

Career Development Series 2022

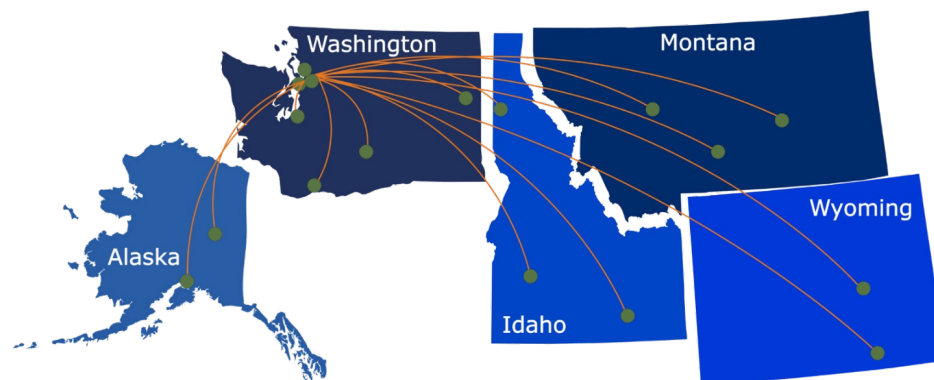
How to be an Amazing Reviewer

Presentation will begin at 12:00 PM (PT)



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Melissa D. Vaught, Ph.D.
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- Guidance on Study Design, Approach and Implementation
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Feedback

At the end of the seminar, a link to the feedback survey will be sent to the email address you used to register.

Career Development Series 2022

How to be an Amazing Reviewer

Presented by:

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College of

Pharmacy and Pharmaceutical Sciences

WASHINGTON STATE UNIVERSITY

Editorial Bio

1. Gained experience while doing postdoctoral work with two mentors who were renowned Editors.
2. Once in an independent faculty position, took on manuscript reviews assigned by the former mentors and others.
3. Eventually joined the editorial boards of several journals:
Journal of Biological Chemistry
Molecular Pharmacology
Journal of Pharmacology & Experimental Therapeutics
American Journal of Physiology, Cell Physiology
4. Became Associate Editor of *JPET* in 2012.
5. Became Editor-in-Chief of *MolPharm* in 2017.
6. As an academician, dedicated to biomedical career development.

Learning Objectives

- 1 Attendees will be able to complete a professional review within a reasonable period of time.
- 2 Attendees will be able to interact effectively with editors and editorial staff.
- 3 Attendees will become more proficient in writing their own manuscripts.

Overview

1. What is peer review?
2. How do reviewers play a critical role in the overall process of considering a manuscript?
3. What are the benefits of being a reviewer?
4. What is the editorial process?
 - a. Steps in consideration of a manuscript
 - b. The “extra” pieces: reproducibility/statistics, plagiarism, and image forensics
4. How to undertake and write a review
5. How to communicate with editors and editorial staff



Peer Review

What is Peer Review?

With respect to scientific manuscripts, peer review is the process in which a scientific report is subjected to *scrutiny by others in the same field*.

The overall goal of peer review is to ensure that the results of a scientific study *meet the standards for the journal, and adhere to the conventions of the field of study*. Attempts to ensure *reproducibility* are currently paramount.

The identities of the reviewers are traditionally unknown to the authors, although this tradition is being challenged.

There are multiple ways to disseminate scientific findings without peer review, but *the press and the public are still generally aware of the distinction of the peer review process*.

Peer Review in the News

In the Race to Crack Covid-19, Scientists Bypass Peer Review

To speed information sharing, many scientists are posting paper drafts directly online. What are the downsides of that?

By [Hannah Thomasy](#)

