



INTRODUCTION

Journal editors rely on peer reviews to help them judge the value of a technical article and determine whether it should be published. This brochure provides an overview of the steps involved in reviewing a scientific manuscript as well as the objectives. It will demystify the process for early career researchers who are just starting to conduct peer reviews. Likewise, more senior reviewers may benefit from a refresher on the best practices for ensuring a constructive and ethical review of scientific research.

OVERVIEW

Key to the review process is the skeptical attitude reviewers are asked to take when approaching the information under review. Reviewers are asked to comment on the originality, correctness, and importance of the work being reported. Authors benefit from the review process by receiving constructive feedback from their peers, often resulting in substantial improvements in their papers—whether they are ultimately published by OSA or not. The review process benefits authors, readers, and the scholarly community by ensuring that high quality, original research and information is available to absorb and build upon for future work.

Reviewers are selected by journal editors to assess papers based on the potential reviewer's experience, expertise, and academic integrity. OSA's editors seek to obtain two reviews for each manuscript that clears the initial editorial review step. This ensures fair consideration, with thoughtful, useful reviews from active scientists in the technical field appropriate to the manuscript. The objective is a better manuscript and a more valuable addition to the scientific body of knowledge.

If you are an active participant in the larger scientific community, then you should not only publish your own research, but you should regularly review other researchers' work as well. Reviewers benefit from learning about the latest results in their field, being able to think deeply about interesting research, experiencing different writing styles, and expanding their universe within the field. Herein are a number of considerations and guidelines to keep in mind as you take on the important role of reviewer.

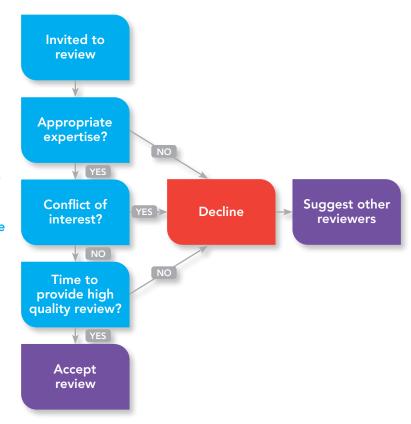
Your goal should be to complete a thoughtful and timely review. Consider the type of review that could help you improve one of your papers.

PRE-REVIEW STEPS

- 1) Consider the peer review request and inform the editor of your decision as soon as possible.
 - Does your expertise match what the editor is looking for?
 - Do you have a potential conflict of interest? Discuss with the editor.
 - Do you have time to provide a high quality review?
- 2) If you must decline the request, recommend to the editor colleagues or other individuals who would be qualified to review the paper.

3) Review the journal's guidelines.

- Journals require that you rate the manuscript based on criteria that differ from journal to journal.
- Make sure your ratings, comments, and recommendations on any review feedback form support and affirm the peer review narrative you provide.



ETHICAL CONSIDERATIONS

1) Conflict of Interest

- The editors expect to receive unbiased reviews. A reviewer should inform the editor of any current or recent collaborations or any other personal or professional relationships that may compromise the ability to provide an independent and unbiased evaluation of the manuscript.
- Editors and reviewers should not become a co-author of the manuscript under review.

2) Confidentiality

- The reviewer's identity should not be revealed to the author.
- Reviewers should not use information contained in an unpublished manuscript.
- The manuscript should neither be shown to nor discussed with others, except in special cases to persons from whom specific advice is being sought. In that event, the reviewer should alert the editor and maintains responsibility for ensuring confidentiality.

OSA's full Ethical Guidelines can be found at www.osapublishing.org/ethics



OSA encourages you to review at least two papers for every paper you submit so that you share in the scientific dialogue in your community.

PEER REVIEW STEPS

Initial Review: Skim the manuscript and write a short summary of the research question addressed. The summary will help clarify the main points of the paper in your own mind. Consider these questions:

- Is the work an original contribution?
- Is the technical content of the manuscript sufficient?
- Is the author's approach reasonable?
- Are the conclusions adequately supported?
- Is the manuscript appropriate for the journal?
- Is the research interesting and important?
- Does the manuscript advance the field in a substantive way?
- Overall, is the manuscript publishable?
 - If not, write a narrative with your reasoning, providing clear evidence to support it, and conclude your review here.
 - If so, continue with a detailed review. Your comments should convince the editor that the manuscript is worthy of publication.



