Guidelines for reviewers

The aim of the review is to provide authors with constructive feedback from specialists, so that they can make improvements to their work.

Types of papers
Most papers are in one of these categories:

- **Research Papers**: these papers are fully documented, interpreted accounts of significant findings of original research.
- **Review Papers**: these are critical and comprehensive reviews that provide new insights or interpretation of a subject through thorough and systematic evaluation of available evidence.

General criteria
Your review will help the editor decide whether or not to publish the article:

- Does the paper provide insight into an important issue?
- Does the paper tell a good story?
- Is the paper interesting for an international audience?
- Does the insight from the paper stimulate new, important questions?

Your comments in the review

- Remember that authors will welcome positive feedback as well as constructive criticism from you.
- Your comments for the "Editor only" will NOT be sent to the author.
- Comments that will be transmitted to the author(s) do NOT reveal your identity.

Abstract, introduction and conclusion
Abstract

- Make sure that the abstract is informative, can stand alone and covers the content.
- A combination of the problem and the conclusions.
- Maximum length according to the Journal instructions.
- No figures or citations should be included here.

Keywords

- 3-6 keywords. Should be descriptive.

Introduction
It should

- state the objective, the problem - the research question to be addressed,
- provide a concise background: why the work was done,
- quote literature only with direct bearing on the problem - not a textbook,
- state a hypothesis – a suggested solution to the problem.

Conclusions

- This is the "take-home message" of the paper. Should be short and concise.
- Must be possible to derive from the results and discussion.
- It is not a summary of the paper.
- No references.

Read the abstract, introduction and conclusions

- Is there a clear message?
- Having read the introduction – can you find out what the contribution of the paper is? Try to formulate the message in your own words. This can be used later in the reviewer summary.
- Do the perceptions or hypotheses in the introduction match the conclusions?
- After this you will probably have a first impression of whether the paper is worth publishing or not. If you are still *positive*, then continue the review process. If you are *negative*, you can probably already explain why the paper is not worth publishing.

Detailed review
Materials and methods

- *Experiments*: are the experiments documented adequately? Have information about positive and/or negative controls, and the numbers of replicated experiments and/or samples been provided?
- *Model derivations*: is the process model derived properly? Is it already known?
- *Results*: are they presented so that you can easily see their significance? You may use a comment like: "*The paper would be significantly improved with the addition of more details about…"*
- Are concentrations shown with believable accuracy - or are they shown with too many significant digits?
- *Data analysis*: have statistics been used in an appropriate way? Is the raw data presented in such a way that you can see if the statistical method is adequate? Is the data normally distributed so that standard deviations are motivated? Are outliers discussed?
- *Figures*: Can the figures explain the results? Are the figure captions informative?
- *Tables*: are all the inputs in the tables necessary to understand the message?
- You may add comments like "*Overall I do not think that this article contains enough robust data to evidence the statement made on page X, lines Y–Z.*

Discussion

- Note that the discussion section makes the paper scientific! Can the author explain and interpret the results? Can you relate the discussion to the hypotheses?
  You may write a comment like "*This discussion could be enlarged to explain…"*
- Have the results been critiqued against the literature? Have any similarities and discrepancies with other published data been identified and accounted for?

Conclusions

- Can the conclusions be derived from the results and the discussions?

Check the references

- Have the author(s) done their homework with previous contributions?
- Compare the introduction with the reference list. Is it clearly indicated what is new in this paper?
- Are there both older and newer references?
- How many references? There ought to be 20-30 references in most cases.
- Are there any references that cannot be read by an English speaking reader? At most 1-2 references can be allowed (where appropriate) but should be queried.
- Is the author citing the original contribution or citing from a popular source?
- Make sure that the references cited in the text are included in the reference list.

Your recommendation

Ensure that your final evaluation corresponds to your answers in the review form questions; especially should you be considering major revision or rejection.

Your recommendation will almost surely be one of these:

- Reject (explain reason in your report)
- Accept without revision (remember that this is very unusual! Most papers can be improved in some way)
- Revise – either major or minor (explain the revision that is required, and inform the editor if you would accept to review the revised paper)