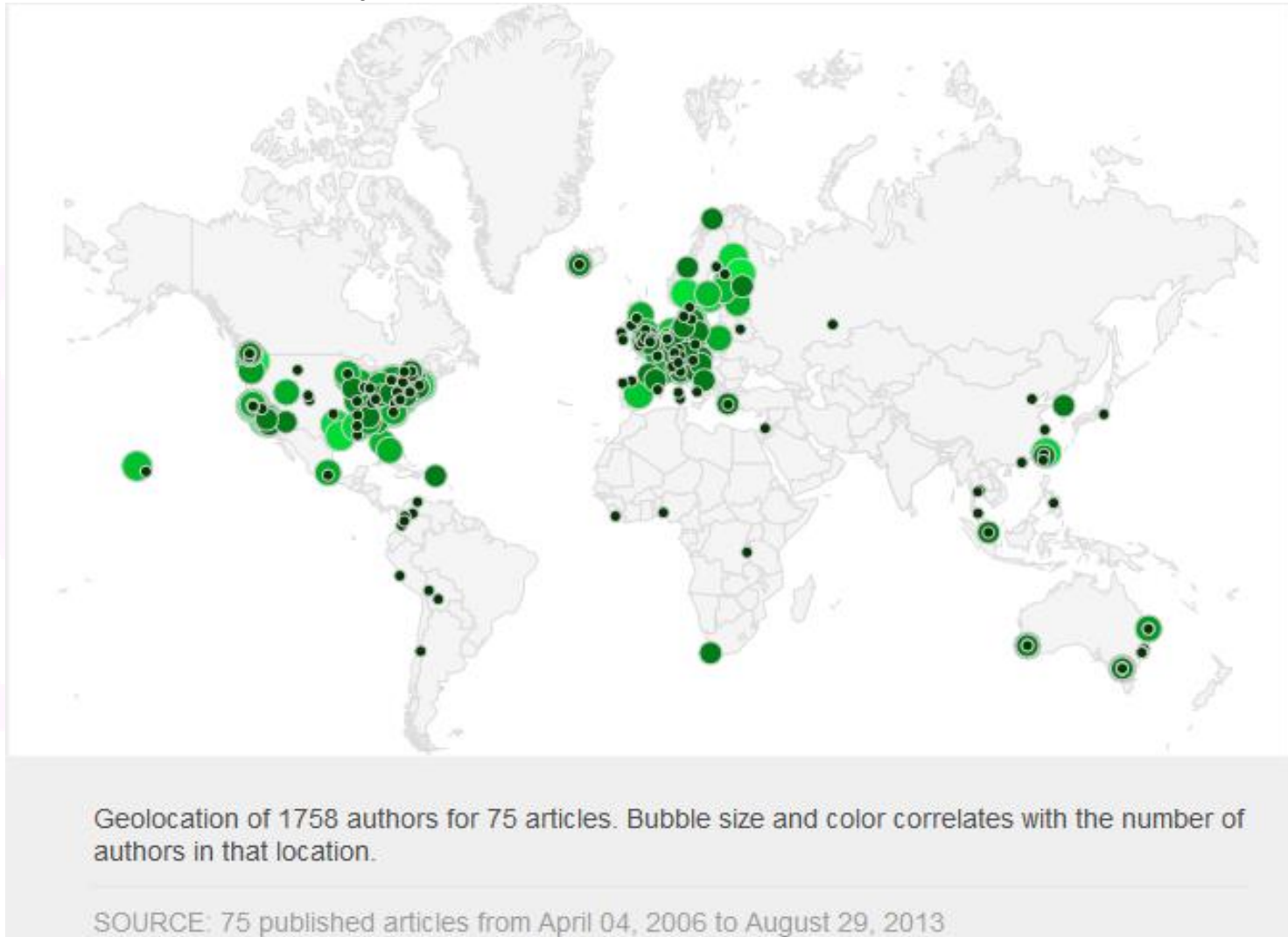
Stanford University + National Cancer Institute

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

Stanford University + National Cancer Institute



Geographic map of research collaborations

Wellcome Trust Case Study

Their findings showed that Wellcome Trust-associated PLOS articles are:

- viewed, saved and cited more often than the average for the biomedical research sector
- discussed by the blogosphere more often than the sector average

<http://article-level-metrics.plos.org/files/2013/10/Dinsmore.pptx>

For publishers:

- Improve Business Intelligence
- Deepen Editorial Capacities
- Deliver a Richer Product

But beware of dragons

- Data issues = Garbage in, garbage out
- Need structured metadata for cleanest results:
 - Author names
 - Funder names
 - Institution names
- Long-term solution requires:
 - ORCID
 - FundRef
 - Institutional identifier (ex: Ringgold)

ALM Info

General information on ALM

<http://article-level-metrics.plos.org/>

ALM Reports

<http://almreports.plos.org/>

Future: ALM Reports will be open source but will have limitations (no search functionality)

ALM Application is Open Source (Ruby on Rails)

<https://github.com/articlemetrics/alm>

Implementations to date:

- Copernicus Publications
- OJS
- CrossRef Labs

Thank you

Jennifer Lin

Senior Product Manager, PLOS

jlin@plos.org

@plosalm