

# LEADIng Liaisons: from behind the scenes to center stage with new roles in metrics **ACRL 2019**

Judy Brink, University of Pittsburgh  
Clare Withers, University of Pittsburgh

Colleen DeLory, Elsevier Librarian Community (moderator)  
Stephanie Faulkner, Elsevier Research Metrics



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# Beginnings . . .

Can you find  
the  
*h*-index for the  
following list of  
people?



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## Course & Subject Guides

ULS / LibGuides / Scholarly Communication / Citation Searching and Bibliometric Measures / Home

### Citation Searching and Bibliometric Measures: Home

A discussion on topics such as the h-index, Eigenfactor, Impact Factor, Journal Citation Reports, and other tools.

Home Citation Searching Citation Measures and Tools Journal Measures and Tools Retrieving Citation Counts

#### Law of Scattering

80% of the citations come from about 20% of the journals cited, identifying a core list for a local journal collection.

- Chung, H. (2007)  
Evaluating academic journals using impact factor and local citation score. The Journal of Academic Librarianship, 33(3), 393-402. doi: 10.1016/j.acalib.2007.01.016

#### What is Bibliometrics?

- The branch of library science concerned with the application of mathematical and statistical analysis to bibliography; the statistical analysis of books, articles, or other publications. ("bibliometrics, n." OED Online. December 2011. Oxford University Press.)
- In other words...data about publications, or citation frequency.
- Scientometrics is the branch of information science concerned with the application of bibliometrics to the study of the spread of scientific ideas; the bibliometric analysis of science. ("scientometrics, n." OED Online. December 2011. Oxford University Press.)

#### Sample Bibliometric Map

Eigenfactor Social Science Citation Relationships 2004

(click on image to enlarge)

#### Why is this important?

A student asks you "What are the best journals in the field of Anthropology?"

A professor asks you "Who is citing my articles? How many times have I been cited?"

A student asks you "How do I know this article is important?"

A professor asks you "Which journal should I publish in?"

Bibliometrics effects:

- People

Contact:  
207G Hillm:  
Pittsburgh,

**“An *h*-index for tenure review????!!!”**



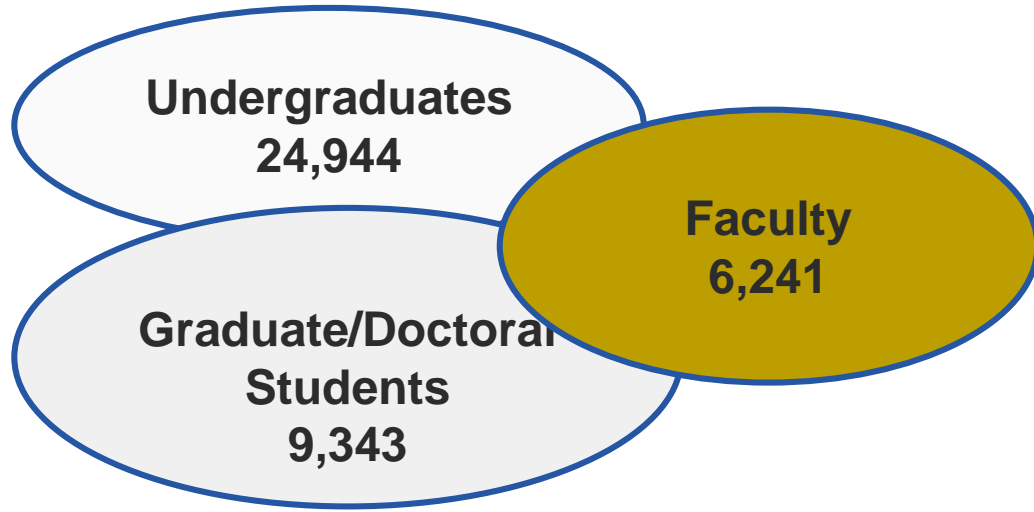
# Liaison librarians and research metrics - POLL

Go to Menti.com and enter code 85 04 4

- What are the top 1 to 3 most helpful research metrics you introduce that are new to researchers?
- What are the top 1 to 3 reasons that researchers consult you about research metrics?
- What impact does providing research metrics consultations have on your perceived value by constituencies at your institution?

# Pitt Quick View 2019

(Numbers for both Full-Time and Part-Time Affiliates)



Ranks ninth nationally in federal science and engineering funding, according to a report from the National Science Foundation.

Ranks fifth among U.S. universities in terms of the competitive grants awarded to members of its faculty by the National Institutes of Health



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<http://www.pitt.edu/about/achievements>





## WHY NOW?

### PLAN FOR PITT (University of Pittsburgh's Strategic Plan)

#### Goal 2: Engage in Research of Impact

We aspire to be a university that **advances the frontiers of knowledge** and makes a positive impact on the world through **collaborative and multidisciplinary approaches to research** that focus on areas of great societal need.

#### Goal 5: Embrace the World

We aspire to be a university community that is committed to convening bright minds to explore and address global issues that improve life in the world's local communities.

