Web of Science – The First Stop to Research Discovery

Find, Read and Publish in High Impact Journals

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TRAINING AT
UNIVERSITI MALAYSIA PAHANG
(18 APRIL 2018)
How do you explore the literature?

- You read a paper that’s useful to you. Then?

**Key Question for all scholars:**

How do you find other related (new and old) papers?

*But you can only find older papers, never newer ones.*
Keywords search is easy but often less robust than you think

Water Spinach

Kang Kong

Phak Bung

Same plant but different names!
What is a citation?

- A **citation** is a reference to other published materials.
- A **citation index** is a database that captures all references of items, allowing the user to easily establish which later documents cite which earlier documents.

**What this means to you:**

Using the citation index, you can easily find older and newer RELATED papers.
Citation linkages help you find related materials efficiently.

Look back through **Cited References** on how this idea was developed.

Look forward through **Citations** to see how this paper lead to new ideas.

When papers **share references**, they share a **common focus** (eg, topic, subject, etc).

**Web of Science**

*Trust the difference*
Example of how using citation index helps you retrieve better information

This item has been referenced by 1 other paper.

What this means:
A more recent paper has used this paper in some way. You should find out!

Find related papers in a click

Look at the bibliography of the papers quickly without reading the full paper.
Using a citation index, you can navigate BOTH forward and backward in literature.

- A 1979 article on “sodium heparin”
- Cited by A 1996 Conference Proceeding paper on “low molecular weight heparin”
- Cited by A 2015 Highly Cited paper on “venous thromboembolic disease”

Full text from publisher, ordering service, open access resources or Google Scholar.
What do these have in common?

All of them exists in overwhelming numbers!
How many journals do you need?

80% of all citations came from just 2,400 journals

Bradford’s Law: A relatively small number of journals publish the majority of significant scholarly results

WoS is designed to be selective in coverage

14,144 + 6926 Journals (High impact + Emerging) From 1900

190,000+ CONFERENCES From 1990

80,000+ SCHOLARLY BOOKS From 2005

- 65 Million Source Items
- >1 Billion Cited References

SELECTION PROCESS

Journal Publishing Standards
Editorial Content
International Diversity
Citation Analysis

Acceptance into Web of Science Flagship 3 indexes is 10 – 12 %

As of Nov 2017
Not all databases are created equal

**WoS Flagship**
- Science Citation Index
- Social Science Citation Index
- Arts & Humanities Citation Index

**Emerging Sources Citation Index, Scopus**
- Looser selection criteria

**Specialized Databases – Inspec, Biosis, Medline, MyCite, etc**
- Specialized in certain subjects or regions only

**General Databases – Google Scholar, Directory of Open Access Journals**
What use is a citation index in the internet age?

- **Efficient information retrieval**
  - Which paper(s) should I read?

- **Research evaluation**
  - Number of papers published, cited, etc
  - Which work(s) is highly cited?
  - Who are the leaders in the field?

- **Data for analytics**
  - Which fields are emerging/decline?

Many many more.....
“Citation Index was designed as, and is, a system of very precise information retrieval”

Eugene Garfield (1925 – 2017)
Founder
Institute of Scientific Information
Web of Science Demo:

www.webofscience.com
Researchers Use Cases

• **Find additional keywords to search**
  – Use “Keywords” and “Keywords Plus” from a related paper

• **Finding Related Information**
  – Use “View Related Records” Function

• **Finding Classic Important Papers**
  – Sort search results by “Times Cited”

• **Finding Recently Popular Papers**
  – Sort search results by “Usage Count Last 180 Days”
Researchers Use Cases

• **Find right journals for your papers**
  – Analyze topic search results by “Source Titles”

• **Finding potential collaborators**
  – Analyze topic search results by “Author” or “Organizations-Enhanced”

• **Improve your efficiency**
  – Create “Citation Alert”
  – Save “Marked Lists” for important documents
Librarian Use Cases

• Tracking Institution research output
  – Search using “Organization-Enhanced”
  – Create “Alert” to be informed of new papers
  – “Create Citation Report” to see trends and citation performance
  – Records can be saved in “Marked Lists” or downloaded into text/excel files

• Find journals important for your institution
  – Search using “Organization-Enhanced”
  – Analyze search results by “Source Titles”
Librarian Use Cases

- Analyzing Open Access papers
  - Search using “Publication Name”
  - Restrict to “Open Access” papers on left hand panel
  - Use Open Access information to help in collection development decisions (why should you pay for free papers?!)
Free, Legal Full Text Linkages on Web of Science
Web of Science is the first and ONLY publisher neutral platform to provide free reliable Open Access Resources

- **Open Access comes in various forms or “colors”**

- **Gold OA means**
  - Payment has been made to the publisher to make the paper OA.

