"How to Write a Paper for Publication"  
Rosenfeldt et al. (2000)
Contents

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Figure 1. Typical flowchart of the development and refining of a manuscript.
Before writing

Reasons for writing

Advancing Knowledge
Advancing Institution
Advancing Yourself

Achieving Promotion
Enhancing profile
Improving research ability
Gaining recognition
Before writing

• Give yourself **TIME!**
  – *Hofstadter's Law*: It always takes longer than you expect, even when you take into account Hofstadter's Law.
  – Write/plot as you go–put yourself in the submission mind-set immediately

• Decide what you are going to write about

• Which journal?
  – A rough idea helps determine style and length (c.f. Nature Letters vs. Progress in Oceanography)
Getting started

• Making a plan is **productive** procrastination
  – Outline your headings, subheadings, Word/LaTeX code
    • Title/Top matter, Abstract, Introduction, Methods, Results, Discussion, Summary (or Conclusions), References
  – Add **plots/tables you’ll keep** (e.g. domain maps)
  – Bullet any rough ideas of things **you may forget**

• Your thoughts and your final submission may be very different, depending on the “Results → Interpretation → Work → Results” cycle...

• ... a manuscript is like pottery, it’s never perfect to begin with...

**GET WRITING!**
Writing

• To start, just try to write something **you** (but perhaps nobody else) can understand!

• Initial readability considerations:
  – Define abbreviations at first read
  – Avoid clichés and colloquialisms
  – Don’t be afraid of being confident in what you’ve done
  – Complexity doesn’t show intelligence, simplicity does...
Writing

1. Abstract

• First thing read by anyone, the most important to get right

• Write first, continue to iterate through the final submission

• Problem $\rightarrow$ Method $\rightarrow$ Major results (numbers!) $\rightarrow$ Cause (aka the ‘Why’) $\rightarrow$ Implication (aka the ‘So What?’)

• What have you done for the first time?
2. Method

- Put down the stuff that won’t change depending on results, e.g. model/simulation information etc.

- Be **precise** (not verbose), could others replicate your work?

- Active vs. passive voice

- You may need to modify/extend this section later depending on the Results-Interpretation cycle
3. Results

- Figures & Tables **FIRST!**
  - These need to be **easily** understood
  - Labels, ticks, scales, numbers, captions
  - If it needs a lot of words to be explained, it’s probably not a very good figure

- This section is **dry** but fundamental to your work
  - **Signpost!** (subheadings, sub-subheadings)
  - Don’t forget the basic numbers, e.g. Mean ± Standard Deviation
  - The figure corresponding to a result can be put in brackets for brevity, e.g. “The domain mean temperature bias is 0.5°C *(Fig. 1)*” (c.f. “From Figure 1 we can see...”)

- **Don’t mix** with the discussion
  - **Bullet** your interpretations so you don’t forget
**Writing**

4. Discussion

- What is the discussion? (i.e. what is science about! → the WHY...)
  - Describes the **cause** of your results (roughly qualitative)
  - Given the cause, **so what?** Why is your result actually important?
  - To argue the cause, you will need **other results** and **hard numbers** (roughly quantitative)
  - Your result in **context** of others’ results and reasoning (what have others done!)
  - **Critical evaluation** of your work (i.e. you’ve shown why you might be right, but why might you be wrong?)
  - A **springboard** (where can others go from here?)
4. Discussion

- Do you need to obtain more results?
- The difficult section...
- **Signpost** in accordance with your results (helps you and the reader)
- Use **paragraphs** wisely
- Don’t introduce any new results here, but do you need obtain more results to support your arguments?
Writing
4. Introduction

(Now you know what your contribution to the field is...)

• Set the scene: zoom in to the problem of your field

• What are the problems and conflicts? (... i.e. the ones that you will proceed to solve/resolve!)

• How are you going to solve these problems? i.e. Paper outline
  -- What have you done for the first time?
4. References

- Journal specifications?

- Usage of BibTex, Endnote etc.

- Reference models/data/simulations (things you may forget)

- Don’t feel you have to rack up references, they will come naturally as you find papers to base/support your arguments

- Remember to get relevant permissions (not just citations) for others’ figures—this may take time to get so do it early
Finishing and submitting

- **1\textsuperscript{st} Draft**
  - Finish with a title
  - **Accept** it will be messy
  - “Results → Interpretation → Work → Results” Cycle

- **N\textsuperscript{th} Draft**
  - **Iterate everything**! Work towards it being readable to everyone (not just you!)
  - Continuously work the abstract
  - Co-authors?
  - Put it down and return to it after a few days
  - It’s finished when you’re sick of it...
  - **Rachel White’s Rule**: “When you think you’re done, cut 20% of the words. Then you’re done.”
Finishing and submitting

• Decide on a journal (if not done already)
  – Look to your key papers and their journals for scope
  – What cost?
  – Where is it most likely to fit in/not get outright rejected?
  – Impact Factor?

• Check requirements
  – “Why is this work relevant/important?”
  – Edit manuscript according to journal specifications
Revisions

• **Be dispassionate** → criticisms help **modify/strengthen** your argument to get to the right answer

• Consider each point **in turn**
  – Decide whether each point is to be accepted and revisions made or rebutted with sufficient evidence against

• **Prioritise** what to revise to **minimise work** → think about what could change majorly
  – Do the stuff that may affect the entire paper structure **first**, i.e. the **critical** points
  – Then work on the other points that are **still relevant** (as some may become irrelevant after a paper-rewriting)
  – Do the precision stuff (spelling/grammar/figure mods/references) **last**

• Iterate your manuscript **as you did previously**, and resubmit!