

HOW TO WRITE A RESEARCH PAPER

APEX/JJAP Editorial Board

This introductory guide is aimed at researchers at the beginning of their careers intending to write papers for publication in APEX and JJAP. It will provide a few tips for writing papers on your research results.

1 Where to submit your paper

It is beneficial to decide on a target journal (APEX or JJAP) and type of paper (Letters for APEX; Regular Paper (RP), Rapid Communication (RC), and Brief Note (BN) for JJAP) at very beginning of your writing. This is useful because different journals and paper types have different scientific scopes and aims and different manuscript requirements in terms of length, style, and format. *By directly targeting your journal and paper type, you can ensure the right approach and speed up the manuscript preparation.*

2 How to construct your paper

A full length paper published in JJAP comprises the following components, and the main text is sectioned accordingly. Although Letters in APEX and Rapid Communications and Brief Notes in JJAP are not sectioned, the essential flow of presentation is usually the same in all types of paper.

Title

The title should be brief, but must be appropriate for the content, informative and clear. If the work is of interest in a limited area of research, indicate it in the title. Many people will read the title, but papers with poor or improper titles may never be actually read by the intended audience.

Authors

All your coworkers who have made significant scientific contributions to the research and have agreed to submitting the paper should be included as coauthors. *Every coauthor should be aware of the content of the paper and share appropriate responsibility for the work.* The affiliation at which the research work was conducted must be provided for each of the authors.

Abstract

The abstract concisely states the objectives and scope of research, and summarizes the results and principal conclusion gained in your research work. A well-written abstract, together with the title, enables potential readers to determine whether your paper is interesting and worth reading in full. Abstracts must be concise, generally presented as one paragraph, and the length should not exceed 150 words for JJAP regular papers, 100 words for APEX letters and JJAP short papers.

Introduction

The introduction is a critical part of your paper because it introduces the reasons behind your paper's existence. It must state the objectives and scope of your work, present what problem or question you address, and describe why this is an interesting or important challenge. It is important to introduce appropriate and sufficient references to prior works so that readers can understand the context and background of the research and the specific reason for your research work. Having explored those, the objectives and scope of your work must be clearly stated. The introduction may explain the approach that is characteristic to your work, and mention the essence of the conclusion of the paper.

Methods

The Methods section provides sufficient detail of theoretical and experimental methods and materials used in your research work so that any reader would be able to repeat your research work and reproduce the results. Be precise, complete and concise: include only relevant information. For example, provide a reference for a particular technique instead of describing all the details.

Results

The Results section presents the facts, findings of the study, by effectively using figures and tables. This section must present the results clearly and logically to highlight potential implications. Combine the use of text, tables, and figures to digest and condense the data, and highlight important trends and extract relationships among different data items. Figures must be well designed, clear, and easy to read. Figure captions should be succinct yet provide sufficient information to understand the figures without reference to the text.

Discussion

In the Discussion section, present your interpretation and conclusions gained from your findings. You can discuss how your findings compare with other experimental observations or theoretical expectations. Refer to your characteristic results described in the Results section to support your discussion, since your interpretation and conclusion must be based on evidence. By properly structuring this discussion, you can show how your results can solve the current problems and how they relate to the research objectives that you have described in the Introduction section. This is your chance to clearly demonstrate the novelty and importance of your research work.

Conclusions

The Conclusion section summarizes the important results and impact of the research work. Future work plans may be included if they are beneficial to readers.

Acknowledgments

The Acknowledgments section is to recognize financial support from funding bodies and scientific and technical contributions that you have received during your research work.

References

The References section lists prior works referred to in the other sections. It is vitally important from an ethical viewpoint, to fully acknowledge all previously published works that are relevant to your research. Whenever you use previous knowledge, you must acknowledge the source. Readers benefit from complete references as it enables them to position your work in the context of current research. Ensure that the references given are sufficient as well as current, and accessible by the readers.

3 Writing and editing

The following tips may be useful in writing the paper.

- You need not start writing the text from the Introduction. Many authors actually choose to begin with the results section since all the materials that must be described are available. This may provide good motivation for carrying out the procedure most effectively.
- Your paper must be interesting and relevant to your readers. *Consider what your readers want to know rather than what you want to write.* Describe your new ideas precisely in an early part of your paper so that your results are readily understood. Otherwise, do not use lengthy descriptions of the details. For example, writing too many equations and showing resembling figures or too much detailed tables should be avoided. Clarity and conciseness are extremely important.
- During and after writing your draft, you must edit your writing by reconsidering your starting plan or original outline. You may decide to rewrite portions of your paper to improve logical sequence, clarity, and conciseness. This process may have to be repeated over and over.
- When editing is completed, you can send the paper to your co-authors for improvement. When all the co-authors agree on your draft, it is ready to be submitted to the journal. It is worth performing one final check of grammatical and typographical errors.
- English correction of the manuscript by a native speaker is highly recommended before your submission if you are not a native speaker. Unclear description prohibits constructive feedback in the review process.

