USING RESEARCH METRICS TO TELL YOUR STORY

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Dr. Deborah Lee
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DR. DEBORAH LEE
PROFESSOR AND COORDINATOR, GRADUATE STUDENT SERVICES
SESSION OVERVIEW

- Explore the use of research metrics.
- Review resources available to the MSU community.
- Discuss best practices.
What are research metrics?
WHO CARES?

- Faculty and Researchers
- Promotion & Tenure Committees
- Universities/Research Institutions
- Funders
RESEARCH METRICS: CAVEATS

- YOU are more than a number!
- Research metrics augment traditional measures of impact. (Peer-review, funding, etc....)
- All data have a context: always report the date/source of your measure.
AUTHOR METRICS

- Total Citations
- Problems?
  - Difficult to interpret
  - Subject to the norms of the field
J. E. Hirsch (2005): “How does one quantify the cumulative impact and relevance of an individual’s scientific research output?”

Wanted to be able to compare physicists.
H-INDEX

- Statistical measure that includes BOTH the productivity and impact of a work or researcher.
- Index of $h = h$ papers published that have been cited $h$ times.
- An $h$-index of 8 means you have at least 8 publications that have been cited by at least 8 other articles.
One of the most often used metrics of impact.

Included on CVs, biographical statements (for grants), and even on web pages.

Problems:

- May under-represent the impact of a key piece of research.
- Varies depending on the source of data.
H-INDEX: SOURCES

- Scopus
- Google Scholar
- Publish or Perish (software program)
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Cited by</th>
<th>Year</th>
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<tr>
<td>An index to quantify an individual's scientific research output</td>
<td>J. E. Hirsch</td>
<td>6967</td>
<td>2005</td>
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<tr>
<td>Two-dimensional Hubbard model: Numerical simulation study</td>
<td>J. E. Hirsch</td>
<td>987</td>
<td>1985</td>
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<tr>
<td>D-wave pairing near a spin-density-wave instability</td>
<td>D. J. Scalapino, E. Loh Jr, J. E. Hirsch</td>
<td>727</td>
<td>1986</td>
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<tr>
<td>Does the h index have predictive power?</td>
<td>J. E. Hirsch</td>
<td>633</td>
<td>2007</td>
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<td>Attractive interaction and pairing in fermion systems with strong on-site repulsion</td>
<td>J. E. Hirsch</td>
<td>601</td>
<td>1985</td>
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<tr>
<td>Monte Carlo simulations of one-dimensional fermion systems</td>
<td>J. E. Hirsch, R. L. Sugar, D. J. Scalapino, R. Blankenbecler</td>
<td>534</td>
<td>1982</td>
</tr>
<tr>
<td>Discrete Hubbard-Stratonovich transformation for fermion lattice models</td>
<td>J. E. Hirsch</td>
<td>456</td>
<td>1983</td>
</tr>
<tr>
<td>Theory of intermittency</td>
<td>J. E. Hirsch</td>
<td>456</td>
<td>1983</td>
</tr>
</tbody>
</table>
CITATION METRICS

- Total Citations
- Field-Weighted Citation Impact (FWCI)
  - Considers the differences in citation behavior across disciplines.
  - Compares the number of citations an article has with the average number of citations received by all other similar publications in Scopus.
  - 1.44 = article has been cited 44% more times than expected.
An index to quantify an individual's scientific research output

Hirsch, J.-E.

Department of Physics, University of California at San Diego, San Diego, CA 92093-0319, United States

I propose the index h, defined as the number of papers with citation number ≥h, as a useful index to characterize the scientific output of a researcher. © 2005 by The National Academy of Sciences of the USA.
An index to quantify an individual’s scientific research output. (2005) Proceedings of the National Academy of Sciences of the United States of America, 102(46), pp. 15569-15572

Scopus Metrics

Citation Count: 3358
Field-Weighted Citation Impact: 15.87
Citation Benchmarking: 99th percentile

Cited by Scopus

3358 Citations
Date range: 2013 to 2017

Benchmarking
Measures of activity relative to specific research domains, based on cited by in Scopus
Compared to Biochemistry, Genetics and Molecular Biology articles of the same age and document type

PlumX Metrics
see details
SOURCE METRICS

- Select metrics that are appropriate to your research and field:
  - Books
  - Journals
BOOKS

- Citation Information
  - Google Scholar
  - Scopus, Google Books (Limited)

- Other Metrics
  - Reviews in the professional literature
  - Ranking/sales in Amazon
  - Purchase/Cataloging by libraries (WorldCat)
  - Adoption in courses
Agrarian Dreams: The Paradox of Organic Farming in California
4 August 2004, 250p

Agrarian dreams: The paradox of organic farming in California

Guthman, J.
University of California, Santa Cruz, United States

Abstract

In an era of escalating food politics, many believe organic farming to be the agrarian answer. In this first comprehensive study of organic farming in California, Julie Guthman casts doubt on the current wisdom about organic food and agriculture, at least as it has evolved in the Golden State. Refuting popular portrayals of organic agriculture as a small-scale family farm endeavor in opposition to "industrial" agriculture, Guthman explains how organic farming has replicated what it set out to oppose. © 2004 by the Regents of the University of California.

