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PEER REVIEW IS THE SINGLE MOST IMPORTANT ASPECT OF WRITING IN SCIENCE. IT RANGES FROM YOUR WORK BEING FURTHER VALIDATED BY SCIENTISTS FROM A SIMILAR FIELD TO SOME SIMPLE TIPS FROM A CLASSMATE.”

—ANONYMOUS




- 
- VALUE
  - BENEFITS
  - IMPORTANCE IN THE SCIENCES
  - LEARNING PROCESS
  - CONSTRUCTIVE FEEDBACK
  - ROLE IN SCIENTIFIC RESEARCH
  - STRATEGIES
  - TONE
  - MULTIPLE PERSPECTIVES



# PEER REVIEW IN INTRO BIO LABS


ADVICE FROM  
GRADUATE LAB INSTRUCTORS  
IN WIPP 7001, CRN 27123





## ANONYMOUS BIOLOGY

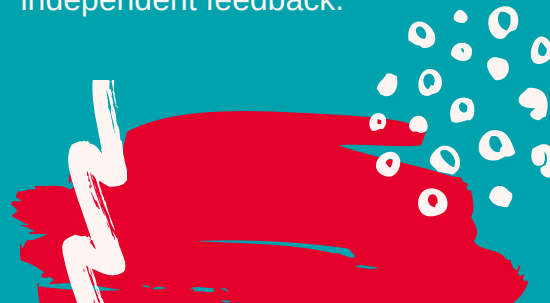
Peer review not only helps writers to improve their work, but also benefits the reviewers. By reviewing the work of other writers, reviewers will get exposed to different writing styles. Reviewers can incorporate some tips they learned into their own writings. They can also see which writing styles are confusing to readers and avoid doing them. A good peer review should be informative. Writers should be able to edit their paper based on the reviews. By having my work reviewed, I learned that I need to have a sentence in each paragraph to relate back to my central topic.



## BEN LUTTINEN

## GENETICS


I believe the process of peer review is one of the most insightful and constructive ways we as scientists can interact with one-another. Peer review not only helps the research group that submitted the piece for review, but in turn helps the reviewer(s) critically think about the research presented to them. This helps the scientific community as a whole, allowing research to be refined and strengthened to greater levels. I approach peer review with patience, decisiveness and constructive feedback. I first read the paper thoroughly. I then break down each section of the paper to provide independent feedback.



## ANONYMOUS

## INFECTIOUS DISEASES

The function of a peer reviewer is to provide actionable feedback from a fresh perspective. Often, receiving critiques on your own work can be demoralizing or produce the feeling that you're under attack. This can happen when the feedback isn't written constructively, is dismissive, or is too aggressive and hyper-specific. Good peer reviewers make sure to show the reviewee respect, making it evident that they actually read the paper thoroughly and respecting the writer's time and effort. Any weaknesses in the manuscript should be treated as points from which the reviewee can grow, not targets to strike for the reviewer.






## MONA ASADINAMIN

### PHYSICS


As an undergraduate student, I always thought there is nothing called “constructive feedback” as my instructors tended to only identify the mistakes and cross them out without providing further suggestions. So, I have always told myself that I won’t follow their footsteps and try to be helpful to students. When I entered graduate school, it was my turn to evaluate students’ works. I tried to be positive and encouraging to enable students to build the self-confidence that they need to be more productive and I realized that feedback has such a prominent role in the learning process.



## ANONYMOUS

### BIOCHEMISTRY

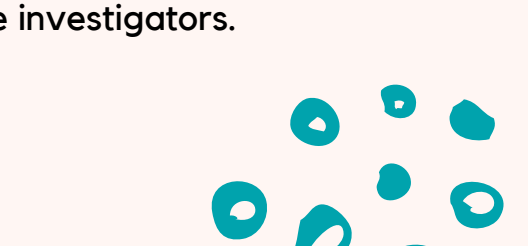
Peer review is the single most important aspect of writing in science. It ranges from your work being further validated by scientists from a similar field to some simple tips from a classmate that provide a fresh perspective. When giving feedback, I try to give merit to two things that the person did well and two actionable things they could improve on. Nitpicking at small details seems to be more annoying than helpful, so I try to stick to big picture improvements that will help to improve the whole body of work.



## ANONYMOUS

### BIOCHEM & MOLECULAR BIO

In the sciences, it is important that the feedback given during peer review is specific and actionable. Oftentimes a paper will go out for review and come back with scathing comments, but not necessarily specific enough to where the scientist can act on the feedback. Comments that specifically address what experiments might strengthen the research are a huge help. Comments that also specifically pinpoint issues with experimental design, or the way a figure looks, will also be greatly appreciated by the investigators.