**By engaging in research**, policy, partnerships, and the study of language and culture, **we open the door to global citizenship.**

# WHAT WE TALK ABOUT WHEN WE TALK ABOUT METRICS

*Could you help me run a citation analysis (h-index) for several of my junior faculty? This would be of great help to me as I prepare to discuss their performance.*

*Wait—can my social media presence be shown using metrics?*

*I would be extremely grateful if you could find h-index for the following academics that are in similar area as XXX (I only have CV for XXXXX and it's attached):*

*I mentioned my interest in doing a citation study for XXX Department. I think I have figured out something interesting to do.*

**What are some options to visually depict my global collaborations?**

**Can metrics demonstrate the impact of my collaborations with researchers outside my discipline?**

*Can you meet with some early career researchers in my department to show them how metrics can convey the impact of their work?*

**I'm preparing documents for EB-1b petition. I need to illustrate the impact factor and ranking of the journals with all my publications in the field (XXXX, for me). *Is there a tool to do this?***



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# Where is the value of a librarian in 2019?





# Aligning to meet researcher needs

## OLD WORK

- Collection building
- One shot instruction sessions
- Reference Desk Questions
- Librarian in the library
- ONLY knowing subject specific databases well
- Subject librarian

## NEW WORK

- Just in Time Resources
- “Embedded” librarian
- Discipline specific questions in multiple environments
- Librarian with a laptop
- Knowing Google Scholar well
- Functional Specialist



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# LIAISON REALIGNMENT Timeline

- **2012** Liaison Librarian Model
- **2014** *ULS Seminar on Research Library Service Models for Support of Research Evaluation and Assessment*
- **2014** Bibliometrics Specialist Track
- **2015** SciVal subscription
- **2015** 1<sup>st</sup> ORCiD outreach--Engineering
- **2017** 2nd ORCiD outreach--Psychology
- **2017** University Senate Plenary & pre-plenary on Bibliometrics
- **2018** Symplectic Elements



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**Level 1: Specialist**

A Specialist has expertise and knowledge in research evaluation & metrics tools, and keeps abreast of emerging issues

Develops & provides metrics training and support for RIS Managers, Librarians & within UQ

Provides expert advice and tailored metrics reports for UQ Senior Executive and UQ International

Develops and recommends metrics data & benchmarks for inclusion in UQ systems (e.g. [eSpace](#), [UQreSEARCHers](#))

Engages, consults & liaises with external providers in relation to research evaluation initiatives

(e.g. Thomson Reuters [HiCi](#) researchers, [ORCID](#), [Incites](#), [Scopus Custom Data](#))

Is responsible for communication about metrics for UQ Libraries (website, [Libnet](#), blog)

**Specialist**

*SPaDS*

**Level 2: Service Provision**

A Level 2 Service Provider has a good working knowledge of metrics, including benchmarks

Can provide training & advice within their field, including conducting workshops

[on](#) metrics tools and related topics, including author identifiers

Can use [Incites](#) for summary metrics and article level benchmarking reports

Can provide support to Level 1 Specialists for data integrity checking of selected reports

**Metrics Service  
Provider**  
*Selected RIS Librarians*

**Level 3: Awareness & Understanding, and Basic Service Provision**

A Level 3 Service Provider can advise academics on what metrics tools are available &

[how](#) useful they are within their field, including author identifiers

[Has good searching skills](#) for metrics information using

Web of Science, [Scopus](#), Google Scholar

Can help academics identify and find relevant metrics

[including](#) the h index and journal metrics;

Has an awareness of benchmarking tools, including

Essential Science Indicators and [Incites](#)

