Introduction

The peer reviewer plays a vital role in the process of publishing good science, ensuring that papers presented are valid, original and significant. *Rapid Communications in Mass Spectrometry (RCM)* operates a single-blind peer review process. It is the responsibility of the reviewer to offer an honest, thorough, and unbiased opinion, providing clear recommendations to enable a) the editor to make an informed evaluation, and b) to support the journal’s authors in the improvement of their research writing. The editorial team of *Communications in Mass Spectrometry* has formulated the following guidelines to assist referees in preparing efficient critiques.

Peer Review Process

There are two elements to the peer review process: the referee’s questionnaire and the narrative report.

Referee’s questionnaire

Answer ALL questions:

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Yes</th>
<th>No</th>
<th>See Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the manuscript contain new and significant information to justify publication?</td>
<td>⬜️</td>
<td>⬜️</td>
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<tr>
<td>Is the problem significant and concisely stated?</td>
<td>⬜️</td>
<td>⬜️</td>
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<td>Are the experimental and/or theoretical methods described comprehensively?</td>
<td>⬜️</td>
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<td>Are the interpretations and conclusions justified by the results?</td>
<td>⬜️</td>
<td>⬜️</td>
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<td>Is the summary (abstract) concise?</td>
<td>⬜️</td>
<td>⬜️</td>
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<td>Are the Literature citations adequate?</td>
<td>⬜️</td>
<td>⬜️</td>
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<td>Is the language acceptable?</td>
<td>⬜️</td>
<td>⬜️</td>
<td>⬜️</td>
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</tbody>
</table>

Manuscript Structure

Length of article is: Select...
Number of tables are: Select...
Number of figures are: Select...

Recommendation

- **Accept**: Positive responses to all questions. All review criteria for publication met.
- **Minor Revision**: Only format changes required. No changes to content or research.
- **Major Revision**: Inadequate research, material, results, or statistics. Requires major changes.
- **Reject**: Fails to meet scope, inadequate hypotheses/statistics, flawed experiments.

Select ‘Yes’ or ‘No’ for each question. To indicate that feedback is included in the Narrative Report, select ‘See Report’.

Insert length of article, number of tables, and number of figures.
Narrative report to the author

Use the questionnaire and your notes to create the narrative report. Elaborate on your reasons for selecting Accept/Minor Revision/Major Revision/Reject in the questionnaire. Give specific feedback that enables authors to improve their work, erring on the side of constructive criticism, rather than falsely positive reviews that may result in later rejection and disappointment. Your report should be written in simple neutral language, be adequately technical, and provide clear reasons that verify the authors’ claims, or expand on concerns regarding the suitability of the paper for publication. Avoid vague comments; offer concrete suggestions to overcome any flaws.

When suggesting revisions do not be overly demanding, or request unnecessary experiments. The revision timeframe is only 3 months, longer extensions may be granted in exceptional circumstances.

The narrative report should typically cover and contain the following:

**Summary:** Summarise what the paper is about and its key findings. Where does it fit within the existing scientific literature? Is it significant and novel, how/why? Report on the quality of the work. What are its strengths/weaknesses? Are there any significant points, such as a challenge to established scientific theories?

**Major issues:** Outline any flaws in the design, technology, figures or interpretation of the results. Indicate major revisions that require the author to re-do experiments, rewrite the discussion, or carry out additional research. Comment on any major factual errors, representational flaws, nomenclature, structure, and data presentation. If the findings contradict current scientific theory is there substantial evidence to support this? Are there similarities to previously published work that the author has not acknowledged? Are there any ethical issues?

**Minor issues:** Comment on any minor factual errors, ambiguity or unclear meaning. Are all of the citations present, correct and appropriate? Is there a full bibliography? Are figures/tables/diagrams correctly labelled or annotated? Comment where necessary, and if possible, on language and grammar.

Text corrections should be written as follows:
*Page 1, line 27: this sentence should terminate with a colon and (i) and (ii) each start on a new line.*

**Opinion:** Summarise your opinion of the work and suitability for the journal. Here is an example:

‘A scientifically significant paper that addresses inaccuracies in literature approaches. These are of particular interest to the readership of this journal. The manuscript requires modification of its tone and presentation to meet the stylistic criteria of the journal.’

Do not include your publication recommendations (accept, revise, reject) in the Narrative report for the author. Publication recommendations should be entered into the referee questionnaire and in the confidential comments to the editor, if they need to be further elaborated.

**Reviewing revised manuscripts:** The following additional points need to be considered when reviewing revised manuscripts:

a) **Do not raise new issues:** Reviewers should not raise issues that could have been noted in the original assessment of the manuscript; however, new concerns arising following the assessment of new data added during the revision are permitted.
b) Is the manuscript still up-to-date? Several months can elapse during the process of the revision. Reviewers should comment on whether any relevant work that published during this time has been overlooked, and whether the manuscript, including the reference list, is up-to-date.

