PUBLISHING HIGH QUALITY PAPERS
View from an editor

Brian D. Fath
Advanced Systems Analysis Program
International Institute for Applied Systems Analysis
Austria

Department of Biological Sciences
Towson University, Towson, Maryland

Editor in Chief, Ecological Modelling
Outline

• Writing a quality manuscript
  • Preparations
  • Article construction
  • Language
  • Technical details
• Revisions and response to reviewers
• Ethical issues
• Conclusions: getting accepted
To publish or not to publish...
Publishers *do* want quality

**WANTED**

- Originality
- Significant advances in field
- Appropriate methods and conclusions
- Readability
- Studies that meet ethical standards

**NOT WANTED**

- Duplications
- Reports of no scientific interest
- Work out of date
- Inappropriate methods or conclusions
- Studies with insufficient data
Publishers consider the article’s impact

Impact factor
• A measure reflecting the average number of citations to recent articles
• Calculated as the average number of citations received per paper published in that journal during the two preceding years

Editors now regularly analyze citations per article

About 30% of all papers are never cited.
Two literatures

• Ephemeral papers
  – Every year about 10% of papers “die” never to be cited again
• Classic papers
  – May be observable early on
Can I publish this?

• Have you done something new and interesting?
• Have you checked the latest results in the field?
• Have the findings been verified?
• Have the appropriate controls been performed?
• Do your findings tell a nice story or is the story incomplete?
• Is the work directly related to a current hot topic?
• Have you provided solutions to any difficult problems?

If all answers are “yes”, then start preparing your manuscript.
Writing a quality manuscript

• Preparations
Who is the audience?

- Do you want to reach specialists, multidisciplinary researchers, or a general audience? You will need to adjust information and writing style accordingly.
- Each journal has its own style; read other articles to get an idea of what is accepted.
- Is the readership worldwide or local?
- Check that the scope of the paper is appropriate for the selected journal – change journal rather than submit inappropriately.

Consulting the Guide for Authors will save your time and the editor’s.
Format

• Ensure that you use the correct:
  – Layout
    • Line spacing
    • Section headings
    • Page/line numbers
  – Section lengths (stick to word limits)
  – Nomenclature, abbreviations (1st use) and spelling (British vs. American)

– Reference format
  – Number/type of figures and tables
  – Statistics
Writing a quality manuscript

• Article construction
Article structure

- Title
- Authors
- Abstract
- Keywords
- Highlights

Main text (IMRaD)
- **Introduction**
- **Methods**
- **Results**
- **Discussion (Conclusion)**

- Acknowledgements
- References
- Supplementary material

Need to be accurate and informative for effective indexing and searching.

Each has a distinct function.
A good title should contain the fewest possible words that adequately describe the contents of a paper.

**DO**
- Convey main findings of research
- Be specific
- Be concise
- Be complete
- Attract readers

**DON’T**
- Use unnecessary jargon
- Use uncommon abbreviations
- Use ambiguous terms
- Use unnecessary detail
- Focus on part of the content only
Slower processing is correlated with higher levels of depressed mood, fatigue, lower verbal fluency, fewer words and digits recalled and poorer recall of visual-spatial information in MS patients.

Relationships between information processing, depression, fatigue and cognition in multiple sclerosis.
Authors and affiliations

Be consistent with spelling, full versus short names, full versus short addresses

Surnames:
Middle Initial: Use consistently or not at all
First Names: Dave / David
Affiliation:
Abstract

Types:

**Informative abstracts** summarize the article based on the IMRaD structure

**Graphical abstracts** are now possible

**Summary bullets** are now required at many journals

Check carefully which type fits the journal of your choice
The quality of an abstract will strongly influence the editor’s decision

A good abstract:
• Is precise and honest
• Can stand alone
• Uses no technical jargon
• Is brief and specific
• Cites no references

Use the abstract to “sell” your article
Graphical Abstract

Should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online.

These are optional for most journals
Keywords are important for indexing: they enable your manuscript to be more easily identified and cited.

Check the Guide for Authors for journal requirements.

