Make an Impact!

Assessing scholarly research and output while connecting to your faculty

Anne Rauh and Linda Galloway
Syracuse University Library
How do we measure scholarly research and output?

- **Quantity**
  - Publications

- **Quality**
  - Citations

- **Funding**
  - Research funds

- **Technology transfer**
  - Patents, start-ups, etc.
Why do we offer this service?

• Build relationships with faculty
• Learn about faculty research interests
• Assist in evaluation of departments, programs, and faculty
• Accreditation efforts
• Marketing for academic programs
Examples of Connections
What do you want to assess?

- Institutions
- Departments
- Centers or Groups
- Individuals

What type of data do you need?

- Qualitative
- Quantitative
  - Publications
  - Citations to pubs
  - Publication influence
  - “Other”
    - Social media buzz

Our focus will be on individual, quantitative data.
What tools will we discuss?

- Scopus
- Web of Science
- Google Scholar
- Journal Citation Reports & Journal Analyzer
- altmetrics
Conventional Tools
Consider Before Beginning:

• Cost of subscription databases
• Ease of use
• Time frames
  – Citations to past year’s work (2011),
  – Citations to author’s work in past 5 years (07-11)
  – Citations to author’s work in past 10 years (02-11)
• Skewed towards STM fields
• Don’t compare across databases!
Scopus or Web of Science?

Scopus
SciVerse Scopus is the world’s largest abstract and citation database of peer-reviewed literature.

- Contains 46 million records, 70% with abstracts
- Nearly 19,500 titles from 5,000 publishers worldwide
- Includes over 4.6 million conference papers
- Provides 100% Medline coverage

Subscription includes:
- 23 million records with references back to 1996 (of which 78% include references).
- 21 million records pre-1996 which go back as far as 1823.

Web of Science

*Web of Science* consists of nine databases containing information gathered from thousands of scholarly journals, books, book series, reports, conferences, and more.

- It fully covers over 12,000 major journals.
- Create a visual representation of citation relationships with Citation Mapping
- Capture citation activity and trends graphically with Citation Report
- Use the Analyze Tool to identify trends and patterns

Our subscription:
- Science Citation Index Expanded (1899-present)
- Social Sciences Citation Index (1898-present)
- Arts & Humanities Citation Index (1975-present)
Citation Metrics for Individual Faculty Members

Assess scholarly impact by looking at:

- Works published
- Citations to works published
- Publication influence (Journal Citation Reports)

Susan Parks
Assistant Professor of Biology, Syracuse University
Bioacoustics
Verified email at syr.edu
Homepage
Cited Reference Search in Scopus

Make Author Selection

Author Last Name: dibble
E.g., smith

Initials or First Name: T.S.
E.g., j.i.

Affiliation: E.g., university of toronto

Tips:
- Create an account to save your work
- Check within each author group for publications
- Merge author profiles, if necessary
| Authors: Dibble, Theodore S.; Dibble, Theodore S. |

**Overview options**

Exclude from citation overview: □ Self citations of selected authors □ Self citations of all authors

Sort documents ▼ Year descending ▼ Date range 2007 ▼ to ▼ 2012 ▼ ▼ Update overview

### 60 Cited Documents

#### Save list

<table>
<thead>
<tr>
<th>Cited Documents</th>
<th>Citations</th>
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<tr>
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<td>Subtotal</td>
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<tr>
<td>&gt;2012</td>
<td>0</td>
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<tr>
<td>Total</td>
<td>640</td>
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1. 2011 Impact of tunneling on hydrogen...
2. 2011 Effects of olefin group and its...
3. 2011 Understanding OH yields in elect...
4. 2010 Potential energy profiles for th...
5. 2010 Atmospheric chemistry of isoprop...
6. 2009 Characterization of a low temper...
7. 2009 Towards a consistent chemical kl...
8. 2009 Observation and quantification o...
9. 2009 Optical diagnostics of a low pow...
10. 2009 A study of OH radicals in an atm...

**Author h index**

- h index = 12

Of the 40 documents considered for the h index, 12 have been cited at least 12 times.

**Note:** The h index considers Scopus documents published after 1995.

**About h-Graph**
Cited Reference Search in Web of Science

Tips:

✓ Create an account to save your work
✓ If you have a very prolific author, ask her to assist with article identification
✓ By default, citation counts are for All Years – you must modify for your chosen parameters
✓ Read the ‘Cited Reference Search’ how-to and follow the directions closely
Must always ‘Finish Search!’