<https://undark.org/2020/04/01/scientific-publishing-covid-19>

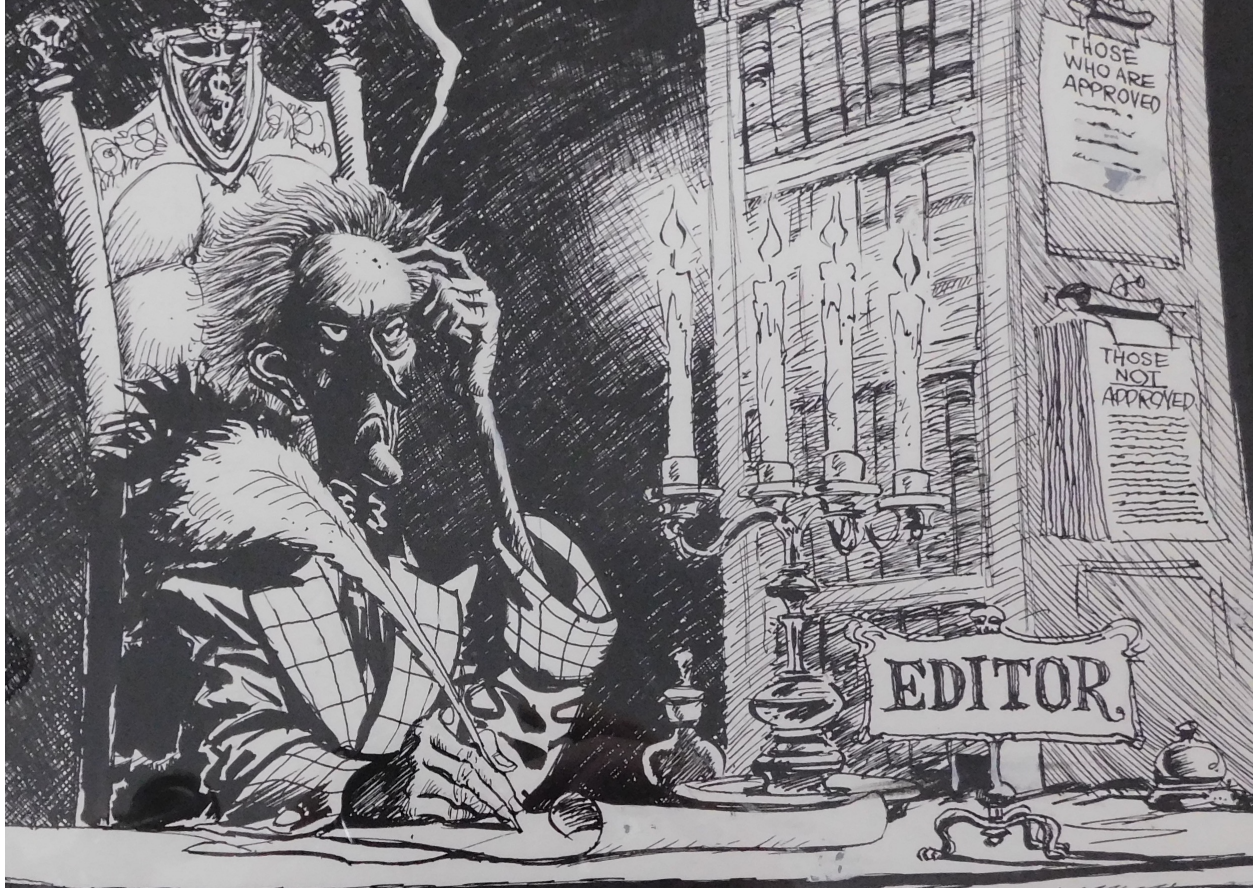
“Because preprints aren’t peer reviewed, it can be difficult for non-experts -- including journalists, policymakers, and scientists in other fields -- to determine what is important and based on solid science, and what is not. While there’s widespread agreement that preprints can be useful, they also run the risk of contributing to the spread of faulty information.”

Personal Benefits of Reviewing

1. To build one's professional credentials
2. To enhance opportunities for networking (e.g., board meetings)
3. To meet criteria for academic promotion and tenure
4. To enhance decision-making skills for other responsibilities
5. To learn how to write better manuscripts
6. To broaden one's scientific knowledge; *to learn new things*