- **Gold OA can come in 2 forms**
  - The entire journal is OA.
  - Some journals provide the option for authors to pay to make their papers OA. **Other papers are NOT OA.**

- **Green OA means**
  - The paper has been deposited in a repository
Save on full text with legal and most reliable Open Access resources

The Efficacy of Electron Beam Irradiated Bacterial Cellulose Membranes as Compared with Collagen Membranes on Guided Bone Regeneration in Peri-Implant Bone Defects
By: Lee, So-Hyoun; An, Sung-Jun; Lim, Youn-Mook; et al.
MATERIALS Volume: 10 Issue: 9 Article Number: 1018 Published: SEP 2017

Automated Ablation of Dental Composite Using an IR Pulsed Laser Coupled to a Plume Emission Spectral Feedback System
By: Jang, Andrew T.; Chan, Kenneth H.; Fried, Daniel
LASERS IN SURGERY AND MEDICINE Volume: 49 Issue: 7 Pages: 658-665 Published: SEP 2017

Mechanical, electrical and thermal properties of multi-walled carbon nanotubes/epoxy composites: effect of post-processing techniques and filler loading
By: Ervina, J.; Mariatti, M.; Hamdan, S.
POLYMER BULLETIN Volume: 74 Issue: 7 Pages: 2513-2533 Published: JUL 2017

There is a freely available copy of this article.

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Simple Analytics using WoS data
WoS comes with simple analytical tools

In this example, you can see that the topic (Zika) was quiet for many years before spiking in 2016

Sharp recent rise

Total Publications

3,120

Sum of Times Cited per Year

1999

$h$-index

82

Average citations per item

9.08

Sum of Times Cited

28,321

Without self citations

2,914

Citing articles

4,521

Without self citations

2,148
Citation Report Can be Used to Analyze Your Own Publications

Total Publications
16

- 2011: 1
- 2012: 5
- 2013: 2
- 2014: 5
- 2015: 3

Sum of Times Cited per Year
2011: 1
2012: 5
2013: 2
2014: 5
2015: 3

h-index: 11
Average citations per item: 72.81
Sum of Times Cited: 1,165
Without self citations: 1,154
Citing articles: 1,118
Without self citations: 1,113
Analyze your search results

Institutions publishing on the topic “Zika”:

221  FUNDACAO OSWALDO CRUZ
160  UNIVERSIDADE DE SAO PAULO
105  HARVARD UNIVERSITY
92  UNIVERSITY OF LONDON
80  STATE UNIVERSITY SYSTEM OF FLORIDA
76  CHINESE ACADEMY OF SCIENCES
73  EMORY UNIVERSITY

210  CENTERS FOR DISEASE CONTROL PREVENTION USA
159  UNIVERSITY OF TEXAS SYSTEM
101  JOHNS HOPKINS UNIVERSITY
73  INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE INSENM
67  CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS
64  UNIVERSITY OF CALIFORNIA SAN FRANCISCO
62  UNIVERSITY OF AIX MARSEILLE

193  UNIVERSITY OF CALIFORNIA SYSTEM
116  HAINAN MEDICAL UNIVERSITY
101  LE RESEAU INTERNATIONAL DES INSTITUTS PASTEUR RIIP
72  UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
58  LONDON SCHOOL OF HYGIENE TROPICAL MEDICINE

110  UNIVERSITY OF TEXAS MEDICAL BRANCH GALVESTON
97  NATIONAL INSTITUTES OF HEALTH NIH USA
70  INSTITUT PASTEUR PARIS
61  UNIVERSITY OF OXFORD
61  YALE UNIVERSITY

Can do the same for authors, year, country, etc…
## Analyze your search results

### Authors publishing on the topic “Zika”:

<table>
<thead>
<tr>
<th>Select</th>
<th>Field: Authors</th>
<th>Record Count</th>
<th>% of 4629</th>
<th>Bar Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WIWANITKIT V</td>
<td>132</td>
<td>2.852 %</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>ANONYMOUS</td>
<td>82</td>
<td>1.771 %</td>
<td>I</td>
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<td>MUSSO D</td>
<td>51</td>
<td>1.102 %</td>
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<td>BENELLI G</td>
<td>50</td>
<td>1.080 %</td>
<td>I</td>
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<tr>
<td></td>
<td>JOOB B</td>
<td>49</td>
<td>1.059 %</td>
<td>I</td>
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<tr>
<td></td>
<td>DIAMOND MS</td>
<td>42</td>
<td>0.907 %</td>
<td>I</td>
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<td></td>
<td>QIN CF</td>
<td>39</td>
<td>0.843 %</td>
<td>I</td>
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<td></td>
<td>HARRIS E</td>
<td>38</td>
<td>0.821 %</td>
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<td>JAMIESON DJ</td>
<td>38</td>
<td>0.821 %</td>
<td>I</td>
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<td></td>
<td>WEAVER SC</td>
<td>38</td>
<td>0.821 %</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>HONEIN MA</td>
<td>37</td>
<td>0.799 %</td>
<td>I</td>
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<tr>
<td></td>
<td>SHI PY</td>
<td>35</td>
<td>0.756 %</td>
<td>I</td>
</tr>
</tbody>
</table>

Can do the same for authors, year, country, etc…
Using Web of Science with Google Scholar
Getting information off the Internet is like taking a drink from a fire hydrant.

