RESEARCH
TACTICS, TOOLS & TIPS

Information Strategies
Information’s Role in the Research Process

• Information plays a pivotal role in the research process, regardless of the research method or discipline.

• Understanding your information needs is an important part of the research process:
  • Identification (*What information do I need?*)
  • Seeking (*How do I find/get the information I need? What information resources should I use?*)
  • Assessment (*How do I know I have the information I need? What is its authority/accuracy?*)
  • Comprehension (*How do I make sense of the information I have?*)
  • Synthesizing /Inclusion (*How do I use the information I have?*)
Information Tactics for Research Projects

- Conduct extensive “pre-search”; address your knowledge gap
  - Gain insights into concepts
  - Identify terminologies/terms (keywords/subjects)
  - Resource discovery/assessment (what resources and information technologies might be good to use)
  - Possible refinement of research question
  - Identification of additional information/data needs

- Understand your information/data needs/objectives
  - Literature review, methods, materials, etc.

- Utilize primary research and research reviews
  - Reading scientific articles

- Embrace that the research process by its nature is iterative and it always leads to more questions
Information Tactics for Research Projects

- Mind Mapping is an exercise that gives a visual framework for organizing ideas and making associations
  - Map is organized around keyword or idea
  - Associations are mapped
- Can help *information identification and seeking* by
  - Identifying and associating concepts/subjects
  - Identifying and developing keywords for information seeking

* Not to be confused with a flow map or concept map
Biochemistry Information Tools/Resources

- **Scopus**
  - Premier abstract and citation database of peer-reviewed literature: scientific journals, books and conference proceedings. Scopus features smart tools to track, analyze and visualize research.
  - 60 million+ records
  - Medline and PubMed ingested as well

- **Journals**
  - Access to thousands of journals
  - Search with journal
    - Robust search features

- **SciFinder**
  - Premier abstract and citation database of peer-reviewed literature for Chemistry
Key Tips for Using Scopus

• Register
  • Save searches
  • Exports
  • Alerts

• Understand search logic
  • Keyword driven – NOT natural language
  • Assumes truncation
  • Assumes AND in between keywords unless you tell it not to
    • Gene therapy is interpreted as the search gene AND therapy
    • “gene therapy” is interpreted as one keyword
  • Read https://help.elsevier.com/app/answers/detail/a_id/2370/p/8150/related/1

• Use Boolean operators
  • The three basic Boolean operators are: AND, OR, and NOT
Key Tips for Using Scopus

• Use refine feature(s)
  • Year, subject area, document type*, keyword terms, source, author*
  • Sort by
    • Date, citations, relevance

• Assessment
  • Scopus metrics
    • Journal
    • Author
    • Citations
    • Documents by year
    • Funding

• Retrieve full text

• Exports to citation manager
Using Journals

Annual review of biochemistry
ISSN: 0066-4154
Peer Reviewed
1932 to Present in Annual Reviews Complete A-Z List
07/01/1997 to 07/31/2005 in Academic Search Complete

Search inside this journal Search
<table>
<thead>
<tr>
<th>Title</th>
<th>Type</th>
<th>SJR</th>
<th>H index</th>
<th>Total Docs. (2015)</th>
<th>Total Docs. (3years)</th>
<th>Total Cites (3years)</th>
<th>Citable Docs. (3years)</th>
<th>Cites / Doc. (2years)</th>
<th>Ref. / Doc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature Methods</td>
<td>journal</td>
<td>21.715</td>
<td>189</td>
<td>358</td>
<td>1142</td>
<td>16776</td>
<td>592</td>
<td>21.18</td>
<td>18.50</td>
</tr>
<tr>
<td>Annual Review of Biophysics</td>
<td>journal</td>
<td>10.310</td>
<td>131</td>
<td>15</td>
<td>77</td>
<td>982</td>
<td>74</td>
<td>12.50</td>
<td>126.47</td>
</tr>
</tbody>
</table>
Using Journals

• Going to key journal websites provides:
  • Insights into current topics
  • Features not found in abstract databases
    • Summary points
    • Future issues
  • Links to dynamic images and citations (in and from article) and author publications

• [http://www.annualreviews.org.colby.idm.oclc.org/loi/biochem](http://www.annualreviews.org.colby.idm.oclc.org/loi/biochem)

Additional Information Tools

- All about citations (http://libguides.colby.edu/c.php?g=589881)
- ACS style guide (http://cbbcat.net/record=b4737670~S19)

- Hyperlinks
  - Journals (http://www.colby.edu/libraries/#2)
  - SciFinder (http://libguides.colby.edu/ch242)