Reviews in Computational Biology

3. Peer Reviewing

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What is Peer-Review?

• Helps the authors improve their work

Internal reports  letters  documents in progress
lecture course materials  executive summaries
progress reports  CVs  websites
conference posters  Publications  job applications
grant & funding applications  talks & presentations
What is Peer-Review?

• Helps the authors improve their work
• Independent evaluation of an academic article, usually by an anonymous expert
• Helps the editor decide what to publish
Why Peer-Review?

• Be a good citizen
• Stay at forefront of research
• Sharpen your critical thinking skills
• Impress the editor
Duties as Referee

• Assess significance
• Verify accuracy
• Improve clarity
Significance

- Is the topic addressed important/interesting? (Does the review say why?)
- How original is the review? (compared with existing reviews of field?)
- Are the results reported significant?
Accuracy

- Are all claims backed by evidence?
- Are the evidences relevant/reliable/sufficient?
- Are methods/results appropriate and well-described?
- Is important relevant work omitted?
- Does the review suffer from any bias?
Improve Clarity

• Is the review well-organised?
• Do title/abstract accurately reflect content?
• Is there the right level of detail?
• Are there language issues or typos?
• Criticise the work, not the authors
• Mention also positive aspects
• Offer constructive criticism
• Don’t write things that you would not say in person
Reviewers’ Questionnaire

- Some Journals only
- Ask for a ranking, out of 100
- Questions include...

On a scale of 1 to 5
0 Fails by a large amount
1 Fails by a small amount
2 Succeeds by a small amount
3 Succeeds by a large amount
4 Not applicable
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2 Succeeds by a small amount
3 Succeeds by a large amount
4 Not applicable

Is the subject addressed in this article worthy of investigation?
Reviewers’ Questionnaire

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- Questions include...

On a scale of 1 to 5
0 Fails by a large amount
1 Fails by a small amount
2 Succeeds by a small amount
3 Succeeds by a large amount
4 Not applicable

Was the information presented new?
Reviewers’ Questionnaire

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• Questions include...

On a scale of 1 to 5
0 Fails by a large amount
1 Fails by a small amount
2 Succeeds by a small amount
3 Succeeds by a large amount
4 Not applicable

Are conclusions supported by the data?
Reviewers’ Questionnaire

• Some Journals only
• Ask for a ranking, out of 100
• Questions include...

Is there a financial, or other, conflict of interest between your work and that of the authors?
Reviewers’ Questionnaire

• Some Journals only
• Ask for a ranking, out of 100
• Questions include...

Please give a frank account of the strengths and weaknesses of the article
Iteration Process

- Reviewers’ comments to the Editor
- Authors make changes but respond with comments
- Revision with comments sent back to the reviewers
- Editor asks reviewers if they are happy?... If not repeat...
Normal Timescale

- Normally from 1 week to 1 month
- Repeated duration if iterated
- If delayed, the Editor might decide instead
Anonymity

• The rule not the exception
• Exceptionally some journals provide reviewers’ comments ...
Journal websites provide information
REVIEWER GUIDELINES

- About the journal
- Criteria for publication
- The review process
- Selecting reviewers
- Upon receiving a manuscript to review
- Confidentiality
- Writing the report
- Editing reviewer reports
- Timing
- Conflicts of interest
- Publication policy and ethical considerations

About the journal

CPT: Pharmacometrics & Systems Pharmacology is a cross-disciplinary journal devoted to publishing advances in quantitative methods as applied in pharmacology, physiology and therapeutics in humans. CPT: Pharmacometrics & Systems Pharmacology is an official journal of the American Society for Clinical Pharmacology and Therapeutics (ASCPT) and the International Society of Pharmacometrics (ISoP).

Criteria for publication

It is important that manuscripts are critically evaluated for compliance with the following criteria:

- report original scientific research (the main results and conclusions must be presented clearly and concisely)
- discuss the importance of the research in the context of current knowledge
- be written in clear, concise English
- be original, not previously published
- not be currently under review for publication elsewhere
- not infringe on the rights of others

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Guide for *Biology Direct* reviewers

This guide for reviewers contains information about basic considerations that should be applied when reviewing a manuscript that has been submitted to *Biology Direct*, and about the editorial standards of the journal. Other relevant information about the journal’s aims and scope and editorial policies can be found at ‘About *Biology Direct*’.

*Biology Direct* operates on an open peer-review system, so each of the reviewers’ comments accompanied by their name will be reproduced alongside the article, if published. The journal aims to publish all manuscripts that have attracted sufficient interest of Editorial Board members to result in 3 reviews. The reviews may be highly critical of the work or even outright negative, which in itself does not preclude publication should the authors decide to proceed. However, the reviewer also has the option to recommend rejection of manuscripts that have no scientific substance, or do not meet the standards of a scientific work.

**Points to consider**

Reviewers should refer to items under discussion using paragraph references (eg: Methods, third paragraph), rather than manuscript page numbers, as the pages numbers will not match the final version of the published article.

Reviewers are asked to mark minor comments (spelling, typographical errors, grammatical errors, stylistic suggestions etc) as "Minor issues not for publication" so that, once addressed, the author may remove them from the review.

1. **Is the question posed original, important and well defined?**
   The research question posed by the authors should be easily identifiable and understood. It is useful to both the editors and authors if reviewers comment on the originality and importance of the study within the context of its field. If the research question is unoriginal because related work has been published previously, please give references. Reviewers should ask themselves after reading the manuscript if they have learnt something new and if there is a clear conclusion from the study.

2. **Are the data sound and well controlled?**
Welcome to the **Springer Author Academy**, a guide from Springer and Edanz on writing and publishing.

The Author Academy contains dozens of pages offering detailed advice on:

- How to publish a journal article
- How to prepare a book manuscript
- Peer Review and what it means to an Author

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