Results: 182

Refine Results
Search within results for

Web of Science Categories
- CHEMISTRY PHYSICAL (66)
- PHYSICS ATOMIC MOLECULAR CHEMICAL (76)
- CHEMISTRY MULTIDISCIPLINARY (20)
- METEOROLOGY ATMOSPHERIC SCIENCES (20)
- ENVIRONMENTAL SCIENCES (9)

Document Types
- ARTICLE (185)
- REVIEW (15)
- PROCEEDINGS PAPER (4)
- BOOK CHAPTER (2)
- CORRECTION (1)

Subject Areas

Authors

1. Title: Theoretical study on HO2-initiated atmospheric oxidation of halogenated carbonyls
   Author(s): Long Bo; Long Zheng-Wen; Wang Yi-Bo; et al.
   Source: INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY Volume: 112 Issue: 8 Special Issue: SI Pages: 1926-1935 DOI: 10.1002/jqua.23189 Published: APR 15 2012 Times Cited: 0 (from Web of Science)
   SULinks

2. Title: Role of O-2 + QOOH in Low-Temperature Ignition of Propane. 1. Temperature and Pressure Dependent Rate Coefficients
   Author(s): Goldsmith C. Franklin; Green William H.; Klippenstein Stephen J.
   Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 116 Issue: 13 Pages: 3325-3346 DOI: 10.1021/jp210722w Published: APR 5 2012 Times Cited: 0 (from Web of Science)
   SULinks

3. Title: Vibrationally Resolved LIF Spectrum of Tertiary Methylocyclohexoxy Radical
   Author(s): Wu Qin; Lang Gaoting; Zu Lily; et al.
   Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 116 Issue: 12 Pages: 3156-3162 DOI: 10.1021/jp211888c Published: MAR 29 2012 Times Cited: 0 (from Web of Science)
   SULinks

4. Title: Quantum Mechanical Study of Sulfuric Acid Hydration: Atmospheric Implications
   Author(s): Paciello Anthony; Paciello Anthony
   Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 116 Issue: 19 Pages: 8688-8696 DOI: 10.1021/jp211897f Published: MAY 17 2012 Times Cited: 0 (from Web of Science)
   SULinks

5. Title: Vibrationally Resolved LIF Spectrum of Tertiary Methylocyclohexoxy Radical
   Author(s): Wu Qin; Lang Gaoting; Zu Lily; et al.
   Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 116 Issue: 12 Pages: 3156-3162 DOI: 10.1021/jp211888c Published: MAR 29 2012 Times Cited: 0 (from Web of Science)
   SULinks

6. Title: Quantum Mechanical Study of Sulfuric Acid Hydration: Atmospheric Implications
   Author(s): Paciello Anthony; Paciello Anthony
   Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 116 Issue: 19 Pages: 8688-8696 DOI: 10.1021/jp211897f Published: MAY 17 2012 Times Cited: 0 (from Web of Science)
   SULinks
Citation Mapping in Web of Science
Visually Demonstrate Author/Article Influence
Google Scholar Citations

Tips:

- Public profiles are available in Google Scholar.
- Can search for an author from within your own profile page.
Cited Reference Search in Google Scholar Citations

• Author needs to set up their profile (using their Google account); Google Scholar will harvest related data.
• Authors can add articles, groups of articles, edit entries, etc.
• Profiles are private unless author elects to make public
• Quality control: “To be eligible for inclusion in Google Scholar search results, your profile needs to be public and needs to have a verified email address at your university”
Electron diffraction studies of the kinetics of phase changes in molecular clusters: freezing of carbon tetrachloride in supersonic flow
LS Bartell, TS Dibble
The Journal of Physical Chemistry 95 (3), 1159-1167
Cited by 43
Year 1991

Isomerization of OH-isoprene adducts and hydroxyalkoxy isoprene radicals
TS Dibble
The Journal of Physical Chemistry A 106 (28), 6643-6650
Cited by 43
Year 2002

Reactions of the alkoxy radicals formed following OH-addition to α-pinene and β-pinene. CC bond scission reactions
TS Dibble
Journal of the American Chemical Society 123 (18), 4228-4234
Cited by 34
Year 2001

Electron diffraction studies of the kinetics of phase changes in molecular clusters. 3. Solid-state phase transitions in selenium hexafluoride and tert-butyl chloride
TS Dibble, LS Bartell
Cited by 32
Year 1992
## Comparison

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<td>Google Scholar</td>
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</tbody>
</table>

**Times cited** = number of documents published from 2007-2012 that have cited this author's work

**H index** = Number of author's articles that have been cited at least this many times (during time span indicated)

Searches performed 30 May 2012
Journal Assessment

*Where to publish??*

Metrics can help identify the most influential (i.e. most cited) journals in a field. This does not mean each article has the same influence...