**Metrics Awareness & Understanding,  
and Basic Service Provider**  
*All RIS Librarians & Managers*

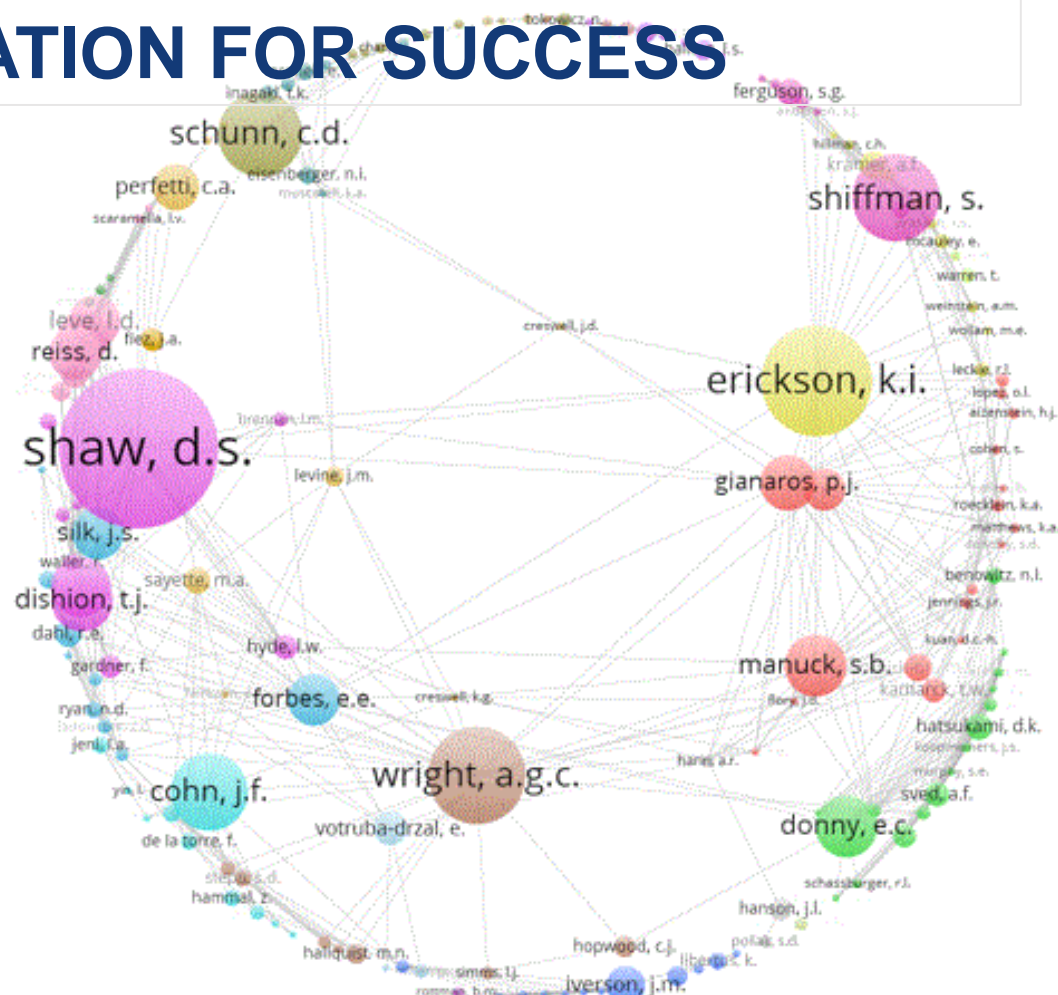


# INFORMATION FOR SUCCESS

# TELLING THE STORY OF RESEARCH IMPACT...

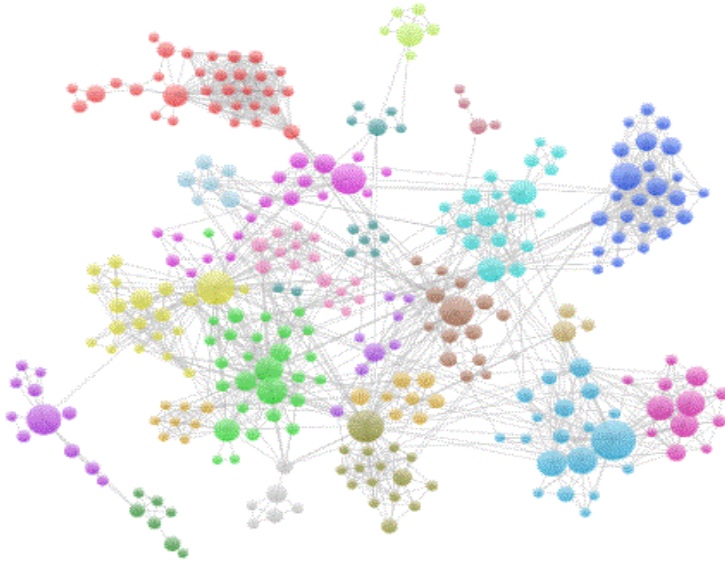
- on the department website
- in a researcher profile
- in an annual review
- through benchmarking
- through automatically updated publications screen crawls & CVs
- in social media mentions

- on the department website
- in a researcher profile
- in an annual review
- through benchmarking
- through automatically updated publications screen crawls & CVs
- in social media mentions



## Collaborative

Department members have rich collaborative networks. We work with each other, with faculty and students in other departments, and with leading scientists throughout the world. This keeps our research on the cutting-edge of new knowledge.



**ARTICULATING  
EVIDENCE OF  
COLLABORATION  
AND/OR  
STANDING WITHIN  
A DISCIPLINE  
AND/OR A  
RESEARCH  
COMMUNITY**



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# Altmetrics

PlumX Metrics |



Home

Overview

Highlights

Blog Mentions

News Mentions

Wikipedia References

Twitter

The academic, economic and societal impacts of Open Access: an evidence-based review.

Citation Data: F1000Research, ISSN: 2040-1402, Vol. 5, Issue: 652, Page: 652  
Publication Year: 2016

## Metrics Details

### USAGE

599

- Downloads 296
- D-Scholarship@Pitt 195
- D-Scholarship@Pitt 101
- Clicks 282
- Bitly 282
- Abstract Views 18
- EBSCO 18
- Link-outs 3
- EBSCO 3

### CAPTURES

348

- Readers 345
- Mendeley 344
- CiteULike 3
- Exports-Saves 3
- EBSCO 3

### CITATIONS

55

- Citation Indexes 55
- Scopus 55
- CrossRef 44
- PubMed Central 17

### SOCIAL MEDIA

1,585

- Tweets 995
- Twitter 995
- Shares, Likes & Comments 590
- Facebook 590

## Most Recent Tweet

See all tweets

**Jon Tennant** @Proloedgehog  
Replying to @montel\_denise and 2 others  
I'm not really sure why you would say that when a) in the titles of each paper it says that they are, b) you can see the reviews themselves, and c) you can see the improvements we made based on each round of review.  
f1000research.com/articles/5-632... and  
f1000research.com/articles/6-115...  
2 12:31 PM - Dec 15, 2016

