

How to Peer Review/How to Get Published

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So..... you want to be a peer reviewer?

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Outline

- What is peer review?
- Single-anonymized vs. double-anonymized vs. open peer review models
- When should you accept a peer review invitation?
- When should you not accept a peer review invitation?
- What is expected of peer reviewers?
- Problems with peer review
- Is peer review perfect?
- A few tips for peer reviewers



What is peer review?

- In the context of scientific publications, peer review is the review of a submitted manuscript by someone in the same or a related field who is competent to evaluate the science.
- Peer reviewers are generally invited by journal editors and/or associate editors based on credentials.
- Peer reviewers are often member of a journal's Editorial Board, who are chosen to serve in this role due to their expertise in a specific area.



Single-anonymized vs. double-anonymized vs. open peer review models

- Most peer review in toxicology-related journals is conducted as “single-anonymized” peer review
 - In this instance, the reviewers know the identity of the authors submitting the manuscript, but the authors are not told of the reviewers’ identity.
- In the double-anonymized model, both the authors and reviewers keep their anonymity (only the editorial staff knows the identity of the authors and the reviewers).
- In open peer review models, at some point the peer reviewer(s) are made known to the authors.
 - Reviewer name, and possibly the review itself, will be made public



Pros and cons: Single-anonymized vs. double-anonymized vs. open peer review

- Single-anonymized
 - Advantage: Reviewers can be critical and honest without fearing retaliation.
 - Disadvantage: Reviewers can be unconstructive, unfair, or impolite in their comments.
 - Disadvantage: Risk of bias—reviewer may give a hyper critical or unfair review to someone perceived as a rival.
- <https://authorservices.taylorandfrancis.com/publishing-your-research/peer-review/types-peer-review/>



Pros and cons: Single-anonymized vs. double-anonymized vs. open peer review

- Double-anonymized

- Advantage: Less risk of conscious or unconscious bias
- Disadvantage: Authors might not **really** be anonymous
 - Use of language such as “In the past, our lab showed.....”; “These data are consistent with previous results from our lab in a cancer cell line.” etc., with citations of the previous work in a manuscript.
 - If both author or reviewer are in the same field, the reviewer may have heard the author give a talk on the same topic at a meeting, or they may recognize the author’s writing style.
- Disadvantage: Reviewers can be unconstructive, unfair, or impolite in their comments



Pros and cons: Single-anonymized vs. double-anonymized vs. open peer review

- Open peer review
 - Advantage: Authors might receive more polite and constructive reviews, as they will eventually know the identity of the reviewer.
 - Disadvantage: Reviewers may decline review invitations because they don't want their identity and/or review comments made public.
 - Disadvantage: Reviewers may give an overly favorable review if they don't want to appear critical and/or do not want to offend the authors.
- <https://authorservices.taylorandfrancis.com/publishing-your-research/peer-review/types-peer-review/>



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When should you accept a peer review invitation? Or not?

- The question to ask yourself: “Do I have a vested interest in whether these data are published?”
 - Do you have an actual or apparent Conflict of Interest (COI)?
- Stated another way: “Will you benefit positively or be negatively affected by publication of the paper?”
 - If “NO”, and you have a reasonable amount of knowledge about the topic of the paper, then it’s fine to accept the invitation.
 - If you will not benefit positively or be negatively affected by the publication of the paper, but are not knowledgeable in the subject matter, then you should decline.
 - Do not accept a peer review invitation to learn new material.
 - If you are doing research in a very closely related area, and the authors are going to beat you to publication, you have a COI and should decline.



When should you accept a peer review invitation? Or not?

- **IMPORTANT:** Editors may not know that a prospective reviewer has a personal or professional relationship with an author.
 - It's up to you to be transparent and accept or decline accordingly.
- When authors are asked to identify referred or nonpreferred reviewers when submitting a manuscript, COI is almost impossible to avoid
 - For this reason, many journals are getting away from asking authors to provide names of preferred or nonpreferred reviewers.



