

REVIEWER HANDBOOK

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Introduction

The eiRxiv Handbook is your guide to serving as a reviewer for the eiRxiv Preprint Server. This handbook was adapted from the Journal of Emerging Investigators Reviewer Handbook.

eiRxiv Mission

Emerging Investigators Preprint Server (eiRxiv) is an online repository that allows pre-college students aged 13 and above to share a version of their scientific research. eiRxiv is part of Emerging Investigators – where we believe young scientists learn best when they practice science through research, sharing their work, peer review, and reading the research of others. We are committed to providing the tools, mentorship, and community necessary for any middle or high school student to share their research project and to read about the research of others. We believe identifying as a scientist early on is formative in empowering students to pursue their dreams, and we strive to help all students, especially those from backgrounds historically underrepresented in STEM, recognize their potential as scientists early in their academic careers.

Our role in eiRxiv is not only to be editors but also educators. Our hope is that eiRxiv will engage students in a novel form of science education that nurtures their intellectual development and celebrates their scientific achievements.

Acceptable eiRxiv Projects

eiRxiv publishes hypothesis-driven research across a wide range of fields, including (but not limited to): biology, chemistry, physics, clinical/health sciences, astronomy, environmental science, and psychology/social science.

The primary factor in determining whether a manuscript is appropriate for repository in eiRxiv is whether or not it meets our guidelines for hypothesis-driven research.

Although the research does not have to be novel to the scientific community, it should aim to answer a question that is genuinely unknown to the student author during the investigation. In some cases, the research question may revisit well-established findings (scientific "dogmas") using new tools and methods. We encourage students to validate or challenge these well-established findings. In these cases, it is important for the student to clearly explain the rationale for their chosen methods, how these differ from prior work, and what new insights they aim to achieve. Additionally, the research must be designed and conducted primarily by the student author.

Hypothesis-Driven Research

The main requirement for any eiRxiv manuscript is that it is based on hypothesis-driven research. To assess student manuscripts for a well-constructed hypothesis, ask whether it meets the following 6 criteria:

1. It is **NOT** discovery or descriptive research or a comparison of computational methods
2. It **IS** original

- a. Note that for eRxiv this means that the hypothesis must be novel to the student and not something easily found in textbooks/internet searches (i.e., what is the structure of DNA)
3. It is **NOT** too general/global
4. It is **NOT** too complex
5. It does **NOT** misdirect the researcher
6. It **IS** testable

eRxiv does not accept manuscripts that introduce an invention, tool, technique, or method even if they are benchmarked/compared with previous techniques/methods. This is particularly relevant for manuscripts that report on new machine learning tools or optimization of the existing ones. A simple comparison of machine learning tools or their optimization is not sufficient in the absence of a clear hypothesis that requires their comparison or optimization. Submissions must be driven by a clear, scientifically motivated hypothesis.

Parts of a eRxiv Manuscript

An eRxiv manuscript must contain (in this order): [Title page](#), [Summary](#), [Introduction](#), [Results](#), [Discussion](#), [Materials and Methods](#), [Acknowledgements](#), [References](#), [Figures/Tables](#), and [Appendix](#).

Title Page

The title page should include the title, author list, affiliations, and grade level of student authors. All students that contributed to the project should be listed as authors of the manuscript and ordered based on their contribution to the project, with the student(s) who made the largest contribution listed first. If multiple authors made the same contribution to the manuscript, this should be noted by placing an asterisk next to the students' names and a note below the author affiliations that these students made equal contributions. There are no restrictions on the number of student authors that can contribute to a manuscript – it is completely acceptable for a single student or an entire class to submit a single manuscript.

A middle/high school teacher, college/university professor, other adult with relevant expertise, or a parent must serve as a Senior Author. A Senior Author 1) provides guidance during the project, 2) reviews the manuscript prior to submission, and 3) is listed as the last author on the manuscript. If the project was completed at home or completely independently by the student, a parent often serves as the senior author. If the adult who supervised the research does not want to be listed as an author, a parent can then also fulfill the senior author role. Thus, every manuscript must have at least two (2) authors.

Summary

The summary should be a short (under 250 words) description of the scientific question, a hypothesis, major results, and conclusions. It should be one paragraph and there should be no references within the summary.