- Keywords should be specific
- Avoid uncommon abbreviations and general terms
- “Google” your own keywords. It will tell you if you are finding the right peer group and suggest possible colleagues/reviewers
Keywords: Urban ecosystem health; Emergy evaluation; Urban development mode

Bad keywords: ecosystems, health, development, pattern analysis
Consist of a short collection of 3 to 5 bullet points that convey the core findings of the article. (maximum 85 characters, including spaces, per bullet point)

**Are becoming mandatory for many journals**

*sample*
Introduction

Provide the necessary background information to put your work into context

It should be clear from the introduction:

• Why the current work was performed
  – aims
  – significance
• What has been done before
• What was done (in brief terms)
• What was achieved (in brief terms)
DO

• Consult the Guide for Authors for word limit
• “Set the scene”
• Outline “the problem” and hypotheses
• Ensure that the literature cited is balanced, up to date and relevant
• Define any non-standard abbreviations and jargon
Introduction

DON’T

•Write an extensive review of the field
•Cite disproportionately your own work, work of colleagues or work that supports your findings while ignoring contradictory studies or work by competitors
•Describe methods, results or conclusions other than to outline what was done and achieved in the final paragraph
•Overuse terms like “novel” and “for the first time”
Mathematics

• Avoid “dry” formulas; explain them
• Explain all symbols
• Avoid misuse of symbols
• Use standard notation
The Methods section must provide sufficient information so that a knowledgeable reader can reproduce the experiment.

Unless the Guide for Authors states otherwise, use the past tense; the present tense is usually only used in methodology-type papers.
The main findings of the research

**DO**
- Use figures and tables to summarize data
- Show the results of statistical analysis
- Compare “like with like”

**DON’T**
- Duplicate data among tables, figures and text
- Use graphics to illustrate data that can easily be summarized with text
“Readers… often look at the graphics first and many times go no further. Therefore, the reviewer should be particularly sensitive to inclusion of clear and informative graphics.”

– Henry Rapoport, Associate Editor, Journal of Organic Chemistry
Figures and tables are **the most effective way to present results**

**BUT:**

- Captions should be able to stand alone, such that the figures and tables are understandable without the need to read the entire manuscript.
- The data represented should be easy to interpret.
- Color should only be used when necessary.
Summarize results in the text where possible

The information in the table can be presented in one sentence:

‘The surface soils were dark grayish brown, grading to light olive brown (woodland), light olive brown (wetland), and pale olive (grassland) at 100 cm.’
The figure and table show the same information, but the table is more direct and clear.
• Legend is poorly defined
• Graph contains too much data
• No trend lines
• Legend is well defined but there is still too much data and no trendlines
• Legend is clear
• Data is better organized
• Trend lines are present


Discuss

Describe

• How the results relate to the study’s aims and hypotheses
• How the findings relate to those of other studies
• All possible interpretations of your findings
• Limitations of the study

Avoid

• Making “grand statements” that are not supported by the data
  Example: “This novel treatment will massively reduce the prevalence of malaria in the third world”
• Introducing new results or terms
Conclusion

Put your study into **CONTEXT**

Describe how it represents an advance in the field

Suggest future experiments

**BUT**

Avoid repetition with other sections

Avoid being overly speculative

Don’t over-emphasize the impact of your study
Acknowledgements

Acknowledge anyone who has helped you with the study, including:

• Researchers who supplied materials or software
• Anyone who helped with the writing or English, or offered critical comments about the content
• Anyone who provided technical help

State why people have been acknowledged and ask their permission

Acknowledge sources of funding, including any grant or reference numbers
### References

Check the Guide for Authors for the correct format

<table>
<thead>
<tr>
<th>Check</th>
<th>Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Spelling of author names</td>
<td>• Personal communications, unpublished observations and submitted manuscripts not yet accepted</td>
</tr>
<tr>
<td>• Punctuation</td>
<td>• Citing articles published only in the local language</td>
</tr>
<tr>
<td>• Number of authors to include before using “et al.”</td>
<td>• Excessive self-citation and journal self-citation</td>
</tr>
</tbody>
</table>
Supplementary material

Information related to and supportive of the main text, but of secondary importance

Includes:

• Data
• Software code
• Mathematical proofs
• Other supporting information

Will be available online when the manuscript is published
Writing a quality manuscript