Outline

- What is peer review?
- Single-anonymized vs. double-anonymized vs. open peer review models
- When should you accept a peer review invitation?
- When should you not accept a peer review invitation?
 - Conflicts of interest
- What is expected (and not expected) of peer reviewers?
- Problems with peer review
- Is peer review perfect?
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What is expected of peer reviewers?

- Timeliness
 - If time is an issue, either decline or ask the Editor if you can have an extension of the time to review.
- Rigor
 - Carefully **read the paper**, and evaluate figures, methods, statistical analyses, supplemental files, etc., looking for the following:
 - Novelty (this requires a reviewer to look at literature on the topic and ensure that the data add to the field)
 - Correct conduct of experiments (e.g. proper controls)
 - Ethical conduct of studies
 - Adequate sample sizes
 - Adequate biological and experimental replicates
 - Effective and transparent presentation of data
 - Proper statistical analyses
 - Plausible interpretation of data
 - Do not simply assume that a paper is acceptable *a priori* if the author is well-known in the field.
- Impartiality (no COI)



What is NOT expected of peer reviewers?

- Recommendation in the written review as to the suitability of the manuscript for publication
 - There is a specific field in the online review for your recommendation; *please do not state this recommendation in your written comments!*
- Correction of English, grammar, etc.
 - Editors and copyeditors hold these responsibilities.
 - Feel free to comment that the English presentation needs improvement, typically in a confidential comments to the Editor field.
 - If poor English presentation limits the reviewer's ability to evaluate the science, immediately bring this to the Editor's attention.



Problems with peer review

- Conflicts of interest—actual or apparent
- Reviewer ennui
- Reviewer self-aggrandizement
- Research misconduct



Problems with peer review

- Conflicts of interest—actual or perceived
- Reviewer ennui
 - ***SO MANY PAPERS TO REVIEW!!!***
 - ***So many journals looking for reviewers***
- Reviewer self-aggrandizement
 - Perception that reviewing is power; recognition (Publons, etc.)
- Research misconduct
 - “One bad apple.....”



Research misconduct

Fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results

(<http://ori.hhs.gov/definition-misconduct>)

- Bad for the fields of study

- Alzheimer's drugs targeting A β (Schrage investigation of images published by Lesné)
 - Science 377(6604), 22 July 22. "Some Alzheimer's experts now suspect Lesné's studies have misdirected Alzheimer's research for 16 years."
- Glyphosate controversy
 - Retracted paper: Séralini GE, et al. Food Chem Toxicol. 2012 Nov;50(11):4221-31. Retraction in: Food Chem Toxicol. 2014 Jan;63:244. PMID: 22999595.
 - Regulatory disagreements—active ingredient or formulation issues

- Bad for the individual scientist

- Manuscript retractions (clearly discoverable in PubMed)
- Loss of reputation
- Loss of funding



If you suspect research misconduct.....

Contact the Editor immediately

- This will be an anonymous communication—the authors will not learn who “reported” them
- Provide any supporting documentation that you can
 - E.g. duplicate publication of data in another paper that is already published
 - Re-use of a previously-published image without proper permission
 - In these or similar situations, please provide the editor with citations of the previously published work.



Is peer review perfect?

- For the most part, peer review is rigorous and effective.
- Can have problems
 - When papers are judged on reputation of authors, not actual content
 - When data are falsified in ways that peer reviewers cannot judge
 - Image manipulation (micrographs, western blots)
 - Selective culling of data by authors—when is an outlier really an outlier?
 - When reviewers accept invitations to review papers which they are not qualified to review
 - When in doubt, decline a review



A few tips for peer reviewers

- Start your comments to the authors with a summary of what you understood to be the main goals and findings of the study (a couple of sentences)
- Mention major concerns (ideally by line number or section of the paper)
- Follow with minor concerns
- Use the “Confidential comments to the Editor” panel to make comments that you want only the editor to see (e.g. a comment that might make the authors feel bad).



