Tools for Your Biological Sciences Research
Year 2 students

Mak Jie Ying
Science Resource Librarian
12 Feb 2019
Access at https://pollev.com/hellopeeps

Keep this window open at all times! 😊
Outline

Using the Library

Working on your assignments

• Information Sources
• Overview of Search Strategies
• Performing a search in Scopus
• Accessing full texts in Google Scholar & external websites
• In-text Citations and Bibliography
• Bibliographic Software & Introduction to Zotero
Using the Library

http://libguides.nus.edu.sg/skills
The Library Portal (www.lib.nus.edu.sg)

Searching for books, articles & more!

Important Links and Information

Library Opening Hours & Calendars

News & Events @ NUS Libraries
FindMore@NUSL

Use if you wish to **discover** relevant information from everything found in
- NUS Libraries' catalogue
- Online full-text contents available from subscribed E-Resources and beyond
LINC

Use if you wish to search for a specific book or journal title
LINC

Use if you wish to search for a specific book or journal title

Electronic Resources

Aquatic functional biodiversity: an ecological and evolutionary perspective


Title: Aquatic functional biodiversity [electronic resource]: an ecological and evolutionary perspective / edited by Andrea Belgrano, Guy Woodward, Ute Jacob.


Online access via:

- NUS Libraries
- ScienceDirect E-Books
- About this E-Resource
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Working on your assignments

- Information Sources
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Working on your assignments

Information Sources

Assignment Cycle

1. Identify database based on topic
2. Develop search strategy
3. Select relevant articles
4. Obtain full text of identified articles
5. Import citations
6. Write assignment with references

Information Sources

Theses & Dissertations
Conference Proceedings
Journal & newspaper articles
Patents

Review articles
Bibliographies
Books

can be retrieved by
databases and search engines
In the past, what websites/databases did you use to get information for your assignments?
## Recommended Online Resources

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Recommended E-Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-disciplinary</td>
<td>Web of Science / Scopus / FindMore@NUSL</td>
</tr>
<tr>
<td>Biomedical &amp; Life Sciences</td>
<td>BIOSIS Previews</td>
</tr>
<tr>
<td>Animal Biology &amp; Taxonomic Reference</td>
<td>Zoological Record</td>
</tr>
<tr>
<td>Medicine, Dentistry, Pharmacy, Healthcare &amp; Life Sciences</td>
<td>PubMed (MEDLINE) / Embase</td>
</tr>
<tr>
<td>Experimental Protocols &amp; Demonstration Videos</td>
<td>Springer Nature Experiments / JoVE (Journal of Visualized Experiments)</td>
</tr>
<tr>
<td>Chemical Substance Structure / Properties &amp; Reaction Searching</td>
<td>Reaxys / SciFinder (registration)</td>
</tr>
<tr>
<td>Newspaper Articles / Local Content</td>
<td>Factiva / Lexis-Nexis / NewspaperSG</td>
</tr>
<tr>
<td>Patents</td>
<td>Patsnap (registration required)</td>
</tr>
</tbody>
</table>
Online Guides

Biological & Life Sciences Subject Guide
http://libguides.nus.edu.sg/biology

PubMed Tutorial

Embase Support
http://help.elsevier.com/app/answers/list/p/9754/c/9540,9541

Web of Science Training
(includes BIOSIS Previews & Zoological Record)
http://clarivate.libguides.com/webofscienceplatform

Scopus Support Hub
http://help.elsevier.com/app/answers/list/p/8150
Working on your assignments

Overview of Search Strategies

Identify database based on topic

Develop search strategy

Assignment Cycle

Write assignment with references

Select relevant articles

Import citations

Obtain full text of identified articles
Types of searches

- **Keyword / phrase search**: e.g. Google search
  
  ![Google search example](cancer)

- **Field search**: e.g. Type *Raffles Bulletin of Zoology* in the *Publication Title* field
  
  ![Field search example](Publication Title: Raffles Bulletin of Zoology)

- **Subject Heading / Thesaurus Search**: e.g. Using *neoplasms* (instead of cancer) as a *MeSH* (Medical Subject Headings) term in PubMed
  
  ![Thesaurus search example](MeSH Terms: neoplasms)
Workflow

1. Identify the keywords
2. Construct an effective search statement
3. Refine the search statement
Topic:
importance of lactate dehydrogenase
2 Construct an effective search statement

Identified keywords: importance, lactate dehydrogenase

**OR**

Connects synonyms or alternative terms:
- importance OR significance
- lactate dehydrogenase OR LDH

***\**

Allows the search for different variations of a keyword
- importance / important ⇒ importan* 

**Broaden** your search with these search operators!
2 Construct an effective search statement

Identified keywords: importance, lactate dehydrogenase

Allows the search for exact phrases
“lactate dehydrogenase”

Connects the keywords together and restricts the search to retrieve only works that contain ALL of these keywords
importance AND lactate dehydrogenase

Narrow your search with these search operators!
Ideally, an effective search statement is one that

- enables a comprehensive search
- retrieves only relevant results

`importan* OR significan*` AND

“lactate dehydrogenase” OR LDH
Refine the search statement

Look at the search results or the articles that are retrieved
• Are there **NEW** keywords or synonyms that you can add to your search statement?