Introduction

The Introduction must provide appropriate and relevant background information on the subject matter using references. Think of the structure of the Introduction as an “inverted pyramid” that starts with very broad facts before focusing on the specific question and hypothesis towards the end. For eRxiv, the Introduction should:

- Briefly describe the overarching scientific topic of the paper

- Provide background information such that the audience understands the question being asked and why this question is of interest
- Contain a clearly stated hypothesis
 - **Note:** This should not be phrased as a question.
- Briefly summarize the conclusions drawn from the authors' research

Results

The authors must describe, in paragraph format, how they tested the scientific question and their subsequent results. Experimental controls and statistical analyses should be mentioned when appropriate, and it is also important for authors to draw appropriate and reasonable conclusions from their experimental data. For each experiment, the authors must:

- Describe the rationale for the experiment
- Briefly explain how the experiment was performed (additional or lengthy details should be included only in the Materials and Methods section)
- State their findings and briefly interpret the scientific data, referencing the figures that contain the results

Discussion

In the Discussion section, the authors should discuss the results and their interpretation of the results. Their interpretations should be expanded upon what has been suggested in their results section; in other words, their interpretations should focus on how their findings would impact their scientific field at large. However, it is important that the authors draw appropriate and reasonable conclusions from their scientific data. The authors should:

- Summarize the experimental results and draw conclusions from the experimental data
- Discuss factors that could have influenced the results, such as sources of error or bias in the interpretation
- Address the significance of the results
- Discuss remaining scientific questions and/or potential future experiments

Materials and Methods

The authors should describe the methods in enough detail that another scientist could perform the same experiments and obtain the same results. Materials should be mentioned within the context of the respective experiment in which they were used, not listed like a shopping list. For example, "Bacteria were grown in standard LB media (Fisher Scientific) for 24 hours at 37°C while shaking." This section should be written in the passive, past tense and not as a procedure.

Acknowledgements (Optional)

Authors can acknowledge people who have made minor contributions to the manuscript and funding agencies. For example, people who have read and commented on the manuscript before submission should be acknowledged. **Authors themselves may not be acknowledged as outside**

help – you may need to explain to the student authors that being included as an author on a paper is the highest form of acknowledgement that can be provided, as students often want to thank the mentor who is also the senior author on the manuscript.

The Acknowledgements section should be written in the third person or plural first person (i.e., “The authors would like to thank” or “We would like to thank”, **NOT** “I’d like to thank my parents/my teachers”, etc.).

References

eiRxiv uses a modified MLA 8 citation style. References should be numbered in the order in which they appear in text instead of alphabetically. In-text citations should be noted by the reference number in parentheses at the end of the sentence (before the period). More information on references and example citations can be found on the eiRxiv [Submission Guide](#).

eiRxiv is a preprint server affiliated with Journal of Emerging Investigators (JEI). A key thing to note here is that since 2023, JEI has registered publications with CrossRef to assign a DOI to each article, meaning that new publications must have **hyperlinked** DOI links for references with DOIs. In addition, to make the reference guide simpler for the authors, we are asking them to hyperlink all links in the references.

Figures/Tables

Data must be presented in individually numbered figures and tables that contain a descriptive caption. **Each figure should be submitted as an individual JPEG, TIFF or PNG file AND included above the relevant caption at the end of the manuscript.** Tables should be provided in an editable format at the end of the manuscript, above the relevant caption. The figures and tables, with their respective captions, should appear at the end of the manuscript, after the references.

There is a **maximum of eight (8) figures + tables in a manuscript**.

Note: Quality of figures should be assessed by opening individual figures in the additional files.

Appendix (If applicable)

Some manuscripts may require the inclusion of an appendix. Unless the author is providing a programming code/script, justification needs to be provided by the authors for having material appear in the appendix rather than the main body of text (code does not require justification). EIC will determine if the reasoning is sufficient and provide final approval for any appendices prior to publication.

IRB/IACUC/SRC Approval Guidelines

All research published in eiRxiv must adhere to the Intel International Science and Engineering Fair (ISEF) guidelines for ethical research involving vertebrate animals and human subjects. In most cases, this means the student author must have obtained approval for their project from either a Scientific Review Committee (SRC), Institutional Animal Care and Use Committee (IACUC), or Institutional Review Board (IRB) **before** beginning their research.

You can read a more comprehensive description of our requirements on the eiRxiv website [submission guidelines](#), in the section titled “[Subjects research](#)”. If you have concerns on whether these guidelines were followed for a manuscript, please contact the EIC.

eiRxiv Workflow and Roles

Responsibilities and guidelines for each role in the eiRxiv Preprint Server are detailed below.

