

PC512

# Technical Writing and Communication Skills

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# Need for References and Citation

- Technical writing and communication
  - **Data**
  - **Analysis**
  - **Facts** already established.
- A lot of reading and thinking and discussion.
- References

# Importance of References

- Academic Integrity
- Credibility and Authority to your Work
- Show that you Know
- Avoid charges of Plagiarism/Unethical practices

# Listing of References

- **Absolutely NECESSARY**
  - Due Credit
  - Somebody counts these
- Very difficult manually
- Every university/company/journal/conference has own standards
- Hundreds of styles

# Reference Management

- Need a powerful database software to process according to various styles
- EndNote
- **Zotero**
- Mendeley
- Jabref ...
- LibreOffice Write feature
- Microsoft Word feature

# References and Citation Software

1. A master list of books, journal and conference papers, webpages, blogs, reports, theses, ...
2. Extract the data of those you need
3. Make a list of references and cite in the style you need

# Several Styles for Citation and Reference List

- IEEE
- ACM
- MLA
- APA
- Depends on
  - Journals
  - Conferences
  - Magazines,
  - University (for thesis)
  - Company (for reports) ...

# Various Styles (Zotero)

- APA

In a recent paper (Ghosh, 2019) the complexity of an image was explained ...

References

Ghosh, A. and Deb, T. (2019). “Spatial Complexity of Images”, *Optical Eng.*, 52 (4), 408-411.

- IEEE

In a recent paper [3] the complexity of an image was explained ...

References

[1] ...

[2] ...

[3] A. Ghosh and T. Deb, “Spatial Complexity of Images”, *Optical Eng.*, vol. 52, pp. 408-411, Apr. 2019.



# Making references in LaTeX

```
\documentclass{article}
\begin{document}
\emph{My mother} is a \underline{fish}
\cite{WF}.
\begin{thebibliography}{99}
\bibitem{WF}
William Falkner, \emph{As I Lay Dying}
\end{thebibliography}
\end{document}
```

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# Need to compile the document twice

- Because we are using symbolic references, e.g., `\cite{WF}`,
  - a second pass is necessary
- The second pass will resolve references

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*My mother is a fish [1].*

## References

[1] William Falkner, *As I Lay Dying*

from: [www.cs.uga.edu/~eileen/6950/](http://www.cs.uga.edu/~eileen/6950/)

# Problem with this method

- User is burdened with deciding how to format article titles, journal names, proceeding references
- Difficult to reuse references in other documents

# BibTex

- Complements LaTeX documents by managing bibliography and references
- Minimizes the drudgery of formatting, numbering, and referencing
- Disadvantage:
  - Steep Learning Curve

# The BibTeX Process

1. Create a **BibTeX** file with Rerefence entries
2. Get a **\*.bst** file (bibliographic style file)
3. “Compile” or “Build” your **LaTeX** document to create an **\*.aux** file
4. Run **BibTeX** on your **LaTeX** file
5. Run **LaTeX** twice on your updated file
6. View the **dvi** or **pdf** file

# Types of Documents BibTex can handle

- ARTICLE
- BOOK
- BOOKLET
- INBOOK
- INCOLLECTION
- INPROCEEDINGS
- MANUAL
- MISC
- PHDTHESIS
- PROCEEDINGS
- TECHREPORT
- UNPUBLISHED

# Each Document type can have the following entries

- address
- author
- booktitle
- chapter
- crossref
- edition
- editor
- howpublished
- institution
- journal
- key
- language
- month
- note
- number
- organization
- pages
- publisher
- school
- series
- title
- type="Ph.D. dissertation"
- volume
- year



# Sample BibTex Book Entry

```
@BOOK{Press,  
author="W.H. Press",  
title="Numerical Recipes in C: The Art  
of Scientific Computing",  
publisher="Cambridge University Press",  
year=1992,  
}
```

from: [www.cs.uga.edu/~eileen/6950/](http://www.cs.uga.edu/~eileen/6950/)

# Sample BibTex Article Entry

```
@ARTICLE{Vodacek,  
author="Anthony Vodacek and F.E. Hoge and R.N. Swift and  
J.K. Yungel and E.T. Peltzer and N.V. Blough",  
title="The use of in situ and airborne fluorescence  
measurements to determine UV absorption coefficients  
and DOC concentrations in surface waters",  
journal="Limnology and Oceanography",  
volume=40,  
number=2,  
year=1995,  
pages="411-415",  
}
```

# Generating BibTeX files

- Use bibliographic software such as Zotero, Mendeley, Jabref, ...
- Export the entire library or a few items in the BibTeX format with a **mybib.bib** name
- In your main LaTeX file use commands

```
\usepackage{mla}
```

```
\bibliographystyle{mla}
```

```
\bibliography{mybib}
```

