Some Writing Tips

Unless otherwise noted, all materials are from:


Also reference to

- **Yu-Chi Ho**, Harvard University
  - bbs.scienecnet.cn/thread-6021-1-1.html
  - blog.scientific.net.cn/blog-1565-207967.html
- **Fredo Durand**, MIT CSAIL, *Notes on writing*
- **The Thesis Whisperer**
  - thesiswhisperer.com/2010/07/27/reading-like-a-writer/
Five Questions

(1) What was the problem studied?  Introduction

(2) How did I study it?  Methods

(3) What did I find?  Results

(4) What do the findings mean?  Discussion

(5) What is the take-home message?  Conclusion
Title

• First most important part of the paper

• A title is a label, not a sentence.

• Avoid waste words
  • studies on...
  • investigations of...
  • observations on...
Authorship = Credit + Responsibility

• Contribution of authors
  • Conception and funding
  • Design of experiments
  • Data collection
  • Data analysis
  • Manuscript preparation
  • ? other

• Author sequence: establishing it in advance

• Author address: where you did your research, footnote for current address
Authorship: Suggestions

• Be generous to collaborators
  • If you have staying power, you will write far more on the subject than your co-author.
  • Less arguments/bad feelings with your colleagues.
  • A friend is much more important than a paper.

• Be strict to yourself

Criteria for co-authorship
1. Originated the main idea and the formulation of the problem
2. Participated fully and played a major effort in the writing
3. Fully prepared to give a comprehensive talk for 30-60 minutes on the subject of the paper

• If either 1 or 2, preferably both, together with 3 are satisfied, then the name goes on the paper.

Source: Yu-Chi Ho (bbs.scienccenet.cn/thread-6021-1-1.html; blog.scienccenet.cn/blog-1565-207967.html)
Abstract

• Second most important part after title

• A summary of the information that should:
  • state the principle objectives and scope of the study
  • describe methods used
  • summarize the results
  • state the main conclusions

• Be concise but should be able to read without referring to the text

• Avoid references and waste words (discussed/presented/summarized)

• Strategy: Use topic sentences from each paragraph
Introduction

- A description of what you did
- Goes from general to specific
  - Presents the nature and scope of the problem
  - Reviews pertinent literature
  - Indicates how this study fits into the problem
  - Proposes goal/objectives of the study/paper
- Example
  - A. Importance of grazing in ecosystems
  - B. Grazing in aquatic systems
  - C. Experimental studies of grazing aquatic systems
  - D. Study Objectives
Materials and methods

• A description of how you did it

• Add subheadings for approaches used

• In outline, use: “In order to do/determine ____, I did ____”

• Give copy of methods to colleagues, asking whether they could repeat the experiment based on what is written.
Results

• A description of what you found in your experiment

• Present results in a logical sequence that corresponds to objectives
  • Do not include material that does not relate to objectives

• Separate facts from inferences (which is why results and discussion are kept separate)

• Difficulties of repetitive data in Tables and figures
Figure or Table

- If you want to show trend, use figure
- If the number is important, use table
- Design tables and figures
Discussion

• A description of what your experiments mean

• Show relationships among results observed

• Show how results agree or disagree with previously published research
Conclusion

• Most often-quoted part of the article

• Summarizing evidence found in the study

• Can suggest ideas for future research, but don’t call for more research.
Acknowledgement

- Simple and courteous

- “I thank” not “wish to thank”

- Limited to those who contributed to study (technical, funding, editorial)
Literature cited

- Choice of literature: availability; cite new ones if equally important

- Try to cite published work other than reports

- Use literature cited to determine the journal for submission

- Cite accurately: Do read the cited work
  - 30% of citations differed from original author’s statements
  - 15% of citations do not relate to original author’s statements
  - Avoid “ghosts”
    - 150 citations checked, 31 had errors, 10% of citations could not be found
Language

• For every part of the paper, especially methods, or certain aspects, read 5-8 related articles.
  • Pay special attention to the verbs, especially the verbs which the writers use when they comment on the work of other researchers.

• Don’t introduce two ideas in one sentence.

• Read your work aloud.

Source: (1) Fredo Durand, MIT CSAIL, Notes on writing. (2) http://thesiswhisperer.com/2010/07/27/reading-like-a-writer
Final thoughts

• “Aging” of manuscript helps

• Pre-submission reviews