Overview of eiRxiv workflow

1. Pre-Review (2 weeks)

The EIC reads the manuscript and decides if the formatting and presentation are correct for a scientific manuscript. If so, the manuscript is assigned to a reviewer and proceeds to Scientific Review. If not, the EIC will send the manuscript back to student authors with suggestions to improve the formatting, presentation, and style of the manuscript.

2. Manuscript available on eiRxiv (1 week)

Once the manuscript passes the pre-review checks, the manuscript will be available on eiRxiv.

3. Scientific Review (2-3 weeks)

The EIC then assigns the manuscript to 1 eiRxiv Reviewer. It takes approximately 2-3 weeks for the reviewer to provide feedback.

4. Scientific Review available on eiRxiv (1 week)

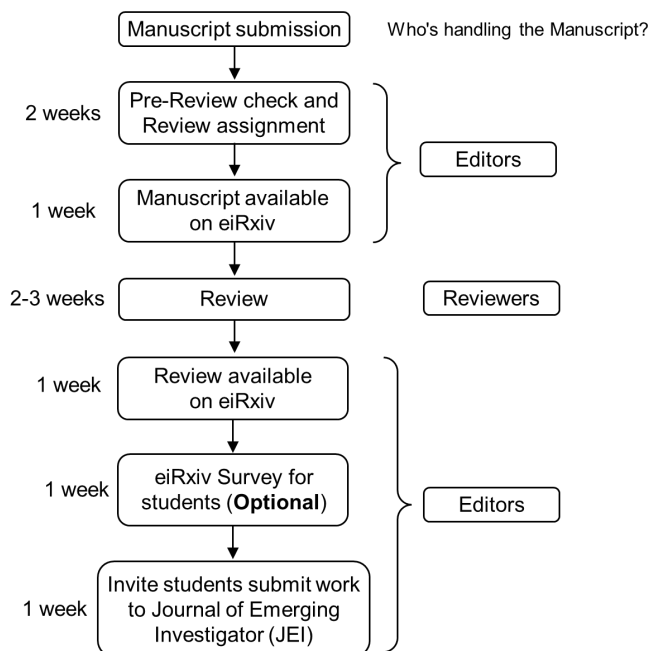
Once the EIC receives the scientific review from the reviewer, the EIC goes over the review to make sure that the review is educational and constructive. Then the review will be available on eiRxiv.

5. eiRxiv Survey for students (Optional) (1 week)

The EIC sends an eiRxiv survey to students to ask for feedback. This is optional. However, filling the survey will get an Amazon Gift card.

6. Invite students to submit their work to Journal of Emerging Investigator (JEI) (1 week)

The EIC invites students to submit their work to JEI.



Role in eiRxiv Editorial Branch

Editor in Chief

The Editor in Chief (EIC) oversees all eiRxiv publication processes. The EIC is the liaison for the eiRxiv Preprint Server team to the Executive Director and leadership team at Emerging Investigators. The EIC attends regular meetings to report on preprint metrics and ongoing projects. A key responsibility of the EIC is to advocate for the dedication and expertise of reviewers by recognizing their contributions, supporting their independence, and fostering a collaborative and respectful editorial environment. At the same time, the EIC ensures that reviewers are held to clear expectations for timeliness, quality, and professionalism in order to maintain the integrity and rigor of the research posted on eiRxiv. Additionally, the EIC is responsible for protecting the reputation, editorial integrity, and ethical standards of eiRxiv, while remaining open to constructive feedback and dialogue that supports its mission.

Requirements and Expectations for Reviewers

Though completely volunteer-based, we expect all our volunteers to take their role as Reviewers seriously. We strive to deliver quality feedback to our student authors in a timely manner as specified on our website. Please remember that for each manuscript we receive, there is an excited (and probably very nervous) young researcher eager to read our feedback and looking for validation from professional scientists! We want to encourage our students to pursue their research interests, so **it is of utmost importance that we provide prompt, encouraging, and constructive feedback.**

All reviewers are expected to adhere to the rules below when working on manuscripts for eiRxiv. Reviewers who repeatedly fail to follow these requirements will receive warnings and may eventually be removed from service.