ISBN: 0520240944;978-052024094-0
Original language: English
Document Type: Book
Publisher: University of California Press

References (314)

View in search results format >
Agrarian Dreams: The paradox of organic farming in California
J Guthman - 2014 - books.google.com
In this groundbreaking study of organic farming, Julie Guthman challenges accepted wisdom about organic food and agriculture in the Golden State. Many continue to believe that small-scale organic farming is the answer to our environmental and health problems. Cited by 98 Related articles All 6 versions Cite Save More

Moroccan mirages: agrarian dreams and deceptions, 1912-1986
WD Swearengen - 1988 - books.google.com
This book examines the dreams and deceptions underlying agricultural development in Morocco. Focusing primarily on the policy-making process, it reconstructs the decision-making environments in which major policies were formulated, and explores the rationale. Cited by 145 Related articles All 5 versions Cite Save More

Weighing in: Obesity, food justice, and the limits of capitalism
J Guthman - 2011 - books.google.com
... In fact, my fasci-nation with salad mix—then selling at fifteen dollars a pound—provoked the research that eventually became the subject of my first book, Agrarian Dreams: The Paradox of Organic Farming in California. Agrarian ... Cited by 418 Related articles All 2 versions Cite Save More

Commentary on teaching food: Why I am fed up with Michael Pollan et al.
J Guthman - Agriculture and human values, 2007 - Springer
... Her 2004 book, Agrarian Dreams: The Paradox of Organic Farming in California, examines how the California organic sector intersected with California's agrarian history to replicate many aspects of industrial agriculture that it set out to oppose and, in particular, how social ... Cited by 30 Related articles All 5 versions Cite Save More

Fields without dreams: Defending the agrarian idea
VD Hanson - 1996 - agris.fao.org
Related Information in Other Data Sources. Fields without dreams: defending the agrarian idea. Fields without dreams: defending the agrarian idea [1996]. Hanson, VD. Fields without dreams: defending the agrarian idea. 1996. [agriculture, usa, usa, economics, states units, exploitation] Cited by 53 Related articles Cite Save More

Food deserts, oases, or mirages? Small markets and community food security in the San Francisco Bay Area
A Short, J Guthman, S Raskin - Journal of Planning ... - 2007 - journals.sagepub.com
... Julie Guthman is an assistant professor of community studies at the University of California, Santa Cruz, and the author of Agrarian Dreams: the Paradox of Organic Farming in California (University of California, 2004). Samuel ... Cited by 6 Related articles Cite Save More
Impact Factor (JCR)

CiteScore Metrics (Scopus)
- Average of citations based on three years of data
- Citation Count 2015 / Documents 2012-2014
### CiteScore metrics for serials

CiteScore metrics from Scopus are comprehensive, transparent, current and free metrics for serial titles in Scopus. Search or browse below to find a source and see associated metrics. Use the annual metrics for reporting, and track the progress of 2017 metrics with CiteScore Tracker 2017. Be sure to use qualitative as well as the below quantitative inputs when presenting your research impact, and always use more than one metric for the quantitative part.

<table>
<thead>
<tr>
<th>Source title</th>
<th>CiteScore</th>
<th>SJR</th>
<th>SNIP</th>
<th>Type</th>
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<tr>
<td>Ca-A Cancer Journal for Clinicians</td>
<td>89.23</td>
<td>39.285</td>
<td>67.564</td>
<td>Journal</td>
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<tr>
<td>Chemical Reviews</td>
<td>42.79</td>
<td>19.282</td>
<td>10.369</td>
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<tr>
<td>Chemical Society Reviews</td>
<td>35.70</td>
<td>14.994</td>
<td>7.676</td>
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</table>
American Economic Review
Scopus coverage years: from 1978 to Present
Publisher: American Economic Association
ISSN: 0002-8282
Subject area: Economics, Econometrics and Finance: Economics and Econometrics

CiteScore 2016: 4.60
SJR 2016: 10.490
SNIP 2016: 4.079

CiteScore rank & trend
In category: Economics and Econometrics
Percentile: 97th
Rank: #16/534