See Jon Tennant's other Tweets

## Most Recent Blog

See all blogs

The "problem" of predatory publishing remains a relatively small one and should not be allowed to defame open access

September 25, 2018 | LSE Impact Blog

A recent investigation led by an international group of journalists raised concerns over the scale of the problem of deceptive publishing practices, with many researchers of standing and reputation found to have published in "predatory" journals. However, while the findings of this investigation garnered significant media attention, the role of

## Review Description

Ongoing debates surrounding Open Access to the scientific literature have been complicated by disparate and often polarised viewpoints. At the current stage, Open Access has become such a global issue that it has attracted the attention of publishers, librarians, and academic communities, to be well-informed about the benefits of Open Access. In spite of this, there is a general lack of consensus on Open Access at multiple levels. This review aims to synthesize the impacts of Open Access by synthesizing important economic and societal. While there is clearly much social and economic benefit to be identified, including a broad citation advantage for

## Bibliographic Details

PMID: 27158456  
DOI: 10.12688/f1000research.8460.3  
10.12688/f1000research.8460.2  
PMCID: PMC4837983  
REPOSITORY URL: <http://d-scholarship.pitt.edu/id/eprint/29598>  
<http://d-scholarship.pitt.edu/id/eprint/29598>

AUTHOR(S):  
Tennant, Jonathan P; Waldner, François; Jacques, Damien

The academic, economic and societal impacts of Open Access: an evidence-based review.

Citation Data: F1000Research, ISSN: 2040-1402, Vol. 5, Issue: 652, Page: 652  
Publication Year: 2016

This review has 4 News mentions across 3 URLs.

How SciHub Is at the Forefront of the Quest to Frame Scientific Knowledge as Public Good

February 26, 2018 | The Wire

The SciHub database contains 85% of all papers published in paywalled journals, including 97% of all research in Elsevier's database. There has been no precedent for this kind of access in the history of

Open in Order to End Extreme Poverty: Open Access and Development: Research Findings

October 18, 2017 | World Bank

The goal of the Bank's Open Agenda is to support development. In fact, several research findings show that Open Access leads to tremendous positive societal

Hundreds of German universities set to lose access to Elsevier

December 31, 2019 | Nature

Hundreds of German universities set to lose access to Elsevier  
<http://www.nature.com/doi/10.1038/441586-017-0781>  
Negotiations to reduce journal prices and promote open access

Here's an example—it's a co-authored article that was picked up by The Wire, The World Bank, and Nature





# Toolkit for Bibliometrics Work



# Learning, Learning, Learning

## DIY—all free!:

- The Scholarly Kitchen
- Elsevier's Library Connect
- The Bibliomagician.wordpress.com
- The Idealis.org
- ORCID.org
- Altmetric.com

## Classes:

Bibliometrics and Scientometrics for  
Research Evaluation

[www.cwts.nl/education/bibliometrics  
-and-scientometrics-for-research-  
evaluation/bibliometric-course-  
chicago-us](http://www.cwts.nl/education/bibliometrics-and-scientometrics-for-research-evaluation/bibliometric-course-chicago-us)



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# Presentation Resources

Hicks, Diana, et al. “Bibliometrics: The Leiden Manifesto for Research Metrics.” *Nature News* 520.7548 (2015): 429.

Fransen, Jan, et al. *Showcase Your Institution's Research (and Library Capabilities!)*. Library Connect, 26 Mar. 2018. [www.libraryconnect.elsevier.com/articles/webinar-now-available-showcase-your-institutions-research-and-library-capabilities](http://www.libraryconnect.elsevier.com/articles/webinar-now-available-showcase-your-institutions-research-and-library-capabilities). Accessed 10 Mar. 2019

Roemer, Robin Chin, and Rachel Borchardt. *Meaningful Metrics: A 21st-Century Librarian's Guide to Bibliometrics, Altmetrics, and Research Impact*. Chicago: Association of College and Research Libraries, a division of the American Library Association, 2015.

Sapp Nelson, Megan R.. “Using Altmetrics as an Engineering Faculty Outreach Tool.” *ASEE's 123rd Annual Conference*. New Orleans, LA: N.p., 2016.

Thomas, Amberlyn, et al. “Bibliometrics Seminar.” 2014: n. pag.

Williams, Catherine, and Danielle. Padula. *The Evolution of Impact Indicators: From Bibliometrics to Altmetrics*. N.p., 2015.

Wilson, James, et al. “The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management.” (2015): n. pag.