1. You must respond **within three (3) business days of receiving a manuscript invitation**. It's okay if you are busy and cannot take the manuscript, but we need to know as soon as possible so that somebody else can be invited to work on the manuscript. When you decline, please provide a brief reason. If you decline a manuscript due to your availability, please update your profile. You can unclick the check box named 'available'.
2. **Please respect the deadlines for your assignment.** You must submit your review within the amount of time designated to you for your role. If you cannot, you must contact the EIC who sent you the assignment and provide a reason why you are missing the deadline.
3. Life can be full of unexpected situations. If you are unable to review manuscripts, please update your profile. You can unclick the check box named 'available'.
4. Communication to and from the senior editorial staff and leadership should be **respectful and timely**. Messages received (in any form) from an eiRxiv colleague should be responded to within two (2) business days, unless unavailable dates are set.
5. **You must work on the minimum number of one manuscript annually** to remain an "active" member of eiRxiv. This annual minimum will evolve as both the eiRxiv submission numbers and reviewer base grow. Inactive reviewers will receive warnings and may be removed from service.

6. You must ensure that the comments you provide are **helpful, easy to understand, and encouraging** for our “emerging investigators”, who most likely are publishing a scientific work of their own for the first time.

NOTE: The use of Artificial Intelligence (AI) to generate feedback on manuscripts is not only unethical but generally does not meet the above guideline as such comments tend to be vague.

7. **Have fun!** It is always refreshing to engage with students who are so passionate about their ideas. Yes, being an eRxiv Reviewer is a responsibility, but we are all here because we want to give back to the scientific community and provide opportunities for the next generation of scientists. Imagine yourself when you were in high school and channel your inner youth. Science can be both rigorous and fun, and we want that feeling of scientific excitement to be palpable in all our communications.

We'll send out announcements from time to time regarding open positions, you can apply via apply@eirxiv.org.

What about after I graduate?

Many of our Reviewers join eRxiv as graduate students. You can continue to work for eRxiv even after you graduate and move to a different part of the country (or even to a different country!). Here are some options to stay involved with varying time commitments to fit your new work schedule.

If you would like to stop working as an eRxiv Reviewer, please send an email to editor@eirxiv.org with your intent to resign and a brief explanation of why you wish to do so. Doing this allows us to ensure we avoid unnecessary delays in the editorial process due to unmonitored email accounts.

Working in the eRxiv Review Platform

Sign up

Please make sure you verify the following information is correct and/or present in your eRxiv account:

- Email
 - You can have one email address in your account
 - If you are graduating soon or leaving your current institution for any reason, be sure that you email the EIC to update the email address.
 - The EIC will add you to the eRxiv platform and send you an invitation to sign up.
- Address
 - We ask that all our volunteers keep their job title, school/Institution name up to date.
- Area of Expertise
 - Please make sure you add your area of expertise here. EIC will use these to match you as best as possible to assignments within your field.

Setting Availability

By default, it is assumed you are available to review manuscripts. If you are unable to review manuscripts, please update your profile at least 7 days in advance by unchecking the “available” box. If an emergency arises and you are unable to accept a review invitation or complete a review you previously accepted, please notify the EIC as soon as possible. We understand that unexpected situations happen and appreciate your communication.

[Video guidance for account set up: The EIC recorded this video for the account set up. Hope you will find it helpful.](#) 📺 eiRxiv Reviewer Account Set up.mp4

Responding to Invitations

You must respond **within three (3) business days of receiving a manuscript invitation**. It is okay if you are busy and cannot take the manuscript, but we need to know as soon as possible so that somebody else can be invited to work on the manuscript. Timely responses help us avoid delays in the editorial process. When you decline, [please provide a brief reason for your declination.](#)

If you [continually decline assignments](#) without providing a reason *or* continually do not respond to invitations within three (3) business days, the EIC **[will suspend your role.](#)** You may appeal via email and have your role reinstated, but please know that if we must remove any role a second time, we will not allow any further appeals.

[Video guidance for Review Invitations: The EIC recorded this video for responding to invitations. Hope you will find it helpful.](#) 📺 eiRxiv Review Invitation.mp4

Contacting eiRxiv Editorial Staff

[The preferred method of communication at eiRxiv is email.](#) Should you need an extension on any assignment or need to reach out to the EIC this can be done by directly emailing the EIC at editor@eirxiv.org

Reviewer Workflow

eiRxiv Reviewers provide scientific feedback to student authors relating to proper framing of the experimental question, use of a testable hypothesis, reasonable and controlled experiments, appropriate data analysis, and logical data interpretation. If you are requested to serve as a Reviewer on an eiRxiv manuscript, it is because we feel your scientific knowledge is relevant enough to permit you to provide useful feedback to the author.

