Workshop J2

Writing scientific papers - 10 biggest mistakes from a reviewer's perspective

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Workshop objectives

Help you to write and publish efficiently scientific papers

(from a reviewers perspective)
Starting..

Tell us your own experiences!

What you expect from the workshop?
How to keep the referees happy
How to keep the referees happy

(1) Remember that a referee has no obligation to review your paper
   - Be clear and concise

(2) Write in a way that a non-expert or less experienced person can understand
   - bear in mind that your reader may not be as expert as you are

(3) Make your paper interesting enough for an expert
   - Try to ensure enough meat (i.e. scientific substance) for the experts

(4) Look at the forms used in referees’ reports
   - check carefully if your paper is suitable for the chosen journal
How to keep the referees happy

(5) Take your time to respond to the referees questions
   - The response to the referees letter is quite often longer than the submitted manuscript.
   - Make it easy for referees to detect changes and to tick their list

(6) Only argue with the referee if absolutely necessary
   - If the referees did not got your point you might have to express it differently.
   - If you disagree with the referees try bring this up in the discussion. Argue with your data and published literature there possible.

(7) Be polite.
   - Remember, the referees are doing you a favor.
Some examples

What do we get by the method? Also, citations are missing. Some of the citations seem to be unrelated to the context in which they are used – examples are the citation of ... on page 3. It seems that some important information is missing here.

Answer: The citations is good for my paper, so I choice them.
Answer to revisions B:
Some questions of revisions B are unclear to me, so I can not to answer them very right. Also some advice is mistake the paper.
The paper needs to be restructured. At the time being it is not possible to follow the text properly. Therefore, it is not possible to review the paper accurately.
Answer: I already check the structure of the text.
The English language in which the manuscript is written itself is not bad but the structure of the whole text, of the majority of the paragraphs and of the sentences should be changed to improve readability.
Answer: I look for Canadian scientist to help me improve readability.
7. I did not get the message from figure #5. I see that we have 5 working groups and that they have different numbers of final services but what does that tell us?

Following the suggestion of Reviewer 1 and that of the editor for shortening the text, I have deleted Figure 5. It was intended to show that, using the proposed method, we have managed to insure a balanced distribution of the final set of indicators among the different units of the working groups (which was one of our initial objectives).

I have explained this in the revised text: “In the final set, 21% of the indicators represent [...] Insuring the balance between the different units of the working groups was one of the objectives of our method, and this distribution shows that this objective has been reached.” (L541 – L543 in the revised paper).
Three important things (Wallwork, 2011)

• Always think about the referee and the reader.
• Read other papers, the standard phrases, use these papers as a model.
• Write concisely with no redundancy, and you will make less mistakes.
Challenges of simulating complex environmental systems at the landscape scale: A controversial dialogue between two cups of espresso

Ralf Seppelt, Felix Müller, Boris Schröder, Martin Volk

1. Introduction

See needs new perspectives—and new forms from time to time. Thus, this contribution is entirely different from well-known research papers. Nevertheless, it has elements of all those types of publications—summarizing and thinking about integrated environmental modelling and systems analysis—and provides conceptual support required by landscape ecological research.

2. Discussion

It was a November morning. The smell of two freshly percolated espressos dispersed in front of the large window of the cafeteria. The Zurich town centre and the river Limmat were almost hidden from being seen from the roof of the ETH main building. Rebecca was impressed by the venerable architecture with its own stain to the scenery of the modern coffee bar. Seeing nothing but fog, she got frustrated looking through the windows.

Tony: That was hard stuff yesterday. He was referring to a lecture Rebecca gave at his seminar the day before. They both knew each other from the seminar (though their viewpoints on landscapes were quite different) he invited her to present her work on spatial models to the landscape ecology group of his institute. Rebecca, standing by her espresso: Hmm...

Tony: All those things, those complex models and those mathematical equations you presented... it was looking too complicated for me...

Rebecca hardly avoiding looking for her espresso: Pardon me? Tony: I mean you are talking about very abstract physical and mathematical ideas, isn't that approach extremely remote from species distribution, habitats and patterns? And isn't it far away from solving any environmental problem? Far away from answering any landscape-related question?

Rebecca shallowly put the cup back on the table: Hmmm, no... Not that I think they are right in the focus of it. Tony snipping:Surely you are joking... So you want to tell me that this is in the centre of the world?

References


Mistakes to avoid – section by section
1. In general: Avoid long convoluted sentences

"It is shown that area-averaged precipitation in "NoName" River basin was evaluated with Thiessen Polygon method for the 1980 – 1996 period and estimated with the arithmetic average for the 1963 – 1998 period and it is shown present high variability at various temporal scales."