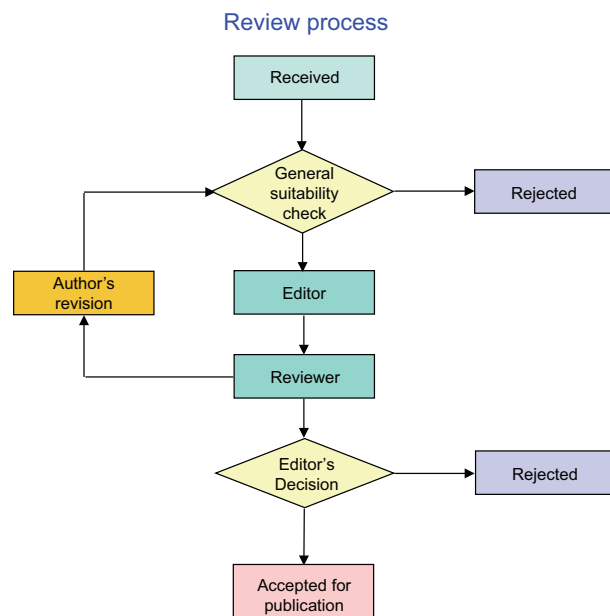
4 Peer review process

What is peer review

A paper submitted to the Journal is reviewed anonymously by independent experts in the field (peers) to determine whether the paper is suitable for publication. In the review process, the originality, technical quality, and impact of the research work are critically evaluated, and the editors of the journal then make a publication decision on the basis of reviewers' reports.

The peer review process helps editors to decide what to publish, and it ensures the quality and credibility of the papers. The reviewer will identify any fault in your paper and provide constructive feedback to you so that you can improve your work before publication. Other experienced researchers in the field provide this service to you, and as a good member of the scientific community, you are expected to reciprocate by reviewing papers when you become experienced in your research field.

A simplified flowchart of peer review is illustrated in the figure.



Roles of the editor and reviewer

When your paper is submitted to the journal office, a general check of the paper's suitability, such as the manuscript format and length, and the matching of research scope is conducted at the journal office. If it is judged to be suitable, the editor will ask a reviewer to evaluate your paper.

The reviewer is asked to evaluate your paper from a variety of aspects such as the novelty and originality of research, the importance and impact of results, the logic, style, length, and clarity of presentation, and the completeness of references. The reviewer provides a report including various comments and recommendations for improvement.

On the basis of the reviewer's report, the editor will make one of the following decisions on your.

- Accept for publication without revision
- Ask for minor revision for likely acceptance
- Request major revision for another review process
- Reject outright

Notification of review result

The corresponding author will be notified of the results of the review through an e-mail that will prompt the author to log onto the JJAP&APEX Online Submission System to view the detailed comments and further suggestions. If a minor or major revision is required or suggested, you are requested to complete it by the specified date.

If you are notified of the unacceptability of your paper, you are welcome to submit a new manuscript to JJAP or APEX after making major improvements or rewriting the paper in line with the reviewer's and editor's comments. Should you disagree with the decision of rejection, you can make one appeal against rejection in writing.

5 Manuscript revision and response to reviewer reports

When a revision is required, you should consider each reviewer's report very carefully and respond to each comment by adding new data or making editorial changes. If you disagree with the reviewer, you are not obliged to do what is asked, but you must provide a convincing explanation in your response. To maintain the journal's policy of timely publication, you are encouraged to finish your revision as promptly as possible. In particular, for APEX papers, you are requested to complete the revision within two weeks. If the revision cannot be finished within the journal's time limit, the manuscript will be regarded as having been withdrawn.

On submitting the revised manuscript, you are advised to attach a detailed point-by-point reply to all the reviewer's recommendations and comments together with a list of the manuscript changes you have made. The simplest procedure is to copy each of the reviewer's comments and present your response immediately after. It will be helpful to the reviewer if the locations of manuscript changes are indicated, for example, in the attached second copy of the manuscript with the changes highlighted. These documents will normally be forwarded to the reviewer. It is recommended that you start a reply by thanking the reviewer for their insightful and helpful comments. Then you should always be respectful in explaining the details of and reasons behind the revisions you have or have not made.

Your revised manuscript will be checked by the editor. If major amendments were requested, your paper will be sent to the original reviewer for another evaluation. If the reviewer is satisfied with your revision, the paper will be accepted for publication by the editor. If your revision is unsatisfactory, the reviewer and editor may request further improvement. Letters submitted to APEX are allowed only a single revision because of the strict policy of prompt publication, and Letters judged to require major revisions will be rejected.

6 Ethical issues in paper writing

Co-authorship

All individuals who made significant scientific contributions to the research work should be given the opportunity to be included as coauthors. Other persons who contributed to the study should be acknowledged, but need not be identified as coauthors. *Every coauthor should be aware of the content of an article to be submitted, agree to its submission, and share appropriate responsibility for the work.* Any individual unable to take appropriate responsibility for the article should not be included as a coauthor.

Duplicate or multiple submission

Duplicate or multiple submission is the most common ethics violation encountered. It is unethical for authors to publish articles describing essentially the same research result in more than one journal. *It is also unacceptable for authors to submit the same manuscript concurrently to more than one journal.*

Fabrication or falsification of data

The fabrication or falsification of data or reporting of intentionally selective data to mislead or deceive the readers is a serious departure from professional conduct. Authors should strive to prevent misrepresentation of their data and the inclusion of the data or research results of other works without permission from the original authors or publishers.

Plagiarism and self-plagiarism

Authors should not use, without attribution, text, concepts, data, figures, or tables from another work published either by others or by themselves. Plagiarism of others' works and self-plagiarism are serious breaches of ethics and are not tolerated. If a direct quotation is appropriate, the original source should be properly cited. Figures, tables, and other images reproduced from another source normally require the publisher's permission.

Conflict of interest

Any potential conflicts of interest (e.g., employment, stock ownership, patent licenses, etc.) should be reported to the editorial office. These include personal, academic, political, financial and commercial gains.

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