Responding to a Review Invitation

When you are invited to review a manuscript, you will receive an email to the account(s) associated with your profile on the eiRxiv platform. To accept or decline the invitation, you have **three (3) business days to respond** to the invitation.

If you have questions about your ability to review the manuscript or other general questions, **please email the EIC.**

If you accept the invitation, the manuscript will move to the “Awaiting Review” section.

If you decline the invitation, the EIC respects your decision. The EIC would be grateful if you can provide a reason. Although the EIC will do their best to match manuscripts to Reviewers based on their scientific field and interests, manuscripts will not always fall entirely within your expertise. But in most cases, you will still be able to identify experimental weaknesses and encourage the students to think more critically about their research, as well as provide comments about scientific writing and presentation.

Manuscripts Outside Your Area of Expertise

We accept scientific manuscripts from a wide range of fields, and sometimes you will be asked to review a paper that is outside of your area of professional expertise. This occurs because middle and high school students often conduct research that is relevant to their interests (i.e., sports, video games, their community) but does not fit nicely into our professional classifications. If you are invited to review a manuscript, you are often the best fit that is available at that time. Please do not decline invitations because a manuscript is outside of your professional expertise.

If you feel that you absolutely do not have the required expertise to review the manuscript, please contact the EIC. They can provide more information regarding the types of review they were looking for from you as a Reviewer and determine if you are able to serve as a Reviewer for the manuscript.

Receiving Multiple Invitations

If you get invited to review a second (or third) manuscript and you already have an active assignment. In this situation you have two options: 1) accept the additional assignments and complete them as normal, or 2) decline the additional assignments and state that you are already working on a manuscript.

We do not expect reviewers to work on multiple manuscripts at a time, but you are welcome to as long as you can still complete the reviews within the standard timeline of two weeks/fourteen days.

Accessing the Submission

You will find the submission in your “**Awaiting Review**” section. Clicking on the manuscript will show you the PDF of the manuscript and additional files.

Reviewing a Manuscript

You have **14 days to submit your review** once you accept the invitation. Should something unexpected arise and you need an extension, please contact the EIC.

We recommend following this workflow when reviewing a manuscript.

1. Read through the entire manuscript for comprehension – without marking any edits
2. Read again marking areas for revision
 - If you are recording your edits in a separate word document or in the eiRxiv review form, be sure to note which section of the manuscript each comment belongs to. EIC organizes reviewer comments, so this is important to note in your review.
3. Make sure you look at the figures/tables and the associated captions

- Quality should be assessed by downloading the figures in the additional files.
- 4. Once you have your list of revisions, go through and decide what are recommended revisions.
 - Think about what edits would be nice for the authors to make. No eiRxiv manuscript is ever going to be perfect, so try to catch all the big picture items for our authors
- 5. [Submit your recommendation](#) and list of revisions to the EIC via the eiRxiv Review box

Video guidance for Review Expectation and submission: The EIC recorded this video for responding to invitations. Hope you will find it helpful.

 eiRxiv Review Expectation and submission.mp4

(Please keep in mind that EIC’s perspectives have limitations. Please feel free to speak up anytime. Our goal is to provide the best possible review to our students and make eiRxiv successful.)

Best Practices for Writing Reviews

eiRxiv’s main mission is centered around education, and Reviewers play a key role in this. Reviewers should provide polite, clear feedback to students on their manuscripts, with the goal of helping student authors learn and build skills in science communication and critical analysis that will benefit them long after they have published with eiRxiv. In order to maximize student learning, we ask you to keep the following best practices in mind when writing your reviews.

Review Organization:

- Provide line numbers for Presentation comments where feasible. This helps student authors identify exactly what part of the manuscript your comment applies to.
 - E.g., “L199: It’s unclear here whether you are referring to the treated or untreated cells. Please make sure you specify this.”
- Separate your Presentation comments by the manuscript section they apply to and your Figure comments based on the figure/table they apply to. If you have comments that apply to the whole manuscript, a “General” comments category may also be appropriate.