• Language
“Journal editors, overloaded with quality manuscripts, may make decisions on manuscripts based on formal criteria, like grammar or spelling. Don't get rejected for avoidable mistakes; make sure your manuscript looks perfect”

Arnout Jacobs, Elsevier Publishing

Thus, both the science and the language need to be sound
Good writing possesses the following three “C”s:

• Clarity
• Conciseness
• Correctness (accuracy)

The key is to be as brief and specific as possible without omitting essential details
Common traps

Good writing avoids the following traps:

• Repetition
• Redundancy
• Ambiguity
• Exaggeration

These are common annoyances for editors
Repetition and redundancy

Vary the sentences used when writing the abstract or describing findings at the end of the introduction

Don’t copy from other sections verbatim!

Avoid words with the same meaning

In addition, sections were also stained with …

After centrifugation, pellets were then…
Exaggeration

"There was a massive decrease in the number of tumors following p.o. administration of green tea"

Beware of exaggeration but do indicate significance
Other common traps

Inconsistent tense – don’t mix tenses in the same sentence

Before tumors were microdissected, epithelial cells are…

Inconsistent use of plural or singular

In eight patients, a biopsy from the affected sites of the head and neck was performed

In eight patients, biopsies from the affected sites of the head and neck were performed
Other common traps

Incorrect use of et al.

“et al.” is short for the Latin “et alia” meaning “and others”. Note, et is a full word alia is abbreviated.

Correct way is “et al.”
Abbreviations

• Define non-standard abbreviations on first use in both the abstract and the main text

• Don’t abbreviate terms used only once or twice in the entire manuscript – spell these out in full
Language Editing Services

Your manuscript is precious, invest in it

• Specialist scientific and medical editing services are commercially available to polish the language in your manuscript prior to journal submission
• Rates start from $8 per page
Revision before submission can prevent early rejection

What can I do to ensure my paper is in the best possible state prior to submission?

- Ask colleagues to take a look and be critical
- Check that everything meets the requirements set out in the Guide for Authors – again!
- Check that the scope of the paper is appropriate for the selected journal – change journal rather than submit inappropriately
- Ensure that the literature cited is balanced, and that the purpose of the study and significance of results are clear
Cover letter

• This is your chance to speak to the editor directly
• Keep it brief, but convey the particular importance of your manuscript to the journal
• Suggest potential reviewers

This is your opportunity to convince the journal editor that they should publish your study, so it is worth investing time at this stage
Include:

• Editor name – Address to journal and editor, not generic
• First sentence – provide title, author list
• One sentence describe:
  • the main findings of your research
  • the significance of your research
• Confirm the originality of the submission
• Confirm that there are no competing financial interests
Revisions and Response to Reviewers
Submission: milestones

1. Submission
2. Review
3. Decision
4. Submission of revision
5. Review
6. Decision
7. Submission of final version
8. Review
9. Decision
10. Submission
## EcoMod stats

<table>
<thead>
<tr>
<th></th>
<th>Submitted</th>
<th>Final disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of articles</td>
<td>No. of articles</td>
</tr>
<tr>
<td></td>
<td>Subm. to 1st decn.</td>
<td>Auth. rev. time</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>552 (893)</td>
<td>508 (869)</td>
</tr>
</tbody>
</table>
Average publication time

- Editorial time
- Web production time
- Print Production time

<table>
<thead>
<tr>
<th>Year</th>
<th>Editorial Time</th>
<th>Web Production Time</th>
<th>Print Production Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>35</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>2010</td>
<td>25</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>2011</td>
<td>25</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>2012</td>
<td>25</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>2013</td>
<td>20</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
Post-referee revision

Carefully study the reviewers’ comments and prepare a detailed letter of response

- Respond to all points; even if you disagree with a reviewer, provide a polite, scientifically solid rebuttal rather than ignore their comment
- Provide page and line numbers when referring to revisions made in the manuscript
- Perform additional calculations, computations, or experiments if required; these usually serve to make the final paper stronger
Post-referee revision

• State specifically what changes you have made to address the reviewers’ comments, mentioning the page and line numbers where changes have been made.