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# Metrics Forecast and Tips

ACRL 2019 Conference

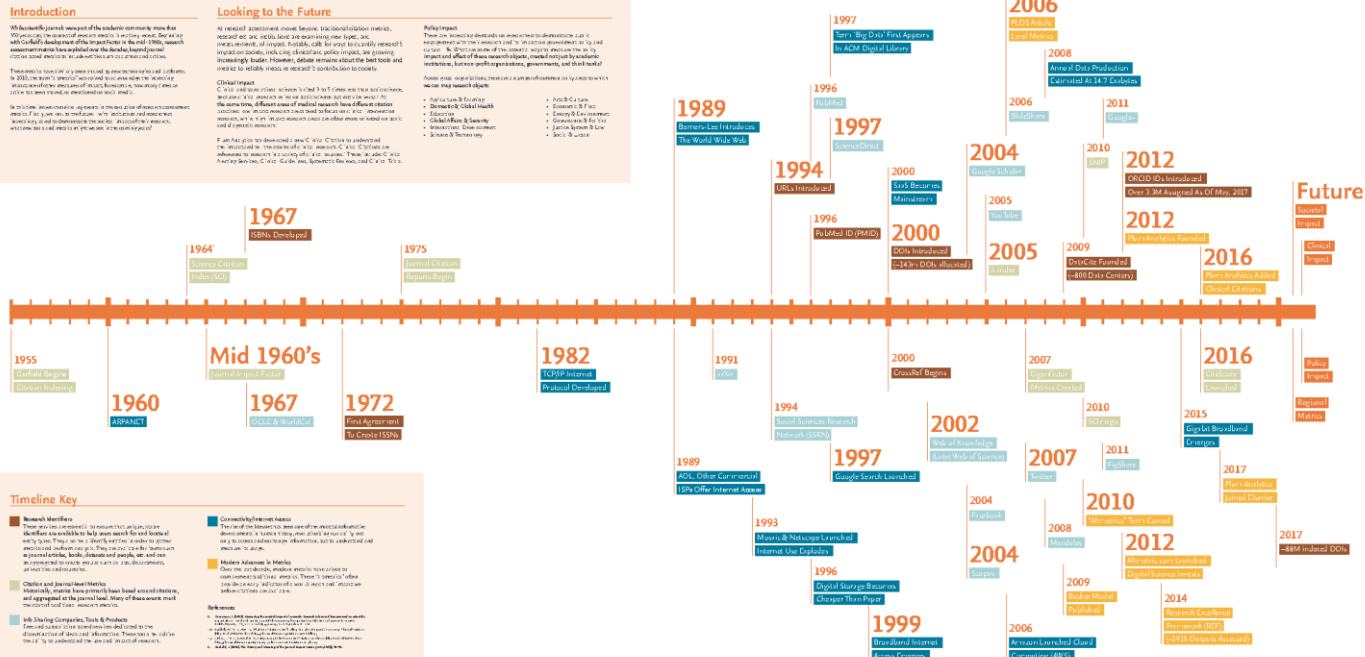
Stephanie Faulkner | Director of Product Management and Operations

S.Faulkner@Elsevier.com | +1.732.216.5104



# Research Assessment Metrics: Past, Present and Future

Authors: Andrea Michalek, Tom Crosby, Talia Arthur, Marianne Parkhill,  
Christopher James, Rachel McCullough, Taylor Stang | Elsevier



# Metrics timeline: From Idea to Impact



# Societal Impact – Why does it matter?

- Funders and governments increasingly require real world or societal proof – consider the 2014 Research Excellence Framework exercise conducted in the UK.
- 6,975 impact case studies were submitted categorized by a variety of impact types including:
  - Political
  - Health
  - Technological
  - Economic
  - Legal
  - Cultural
  - Societal
  - Environmental
- Almost 25% of all the cases submitted were labeled Societal Impact

<http://impact.ref.ac.uk/CaseStudies/>

<https://www.ugc.edu.hk/doc/eng/ugc/rae/2020/framework.pdf>

# Societal Impact - Challenges

- Measuring societal impact is not always easy as it can take a long time for this type of impact to be reflected and measurable.
- Sources vary and the accessibility to them also varies.
- There is no standard measure across research areas.



# Our approach

- We represent societal/economic impact in our Citations area in three ways:
  - Clinical Citations
  - Policy Citations
  - Patent Citations
- Displayed separate from traditional citation indexes, but included in our overall citation count

# Policy and Clinical Citations

- Demonstrates:
  - Public engagement with research
  - Impact on government policy and cultural life
  - Societal impact in general
- Can drive policy makers and legislators to a particular course of action.
- They can also be actual statements of policy by public policy making institutions.

# Policy Citations

Policy from different types of organizations:

- Non-profits
- Governmental agencies
- NGOs
- Think tanks

Policy documents can be:

- Guidelines
- White Papers
- Monographs
- Pamphlets
- Articles
- Books
- and more

# Policy Citations in PlumX Metrics



Trends in adult body-mass index in 200 countries from 1975 to 2014: a pooled analysis of 1698 population-based measurement studies with 19·2 million participants

Citation Data: Lancet (London, England), ISSN: 1474-547X, Vol: 387, Issue: 10026, Page: 1377-96

Publication Year: 2016

1,071 Citations | 2,715 Usage | 1,919 Captures | 162 Mentions | 1,423 Social Media