Review Content:

- Each comment in your review should clearly explain to the student a) what the issue is that needs to be addressed, b) why their current setup is problematic, and c) what they should do to fix it. Each of these aspects of the review comments are important for students to learn from the reviews and understand why their manuscript will be stronger after they implement the suggested change.
- Under no circumstances should AI be used to write or assist with your review. **eiRxiv strictly forbids the use of AI in generating reviews.** AI-generated reviews tend to be overly vague and general, and thus not useful for students. Additionally, it is not appropriate to input someone else’s original work into an AI tool.
- Remember that you are communicating with young students. Your comments should always be professional and kind in tone and should address the student author directly, using “you” and NOT “the authors”. Please see [Communicating with Student Authors](#) for more details.

Common Revisions

Below we have provided some of the most common revisions requested across all manuscripts at eRxiv. Please note these lists are not exhaustive and Reviewers should look for issues outside those listed.

Common scientific revisions:

For all scientific revisions, please remember that it may not be possible for our student authors to perform more experiments to address control, sample size or methodological errors. It is appropriate in these cases to have the authors address this in their Discussion. Ultimately, we want the authors to walk away from this process with a better understanding of how to design and communicate scientific research.

Statistical errors

- Statistics may be completely missing, or incorrect tests may be used.
 - You do not have to give the statistics an overhaul but keep an eye out for common errors such as lack of error bars on figures, multiple hypothesis testing, mixing up the definitions of mean/median/mode, etc.
- Statistics is an area our authors often struggle with, so making every attempt to provide explanations, online resources, etc. will greatly help them with making any changes.
 - We have a [statistics guide](#) in JEI author resources that covers basic t-test, ANOVA, and Chi-square design and calculations, along with correcting for multiple tests. This may be useful to link in any explanation to authors.

Control groups

- Some authors may not have a control group (negative or positive) in their analyses. Depending on the situation it may be reasonable to request additional experiments for this.

Sample size too low

- This is a common problem because some authors may lack access to enough equipment or numbers of subjects.
- Do not recommend repetition to increase sample size for the sole purpose of attaining statistical significance – only recommend repeating the experiment when low sample size precludes any sort of conclusion from the data (positive or negative).

Methodological errors

- If you notice that the authors have made mistakes in the experimental set-up or how they performed the experiment (possibly by omitting key steps, etc.), you can point out the mistakes and ask the authors to consider repeating the experiment.

Common presentation revisions:

Section organization and formatting

- A common organization problem that student manuscripts have is the Methods coming before Results. Fixing this involves a lot of restructuring, rephrasing of sentences and removal of now extraneous information.
- Another common problem is that information may be located in the wrong section.
 - Authors may include too much detail about their experimental setup in the Introduction or Results section. This will need to be moved to the Methods section.
 - Other authors may include explanations or justifications in the Methods sections that may be better suited for the Introduction.
 - Do familiarize yourself with the [eRxiv manuscript format and content](#).
- Some authors will break their Introduction and Discussion into subsections. Only the Results and Materials/Methods may include subsections.
- Numbered lists are also commonly seen in the Materials/Methods. These should be made into paragraph format.

Over-interpretation

- A common issue is that authors may over-generalize their results to apply to all cases of a scenario or use overly conclusive language that does not follow from a limited dataset. This may be more of a problem in papers with negative data.

Speculative writing

- Similar to the above point, authors can sometimes over-extend the importance of their results to large problems (for example, climate change and cancer). While this can be appropriate if the right language is used, it is important to remind authors to keep their discussion and speculation grounded.

Figures and figure captions

- Figures should be both submitted as a separate image file and embedded in the manuscript PDF file above its caption.
- Please make sure all figures have appropriately formatted captions and are not pixelated.
 - Figure quality should be judged using the figures above their respective caption at the end of the Word document.
 - We want captions to be present for figures as it gives us more opportunities to help authors refine what is contained in them. We have a very nice [guide to writing figure captions](#) in our submission guide.
- Where possible, graphs should show individual data points along with a summary measure (although this might be hard to do without access to software like Prism for our authors).
- Tables should be present in an editable format (not as an image) in the manuscript Word file above its caption. (This is hard to see unless they have also uploaded the table as an image.)

Nomenclature

- Students may not be aware of standard science nomenclature practices. Asking authors to fix them in scientific review helps make sure these edits have multiple rounds of reviewers before publications. Common issues include:
 - Gene vs. protein differentiation and capitalization between species
 - *ATP6V0C* vs ATP6V0C in humans (gene vs protein)
 - *Atp6v0c* vs Atp6v0c in mice (gene vs protein)
 - Genus and species shorthand (e.g., *E. coli*)

Submitting your Review

When you are ready to submit your review, click “**Save Review**” and “ ” for the appropriate manuscript.