• Avoid repeating the same response over and over; if a similar comment is made by multiple people explain your position once and refer back to your earlier response in responses to other reviewers or the editor.
Reviewer’s Comments: It would also be good to acknowledge that geographic routing as you describe it is not a complete routing solution for wireless networks, except for applications that address a region rather than a particular node.

**Author’s reply:** We agree and will add an appropriate caveat. Note that for data-centric storage (name-based exact-match and range queries for sensed events), the storage and query processing mechanisms "natively" address packets geographically – without a "node-to-location" database.
The description of the simulation exercise is very concise, and requires some effort by the reader to repeat.

| The description of the simulation exercise has been modified, especially the description of the model itself (1206-218). We added a flowchart to present the basic principles of the model following the suggestion of the second reviewer and added an appendix to present the response functions. Moreover we added details about the MC simulation and the Cholesky decomposition (1246-253) |

In the discussion I missed a description of the practical applicability of this approach or of the parameterized model for N2O predictions.

| We added a paragraph to discuss the practical application of the method in the discussion: 1430-440 |

"Practically, even if it is not possible to provide such a large number of measurements, this study emphasizes the need to focus spatial sampling effort on peak periods of N2O fluxes due to the transitory character of these fluxes. Accumulation chambers remain the most widely used technique for such measurements due to their simplicity. So a correct simulation of the flux distribution during the periods of large fluxes would enable improving the estimation of total flux without bias due to low sampling. A further step into the modelling of spatial variability of fluxes would then be to provide parameterization for the simulation of the distribution of soil variables with an agro-ecosystem model, before using these simulated distributions as input of the NOE model. This would in turn be useful to take into account the local spatial variability and measurement uncertainty in model up-scaling (Whelan and..."
Accepting rejection

Don’t take it personally!

• Try to understand why the paper has been rejected
• Evaluate honestly – will your paper meet the journal’s requirements with the addition of more data or is another journal more appropriate?
• Don’t resubmit elsewhere without significant revisions addressing the reasons for rejection and checking the new Guide for Authors
Ethical Issues
Unethical behavior includes:

• Multiple submissions
• Redundant publications
• Plagiarism
• Data fabrication and falsification
• Improper use of human subjects and animals in research
• Improper author contribution
Multiple submissions save your time but waste editors’

The editorial process of your manuscripts will be completely stopped if the duplicated submissions are discovered
Competing journals constantly exchange information on suspicious papers

You should not send your manuscripts to a second journal UNTIL you receive the final decision from the first journal
Redundant publication

An author should not submit for consideration in another journal a previously published paper

- Published studies do not need to be repeated unless further confirmation is required
- Previous publication of an abstract during the proceedings of conferences does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission
Redundant publication

• Re-publication of a paper in another language is acceptable, provided that there is full and prominent disclosure of its original source at the time of submission.

• At the time of submission, authors should disclose details of related papers, even if in a different language, and similar papers in press.
Plagiarism

“Plagiarism is the appropriation of another person’s ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of others’ research proposals and manuscripts”

Federal Office of Science and Technology Policy, 1999
Plagiarism

Plagiarism is a serious offence that could lead to paper rejection, academic charges and termination of employment. It will seriously affect your scientific reputation.

Unacceptable paraphrasing, even with correct citation, is considered plagiarism.
Plagiarism-corrective actions

Notice of violation – retraction of paper

Prohibition from publishing in periodical(s)

Rejection and return of papers in reviews and queues
Data fabrication and falsification

- Fabrication is making up data or results, and recording or reporting them.
- Falsification is manipulating research materials, equipment, processes; or changing / omitting data or results such that the research is not accurately represented in the research record.

“The most dangerous of all falsehoods is a slightly distorted truth”

G.C. Lichtenberg (1742–1799)
Conclusions

- Find the right journal
- Follow guide to authors
- Be clear, concise, and correct in the paper
- Seek feedback from colleagues
- Each paper is a learning and teaching opportunity

- Have Fun!
Conclusion: Getting Accepted!

Dear Dr. [YOUR NAME HERE],

I am pleased to inform you that your paper has been accepted for publication. Thank you for submitting your work to ...

Yours sincerely,
Editor-in-Chief
QUESTIONS?

THANK YOU FOR YOUR ATTENTION