Home

Overview

Highlights

Policy Citations

News Mentions

Blog Mentions

Q&A Site Mentions

Wikipedia References

Twitter

## Metrics Details

CITATIONS 1,071

Citation Indexes 1,066

Scopus 1,066

PubMed Central 426

CrossRef 304

Policy Citations 5

Policy Citation 5

USAGE 2,715

Clicks 1,769

Bitly 1,769

Abstract Views 835

EBSCO 835

Link-outs 111

EBSCO 111

CAPTURES 1,919

Readers 1,892

Mendeley 1,891

CiteULike 1

Exports-Saves 27

EBSCO 27

MENTIONS 162

Comments 94

Reddit 69

Reddit 20

Reddit 5

News Mentions 52

News 52

## Most Recent Tweet

See all tweets >

## Most Recent Blog

See all blogs >

PLOS Medicine Special Issue: Maternal and Child Health & Nutrition

December 17, 2018 | Speaking of Medicine >

The editors of PLOS Medicine, together with guest editors Lars Åke Persson, Kathleen M. Rasmussen and Huixia Yang, announce a forthcoming Special Issue dedicated to the role of Nutrition in Maternal and Child Health. Research

## Most Recent News

See all news >

Obesity in Norway

February 21, 2019 | Norwegian American Weekly >

Norwegians gain, but less than Americans Image: Norwegian Institute of Public Health  
The Norwegian Institute of Public Health warns people of the dangers and causes

## Article Description

Underweight and severe and morbid obesity are associated with highly elevated risks of adverse health outcomes. We estimated trends in mean body-mass index (BMI), which characterises its population distribution, and in the prevalences of a complete set of BMI categories for adults in all countries.

## Bibliographic Details

PMID: 27115820 >

DOI: 10.1016/s0140-6736(16)30054-x >

REPOSITORY URL: [http://research-repository.uwa.edu.au/en/publications/trends-in-adult-bodymass-index-in-200-countries-from-1975-to-2014-a-pooled-analysis-of-1698-populationbased-measurement-studies-with-192-million-participants/a0b32113-d37c-4ce7-a547-be3fbd602ebf\).html](http://research-repository.uwa.edu.au/en/publications/trends-in-adult-bodymass-index-in-200-countries-from-1975-to-2014-a-pooled-analysis-of-1698-populationbased-measurement-studies-with-192-million-participants/a0b32113-d37c-4ce7-a547-be3fbd602ebf).html) >

## AUTHOR(S):

van der Weide, R. J. M. | van der Weide, R. J. M.

Show more >

## Provide Feedback

Have ideas for a new metric? Would you like to see something else here? [Let us know >](#)

# Policy Citations in PlumX Metrics

ARTICLE SUMMARY

NEWS

BLOGS

Q&A SITES

WIKIPEDIA

TWEETS

POLICY CITATIONS

This article has 5 Policy Document Citations.

## IFPRI 2017 Global Food Policy Report

Jan. 1, 2017 | Food and Agriculture Organization by International Food Policy Research Institute (IFPRI)

The International Food Policy Research Institute (IFPRI), established in 1975, provides research-based policy solutions to sustainably re...

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## Double-duty actions for nutrition: policy brief

Jan. 1, 2017 | World Health Organization by World Health Organization

Addressing contrasting and confounding forms of malnutrition need not be a zero-sum game. Double-duty actions have the potential to impr...

[Read More](#)

[See Full Text](#)

## An Investment Framework for Nutrition : Reaching the Global Targets for Stunting, Anemia, Breastfeeding and Wasting

Sept. 29, 2016 | The World Bank by Shekar, Meera; Kakietek, Jakub Jan; Dayton, Julia M.; Walters, Dylan David; World Bank Group.

In 2015, 159 million children under the age of five were chronically malnourished or stunted, underscoring a massive global health and ec...

[Read More](#)

[See Full Text](#)

## The double burden of malnutrition: policy brief

Jan. 1, 2016 | World Health Organization by World Health Organization

This policy brief explains the double burden of malnutrition now facing many countries worldwide – characterized by the coexistence of un...

[Read More](#)

[See Full Text](#)

## Informe mundial sobre la diabetes

Jan. 1, 2016 | World Health Organization by Organización Mundial de la Salud; World Health Organization

La diabetes es una grave enfermedad crónica que se desencadena cuando el páncreas no produce suficiente insulina (una hormona que regula ...

[Read More](#)

[See Full Text](#)



# Clinical Research & Citations

“

...clinical medicine draws heavily on basic science, but not vice versa. The result is that basic medicine is cited three to five times more than clinical medicine, and this is reflected in journal impact factors.”

BMJ. 1997 Feb 15; 314(7079): 498–502.

PMCID: PMC2126010

**Why the impact factor of journals should not be used for evaluating research.**

[P. O. Seglen](#)

# Clinical Citations Come From...

Clinical  
Alerting  
Services

Clinical  
Guidelines

Systematic  
Reviews

Clinical  
Trials

# Societal Impact – Clinical Citations



Zika Virus Infects Human Cortical Neural Progenitors and Attenuates Their Growth.