Editorial Process



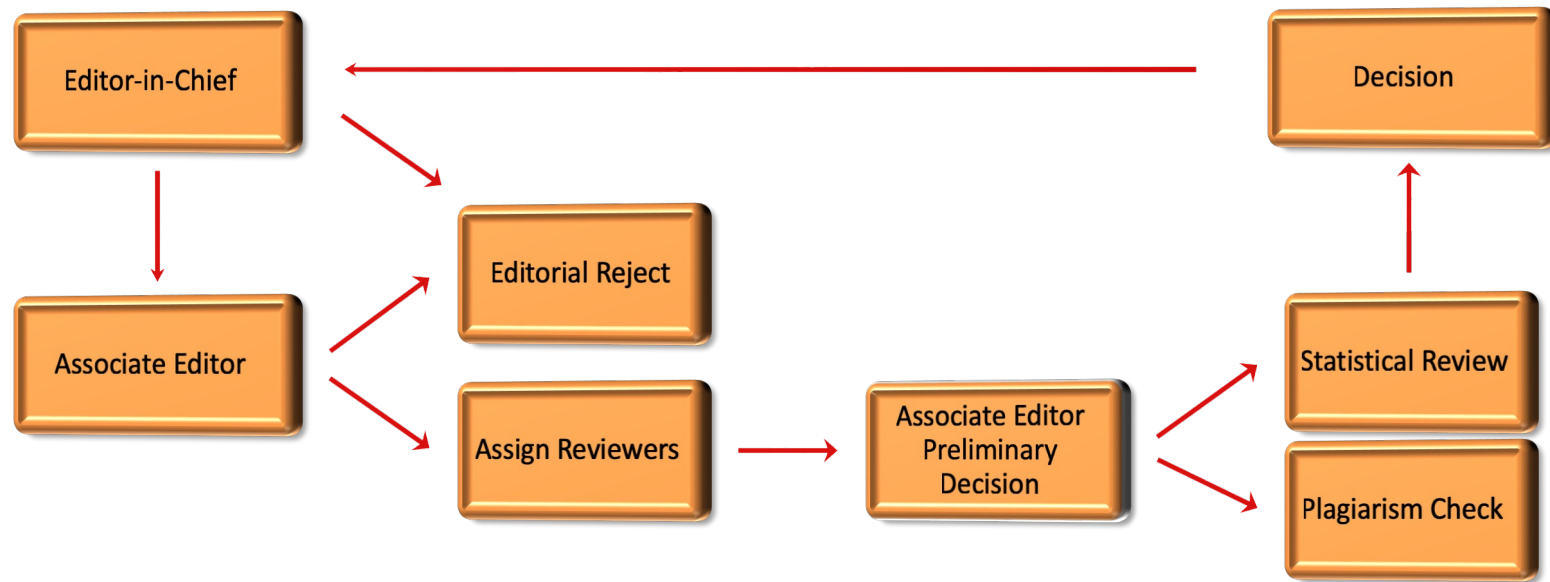
Role of Reviewers

The editorial process includes many steps, with decisions made by multiple people, but the *comments of the reviewers are the basis for the ultimate decision to accept a manuscript* for publication.

Reviewers typically make their initial decision in isolation, but the overall process involves “conversations” between reviewers, editors, and the authors.

At its best, the process serves to educate the authors and also the reviewers.

Steps in the Review Process

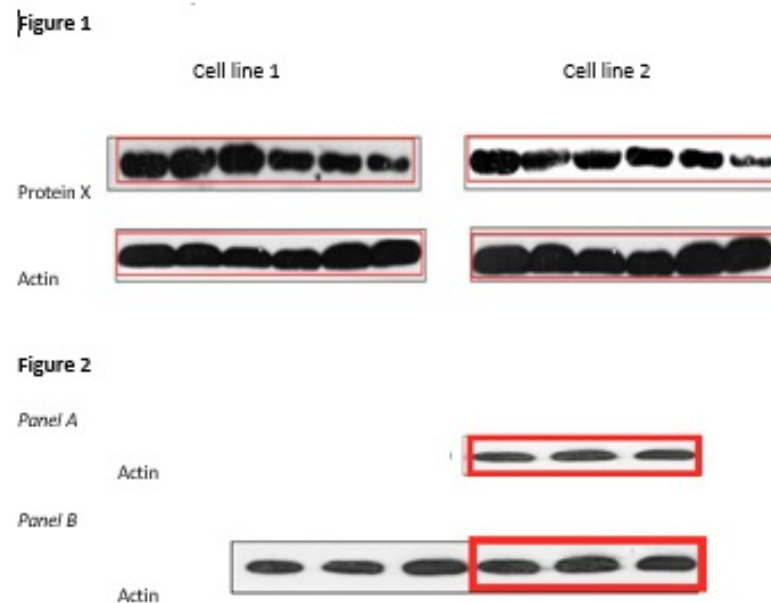


The “Extra Pieces”

- ❖ The editors examine additional information that is often generated by outside companies. The reviewer does not see this information.
- ❖ **Plagiarism check:** The text is analyzed for similarity to published sources, including abstracts, preprints, dissertations, etc. The recipient can see highlighted areas of similarity, along with a link to the source of the potentially copied text. It is the editor’s discretion whether to call this to the attention of the authors; self-plagiarism within Methods is usually ignored.
- ❖ **Image forensics:** Images (e.g., immunoblots, microscopic images) are analyzed for potential manipulation that may affect the results. This process is “tricky” and any problematic results typically require further scrutiny by the editors.