A few tips for peer reviewers

- Indicate your recommendation by checking a box; do not mention your recommendation in your written comments to the authors.
 - General guidance for recommendations:
 - “Major revision”: more experiments are needed, or significant re-analysis or re-interpretation of data are needed
 - “Minor revision”: some re-writing or re-organization of material in the paper is needed; perhaps additional references are needed
 - Reject: Unresolvable flaws
- If you choose to indicate comments using track change in the Word version of the manuscript, please de-identify yourself (change this setting so that your name does not appear).



Do you *still* want to be a peer reviewer?

- For *Int J Toxicol*, contact me, or sign up via the ACT website: <http://www.actox.org/journal/become-a-reviewer.asp>
- For your favorite journal, or for one that solicits your reviews frequently, respond to the Editor or Associate Editor who invites you



Int J Toxicol review site view

Would you be willing to review a revision of this manuscript?

- ☐ Yes
☐ No

* Recommendation

- ☐ Suitable for Publication without Changes
☐ Suitable for Publication with Minor Change
☐ Suitable for Publication with Major Change
☐ Not Suitable for Publication
☐ Insufficient New Information to Warrant Publication

Confidential Comments to the Editors

Special Characters

* Comments to the Author

Special Characters

Attach Files

Drop files here or click, to begin. (Max of 10 at a time)

No Files Attached

Save as Draft

Save & Print

Submit Review

Summary

- Thank you for your interest in the peer review process!
- Be aware of potential conflicts of interest in accepting review invitations.
- Be critical, rigorous, and courteous in your review.





International Journal of Toxicology (IJT) offers academic, industry, and regulatory toxicologists, as well as toxicology consultants, timely, peer-reviewed, multidisciplinary articles and incisive reviews on contemporary issues in toxicology, plus safety assessments, novel approaches to toxicological testing, mechanisms of toxicity, biomarkers, and risk assessment. Each issue of IJT provides an important forum for articles that promote basic toxicology research, as well as those that facilitate and improve toxicology practice.

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Signature Webinar



Tips for getting published

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Professor and Graduate Program Director, University of Cincinnati

Outline

- When should you submit?
- Selecting an appropriate journal
- Formatting your manuscript
- Submitting your manuscript
 - Key words
 - Preferred/nonpreferred reviewers
 - Conflicts of interest—actual or apparent
 - ORCID numbers
 - Corresponding author
- OK—the manuscript is submitted—now what?
- Responding to reviewer comments
- Final decision on manuscript



When should you submit?

- Is there sufficient content to make a real “story”?
- Have you performed appropriate numbers of replicates?
 - Do not assume that you can continue experiments and add more data when the manuscript comes back for revisions
- Journals vary in their expectations of number of figures/tables
 - Look at journals that you respect and see what seems to be the norm



Selecting an appropriate journal

- **IMPORTANT!!!**
- What journal(s) do you read often?
- Where do scientists in your field publish?
- Thoroughly read Submission Guidelines/Author Information for candidate journals
- Avoid predatory journals
- Open access vs. traditional subscription model



Selecting an appropriate journal

- “Fun fact”:



Selecting an appropriate journal

- “Fun fact”: By far, the most common reason for manuscripts to be rejected without peer review by *Int J Toxicol* is due to manuscripts being outside of our scope.
 - E.g. Author Information for *Int J Toxicol* states that botanical extracts must contain chemical characterization of the extract.
 - Also, we clearly state that we do not publish papers dealing with chemoprevention or therapeutic intervention.
- In submitting to a journal for which a manuscript is out of a journal's scope, authors waste their own time, as well as that of Editors and journal staff!



