Google

How to Really Stand on the Shoulders of Giants

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What We’ll Discuss

• How Google Scholar works
  • Benefits
  • Common pitfalls
• Advanced search methods in Google Scholar
• How to use Google (basic Google) for in-depth searches
• How to troubleshoot journal article access on the web
Iceberg. [Photograph]. Retrieved from Encyclopædia Britannica ImageQuest.
http://quest.eb.com/#/search/149_2023781/1/149_2023781/cite
Google Scholar is Filled with Junk Science

Google Scholar is the world’s largest and most-used academic search engine, yet it is increasingly becoming polluted with junk science, making it a potentially dangerous database for anyone doing serious research, from students to scientists.

The problem is that Google Scholar aims to be comprehensive, indexing articles from as many scholarly appearing journals as possible. On the surface, that goal seems noble, but a closer look reveals a major flaw in the strategy.

Because predatory publishers perform a fake or non-existent peer review, they have polluted the global scientific record with pseudo-science, a record that Google Scholar dutifully and perhaps blindly indexes in its central index. Most predatory journals are included in Google Scholar. The database does not sufficiently screen for quality, in my opinion.

Google Scholar works well for known-item searches, for example, when you quickly need to locate a known article or a paper by a known author.

It performs poorly, on the other hand, at finding an article on a specific topic. It doesn’t use controlled vocabularies and includes junk science in its index. If you aren’t an expert, you are unable to separate out the junk science from the authentic science, and both are included one after another.

http://bit.ly/1tXYPB5
Good points:

- Read everything you cite.
- Dishonest person(s) are using fake peer review, scam journals, and other resources to “game the system” (cheat and/or make money dishonestly).
- Research databases are still very important; Google is not a replacement.

Where I disagree:

- You can cite non-peer reviewed resources if it is necessary and you have proper justification. The author of this article, Kalev Leetaru, is a bit more conservative than I would be.

(Read more at the link below.)

Sometimes, the metadata isn’t good.
Good points:

- Google Scholar is enormous
- Google does not disclose the number of documents it contains or detailed methods about its selection process

(Read at the link below)

http://bit.ly/1yExiZe
Takeaways:

- The Google Scholar team is a search engine that crawls the entire web for “scholarly-like” materials. These are determined by algorithms.
- Google can see many publishers’ full text.
- They rely on the community to tell whether the indexed publishers are reputable or not.

(Read more at the link below.)

http://bit.ly/1w77ZIs
A martian analog in Kansas: comparing martian strata with Permian acid saline lake deposits

KC Benison - Geology, 2006 - pubs.geoscienceworld.org

An important result of the Mars Exploration Rover’s (MER) mission has been the images of sedimentary structures and diagenetic features in the Burns Formation at Meridiani Planum. Bedding, cross-beding, ripple marks, mud cracks, displacive evaporite crystal molds, and hematite concretions are contained in these Martian strata. Together, these features are evidence of past saline groundwater and ephemeral shallow surface waters on Mars. Geochemical analyses of these Martian outcrops have established the presence of sulfates …

[HTML] geoscienceworld.org

YaleLinks: full text

Showing the best result for this search. See all results
Use what you learned to find these citations

Google Scholar doesn’t know where these are!

Use the knowledge you have from the library sessions to find the full text using the library web site (library.yale.edu). **You only need to find 2-3 of these.**

In 5 minutes, we’ll gather together and discuss how to troubleshoot them.

[CITATION] Collected essays
J Baldwin - 1998 - Library of America
☆ † ‡ Cited by 354 Related articles ▶

[CITATION] Mars sample return: Issues and recommendations
National Research Council - 1997 - National Academy Press ⋯
☆ † ‡ Cited by 17 Related articles

[CITATION] Smart cities--a $1.5 trillion market opportunity
☆ † ‡ Cited by 34 Related articles

[CITATION] Public transportation and land use policy
B Pushkarev, JM Zupan - 1977 - Indiana Univ Pr
☆ † ‡ Cited by 556 Related articles ▶

[CITATION] Transportation in America: Users, carriers, government
DV Harper - 1978 - Prentice-Hall
☆ † ‡ Cited by 71 Related articles ▶
The Operators We Discussed

Word order matters: \textit{apple stem} vs. \textit{stem apple}

Searching for number ranges: 1900..1999 (will find dates, but also numbers within articles)

Boolean operators: \textit{exoplanet OR “extrasolar planet” OR “extrasolar planets”}

Boolean operators: \textit{fluid inclusions -mars}

Quotation marks work for searching as phrases

Author search: \textit{fluid inclusions author:”smith, s”}

(Note: the operators below work best on Google, but less well on Google Scholar.)

\textit{site:your.yale.edu "graduate students"} (looks for info on a specific subdomain)

\textit{cache:your.yale.edu/protect-your-data} (takes you to the cached version of a site)

"\textit{yale * olympiad}" (fills in a missing word with any word)

\textit{info:yale.edu} (gives information about Yale based on the site data in the HTML header)

Complex search:

\textit{fluid inclusions "saline lake" mars -meteorites}
Where can you find updates?

• Google Scholar Guide: http://guides.library.yale.edu/google
  • Troubleshooting
  • Handouts/notes
  • Upcoming Google-related workshops

• Google Scholar Blog (from Google): https://scholar.googleblog.com