Citation Data: Cell stem cell, ISSN: 1875-9777, Vol: 18, Issue: 5, Page: 587-90

Publication Year: 2016

523 Citations | 913 Usage | 932 Captures | 94 Mentions | 362 Social Media

Home

Overview

Highlights

Clinical Citations

News Mentions

Blog Mentions

Wikipedia References

Twitter

## Metrics Details

CITATIONS 523

Citation Indexes 522

Scopus 522

CrossRef 406

PubMed Central 282

Clinical Citations 1

DynaMed Plus Topics 1

USAGE 913

Clicks 821

Bitly 821

Abstract Views 54

EBSCO 54

Link-outs 38

EBSCO 38

CAPTURES 932

Readers 928

Mendeley 896

Mendeley 19

Mendeley 10

CiteULike 3

Exports-Saves 4

EBSCO 4

MENTIONS 94

News Mentions 65


News 65

Comments 21

Reddit 20

Reddit 1

## Most Recent Tweet

 **alirio osorio garcia**  
@chiribiquete

Zika Virus Infects Human Cortical Neural Progenitors and Attenuates Their Growth  
cell.com/cell-stem-cell...

9:14 AM - Apr 2, 2018

[See alirio osorio garcia's other Tweets](#)

## Most Recent Blog

Is Zika Dangerous For Kids? Probably Depends On The Age

June 12, 2017 | News

Studies have shown that Zika can damage a fetus's brain in the third trimester. Would there also be an impact on the brain of a newborn? Image credit: Alessandro Abel/Getty Images/EyeEm

## Most Recent News

Is Zika Dangerous For Kids? It Probably Depends On The Age

June 12, 2017 | KVCR News

Zika may have fallen from headlines — especially with everything going on in politics these days. But the threat remains. And recommendations for pregnant woman

## Article Description

The suspected link between infection by Zika virus (ZIKV), a re-emerging flavivirus, and microcephaly is an urgent global health concern. The direct target cells of ZIKV in the developing human fetus are not clear. Here we show that a strain of the ZIKV, MR766, serially passaged in monkey and mosquito cells efficiently infects human neural progenitor cells (hNPCs) derived from induced pluripotent stem cells. Infected hNPCs further release infectious ZIKV particles. Importantly, ZIKV infection increases cell death and dysregulates cell-cycle progression, resulting in attenuated hNPC growth. Global gene expression analysis of infected hNPCs reveals transcriptional dysregulation of genes involved in cell cycle progression and neurogenesis.

## Bibliographic Details

PMID: 26952870

DOI: 10.1016/j.stem.2016.02.016

## AUTHOR(S):

Tang, Hengli; Hammack, Christy; Ogden, Sarah C; Wen, Zhixing; Qian, Xuyu; Li, Yujing; Yao, Bing; Shin, Jaehoon; Zhang, Feiran; Lee, Emily M; Christian, Kimberly M; Didier, Ruth A; Jin, Peng; Song, Hongjun; Ming, Guo-Li

## PUBLISHER(S):

Provide Feedback

Have ideas for a new metric? Would you like to see something else here? Let us know

# DynaMed Plus Topics

DynaMed Plus

Search

Search Within Text



▼ Overview and Recommendations

Background

Evaluation

Management

Prevention

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► Epidemiology

► Etiology and Pathogenesis

► History and Physical

► Diagnosis

► Treatment

## Zika virus infection



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Overview and Recommendations / Background

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### Overview and Recommendations

#### Background

- [Zika virus](#) is a mosquito-borne flavivirus [transmitted](#) primarily by *Aedes aegypti* mosquitoes.
- The largest outbreak to date is presently ongoing [in the Americas](#), and certain areas of Southeast Asia and the Pacific Islands.
  - The first cases of local Zika virus transmission during this outbreak were reported in Brazil in May of 2015, where an estimated 500,000 to 1.5 million persons have since been infected.
  - The outbreak has now spread throughout Central and South America, Mexico, and the Caribbean, including Puerto Rico and the United States Virgin Islands.
  - Local transmission has been reported in Florida within the continental United States and over 1000 cases of Zika virus infection have been reported among travelers returning to the United States from affected areas.
  - Other regions with local Zika virus transmission include Singapore, Thailand, and Cape Verde.

# Patent Citations

- A **patent citation** is any document cited by a **patent** applicant, a third-party, or a **patent** office examiner because it's relevant to a **patent** application.
- Gain an understanding of how much research is being used in the creation of products by seeing the total number of outputs that received patents.
- Provide information about the economic impact of research.




# Patent Citations

- Citation of scholarly output in patents indicates a connection between academia and industry.
- Patents citation contains valuable data and if analyzed well, may sometimes reveal concealed mysteries of the information flow between countries, laboratories, companies, and universities.

---


Sharma, P., & Tripathi, R.C. (2017). Patent citation: A technique for measuring the knowledge flow of information and innovation. *World Patent Information*, 51, 31-42. doi: 10.1016/j.wpi.2017.11.002

# Societal Impact – HERL at University of Pittsburgh

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**HERL WELCOMES VIPS!**

HERL was honored to host U.S. Senator Robert Casey on November 6, 2017. In this photo, Sen. Casey is driving HERL's PneChair while accompanied by researcher Brandon Daveler, HERL Director Dr. Rory Cooper, and University of Pittsburgh Chancellor Dr. Patrick Gallagher.