Improvise your search statement!

Play!ground

Which search statement is likely to retrieve the highest number of results?
Performing a search in Scopus

Assignment Cycle

1. **Identify database based on topic**
2. **Develop search strategy**
3. **Select relevant articles**
4. **Obtain full text of identified articles**
5. **Import citations**
6. **Write assignment with references**

**Working on your assignments**
A multi-disciplinary resource from Elsevier covering the Sciences, Arts & Humanities and Social Sciences

Image source: https://www.elsevier.com/solutions/scopus/content
Accessing Scopus

NUS Libraries’ Portal:
Conducting a search

Search boxes

Limit fields

Search

importan* OR significan*  OR  Article Title, Abstract, Keywords

AND

Search

"lactate dehydrogenase" OR LDH

Limit

Date range (inclusive)

Published  All years  to  Present

Added to Scopus in the last 7 days

Document type

ALL

Access type

All
Viewing the search results

44,077 document results

Filter options

Viewing & sorting options
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Year</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Calogero, A., Naviglio, S.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Viewing the document record

Use these features to help you access related articles

Cited by 18 documents

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Author(s)</th>
<th>Year</th>
<th>Journal/Book Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRPM7 in CHBP-induced renoprotection upon ischemia reperfusion-related injury</td>
<td>Liu, A. et al.</td>
<td>2018</td>
<td>Scientific Reports</td>
</tr>
<tr>
<td>Prognostic value of D-lactate dehydrogenase in patients with clear cell renal cell carcinoma</td>
<td>Wang, Y. et al.</td>
<td>2018</td>
<td>Oncology Letters</td>
</tr>
<tr>
<td>Upregulation of lactate-inducible snail protein suppresses oncogene-mediated senescence through p16 INK4A inactivation</td>
<td>Li, X. et al.</td>
<td>2018</td>
<td>Journal of Experimental and Clinical Cancer Research</td>
</tr>
</tbody>
</table>

View all 18 citing documents

Inform me when this document is cited in Scopus:

- Set citation alert
- Set citation feed

Related documents

- Lactate dehydrogenase 5: An old friend and a new hope in the war on cancer
  Inhibition of the Warburg effect with a natural compound reveals a novel measurement for determining the metastatic potential of breast cancers
  Discovery of 2-[(3-cyanopyridin-2-yl)thio]acetamides as human lactate dehydrogenase A inhibitors to reduce the growth of MG-63 osteosarcoma cells: Virtual screening and biological validation
  Cui, W., Lv, W., Qu, Y. (2016) Bioorganic and Medicinal Chemistry Letters

View all related documents based on references

Find more related documents in Scopus based on:

- Authors
- Keywords
Viewing the document record

Use these features to help you access related articles

References (126)

References:

1. Mi, K., Kalady, M.F., Quintini, C., Khorana, A.A.
   Integrating systemic and surgical approaches to treating metastatic colorectal cancer
   doi: 10.1016/j.soc.2014.09.006

2. Rolfo, C., Giovannetti, E., Hong, D.S., Bivona, T., Raez, L.E., Bronte, G., Buffoni, L., (...), Rosell, R.
   Novel therapeutic strategies for patients with NSCLC that do not respond to treatment with EGFR inhibitors
   http://www.elsevier.com/inca/publications/store/6/2/3/0/2/2/index.htm
   doi: 10.1016/j.ctrv.2014.05.009

View at Publisher
Using the search history

Scopus’ homepage:

Search history

<table>
<thead>
<tr>
<th>Search query</th>
<th>Document results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TITLE-ABS-KEY (lactate AND dehydrogenase)</td>
<td>101,702</td>
</tr>
<tr>
<td>2. TITLE-ABS-KEY (lactate dehydrogenase)</td>
<td>97,361</td>
</tr>
<tr>
<td>3. TITLE-ABS-KEY (importance) AND TITLE-ABS-KEY (lactate dehydrogenase)</td>
<td>1,967</td>
</tr>
<tr>
<td>4. TITLE-ABS-KEY (importance OR significance) AND TITLE-ABS-KEY (ldh)</td>
<td>6,116</td>
</tr>
<tr>
<td>5. TITLE-ABS-KEY (importance OR significant) AND TITLE-ABS-KEY (ldh)</td>
<td>44,077</td>
</tr>
</tbody>
</table>

View search results again
Edit search statement
Accessing full texts in Google Scholar & external websites

