

# Writing Scientific Papers



刘小乐

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# The Order of Writing

- Method
- Figures and legends
- Results
- Discussion
- Introduction
- Abstract & title
- Cover letter

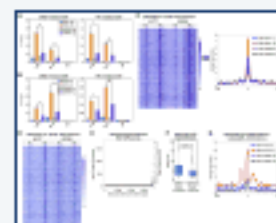
# Methods

- Write as you work on a project
- Keep track of experiments done, data downloaded, analysis parameters, and results at each stage (lab notebook)
- Can shrink later as needed...
- Font (times 12 or Arial 11)
- Margin (1 inch)
- Line breaks

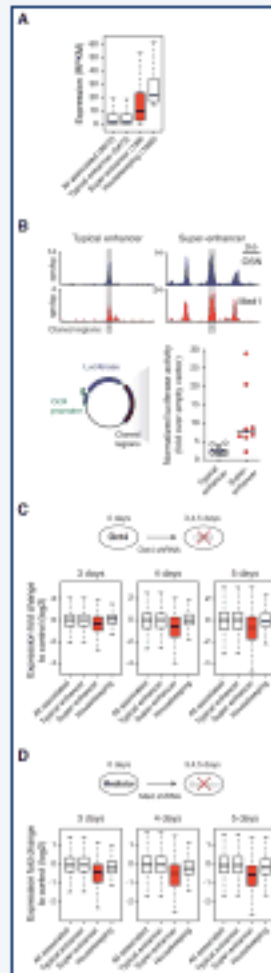
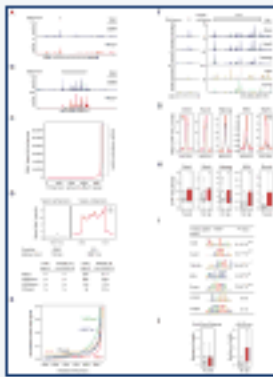
# Figures and Legends

- Draw your figures as what you saw in CNS papers
- Only include figures contributing to the main theme of the story, but milk the cow
- Supp figure naming
- Diverse drawings but consistent fonts
- Readability in printouts
- Summarize the findings and figure our target journal

# The Bad



# The Good



# Results

- Long figure legend, Logic, logic, logic...
- Write sub-section titles for each figure with consistent grammar
- Instead of "Fig 1 shows X", just say "X (Fig 1)".
- Paragraphs shouldn't be too long (> 20 lines) or too short (< 3 sentences).
- Don't have > 10 numbers in a paragraph or a table, instead show them in a figure.
- Discuss the figures in the order they appear
- Reduce "we found", "we observe".
- Consistent present / past tense

# Discussions

- Summary: similar to cover letter
- Limitations of the current study
- Discuss some interesting observations and speculate
- Future perspectives: always end with positive



# Introduction

- This area is super important, cite big papers
- However, something is still unknown or there are still unmet needs
- X, Y, Z have done work in this area, but there are limitations
- Acknowledge your potential reviewers
- In this study, we did ...
- Focus on the Why and a little bit of What
- Don't discuss the main results

# Abstract & Title

- Something is important but something is missing / unknown / challenging.
- We did X, Y, Z. Throw in the numbers, buzz words, and what's special.
- We found A, B, C.
- The study has the potential to...
- Check <http://jane.biosemantics.org>
- Don't use numbers in the title
- Authorship: discuss and wait...

# Common Writing Mistakes from Chinese Writers

- Sentences too long (> 3 lines) with too many commas.
- Multiple predicates in a sentence.
- Unusual word / phrase appear twice close to each other
- 太长的定语, 指代不明
- Long phrases with nouns used as adjectives.
- Unconnected sentences in paragraphs, or neighboring sentences saying the same thing
- Informal English: lots of, found out, etc
- 杀鸡焉用宰牛刀
- <http://www.wallacediting.cn/blog> and other resources
- Do you ever see this in a scientific paper?

# Examples

- There are about 10-20 percent genes are cell surface genes in human, how can we identify the genes which can be used for immune therapy?
- The scaffold-linker-U6 segment containing decoding primer targeting site is cloned in between the paired gRNAs.
- Considering some factors, this experiment was designed to ....
- A is a widely used technique for studying Xs such as Y and Z.
- A is the ratio of X over Y. Y is defined as xxx. It is expected to be around 70%.

# Cover Letter

- Dear Editor, we are pleased to submit our ms titled XXX for consideration as a Publication Type at Journal.
- Problem X is really important, our approach / finding Y is really novel and great.
- Our track record: our previous papers in this journal (highly downloaded, cited, etc)
- We would like to suggest the following reviewers:
- ~6: 1. friends; 2. experts in the area; 3. journal  $\geq$  their normal publication levels; 4.  $\leq$  50% Chinese.
- Test the water, find/make your friends.
- Pre-submission? Talk to the professional editor

# Revision

- Rebut or submit elsewhere?
- Thank the editor and reviewers, we have made substantial revision.
- Summarize the revision, then point-to-point, reviewer comments & address in diff fonts (color alone insufficient).
- Don't thank or apologize within the p2p.
- Answer to the point: "we agree with the reviewer that X", "we followed the reviewer's suggestion to add X", "we clarified this point in the revised ms".
- Show efforts, but make the answers short and clear.
- Don't antagonize the reviewers, unless convincing the editor to switch reviewers.

# Most Important Trick

- Do solid good work in one field for a long time to establish reputation
- Published papers are like married daughters
- Read and write more papers
- Go to conferences and present your work
- Make friends within the field

Thank you!