Example of an Image Forensics Issue

This issue was identified by a *reviewer*, not by image forensics.





How to Write a Review

Steps in Reviewing a Manuscript

1. Holistic overview
2. Deep dive
3. Take notes
4. Make a decision
5. Provide comments that support your decision (for editor)
6. Provide comments that help the investigators (for authors)

Holistic Overview

- ❖ Read the abstract
- ❖ Skim through the entire paper, including figures, to gain an overall idea of what was being studied
- ❖ Assemble first impressions:
 - Is the paper well written?
 - Is the work interesting/novel/important?
 - Is the premise/hypothesis clear?
 - Is it the type of study that fits the scope of the journal?
 - Does the data quality appear to be adequate?
- ❖ Be open to the possibility that your assessment may change

Deep Dive

- ❖ Read the entire paper.
- ❖ Write notes as you go. These can be:
 - hand-written notes on the paper itself
 - notes to self on computer
 - draft of comments to be sent to the authors, on review form
- ❖ Make notes about anything and everything...positive or negative, minor or major points, edits
- ❖ The extent of the notes can vary depending on your initial assessment. If the paper is completely out of scope, your final review will likely be brief.

Making a Decision

- ❖ The online review form will direct you how to assess the paper, on multiple levels.
- ❖ In the end, you will be asked to make a decision:
 - Accept as is
 - Potentially acceptable after major revisions
 - Potentially acceptable after minor revisions
 - Reject
- ❖ Use your own comments and “gut instinct” to make a decision.
- ❖ You can consider the feasibility of potential major revisions when making your decision, but this is really up to the editors and the authors.

Review Comments: Types of Observations

Different reviewers notice different things about a paper; thus the need for more than one reviewer.

Novelty: has this been done before?

Experimental approach: is it appropriate?

Writing style: is the paper easy to read and understand?

Reproducibility: is the approach described sufficiently?

Data analysis: do the data support the conclusions?

References: has appropriate literature been cited?

Ethics: is human/animal use appropriate?

Quality of the data: do you trust the results?

Review Comments: How Much is Too Much?

- ❖ It is not necessary to critique every single aspect of a paper.
- ❖ Similarly, it is not necessary to understand every method used, or know all of the previous literature underlying the study.
- ❖ The more that you can learn to review “outside your area”, the better off you will be.
- ❖ The main point is to be attuned to what the journal is looking for, and whether the study seems to be novel and rigorous.
- ❖ You can sometimes consult with others, but if you actually show them the paper you will need to disclose this to the editorial staff. Your review is intended to be confidential.
- ❖ Most journals employ page editors to do final editing, but if you cannot understand what is written, this is a serious problem.

Comments to the Editor

- ❖ The online forms used by editorial platforms typically include fields where you can write comments to the editor, and another for writing comments to the authors.
- ❖ *DO NOT* copy and paste the same comments in the fields for the editor and for the authors.
- ❖ Examples of comments for the editor:
 - Limitations on your own expertise
 - Concerns about reproducibility or fraud
 - Enthusiasm about certain aspects of the paper
 - Whether you think it is feasible for the authors to revise
- ❖ The editor *really* wants to hear your personal thoughts here.

Comments to the Author: Typical Review Format

❖ **General Comments:**

In a few sentences, summarize what the paper is about.

❖ **Major Comments:**

Using itemized points, discuss the major issues that have informed your final decision. These are points that you feel it is essential for the authors to address in a revision.

❖ **Minor Comments:**

Using itemized points, mention issues that are more minor but that you would like to see corrected. For example: better description of methods, inclusion of more references, spelling/grammar corrections, more nuanced discussion.

What the Editor is Looking For

- ❖ Clear explanation of major strengths and weaknesses
- ❖ Itemized points to which the author can respond
- ❖ Observations that reflect your expertise in the area, without being excessively “picky”
- ❖ A professional tone that will not raise the ire of the authors
- ❖ Text that does not require English corrections

What the Author is Looking For

- ❖ Acknowledgment that the topic was worth pursuing
- ❖ Suggestions to which they can potentially respond
- ❖ Fairness and neutrality
- ❖ Comments that will help them strengthen their work and write their next grant application
- ❖ Sensitivity, keeping in mind that some of the authors are typically trainees

What No One is Looking For

- ❖ Rude or dismissive comments that evoke emotional response
- ❖ Poorly itemized comments (e.g., a single paragraph) that make it more difficult for the authors to respond
- ❖ Comments that mostly reflect the ego of the reviewer
- ❖ Text that is poorly written and itself needs corrections
- ❖ Overly brief assessment that suggests lack of effort

Example of a Good Review

General Comments:

In this article, the authors explore the mechanisms underlying the anti-inflammatory effects of CBD. The results suggest that Erk activation is critical. The study employs both cell culture and animal models. The topic is timely, and the paper is generally well written.