— Mitchell Kapor
Google Scholar results include citations in Web of Science

Membrane filtration of textile dyehouse wastewater for technological water reuse
J Sojka-Ledakowicz, T Koprowski, W Machnowski... - Desalination, 1998 - Elsevier
Polish textile industry demands big amounts of water and produces wastewater having high load of contaminants. The continued increase in the costs of chemicals, energy and water makes their recovery more important today than it was years ago when separation
Cited by 97 Related articles All 7 versions Import into EndNote Save More

WEB OF SCIENCE™

Citing Articles: 51
(from Web of Science Core Collection)

Sort by: Publication Date ... newest to oldest

1. Polyurethane TFC nanofiltration membranes based on interfacial polymerization of poly(bis-MPA) and MDI on the polyethersulfone support
By: Mathavi, Hosseini; Razmi, Fariba; Shahalilzadeh, Taleb
SEPARATION AND PURIFICATION TECHNOLOGY Volume: 162 Pages: 37-44 Published: APR 13 2015

2. Development of a High Performance PES Ultrafiltration Hollow Fiber Membrane for Oily Wastewater Treatment Using Response Surface Methodology
By: Shakir, Noor Adilla Aluw. Wong, Kuan Yew, Nordin, Mohd Yusof, et al.
SUSTAINABILITY Volume: 7 Issue: 12 Pages: 16485-16492 Published: DEC 2015
You can install the Chrome Extension and search WoS from anywhere

https://chrome.google.com/webstore/search/web%20of%20science
Anglo American swims against the current in backing fuel cells

Emerging climate bonds boom, but are they really green?

Vattenfall communal heating network taps into German cities' growth

You searched for: TOPIC: "climate bond"...More

Sort by: Publication Date -- newest to oldest

1. Low Carbon Transport in Nanjing: An Inevitable Greener Prospect
   By: Zheng, Chaocheng; Zhang, Yi; Cheng, Dongxiao
   Edited by: You, Z.; Tan, Z. Ke
   Conference: International Conference on Materials Science, Resource and Environmental Engineering (MSREE)
   Location: Xian, CHINA; Date: Dec 10-11, 2010
   2010 INTERNATIONAL CONFERENCE ON MATERIALS SCIENCE, RESOURCE AND ENVIRONMENTAL ENGINEERING Book Series: AIP Conference Proceedings Volume: 1754 Article Number: UNSP 030015 Published: 2017

2. Financing climate-friendly energy development through bonds
   By: Mathews, John A.; Kidney, Susan
   DEVELOPMENT SOUTHERN AFRICA Volume: 29 Issue: 2 Pages: 337-349 Published: 2012

3. Individual and Group Process Variables That Affect Social Support in Counseling Groups
   By: Pommet, Joseph E.; Vannatta, R. Thomas
   Published: 1977

Create Citation Report
Analyze Results
Times Cited: 0
(from All Databases)
Usage Count
Create Citation Report
Analyze Results
Times Cited: 3
(from All Databases)
Usage Count
Create Citation Report
Analyze Results
Times Cited: 11
(from All Databases)
ASEAN signs free trade investment pacts with Hong Kong

By James Pomfret and Enrico Dela Cruz

MANILA, Nov 12 (Reuters) - Hong Kong on Sunday signed free trade and investment pacts with the ten-nation Association of Southeast Asian Nations, in what one of the Chinese territory's senior officials called a "loud and clear" vote against rising regional protectionism.

The pacts conclude nearly three years of talks, are expected to take effect on January 1, 2019 at the earliest, and aim to bring "deeper and bolder" integration of market access with the bloc, said Edward Yau, Hong Kong's commerce and development secretary.

"In the face of protectionist sentiments in other parts of the world, these two agreements are in fact a loud and clear vote from all of us here for freer and more open trade," Yau said.

"Hong Kong, being a free trade promoter and advocate of a strong, rule-based multilateral trading system, will continue to take this pathway, continue to do our utmost."

Total merchandise trade between Hong Kong and ASEAN was HK$833 billion ($107 billion) last year, official figures show. Total services trade was HK$121 billion ($16 billion) in 2015.
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WoS Quiz - True/False questions

Web of Science is a research discovery tool to enhance your search efficiency

True! Citation linkages are more robust than keyword searches and lead to you relevant information that you need.

Web of Science Core Collection covers scholarly materials that are high impact to the scholarly community.

True! Web of Science Core Collection coverage is carefully selected to over the most important scientific literature. Note that indexing more literature creates more noise and isn’t useful.
WoS Quiz - True/False questions

Clarivate Analytics (formerly ISI) owns many journals and includes them in the Web of Science to promote them.

False! Clarivate Analytics (formerly ISI) is not a primary publisher and chooses journals based on objective standards. There is no conflict of interest.

Web of Science is a full-text provider

False! Clarivate Analytics does own full text copyrights as it is not a primary publisher.