Avoiding predatory journals

- “Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices.” <https://www.nature.com/articles/d41586-019-03759-y>
- Does the journal have an impact factor
 - Caution: very new journals (<3 years in existence) will not have an impact factor
- Are Editorial Board members well-known in the topic area?
- Is the journal transparent about submission and publication fees?
- Are papers peer-reviewed prior to publication?
- Is “time to publication” unrealistically fast?
- Beall’s list: <https://beallslist.net/>



Publishing formats

- Open access vs. subscription models
- Open access—authors pay an Article Processing Charge (APC), which allows the article to be freely accessed worldwide by everyone
- Subscription model—MAY be free to authors to publish
 - Caveats:
 - Society-sponsored journals
 - Color image fees



You've found an appropriate journal!

- Submission guidelines
 - Scope of the journal
 - Clinical only?
 - Basic lab research?
 - Type of manuscripts published by that journal
 - Short communications, reviews, original research, commentaries
 - Manuscript formatting
 - Section headings or not?
 - Which sections must be included, and in what order are they required?
 - Results and Discussion—separate sections, or combined?
 - Information that must be included on cover page
 - Reference formatting



Formatting your manuscript

- Again—check the Submission Guidelines/Author Information
- Some journals allow any format for initial submission, but require a specified format for the final, acceptable version of a manuscript.
- Adhere to word limits for each section of a manuscript.
- Titles are important!
 - No abbreviations
 - Include species
 - Check submission guidelines for format: declarative, descriptive, etc.



Submitting your manuscript

- Generally online and rather time consuming
 - Identify a corresponding author
 - Abstract: observe word limit; no references in the abstract
 - This is the last piece of a manuscript to write!
 - Key words
 - What key words would help you find your paper?
 - Preferred/nonpreferred reviewers
 - Preferred: should work in the same field; should not (cannot!) be a recent collaborator
 - Nonpreferred: people with whom you have a personal or professional conflict; person considered a research competitor
 - Conflicts of interest—actual or apparent
 - ORCID numbers
 - Open Researcher and Contributor Identifier; <https://orcid.org/>
 - Generally required for corresponding author; some journals require for all authors



ORCID Numbers

- ORCID = Open Researcher and Contributor ID
- Unique identifier to distinguish you from other researchers
- Format: 0000-####-####-####
 - <https://orcid.org>

■ AUTHOR INFORMATION

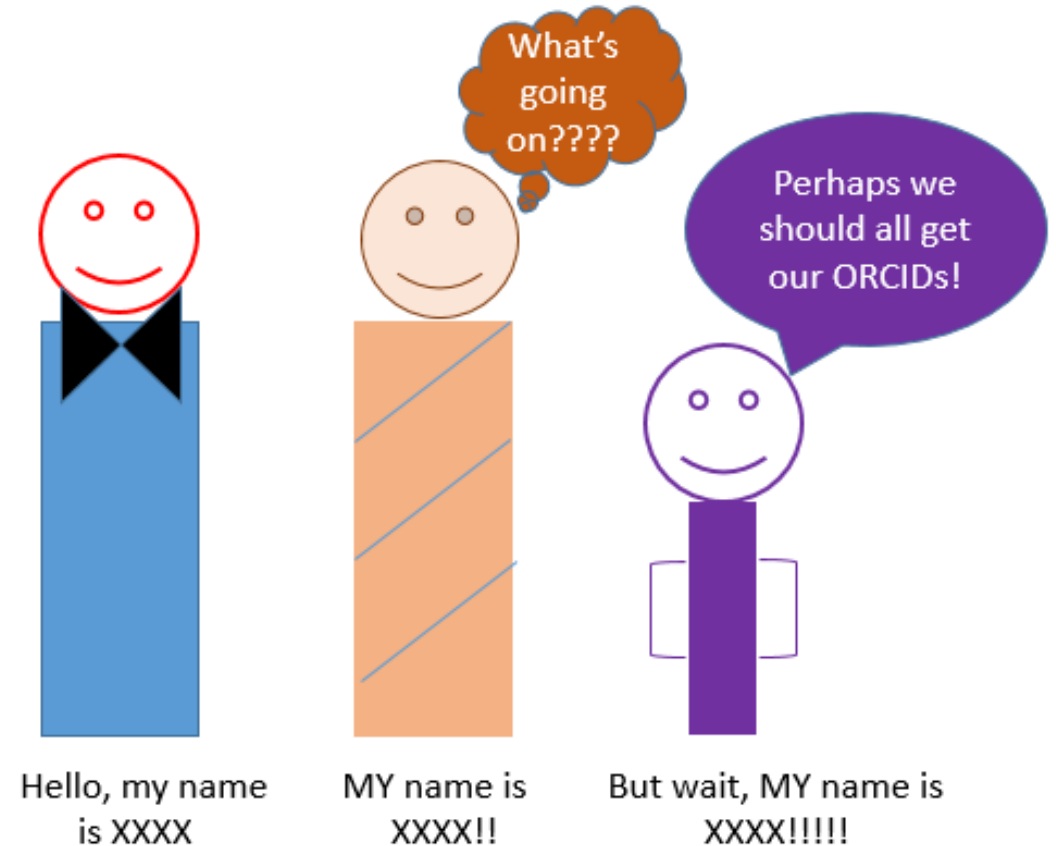
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ORCID numbers: Importance