**ILEIA SCHIEBE**

## **CONSTRUCTIVE PEER REVIEW**


I prefer to have constructive peer review on my work, since written work with little feedback are not always very helpful. The reason could be that the mentor or professor may not have enough time, however, my question is how can I improve with little feedback given? I cannot. Constructive peer review is critical for students to improve their work and be able to move forward in their career. Great constructive peer review includes details, context, and positivity. Constructive criticism is also important; however, it should include some positivity since repeated criticism can encourage a negative mindset.



**MARLEY A.  
BRIMBERRY**

## **BIOCHEMISTRY & MOLECULAR BIOLOGY**

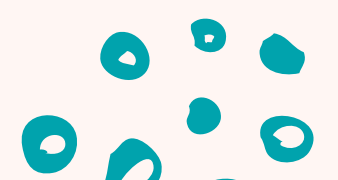
Peer review is one of the most unique and important ways scientists monitor our work. During the process of peer review, other scientists critically examine manuscripts of other scientists and provide revisions and improvements and recommend for acceptance or rejection. Peer review is crucial to the scientific community as well as the population at large, because one of the major functions of peer review is to ensure that only manuscripts deemed suitable are published. This ensures that not only are individual scientists held to the most rigorous standard, but it also means that the public can put faith in the high quality scientific information they receive. Especially in today's environment, it is essential that we hold each other as scientists to the maximum standard.



**NICK LYON**

## **ENTOMOLOGY**

Peer review serves a critical function in science, but an underappreciated facet of that process goes beyond the specifics of how we review and instead is deeply linked with the tone of our review. If you want to be an effective peer reviewer, a good goal is to try to identify as many major positive comments as you have substantive criticisms and to include both in your comments to the author(s). This does not force you to be "softer" in your review but merely encourages you to search for what's good as well as areas to improve while reviewing.





ANONYMOUS

## CELLULAR BIOLOGY

The way I peer review is by first skimming the paper quickly and commenting on any obvious things. Once I do that, I slow it down. I read slower to see what the person is saying and see if the flow makes sense and if I have any questions while I'm reading it. Then I make comments. I tend to have many peers read my work before I submit it. I think it is always a good idea to get as many perspectives as possible and have new eyes look at it. Once I do that, I consider the trends of what people are saying and add those into my paper after I think about it so I don't lose my voice in my paper.



ANONYMOUS

## GENETICS

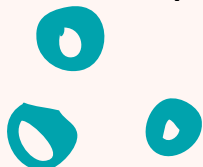
As a peer reviewer, I aim to provide criticism that will improve the article, and more importantly, improve the quality of the science. This does not, however, mean that there is reason to be overtly hostile. I aim to offer helpful ideas, alternative explanations, and clarifications of thought, but do not criticize just for the sake of being critical. It is easy as a reviewer to forget that an author is going to want to take your feedback and revise their manuscript to address it. I think keeping this in mind helps both yourself and the paper's author(s) produce a manuscript that can have more impact, and more effectively communicate its findings to the community.



RACHAEL STORO

## MARINE SCIENCES

Not all peer review is created equal. The success of a peer review exercise relies entirely on the amount of effort you and your peers put into it. If, for instance, you choose to put forward only positive and feel good remarks, the person you are reviewing will assume their writing is perfect in every way (trust me, this is virtually never the case). The intent of peer review is to ensure you get feedback in a safe space, instead of when submitting to your professor, teaching assistant, or even journal of choice. When the peer review exercise is not taken seriously, you are neglecting to prepare yourself for a journal review, where many times people will be far less gentle than your peers.



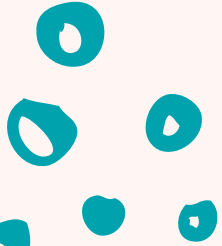




ALEXIS VITTEINGL

PUBLIC HEALTH,  
EPIDEMIOLOGY

Although peer review can seem tedious and even like busywork, the value of the exercise outweighs the cons for both the writer and the reviewer. Peer review provides the writer with needed improvements which, if done well from the reviewer with constructive criticisms and actionable advice, can create a well-written paper and even help to shape the way the writer crafts their arguments in the future. For the reviewer though, the peer review process can provide them with a critical eye in their own work helping them to identify common pitfalls to avoid. Therefore both groups gain immensely from peer review.



ANDERSON FELT

POLITICAL ECOLOGY

Peer reviewing is something you are introduced to in undergrad or potentially high school. Over time, I have seen my ability to provide feedback and appreciate the process grow. When peer reviewing, remember to be kind and constructive. Another thing I always try to be cognizant of is not trying to diminish the voice of the author or change their phrasing to how I would say it. Reviewing someone's work is a serious and hard task, but also it is so important. You are helping the author succeed and grow. It is a process to be proud of.

