



Scientific Literature



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by

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Strategy for Library Search



(Very Early) Initial Web Search (not for citation).

(Early) Read review articles on the topic.

- Understand basic concepts.
- Note who is important in the field.

(Early) Read articles & proposals given to you by your mentor.

(Later) More emphasis on refereed research articles

(Mature) Look for journal articles when:

- New publications come out (monthly scan of journals)
- A new question or idea arises.
- A new search term comes to mind.
- A new result has been obtained in your experiments.
- A new method is needed.

(Steady State) More emphasis will be placed on recent journal articles and conference proceedings.



What is a Journal Article?

- Peer-reviewed
- You know who wrote the article
- You know the name of the journal
- You know when it was published
- You can find the journal article through a reputable library
- Contains an in-depth description of the work (intro, methods, results, discussion, conclusion), typically ~ 10 pages.



Journal Article Types - 1



- **Review article**
 - The longest form of journal papers
 - Surveys the field – what has been done and by whom?
 - Many (often hundreds) of references.
 - Excellent place to start if you are new to the field.
- **Full paper** (most common)
 - Contains an in-depth description of the work (intro, methods, results, discussion, conclusion), typically ~ 10 pages.
- **Letter**
 - These are short papers that appear in journals with names like *Physical Review Letters*, or *Tetrahedron Letters*.
 - Length is limited to a few pages, so typically very short introduction, exposition of methods, results, and discussion.
 - Aimed at rapid publication of important results (high threshold for acceptance).



Journal Article Types - 2



- **Communications**

- These are “letters” published within a standard (i.e., non-letter) journal.
- Aimed at rapid communication of important results.
- Typically very high threshold for acceptance (journals devote only a few pages in each issue for these).

- **Comments**

- Comments by scientists (usually critical) on a published paper.
- Almost always followed by a response from the authors of the criticized paper.

- **Errata**

- Exactly what it means – oops, we made a mistake, here is the correction.



What is a Proceedings?



Describes “papers” presented at a specific meeting.

May be short or long

- BMES society meeting 250 words.
- ASME meetings, 2 pages.

Sometimes includes only abstracts

Minimal or no peer review

Typically no revision as a result of peer review (notable exceptions – IEEE, ACM, ...)

Author generates the type-set paper – no editing by a professional.



Finding Journal Articles



On line databases

<http://www.LaTech.edu/tech/library/ia.htm>

- Medline
- Pub Med
- Engineering Village

B. web: scholar.google.com; www.scopus.com

C. Standard web search will sometimes give journal articles

D. Reference pages of journals you already have

E. Word of mouth



Searching and Filtering



To search, type in appropriate key words as necessary.

Filter through the titles and abstracts to identify ones that are clearly relevant to your interests (or equivalently, to eliminate those that are clearly irrelevant).

Download the citation, abstract, and (if accessible) full article.

Use one of the following add-ons to download the citation:

[Papers \(software\)](#)

[Epernicus](#)

[BibTeX](#)

[ResearchGate](#)

[Qiqqa](#)

[Mendeley](#)

[EndNote](#)

[Zotero](#)



Let us take a look ...

Prescott Memorial Library Resources:

Engineering & Science Databases

ILLIAD – Interlibrary Loan

ScienceDirect Document Delivery

Google Scholar