Your recommendation consists of the following parts:

1. Comments to Author
2. Manuscript Summary
3. Science, Presentation, and Figure Comments

All parts of the recommendation are required. If you have no revisions for a certain section then you should write “N/A”. Continual failure to completely fill out all fields will result in retraining and ultimately removal of the Reviewer if the problem persists.

Comments to Author

Comments written in the review section will be visible to the public. Please make sure that your comments are constructive and educational. Please congratulate the students on their hard work and summarize your impression of the manuscript in an encouraging way.

Manuscript Summary

EIC will review this section, along with your review, to ensure that you have taken the time to fully understand and assess the manuscript.

Science, Presentation, and Figure Comments

As a eiRxiv Reviewer, you will guide student authors through their first scientific publication experience – you are their “ambassador to science”.

This is the main portion of the review. This section is divided into comments on Science, Presentation, and Figures.

This section should take the form of a list of changes. each followed by a detailed explanation of the problem and how it can be fixed. It is most helpful when you break your list down by section of the manuscript for the authors. **It is important that you are not merely listing one change after another but taking time to explain the comment to student authors and why such a change will improve their manuscript.**

Please keep in mind that all your comments are recommended changes that may improve the quality of the student’s manuscript. Students have the right to decide whether they want to follow your recommendations or not.

Attribution

You can choose whether you would like to have your name associated with them or not. eiRxiv has three options: (1) Public - Name|Job title|Institute Name; (2) Semi-Anonymous - Job title|Institute Name; (3) Anonymous.

[Video guidance for Review Expectation and submission: The EIC recorded this video for review expectation and submission. Hope you will find it helpful.](#)

 eiRxiv Review Expectation and submission.mp4

Communicating with Student Authors

It is important to always keep in mind that while eiRxiv is a preprint server, we are also educators. **Our goal is to teach young scientists about how to improve their scientific thinking & writing and encourage them to pursue their research interests.**

This means that we must pay attention to how we communicate with our student authors. eiRxiv Reviewers should give constructive criticism in a supportive and educational manner.

1. Your review should directly address the student author.

- Use “you” instead of “the authors” and “they.”
 - This is helpful both for the students because it feels more personal, and for the Reviewers because it is a good reminder to keep the language positive and educational.

2. The overall tone of your Reviews should be positive and encouraging.

- Remember that you may be the only professional scientist with whom a student author has ever interacted. Even when there are many comments, focus on the good aspects of the manuscript.
- Avoid language that is overly critical (e.g., “you were clearly wrong”). If something sounds too harsh or confusing to say to a student face-to-face, then it needs to be modified. Oftentimes adding “please” can help soften a comment asking for a particular change to be made.

3. Be as detailed as possible to guide the authors’ learning.

1. Include the location of the issue if possible (“Line 54:...”)
2. Fully explain what the authors have done that is incorrect or give concrete examples of the error (“You have stated that Protein X is important in cancer”)
 - If it is one error, include the error in the letter; if it is multiple errors, include an example of that error.
3. Explain what is wrong with what they have done/stated (“This is inaccurate because Protein X is actually important in inflammation, not cancer.”)

- This is crucial so that students can learn from their mistakes. If they don't understand why something is incorrect, they won't be able to fix it on their own in the future.
- 4. Give detailed instructions on ways to fix the error (“You should clarify that Protein X is important in inflammation and that the role of Protein X in cancer is currently unknown.”)
 - This is by far the most important for scientific errors, e.g., wrong statistical tests. They may not know how to fix their mistakes without guidance and can end up making more mistakes in the revisions. Reviewers need to offer the authors a clear way to address their comment. This can often include adding helpful links to guide the authors' learning.
- 5. Include links to relevant resources, if needed.
 - This is most relevant for science-related comments, such as those requesting additional or different statistical tests. eRxiv has a [submission guide](#) that includes explanations for common stats tests, detailed information on how to create visually clear figures and descriptive figure captions, and more.

4. Your comments should be easy to understand. Refrain from comments that are too complicated for the author to understand (e.g., using field-specific jargon without explaining), or too vague (“This sentence is unclear”).

- **Ask yourself this:** How would you explain the requested scientific revisions if the student was a younger sibling or family friend?
 - You may find that you need to explain some concepts in more depth (particularly statistics).

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If you have successfully submitted your review, you should see this notification and receive an email at the account associated with your eiRxiv account.