Detailed Review: Read the manuscript again from start to finish and evaluate it in more detail.

- Pay attention to:
 - Assumptions and methods
 - Underlying theoretical frameworks
 - Conclusions and how they are supported
- Include positive and negative aspects of the manuscript.
 - If making a criticism, avoid using harsh or insulting language. The purpose of the review is to improve the quality of the manuscript, not to create animosity.
 - The review should be an objective assessment based on the facts of the manuscript, not prior history of the authors or their institution.
- Offer concrete, actionable ways to address any problems.
- Evaluate the manuscript's organization and logical flow.
- Check that all necessary references, data, and background material are present.
- Ensure that the mathematical equations are correct.
- Organize your points clearly and logically, using separate paragraphs or numbered comments to make each point stand out.
- Be very clear on what action(s) you want the author to take based on your comments. You may want the author to:
 - o Do nothing. Although, it is rare for a paper to be publishable as-is.
 - ° Perform optional changes. In this case, your suggestions might improve the manuscript in some way, but are not required for you to recommend publication.
 - Perform required changes. In this case, there are serious problems in the manuscript requiring minor or major revisions that must be addressed before you would recommend publication.



FINAL STEPS

- Make sure your review report is clear and complete.
- Submit your review to the editor through OSA's article tracking system and complete the feedback form.
- Reviewers have the option of providing confidential comments to the editor in addition to the comments for the authors.

OTHER CONSIDERATIONS

Be sure to keep your OSA profile up to date and complete with your contact information and areas of expertise (https://account.osa.org).

• Profiles are used to match manuscripts with appropriate reviewers.

Please respond promptly to a review request through OSA's article tracking system.

- If you are unable to review the manuscript, the editor will contact another reviewer immediately.
- If your response is delayed, peer review of the article will be delayed.

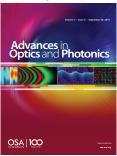
You can recommend rejection of a manuscript if the English is difficult to understand. It is not the reviewer's responsibility to correct language errors.

• OSA works with a professional service that offers fee-based language editing assistance to authors. Authors can access this service at https://languageediting.osa.org/

OSA JOURNALS—UNDERSTANDING THE DIFFERENCE

Visit each journal's website for complete journal scope descriptions. www.osapublishing.org

aop.osa.org



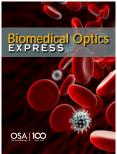
Comprehensive review articles and tutorials

ao.osa.org



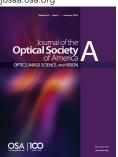
Applications-centered research

boe.osa.org



Open access, biomedical optics

josaa.osa.org



Classical optics, image science, and vision

josab.osa.org



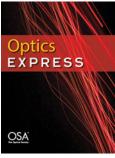
Interaction of light with matter

optica.osa.org



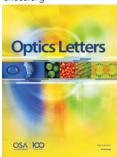
Open access, rapid dissemination of highimpact results in all areas of optics and photonics

oe.osa.org



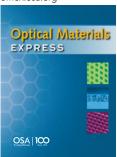
Open access, scientific innovations in all fields of optics

ol.osa.org



Letters format, rapid dissemination of new results—general optics

omex.osa.org



Open access, advances in optical materials

osac.osa.org



Open access, inclusive format covering all areas of optics and photonics

ABOUT OSA

Founded in 1916, The Optical Society (OSA) is the leading professional organization for scientists, engineers, students and entrepreneurs who fuel discoveries, shape real-life applications and accelerate achievements in the science of light. Through world-renowned publications, meetings and membership initiatives, OSA provides quality research, inspired interactions and dedicated resources for its extensive global network of optics and photonics experts. For more information, visit **osa.org**.



2010 Massachusetts Ave., NW Washington, DC 20036 USA

Tel: +1 202.223.8130 Fax: +1 202.223.1096

info@osa.org

