Writing (and revising) papers

Why is it important?

• No publication, no project
  – Make information available for others
• No publication, no promotion
  – Yardstick of productivity
• No publication, no funding
  – What have you done for me lately?

Publishing your work is vital for success
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Authorship

• Decide on authors, and their order, as early as possible
  – Preferably before starting the project

• Authors should only include those who have made a substantive *intellectual* contribution to the project reported, and can defend the data and conclusions publicly
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Criteria for authorship

• Generate at least part of the *intellectual* content
  – Conception or design of the work
  – Data analysis and interpretation
• Draft, critically review or revise the *intellectual* content
• Approve the final version to be submitted

All three criteria should be satisfied
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Choosing the right journal

• Target audience
  – “Who would be interested in reading this paper?”

• Import and significance of the findings
  – Seek input from colleagues

• Decide on the journal before beginning to write
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Structure – the title

- Key element that advertises the paper’s contents
  - Be as specific as possible
  - Include main aspects of study including model used
  - Can be used to indicate an ongoing series
- Often helpful to choose the title when the paper is almost complete
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Structure – the abstract

• Should be complete, and intelligible without reference to the text
• Ordinarily, should not include actual data values
  – Compare with a meeting abstract
• Avoid abbreviations and citations
• Write it at the end!
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Structure – the introduction

• Prominently state the hypothesis that prompted your investigation
• Briefly review the pertinent literature that led to this work
• Conclude at the starting point for the current investigation rather than including a summary of the data obtained
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Structure – the methods section

- A good place to start for beginning authors
  - Should be the easiest section of the paper to write
- Should permit another to repeat your work, but need not be exhaustive
  - OK to cite previous methods of your lab or others
- Identify sources of key reagents
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Structure – the results section

• The heart of the paper
• No need to follow chronology of study
  – Rather, provide a logical progression and tell a story
• Provide only enough interpretation to lead reader from one experiment to the next
  – Avoid lengthy analysis and comparisons to the work of others here
• Avoid duplication of information between text, figures, legends and tables
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Structure – the discussion section

• Length proportional to amount of new information presented
  – Avoid redundancy with results section
• Parallel structure of results section plus introductory and concluding paragraphs
• Avoid undue speculation and claims of primacy
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Structure - references

• Finalize at the end using a software package
• Ensure correct formatting for journal of submission
• Most papers can be adequately referenced with less than 50 citations
  – Check that introduction and discussion are not out of proportion to new information presented
• Avoid excessive self-citation, and check all citations for accuracy
  – Remember who your reviewers might be!
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Stylistic issues

• First or third person?
  – Latter is more formal, but former often makes for a livelier read

• Back to basics
  – Use an outline – know where you’re going
  – Carefully consider issues of sentence and paragraph construction, run-on sentences
  – Don’t use five words when one will do

• Allow trainees to develop their own style, while maintaining quality control

• Read, write and review to learn what works
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The submission process

• Read the instructions
  – Provide all requested items
  – Don’t make enemies in the editorial office
• Ensure appropriate file format for on-line submission, including figures
  – Is the on-line version the one you want reviewers to see?
• Confirm receipt; enquire if a decision has not be received after six-eight weeks
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The revision process

• If your paper is returned for revision, you are in good company
• It’s OK to get mad, but don’t act on it
• Try to understand what the reviewers are really saying
  – If the reviewers did not understand your work, is it because you did not present it clearly in the first place?
• Look for clues from the editor as to the extent of revision needed
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Responding to reviews

• Complete additional experiments if needed
• Resist temptation to prepare an impassioned response to points with which you disagree
• Stand firm if that is truly the right thing to do
  – But do so diplomatically, backed up with citations
• Sincerely thank the editor and reviewers for helping you to improve your work
  – They have invested a lot of time, mostly on a voluntary basis
• Ask a neutral colleague to review your response
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Handling rejections

• If a very major revision is called for, or if your paper is rejected, consider another journal
  – Was your initial selection of journal part of the problem?

• Avoid LPU’s
  – Consider doing more work to make your study more substantive

• More papers are rejected on the basis of priority than because of scientific flaws
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Closing thoughts

• Do the study with the paper in mind
• Seek as much input from colleagues as possible
  – Need to see the wood as well as the trees
• Remember who the reviewers might be
• If unsure about ethics, ask!
• Practice, practice, practice!