Confidential comments to the editor

This is an opportunity to elaborate on concerns about the manuscript, or sensitive issues, such as scientific misconduct. Include any evidence omitted from the narrative report, for example, details that may compromise your anonymity. Did you assess the manuscript in its entirety? Identify the names of anyone who has input into the review.

Issues to consider prior to/during the review process

Conflict of Interest: To ensure that the peer review process is impartial and objective, reviewers should only accept an invitation to review if there is no conflict of interest. Conflict of interests may relate to commercial or financial gain, personal or professional relationships, or a direct impact on one’s own research. Potential conflicts should be assessed in respect to all authors listed on the reviewed manuscript, not exclusively the corresponding author. If you have been invited to review a paper and recognise a conflict of interest, you must immediately decline the review and notify the Editor.

Delegation: Reviewers may delegate part of the review process to members of their laboratory, with expertise in the study being considered. Where delegation has occurred, the invited referee should submit the names of those involved in the ‘Confidential comments for the Editor.’

Confidentiality: Treat all information as confidential. Reviewers may not use data from manuscripts for their own personal research/financial gain. Once a reviewer has submitted his/her report, any electronic/print copies of the manuscript in the reviewer’s possession must be destroyed.

Scope: When reviewing a paper consider the ‘bigger picture’. Is it of general interest to RCM readers, and therefore suitable for publication in RCM? Check that the study falls within the aims and scope of the journal. http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1097-0231/homepage/ProductInformation.html

Timeframe: If you are unable to review the paper within the given timeframe (3 weeks), please decline the invitation and/or suggest another reviewer. Note that extensions may be granted, please contact the Editor if you intend to submit your review beyond the submission deadline.

Considerations when reviewing a manuscript

Research objectives: Are the research objectives stated, and have they been met? (Are there any omissions?)

Study design, methodology and experiments: Is the paper methodologically sound with testable hypotheses? Comment on the validity of the experiments and the statistical methods used, noting any flaws (in logic, methods used etc.) Note the number of samples used in each experiment. Is the experiment reproducible?

Interpretation: Discuss all possible interpretations. Have the data been correctly analysed and interpreted?

Validity of conclusions: Are the authors justified in their conclusions? Do the data presented support the conclusions drawn?
Originality and significance: Comment on the importance and originality of the study. Is the research novel and innovative? Are the data new? How significant are the findings? State the strengths and weaknesses in the context of current published knowledge, indicating if the findings represent a significant advancement in the field, or reinforce our current understanding.

Current literature: Has the existing literature been adequately cited, discussed and referenced? Comment on whether the cited references are relevant, appropriate and up-to-date.

Plagiarism: Are there concerns about plagiarism? Identify whether elements of the paper have been previously published, or whether there are significant overlaps with other published papers.

Language and Presentation: Has the manuscript been presented clearly and logically? Is it of a suitable length? Does the title reflect the contents? Are there adequate tables and figures, are they clearly formatted? Have all of the supplementary material been included, is it essential, and should it be included in the main body of the paper? Is the paper well-written and the language of an acceptable standard?

While, strictly speaking, it is not the reviewer’s responsibility to correct language or copy edit the submission, highlighting obvious errors is appreciated.

Scientific Misconduct: Has good scientific practice been exercised? Identify research misconduct, such as data fabrication, falsification, plagiarism, image manipulation, unidentified authors.

Ethical Standards: If the study involves humans, human tissue or animals, was the study ethical and was approval gained? Detail suspected misconduct. All clinical investigations must have been conducted according to the principles expressed in the Declaration of Helsinki (http://www.wma.net).

Research article format

All research articles should adhere to the same format and include the following information:

Abstract: should be presented in four distinct sections: Rationale, Methods, Results and Conclusions. These should be concise and convey the significance of the work to a broad scientific audience. The abstract should not contain references. For more information on abstracts visit: http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1097-231/homepage/ForAuthors.html#WritingAbstracts

Introduction: Provides scientific justification for conducting the research and provides explicit hypotheses that are tested in the paper. Does it include a clear reason why the study is being conducted? Are there explicit hypotheses? The introduction should also include references to existing studies.

Experimental: All materials should be detailed in full, including their origins. Are appropriate methods used to test the hypotheses, including the sample size and all necessary details?

Results and discussion: These are the results from the study ONLY, and should not include references to existing studies and data. Results should be clearly and concisely documented as text, figures, graphs and tables. It should include details of all methods used, as well as supplementary material.
Further resources

Getting Peer review right: http://exchanges.wiley.com/authors/videos-and-webinars_654.html


Committee on Publication Ethics (COPE): Ethical Guidelines for Peer Reviewers:
http://publicationethics.org/resources/guidelines


Peer review: The nuts and bolts; www.senseaboutscience.org/resources.php/99/peer-review-the-nuts-and-bolts

Peer Review and Manuscript Management in Scientific Journals, by Irene Hames