CiteScoreTracker 2017
2.71 = Citation Count 2017
Documents 2014 - 2016
2,108 Citations to date
779 Documents to date

Last updated on 10 August, 2017 Updated monthly
CiteScore rank & trend
In category: Economics and Econometrics

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<tr>
<td>#1</td>
<td>Handbook of International Economics</td>
<td>8.87</td>
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<td>#2</td>
<td>Quarterly Journal of Economics</td>
<td>8.21</td>
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<td>#3</td>
<td>Journal of Economic Literature</td>
<td>7.28</td>
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<td>#4</td>
<td>Journal of Finance</td>
<td>7.04</td>
<td>99th percentile</td>
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<td>#5</td>
<td>Journal of Economic Perspectives</td>
<td>6.37</td>
<td>99th percentile</td>
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<tr>
<td>#6</td>
<td>Journal of the Academy of Marketing Science</td>
<td>6.36</td>
<td>98th percentile</td>
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<td>#7</td>
<td>Journal of International Business Studies</td>
<td>6.00</td>
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<td>#8</td>
<td>Journal of Financial Economics</td>
<td>5.77</td>
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<td>#9</td>
<td>Entrepreneurship Theory and Practice</td>
<td>5.39</td>
<td>98th percentile</td>
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<td>#10</td>
<td>Journal of Accounting and Economics</td>
<td>5.08</td>
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<td>Economic Systems Research</td>
<td>5.05</td>
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<td>Journal of Consumer Research</td>
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<td>#17</td>
<td>Review of Financial Studies</td>
<td>4.51</td>
<td>96th percentile</td>
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CiteScore trend

Percentile in category

Graph showing CiteScore trend from 2012 to 2016.
Percent of documents that are review articles by year

- American Economic Review
- Quarterly Journal of Economics
- Journal of Economic Perspectives
Alternative measures of impact

Sources:
- PlumX (Scopus)
- Altmetrics
- ImpactStory
<table>
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<tr>
<th>Usage</th>
<th>Captures</th>
<th>Mentions</th>
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<td>Bitly - Clicks</td>
<td>EBSCO - Exports-Saves: 52</td>
<td>Blogs: 12</td>
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<tr>
<td>EBSCO - Abstract Views: 197</td>
<td>Mendeley - Readers: 2</td>
<td>News: 4</td>
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<tr>
<td>EBSCO - Link-outs: 29</td>
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<td>Wikipedia - Links: 5</td>
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<table>
<thead>
<tr>
<th>Social Media</th>
<th>Citations</th>
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<tbody>
<tr>
<td>Facebook - Shares, Likes &amp; Comments: 17</td>
<td>CrossRef - Citation Indexes: 2460</td>
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<tr>
<td>Google+ - +1s: 4</td>
<td>PubMed - Citation Indexes: 357</td>
</tr>
<tr>
<td>Twitter - Tweets: 76</td>
<td></td>
</tr>
</tbody>
</table>
An index to quantify an individual's scientific research output.

Citation data:
Proceedings of the National Academy of Sciences of the United States of America, ISSN: 0027-8424, Vol. 102, Issue: 46, Page: 16559-72
Publication Year: 2005

<table>
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<tr>
<th>USAGE</th>
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<td>Blog Mentions</td>
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<td>Shares, Likes &amp; Comments</td>
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**ARTICLE SUMMARY**

**TWEETS**

**BLOG MENTIONS**

**NEWS MENTIONS**

**WIKIPEDIA**

**MOST RECENT TWEET**

Marc Couture
@jaamcouture
Replies to @eigenfactor and 2 others
A bit like Hirsch’s h-index proposal paper m.pnas.org/content/102/46/... though Hirsch’s had a deeper analysis and a greater # of illustrations
9:44 AM - Aug 27, 2017

**MOST RECENT BLOG MENTION**

For Google, Everything Is a Popularity Contest
June 27, 2017 | Best of The Atlantic by Ian Bogost
When I saw that Google had introduced a (Google Panda) version of Google Search, its search tool for...
In support of Mississippi State University’s pursuit of excellence in research, we are expanding our services to better promote scholarly communication and open access to research.

**Data Management**
We can help you plan, preserve, access, and share your research data.

**Open Access**
Learn how and why to make your research openly and freely available, and how we plan to help.

**Open Educational Resources**
Find freely available textbooks and other resources you can use in your teaching.

**Copyright & Fair Use**
Know your rights as an author, a researcher, and an instructor.

**Institutional Repository**
Deposit and share your scholarly works with the world in our freely available digital archive.
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Ask a Librarian!

http://lib.msstate.edu

QUESTIONS?

Dr. Deborah Lee
dlee@library.msstate.edu