PEER REVIEW EXCELLENCE ONLINE COURSE

At IOP Publishing we offer an online course in Peer Review Excellence. We recommend this training to early career researchers, but it is freely available to anyone working in the physical sciences. This comprehensive training course is designed to give researchers the tools and confidence to review well. The course covers the fundamentals of peer review, how to write a review and peer review ethics. Our Peer Review Excellence course takes 1–2 hours to complete.

If you pass the course, you will be fast-tracked towards IOP Trusted Reviewer status and be badged as a training graduate on our reviewer selection system, making it more likely that you will be selected to review.

You can register for free here: Peer Review Excellence.
## RECEIVING A REVIEW INVITATION

Should you accept this review invitation? Ask yourself the following questions:

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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<tr>
<td><strong>Am I an expert?</strong></td>
<td>Do you know the field well enough to be able to assess the scientific rigour, novelty, quality and importance of the research? You don’t need to be an expert at all aspects of the paper, but be honest about your expertise and if there are aspects of the article that you feel you cannot assess, let the editor know in the “comments to the Editor” section of the report form.</td>
</tr>
<tr>
<td><strong>Do I have a conflict of interest?</strong></td>
<td>Reject the invitation if you are: in direct competition with the authors; a co-worker, collaborator or have a personal relationship with one of the authors; affiliated with the same institution as one of the authors; in a position to exploit the authors’ work (commercially or otherwise) OR in a position which prevents you from giving an objective opinion of the work.</td>
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<tr>
<td><strong>Can I meet the deadline?</strong></td>
<td>You can ask for more time if you need to, but give the journal a realistic timeframe for preparing your report. Do you have time to review the revised version of the paper too?</td>
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<tr>
<td><strong>Can I be objective?</strong></td>
<td>Are you aware of your own biases? Can you remove subjective preferences and focus on the science, providing a constructive and fair report? If not, you should reject the invitation.</td>
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**Make sure you do the following:**
1. Respond to an invitation as soon as possible
2. Be honest about your availability
3. Suggest alternative reviewers if you can’t review

**Co-review**

IOP Publishing is pleased to support co-review across our journals. Co-review allows two people to collaborate on a review with both receiving recognition. This is a great way to help one of your colleagues, especially more junior ones, gain experience as a reviewer. For more information see our [co-review guidelines](#).
**HOW TO WRITE A REVIEW**

Structure of an excellent review:

**Comments to the editor/s**
These comments will not be shared with the authors. Use this section if there is anything you want to say that would not be appropriate to tell the authors. If you suspect any form of author misconduct, mention it here.

**Comments to the author/s**
The following is a good way to structure your review.

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**Summary**
Open your review with a summary of the manuscript and its findings. This shows the authors and editors of the journal that you have read and understood the work.

**Comments on the manuscript**

- Organise your comments into ‘Major points’ and ‘Minor points’ where applicable.
- Comment on the originality, scientific rigour, significance and clarity of the work.
- Compare the manuscript to existing literature. Check that the authors have cited the most relevant and recent appropriate work.
- Make your review as thorough as possible by commenting on all sections of the manuscript. For example, you could structure your comments using manuscript section headings such as: “Abstract”, “Introduction”, “Methods”, “Results and Discussion”, “Conclusion” and “Supplementary material” (as appropriate).
- Familiarise yourself with the editorial standards of the journal and comment on whether the manuscript meets those standards.
- Make sure that your recommendations are specific enough for the authors to follow.
- It is helpful to number your points. This can make it easier for the authors to respond to your comments and when checking the revised manuscript.

**Recommendation**
At the end of your review, make a recommendation to the editor. Clearly state and justify your recommendation. This means explaining why you have chosen the reject/revise/accept option.
Making a recommendation
The exact recommendations available to you will vary by journal, but in most cases you should be able to choose from the following four options:

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<tr>
<th>Option</th>
<th>Description</th>
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<tr>
<td>Accept</td>
<td>It is very unusual for a paper to be accepted without needing any revisions. If you recommend acceptance, provide detail justifying why this is the case, rather than a short remark such as “this paper is perfect, I recommend that it be accepted”.</td>
</tr>
<tr>
<td>Minor revisions</td>
<td>A recommendation of minor revisions suggests that the manuscript will be ready for publication if the authors make small changes and clarifications to the text. Minor revisions include things such as referencing queries, clarifying parts of the manuscript that might not be clear, adding in extra details and amending the abstract.</td>
</tr>
<tr>
<td>Major revisions</td>
<td>A recommendation of major revisions should be made if you do not think that the manuscript is publishable in its current form, but you believe that if the authors make substantial changes to the way they report their research, then it could be publishable. Major revisions include substantial re-writes, re-doing analyses or doing extra analysis, adding extra tables and figures, and substantially editing the text for language.</td>
</tr>
<tr>
<td>Reject</td>
<td>Based on the scope and requirements of the journal, and your assessment of the quality of the manuscript, you do not believe that the manuscript should be published in this journal. It is important that your review justifies the rejection recommendation. Let the editor know if you think the paper could be suitable for transfer to another journal.</td>
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</table>
Quality assessment

When reviewing for an IOP Publishing journal, you will typically be asked to score the article on a number of different aspects. You can read the full classification of these scores in the Quality Assessment Breakdown. Individual journal guidelines may vary, so do check the journal-specific guidance. The aspects you may be asked to comment on include:

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<th>Description</th>
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<tr>
<td>Originality</td>
<td>A measure of the novelty of the ideas and techniques reported in the manuscript compared to the existing literature.</td>
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<tr>
<td>Scientific rigour</td>
<td>A measure of how well the experiment has been carried out; whether all necessary details of the method and results are presented in a way that they can be reproduced; and whether the results have been appropriately analysed and discussed.</td>
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<tr>
<td>Significance</td>
<td>A measure of the likely impact of the results presented within the article’s field.</td>
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<tr>
<td>Clarity</td>
<td>A measure of the quality of writing within the article and how well the authors have conveyed the information.</td>
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Language