- Use the command `\cite{key}` to refer to a reference in your list

# Different Formatting Styles

- To invoke a particular style, go to
  - <http://www.ctan.org>
- Document styles are defined in `*.sty` files
  - `mla.sty`
  - `ieee.sty`
- Bibliography styles are defined in `*.bst` files
  - `mla.bst`
  - `amsplain.bst`

# To invoke these styles in your document

- Copy them to your current working directory with your **LaTeX** and **BibTeX** document
- Edit your **LaTeX** file to appropriately reference these style guides

# Sample LaTeX document listing Bibliography in MLA Style (document.tex)

```
\documentclass{report}  
\usepackage{mla}  
\begin{document}  
  
\bibliographystyle{mla}  
\bibliography{mybib}  
\nocite{*}  
  
\end{document}
```

# Commands to Build and View Document

```
% latex document.tex
```

```
% bibtex document.aux
```

```
% latex document.tex
```

```
% latex document.tex
```

```
Use your pdf software to view  
document.pdf
```

# Works Cited

- Berk, Lex A., L.S. Bernstein, and D.C. Robertson. MODTRAN: a moderate resolution model for LOWTRAN 7. Technical Report GL-TR-89-0122, Spectral Science, Burlington, MA, 1989.
- Knobelspiesse, Kirk D. Atmospheric Compensation for SeaWiFS Images of Lake Superior Utilizing Spatial Information. Master's thesis, Rochester Institute of Technology, September 2000.
- Kuo, Jan-Tai. *The Influence of Hydrodynamic Transport on Phytoplankton Dynamics in Homogeneous Lakes*. Ph.D. dissertation, Cornell University, Ithaca, NY, 1981.
- Press, W.H. *Numerical Recipes in C: The Art of Scientific Computing*. Cambridge University Press, 1992.
- RSI. *ENVI User's Guide*. Research Systems Incorporated, Boulder, CO, September 2001.
- Sherwood, D.A. Phosphorus Loads Entering Long Pond, A Small Embayment of Lake Ontario near Rochester, New York. USGS Fact Sheet 128-99, November 1999.
- Stoermer, E.F. "Nearshore phytoplankton populations in the Grand Haven, Michigan vicinity during thermal bar conditions." *Proceedings of the 11th Conference on Great Lakes Research*. 1968, 137-150.
- Vodacek, Anthony, F.E. Hoge, R.N. Swift, J.K. Yungel, E.T. Peltzer, and N.V. Blough. "The use of in situ and airborne fluorescence measurements to determine UV absorption coefficients and DOC concentrations in surface waters." *Limnology and Oceanography* 40 (1995): 411-415.



# Sample **LaTeX** document listing Bibliography in AMS Style

```
\documentclass{report}  
\begin{document}  
  
\bibliographystyle{amsplain}  
\bibliography{mybib}  
\nocite{*}  
  
\end{document}
```

# Bibliography

- [1] Kirk D. Knobelspiesse, *Atmospheric compensation for seawifs images of lake superior utilizing spatial information*, Master's thesis, Rochester Institute of Technology, September 2000.
- [2] Jan-Tai Kuo, *The influence of hydrodynamic transport on phytoplankton dynamics in homogeneous lakes*, Ph.D. thesis, Cornell University, Ithaca, NY, 1981.
- [3] W.H. Press, *Numerical recipes in c: The art of scientific computing*, Cambridge University Press, 1992.
- [4] RSI, *Envi user's guide*, Research Systems Incorporated, Boulder, CO, September 2001.
- [5] D.A. Sherwood, *Phosphorus loads entering long pond, a small embayment of lake ontario near rochester, new york*, USGS Fact Sheet 128-99, November 1999.
- [6] E.F. Stoermer, *Nearshore phytoplankton populations in the grand haven, michigan vicinity during thermal bar conditions*, Proceedings of the 11th Conference on Great Lakes Research, 1968, pp. 137-150.
- [7] Anthony Vodacek, F.E. Hoge, R.N. Swift, J.K. Yungel, E.T. Peltzer, and N.V. Blough, *The use of in situ and airborne fluorescence measurements to determine uv absorption coefficients and doc concentrations in surface waters*, Limnology and Oceanography **40** (1995), no. 2, 411-415.

To include only cited articles we remove the `\nocite{*}` command

```
\documentclass{report}
```

```
\begin{document}
```

We want to get the documents  
`\cite{RSI}` and `\cite{Kuo}` for our  
collection

```
\bibliographystyle{amsplain}
```

```
\bibliography{mybib}
```

```
\end{document}
```

what to get the documents [2] and [1] for our collection.

## Bibliography

- [1] Jan-Tai Kuo, *The influence of hydrodynamic transport on phytoplankton dynamics in homogeneous lakes*, Ph.D. thesis, Cornell University, Ithaca, NY, 1981.
- [2] RSL, *Enviro ncer's guide*, Research Systems Incorporated, Boulder, September 2001.

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# Summary

- Referencing