- Journal Citation Reports (Thomson-Reuters)
- Journal Analyzer (Scopus)
Impact factor: The journal Impact Factor is the average number of times articles from the journal published in the past two years have been cited in the JCR year.
SJR: “SCImago Journal Rank is weighted by the prestige of a journal. Subject field, quality and reputation of the journal have a direct effect on the value of a citation.”
Author Disambiguation

- **Scopus** – Scopus Author Identifier (53 author sets for M.J. Mitchell)
- **Web of Science** – Distinct Author Identification System (494 author sets for MJ Mitchell)
- Google Scholar Profiles
- Institutional ID
ORCID

• Not for profit
• Create registry of unique identifiers for individual researchers
• Open and transparent linking between ORCID and other ID schemes
• Many vendors, institutions are members
Alternative Tools
altmetrics is the creation and study of new metrics based on the Social Web for analyzing, and informing scholarship.
total Impact

Sample Collection


Reader Meter

DUNCAN J WATTS

H₉-Index: 35
G₉-Index: 57
Most read publication: 173
Total number of publications: 139
Total bookmarks: 3681

[what's this?]

Permalinks
HTML: http://readermeter.org/Watts_Duncan_J
JSON: http://readermeter.org/Watts_Duncan_J/json

Duncan J Watts's coauthors
- Luis A. N. Amaral
- Albert-László Barabási
- Albert-László BARABÁSI
- Albert-lászló BARABÁSI
- Duncan S. Callaway
- Mumun De Choudhury
- Frédéric Dalsace
- Frederic DALSACE
- Coralia Damay
- Mumun De Choudhury
- In Defense
- Ap Dijkstrahuus
- Peter Sheridan Dodds
- Peter S Dodds
- Peter Dodds
- David Dubois
- Robert G Eccles
- Karen Fraser
- Michael Frumin
- Rashi Glazer
- Sharad Goel
- Daniel G Goldstein
- Steve Hasker
- Eric Von Hippel
- Jake Hofman
- Yoshito Hori
- Harry Hutson
- Yoko Ishikura
- Jon Kleinberg
- Klaus Kleinfeld
- G Kossinets
- Georgi Kossinets
- Marina Ktrakovsky
- Sebastien Laharie
- The Leader
- Phillip Longman
- Brand Magic
- R Dean Malmgren
- Michael C Mankins
- Winter A Mazon
- Winter Mason
- Daniel C Medina
- Christopher Meyer
- Charles R Morris
- Roby Muhamad
- Mark Newman
- Mark E J Newman
- M E J Newman
- David M Pennock
- Jonah Peretti
- Barbara Perry
- Harry Potter
Key Issue <br>Collective Action for the Open Researcher & Contributor ID (ORCID)

7 months ago http://dx.doi.org/10.1629/24277
Share on Mendeley - Share on CiteULike
★ Martin Fenner liked this
This paper discusses a potential rollout strategy for ORCID. - Martin Fenner

Shares How often this work has been shared by others

<table>
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<th>citeulike</th>
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Citations How often this work has been cited by others

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an altmetrics project.
Limitation to altmetrics

• New
• Time frame – some new tools cannot search old mentions, tweets, etc.
• Rely on user generate metadata
• Should social media mentions be given the same weight as scholarly article citations?
• Can these tools be easily manipulated to raise significance of an article?
Scholarly Metrics in Context
Assessing Output Using these Metrics

**Strengths**

- Quantitative information about output
- When used together, tools give a broad picture of the impact of journal publishing activity
- Widely used within academic departments to inform decisions of promotion and tenure

**Weaknesses**

- Two most popular tools only measure the work that they index
- Traditional tools don’t capture grey literature and other informal scholarly communication
- Coverage does not always include lifespan of author’s work due to date coverage of tools
- Developed to measure scientific scholarly publishing activity but now being applied to other disciplines where measures may not fit
Framing Discussions with Faculty

• Tools don’t replace disciplinary knowledge
• Faculty need to check their publications and citations (citing errors, incorrect institutional affiliations, etc.)
• These tools can help you own your online presence
Criticism and Complaints

• Read and understand documentation and metrics provided by databases
• Define scope and limitations of your output before beginning
• Keep track of your methodology and pay attention to time frames
• Defend your work – you are the expert!
More Information

http://researchguides.library.syr.edu/citationmetrics
Questions?

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Linda Galloway  galloway@syr.edu