Assignments

Cycle

Working on your assignments

Identify database based on topic

Develop search strategy

Select relevant articles

Import citations

Obtain full text of identified articles

Write assignment with references

Assignment Cycle
Accessing full texts in Google Scholar

Instructions on setting up NUS Libraries access in Google Scholar
Accessing full texts in external websites

Proxy Bookmarklet
Enables access to full-texts of subscribed journal articles on any webpage that requires users to pay, e.g. publisher’s or vendor’s site (example)

Instructions on installing NUS Libraries’ Proxy Bookmarklet
Working on your assignments

In-text Citations and Bibliography

Assignment Cycle

1. Identify database based on topic
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Why cite?

• To **acknowledge** the contributor(s) of ideas used in writings

• To **lend support to arguments** by referring to authoritative sources

• To help readers **verify** your claims

• To **show research done**

Figure 2. Plagiarism (Toonpool)
A common problem in the field of biotechnology is the unpredictability inherent in engineering complex biological systems. The use of a whole-system approach can prevent some of the obstacles encountered in bioengineering, including toxicity due to metabolite overproduction (Fletcher et al., 2016), metabolic b
At the end of document:


Format varies according to the cited document type

- Book
- Book chapter
- Journal article
In the past, how did you cite the resources that you used in your assignment?
Introduction to Zotero

Assignment Cycle

1. Identify database based on topic
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3. Select relevant articles
4. Obtain full text of identified articles
5. Import citations
6. Write assignment with references

Working on your assignments
Reference management software

A software that:

- stores + organises references from many sources
- inserts these references into a Word document
- automatically formats inserted references according to a predefined citation style

APA 6th
MLA
Harvard
Chicago
Reference management software

NUS Libraries’ guide on EndNote
NUS Libraries’ guide on Mendeley
NUS Libraries’ guide on Zotero

Comparison of EndNote, Mendeley and Zotero
Zotero Workflow

1. Open Zotero Library
2. Add references to Zotero Library
3. Insert citations into Word document
4. Create bibliography in Word document
5. Change citation style
1. Open Zotero Library

Launch Zotero in your PC. An empty library will be displayed:

Welcome to Zotero!

View the Quick Start Guide to learn how to begin building your library, and be sure to install a Zotero Connector so you can add items to Zotero as you browse the web.

Already using Zotero on another computer? Set up syncing to pick up right where you left off.
2a Add references to Zotero Library

Install the Zotero Connector by clicking “Install”:

In Chrome Web Store, select “Add to Chrome”. A popup message appears – click “Add extension”:
2a Add references to Zotero Library

A document icon* appears beside the address bar when Zotero Connector is successfully installed:

*Depending on the detected material type, this icon appears differently from site to site

Go back to the database where the target work(s) is/are. Click the icon:
2a Add references to Zotero Library

In the popup box, select the work(s) whose reference(s) are to be downloaded. Click “OK”:
Add references to Zotero Library

Alternatively, drag and drop downloaded PDFs (containing DOIs) in the Zotero Library.
2c Add references to Zotero Library

Alternatively, click the plus button to add a reference manually bykeying in the details.
Share with your peers!

Play!ground

Visit your usual go-to database/website, do a search and try adding the references. Does it work? How did you do it?
3 Insert citations into Word document

Install add-in via Zotero Library before you begin:

A message appears when installation is successful:
Open Word and select the new Zotero tab:

Type the title, author or year to search and select the work that you wish to cite. Select the right title and press Enter key to insert:

We can insert the relevant citations into the document as we complete our reports and thesis.
You may also search for multiple references at a time if you wish to cite multiple sources for a single point raised:

We can insert the relevant citations into the document as we complete our report and thesis.
Create bibliography in Word document

Place the text cursor at the end of the document. Click “Add/Edit Bibliography” to generate the bibliography:

We can insert the relevant citations into the document as we complete our reports and thesis:

References:


4 Change citation style

Click “Document Preferences” to select the desired style from the list:

If the style is not found in the list, click “Manage Styles...”:
4 Change citation style

Another box pops up. Click “Get additional styles...”:

Conduct a title search and click the desired style:
Once the newly-added style is in the Style Manager, click “OK”:

To adopt the newly-added style, click “Document Preferences” again and select it from the list:
Edit/remove citations

Place the text cursor at the in-text citation that needs amendments. Click “Add/Edit Citation”:

Delete the unwanted citation(s) or edit the citation by clicking it:
Convert field codes to plain texts

Save the present document first.
By clicking “Unlink Citations”, field codes are removed after the Word Document is saved as an additional plain text Document.
Quiz Time!

Please access the quiz at https://kahoot.it/
LIKE US ON FACEBOOK

NUSLIBRARIES
Thank you!

Please access the survey at http://bit.ly/yr2-12feb19

Mak Jie Ying
jieying.mak@nus.edu.sg