Major Comments:

1. In the cell culture experiments, the dose-response studies employ only three doses which is insufficient to determine the maximal dose.
2. It is not stated how many times the immunoblotting experiments were performed, and the results are not quantified. In some cases (e.g., Figure 2), the quality of the blots is poor and a loading control is not shown.
3. In their discussion, the authors should mention the recent paper by Leary et al. (J. Immunol. 123, 45, 2020) that comes to a somewhat different conclusion.

Minor Comments:

1. “Data” is always a plural noun, and the verb should be consistent.
2. The incubation time for the experiments should be clearly stated in the figure legends.

Example of a Bad Review

The authors are studying something that has already been addressed in many other publications. This group should know better than to attempt to “reinvent the wheel”.

The cell culture experiments need to be repeated until $p < 0.001$ is achieved. The immunoblotting assay for Erk activation is not sufficient; immunohistochemistry should be used to validate the results. Also, another cell line should be utilized. In the animal experiments, the optimal model for rheumatoid arthritis was not used; the model developed by Meier et al. (1993) is superior. The discussion section is much too long and does not cite all of the relevant literature. The topic is not appropriate for this journal.

Quote of the Day

**“All reviews are bad reviews
if they say they don’t want to publish your paper.”**

Example of a Good “Second-round” Reviews

The authors have addressed the comments of the reviewers on a point-by-point basis. Most of the issues raised have been addressed.

The new dose-response data (Figure 6) are a welcome addition, but the method used for curve fitting needs to be provided in the figure legend.

It appears that the authors have not fully addressed the comments from the statistics reviewer; it is not clear how the p-values for Figure 4 were derived.

Example of a Bad “Second-round” Reviews

The authors say that they cannot repeat all of the animal experiments in another model, but this reviewer does not accept that the model used is valid, even though the authors provided references.

After looking through the paper again, the reviewer finds that the method used for protein determinations is not appropriate.

This reviewer disagrees with Reviewer 2 and the editor-in-chief, and thus does not wish to participate in further rounds of review.



How to Write a Review

How to Gain Reviewing Experience

- ❖ Even when researchers are not reviewing for a journal, they are often reviewing the work of trainees and fellow researchers as they work on editing drafts of manuscripts and grants. When you are doing this, try to put yourself in the mindset of a journal reviewer and make extensive comments. This will help your trainee or peer, and it will hone your reviewing skills.
- ❖ Accept invitations that you may receive for reviewing, even if the topic is not exactly in your area of expertise and/or the journal is not prestigious. This builds your credentials as a reviewer.
- ❖ If you are a trainee, let your mentor know that you are interested in gaining experience as a reviewer. They may be able to enlist your help in reviewing, if this is disclosed to the journal editor.

How to Gain Reviewing Experience, cont'd

- ❖ At national meetings (e.g., Experimental Biology), journal editors are often involved in informational sessions, available at booths, or generally in circulation. Try approaching an editor to introduce yourself and learn more about how you can be added to the list of reviewers for their journal.
- ❖ Consider enrolling in any reviewer training opportunities that are available
- ❖ Once you have developed a reviewing portfolio, you can seek promotion to a journal editorial board. Editorial board members are typically invited, and often need to be approved through a formal process, but they are usually chosen from people who already review for that journal. Thus, it is helpful to focus your efforts on a particular journal if possible.
- ❖ Senior editors are normally selected from the editorial board.

Last Words

Please go forth and review, so that you can
advance your professional field while
enhancing your own career development!

Questions for the Participants

- ❖ Do you have any comments, from reviews of your own paper, that you would like to discuss?
- ❖ Do you have any questions regarding a review that you are undertaking now?
- ❖ Have you run into any ethical issues when reviewing a paper?

Questions?

Thank You!



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Feedback Survey

A link to the feedback survey has been sent to the email address you used to register.

Please get out your device, find that email, and spend a few moments completing that survey before you leave today.

Tip: If on a mobile device, shift view to landscape view (sideways) for better user experience.