“Space-time variability in water availability will be study as function of changes (mean and dispersion) in daily, monthly and yearly amounts of precipitation, characteristics of intense precipitation and drought episodes in the region, as well as function of different background scenario conditions caused by wildfires.”
2. In general: Avoid boring writing ;o)

Top-10 list of recommendations for writing consistently boring publications (after Jensen, 2007).

do the opposite, and you are fine ;o) !

- Avoid focus
- Avoid originality and personality
- Write long contributions
- Remove implications and speculations
- Leave out illustrations
- Omit necessary steps of reasoning
- Use many abbreviations and terms
- Suppress humor and flowery language
- Degrade science to statistics
- Quote numerous papers for trivial statements
3. Title

- Avoid long titles
- A title should be the fewest possible words that accurately describe the content of the paper.
4. Keywords

- Avoid too many keywords
- The keyword list provides the opportunity to add keywords, used by the indexing and abstracting services, in addition to those already present in the title.
5. Abstract

- Concisely states the principal objectives and scope of the investigation.
- Concisely summarises the results and principal conclusions.
- Do not include details of the methods used unless the study is methodological, i.e. primarily concerned with methods.
- The abstract must be concise.
- Do not repeat information contained in the title.
- Omit all references
- Omit obscure abbreviations and acronyms
6. Introduction

• Begins by introducing the reader to the pertinent literature.
• A common mistake is to introduce authors and their areas of study in general terms without mention of their major findings.
• Important function: establish the significance of your current work: Why was there a need to conduct the study?
• After introducing literature and demonstrating the need for the current study, you should state clearly the scope and objectives. If possible, specify hypothesis.
• Avoid a list of points or bullets; use prose.
• The introduction can finish with the statement of objectives or with a brief statement of the principal findings.
7. Materials and Methods I

- Main purpose: provide enough detail for competent worker to repeat study and reproduce results.
- The scientific method requires that results be reproducible (provides a basis for repetition of the study by others).
- Equipment and materials available off the shelf should be described exactly.
- Sources of materials should be given if there is variation in quality among supplies.
- Modifications to equipment or equipment constructed specifically be carefully described.
7. Materials and Methods II

• Usual order of presentation of methods is chronological.
• If your methods are new (i.e. unpublished), you must provide all the detail required to repeat them. If a method has been previously published, only the name of the method and a literature reference need be given.
• Be precise in describing measurements and include errors of measurement.
• Ordinary statistical methods should be used without comment; advanced or unusual methods may require a literature citation.
• Show materials and methods section to a colleague (Ask if they would have difficulty in repeating your study).
8. Results I

- In the results section you present your findings: display items (figures and tables) are central in this section.
- Present the data, digested and condensed, with important trends extracted and described.
- Results comprise the new knowledge that you are contributing to the world – hence, it is important that your findings be clearly and simply stated.
8. Results II

• The results should be short and sweet. Do not say "It is clearly evident from Fig. 1 that bird species richness increased with habitat complexity". Say instead "Bird species richness increased with habitat complexity (Fig. 1)".

• However, don't be too concise. Readers cannot be expected to extract important trends from the data unaided.

• Combine the use of text, tables and figures to condense data and highlight trends.
9. Discussion

• Now its time to interpret your results:

• Do they support your hypothesis?
• Are they in line with other published studies?
• What do they imply for research and policy making?
  • Is that supported by your results?
  • Are other interpretations possible?
• What are shortcoming of your study? How could you improve your study?
9. Discussion – typical structure

(1) Statements of principal findings
(2) Strengths and weaknesses of your study
(3) Differences to other studies
(4) Implications of your study for research or policy making
(5) Open questions and future research
9. Discussion – common mistakes

- Discussion unrelated to the results
- Bad structure which meanders back and forth
- Missing comparison of your results to results from the literature
10. Conclusions

• Think of it as an abstract for the informed reader
• Typical mistakes:
  • Copy and paste from other parts of the paper
  • Treat it as a summary
10. Conclusions – typical content

• Very brief revisit of the most important findings with a focus on the advance behind the state of the art
• Final judgment on the importance and significance of the findings with respect to implications and impact
• Suggested further research
• Suggested policy changes
• Limitations of the study and potential improvements
11. Figures and tables - typical mistakes

- Missing legend
- Caption too short to understand the figure without reading the text
- Inappropriate colors
  - Color blindness
  - Print in greyscale


Good luck for your work!

(All drawings by Martin Volk)