- Unique author identifiers
- Issue: in many cultures and countries, there are surnames that are VERY common
- In science, many authors may have the same surname and first initial
- Goal: minimize identity confusion, minimize misappropriation of credit (or blame?!)



After submitting your manuscript

▪ BE PATIENT

- Editors may have difficulties in securing peer reviewers for manuscripts
- Reviewers are volunteers—they're busy people, too!
- Average time for reviewers to return their reviews for toxicology journals (my observation): 2-3 weeks
- Editors do not have ANY control over reviewers' schedules and have little leverage in getting reviewers to turn in reviews.



After submitting your manuscript

- BE PATIENT

- Possible outcomes

- Accept without revision
- Minor revision
- Major revision
- Reject
 - Flawed interpretation or conduct of experiments
 - Insufficient sample size or experimental replicates
 - Unethical conduct of experiments
 - Contains insufficient new information to justify publication
 - Review article with clear bias and/or majority of outdated reference
 - Plagiarism
 - Scientific misconduct



Responding to reviewers

- Excellent resource: Annesley TM. “Top 10 Tips for Responding to Reviewer and Editor Comments”
 - Clin Chem 2011;57(4):551-4
- Bottom line: Be collegial
 - Thank Editor and reviewers for their time
 - If a timeline for submitting a revised manuscript is not specified in the decision letter, contact the Editorial Office for guidance
 - Do not hint/state that a comment is unwarranted or “stupid”
 - Disagree constructively
 - “The authors appreciate Reviewer 2’s comment about XXX, but other sources (now cited in the Discussion) suggest that another mechanism is relevant.”
 - Do not use one reviewer’s comments against the other reviewer(s)
 - Reviewers may differ in the “lens” used to evaluate a manuscript
 - Restate reviewer’s comment in crafting your response to the comment
 - Realize that you may be asked to revise your revised manuscript
 - Iterative process—not unusual for there to be several rounds of revision and review



Finally—a final decision

- Accept—congratulations!
- Reject
 - Do not argue with the Editor—the decision is final.
 - Do not try to revise and resubmit to the same journal, unless invited.
 - Do not submit the same version to another journal without revising.
 - Reviewer's or Editor's comments are likely to have significant merit and can help you resubmit a better manuscript to another journal.
 - Same reviewers might be invited to review it!



Summary

- Submit a body of research that tells a story, with adequate replicates, sufficient sample size, ethical approvals, etc.
- Strive to find an appropriate journal for your manuscript by
 - Learning the scope of a journal
 - Publishing in a journal that is widely read in your field
 - Avoiding predatory journals
- Carefully adhere to journal's requirements for word limits, manuscript format, reference format, etc.
- Be courteous in your responses to Reviewer and Editor comments





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