Reviewers are not expected to correct spelling, grammar or use-of-English mistakes, as most journals have copy editors who can correct minor problems with language. However, if the paper is written so poorly that you cannot clearly understand what the authors mean, or there are so many errors that reading the paper becomes very difficult, then that should be reported back to the journal.
PEER REVIEW RECOGNITION

How we rate reviews
Our editors rate all of the reviews we receive on a scale of 1–5, with 5 representing a review of outstanding quality. This link will take you to a full breakdown of the Reviewer report ratings. These are the criteria to have a report rated 5 out of 5:

<table>
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<tr>
<td><strong>Thoroughness</strong></td>
<td>Detailed and very thorough: comments on essentially all sections of the manuscript.</td>
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<tr>
<td><strong>Assessment of significance</strong></td>
<td>Comments on the significance of the work within the context of the field.</td>
</tr>
<tr>
<td><strong>Literature comparison</strong></td>
<td>Includes a comprehensive comparison with existing literature.</td>
</tr>
<tr>
<td><strong>Feedback quality</strong></td>
<td>Constructive feedback that enables the author(s) to improve the article.</td>
</tr>
<tr>
<td><strong>Recommendation</strong></td>
<td>Recommendation is clearly justified and consistent with the journal’s editorial standards.</td>
</tr>
<tr>
<td><strong>Timeliness</strong></td>
<td>Submitted in the agreed timeframe.</td>
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IOP Trusted Reviewer status
Any reviewer who submits a report rated 5 will achieve IOP Trusted Reviewer status and become eligible for our annual Outstanding Reviewer Awards. If you gain trusted reviewer status or have highly rated reviews, you will be more likely to be selected to review again.
PEER REVIEW ETHICS

For more information, see our current ethical guidance for peer reviewers.

Anonymity
All IOP Publishing journals use either single- or double-anonymous peer review, or both. This means the authors should not know the identity of the people reviewing their paper. Please keep your review anonymous.

Self-citations
Reviewers are expected to point out relevant work that has not been cited, and use citations to explain where elements of the work have been previously reported. When writing a report, reviewers should justify any literature references suggested for inclusion in the work. Citations should add value, and should not be unfairly biased towards an individual, group or organisation. Please note that the editor reserves the right to challenge excessive citation suggestions, especially to the reviewer’s own work. The practice of including superfluous references, including to the reviewer’s own work, to promote and inflate citation scores is unethical. The editor reserves the right to exclude citation suggestions from reports if these are considered to be potential acts of citation manipulation, and/or to protect reviewers’ anonymity.

ChatGPT and other large language models
IOP Publishing does not accept or condone the use of AI chat bots or other large language models to write peer review reports. Large language models are not subject matter experts and cannot take responsibility for any text that they create. They also cannot comprehend the ethical responsibilities associated with creating review reports. Finally, large language models do not consistently provide accurate scientific information or effectively back up assertions with correct references.

Suspected author misconduct
Reviewers should report any suspicions of misconduct to the journal staff for investigation. This includes, but is not limited to, suspicions of:

- Plagiarism
- Duplicate publication
- Parallel submission
- Data fabrication falsification
- Image manipulation
- Incorrect authorship
- Author conflict of interest
- Unethical research practices
- Content that could be considered offensive

We follow the COPE guidelines on responding to whistleblowers, which includes protecting their anonymity.
FAQs

How long will I have to submit my review?
You will be told the deadline to submit your review by the journal, but at IOP Publishing it is normally 2 weeks. This is a compromise between giving reviewers enough time to review and ensuring an efficient peer review process for our authors. If you need more time to submit your review, please ask for an extension. If there is a change of circumstances and you are unable to review, please let us know as soon as possible so we can reduce delays for the authors.

What should be the length of my reviewer report?
This depends on the manuscript being reviewed. It is not necessary to write pages and pages of analysis, but make sure you have included enough information to show us that you have understood the manuscript, given detailed constructive feedback and justified your recommendation. Outstanding reviews (rated 5 out of 5) tend to be at least one page of A4 in length.

How many people will review a manuscript?
Normally, two people will review a manuscript, but these reports might be supplemented by editorial board members or other experts.

What happens if the reviewers disagree on the outcome of a manuscript?
If the reviewers do not agree, the journal may consult an adjudicator. An adjudicator is a senior reviewer or editorial board member. They are asked to provide an opinion on both the article and the reviews. If an editorial board member is consulted, they may be told the names of the reviewers to help them make their decision, but the authors will still only see anonymous reports. The adjudicator may agree or disagree with your assessment of the article. If an adjudicator has been consulted, you may receive the adjudicator’s comments with any revised version of the manuscript that you are asked to review. You should consider all reports during your assessment of the revised version.
What are revised manuscripts?
When authors receive major or minor revisions they will amend their manuscript based on the reviewers’ comments and then send it back to the editor for reconsideration. This is called a revised manuscript. The revised document will be sent back to one or all of the original reviewers. If you agree to peer review a revised manuscript, the recommendation options will be more limited (accept, minor revisions, or unsatisfactory revisions). At this point it is highly unusual for the reviewer to suggest completely new revisions. Instead, you are assessing whether the author has sufficiently amended the manuscript based on the reviews they received.

Who should I contact if I have questions?
You should contact the journal inbox, which can be found on each journal webpage, if you have any questions about reviewing the manuscript. Alternatively, you can reply to the email invitation. More general questions about peer review at IOP Publishing can be directed to the Peer Review Engagement team, peerreview@ioppublishing.org.