**VIDEO SPOTLIGHT**

Human Engineering Research Overview



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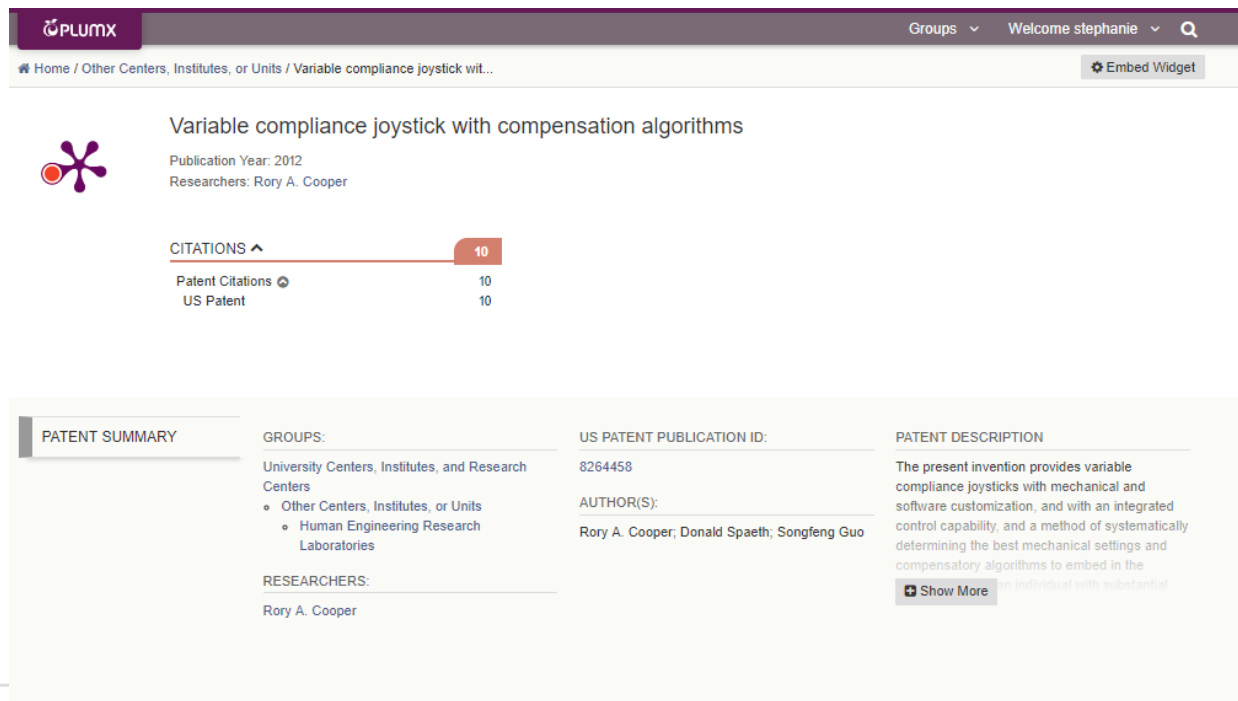
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# Societal Impact – Patent Citations



# Societal Impact – Patent Citations

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**PAT. NO.**

**Title**

- 1 [10,073,488](#)  [Multifunction joystick apparatus and a method for using same](#)
- 2 [10,015,460](#)  [Control and display system with synchronous direct view video array and incident key lighting](#)
- 3 [9,943,757](#)  [Adjustable tension thumbstick](#)
- 4 [9,931,567](#)  [Adjustable tension thumbstick](#)
- 5 [9,809,955](#)  [Control device for an implement system](#)
- 6 [9,739,090](#)  [Control system and method for controlling the movement of an aerial apparatus](#)
- 7 [9,236,822](#)  [Electromotive furniture drive including a power supply device](#)
- 8 [9,090,360](#)  [Cryogenically cooled radiation shield device and associated method](#)
- 9 [8,809,824](#)  [Cryogenically cooled radiation shield device and associated method](#)
- 10 [8,511,621](#)  [Device for piloting a craft having an electromagnetic actuator](#)

# Looking Forward: Research Metrics at Elsevier

*Supporting and developing metrics for the full lifecycle of research*

We strive for **broader use** of  
**open metrics** that can be  
**used by everyone**  
**responsibly**.

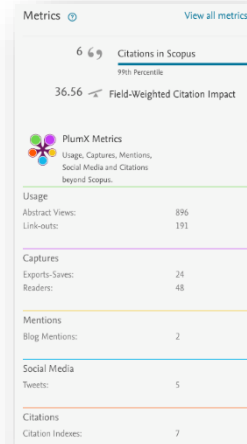
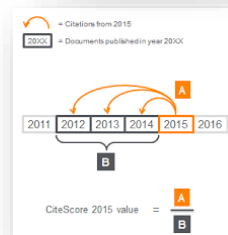


# Elsevier and Research Metrics

## Our Metrics Manifesto

- Need to use different metrics and common sense
  - Decisions should be based on both quantitative and qualitative input
  - Should always use at least two metrics (more than one way to 'excellence')
- The methodologies should be open, transparent, valid and replicable
- Definitions should be owned by the community
  - Need trust between the parties using metrics to evaluate.

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# Questions? Comments?

Clare Withers [cwithers@pitt.edu](mailto:cwithers@pitt.edu)

Judy Brink [jbrink@pitt.edu](mailto:jbrink@pitt.edu)

Colleen DeLory [c.delory@elsevier.com](mailto:c.delory@elsevier.com)

Stephanie Faulkner [s.faulkner@elsevier.com](mailto:s.faulkner@elsevier.com)

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