

Journal Club Leader Toolkit

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Preparing to Lead a Journal Club:

1) What is a Journal Club?

Journal clubs are a popular way for scientists to get together and critically evaluate recently published scientific papers. They allow participants to stay up to date with new techniques and advances in their fields of interest.

2) What is special about a Summer Journal Club?

Summer Journal Clubs are special because they delve in one subject for a relatively short amount of time. The level of experience for summer interns varies significantly, from interns that have no internship (or journal club) experience, to interns that have years of research experience.

3) What's in it for me?

Leading a Summer Journal Club gives the leaders an opportunity to gain experience in teaching, administration/organization, and mentoring. It's an opportunity to give back to the scientific community by helping interns improve their critical reading and analytical

thinking skills. Leaders also encourage the next generation of scientists to view science as not only necessary, but also fun!

4) How do I find a co-leader?

You can start by talking to your coworkers in the lab and asking around. It helps if you already have a general idea of what the topic might be. A good idea is to go to adjacent labs and talk to scientists there; one of them might also need a partner! You can also contact the Graduate Student or Postdoc Listservs requesting a partner, as well as NIH Interest Group or OITE Affinity Group. Finally, you can contact the Program Manager for the Summer Journal Clubs and they might be able to help pair you up.

5) Can postbacs be leaders?

Postbacs cannot be leaders on their own. If the primary leader is a postdoc or staff scientist, postbacs can participate as co-leaders.

6) What are the responsibilities of the leaders?

- Select the articles that will be discussed before the start of your journal club.
- Determine the format of your journal club.
- Maintain communication with the students throughout the duration of the journal club.
- Send articles to the students at least one week in advance.
- Communicate with the students' mentors to encourage them to attend your journal club.
- Assist OITE with the journal club evaluations from both students and leaders.
- Provide Certificates for students that attended 75% or more sessions.

7) How do I find and reserve a room?

First, you should know what you are looking for: a room that can accommodate 12-16 people. You will also need to arrange for any audiovisual (AV) equipment you want to use. Second, start with whom you know! You can talk to administrative staff, your PI or others in the lab that might help you reserve a room. Please, do not contact Events Management.

For virtual journal clubs, you do not have to reserve a room or obtain any extra equipment that would be needed for an in-person meeting. However, it is still your responsibility to create and host your meetings. You may use any platform you choose (Zoom, Webinar, Teams, etc.).

Picking a topic:

8) How do I pick a topic?

The topic should be broad enough to be of general interest; the journal club shouldn't focus on your specific research. On the other hand, it should be specific enough to have a focus (not "Cancer" or "AIDS"). **Lastly, it should be mainstream enough to attract students.** They'll want to learn about something they have heard about; the idea is to deepen their understanding.

9) What are some popular Journal Club topics?

Some popular clubs in 2023 were:

1. Communicating Health and Science to the Public
2. Convolutional Neural Networks for Novice (CNN4N)
3. Ex Factor: Environmental Exposures as Drivers of Cancer
4. Exploding Gradients: The rise of Large Language Models in AI
5. HIV Prevention and Cure: Do monoclonal antibodies hold the answer?
6. Neurobiology of Sex, Gender & Sexual Orientation.
7. The Good, The Bad, and The Ugly. Training your critical eye of scientific literature.
8. Uncovering drugs from cell-to-bedside

10) What are some popular Journal Club formats?

- a. Open discussion: Students discuss the assigned paper as a group (discussion directed by co-leaders).
 - o First session on how to read a paper, second session on how to present a paper and critically analyze figures. Following sessions, some students present background and the other students present the paper.
- b. Group presentations:
 - o Groups of 2-3 students divide up the paper and present the most relevant figures.
 - o Two groups present per session. Have each group present for 20 minutes then 10 minutes for discussion after each presentation.
 - o Create a booklet with the compiled papers and supplemental materials. Include a question sheet for each paper that will be discussed in the classroom.
- c. Debate:
 - o Group is divided into two subgroups; they will present papers that are for or against a scientific claim. Then encourage a debate on the papers' relative merits for the rest of the discussion.

****It helps to have a set structure beforehand that you can adjust depending on the group's needs****

11) How do I make my Journal Club interesting?

- a. Choose a topic that you're passionate about! Learn about your topic inside-out and talk about it in your own terms. Make sure that an array of students with different educational backgrounds can understand.
- b. Choose an angle that everyone can relate to. Make sure to use tangible examples and talk about the "big picture". Connect it to current topics in the news.
- c. Find a way for the students to participate, be it by asking open-ended questions, connect the topic to your experiences in the lab (vivid examples), and maybe bring snacks to make them feel comfortable in the classroom.
- d. Make the topic more visual.
- e. Choose a catchy title! Students have an array of choices for Journal Clubs to select from. A catchy title will make your Journal Club will stand out.

Setting Expectations:

12) Tips on how to set expectations (adapted from go.magoosh.com)

1. Let the students know what the rules and expectations are in the first session.
2. Determine what your expectations for the Journal Club will be. We suggest you speak to the students about expectations and answer any questions they might have regarding the purpose of the JC and the expectations. Remember that being flexible will give you more chances of reaching the students!
3. Be sure to model your expectations during each session. Let them see what you expect of them and provide them with opportunities to practice.
4. Establish a personal relationship by showing your enthusiasm for your subject. Let your students know how excited you are for them to learn in your Journal Club. Also, get excited for them when they succeed or grasp a new concept.
5. Consistently reward good behavior and address negative behavior. Don't ignore actions that go against the rules. You need to enforce the rules every day for every student. Period.
6. Become a real mentor. Get to know your students. Make the effort to memorize their names within the first session or two. Find ways to learn about their background, likes, dislikes, etc. Check in with your students on a regular basis to find out how they're doing.
7. Get feedback from your students. Feel free to ask them about their expectations for the leaders! Find out how they think you're doing and how Journal Club is going. Just be sure to adjust your expectations throughout the sessions, as needed.

No matter where your students are at the beginning of Journal Club, you can set high expectations and help your students achieve them. Of course, your students are going to try to test you. Be consistent and encourage your students to do their best and meet your expectations throughout the sessions.

13) How much time should I spend teaching students how to read a scientific publication and how to present?

This depends on the time allotted for each session. If it's an hour-long session you might want to stick to one topic, for example, how to read a scientific article. If you've allotted an hour and a half for the session, you'll probably have the time to discuss both topics in the first session.

14) Should I send out an email notifying the Journal Club participants' supervisors of their participation?

Yes. This will ensure that the students' supervisor(s) are aware of their participation and will allow them to take some time off from the lab to attend. It will also increase accountability and attendance.

15) What should I do if I need any accommodations? Or if any of the summer interns need accommodations?

American Sign Language interpreting services, CART services, and other reasonable accommodations are available upon request. Individuals who need interpreting services and/or other reasonable accommodations to participate in Summer Journal Clubs should contact OITE at oite@nih.gov or the NIH Interpreting Office directly at [nih@ainterpreting.com](mailto:.nih@ainterpreting.com). **Requests should be made at least five business days in advance, when possible, in order to ensure interpreter availability.**

Online resources:

Peer Reviewed Scientific Video Journal where you can find fun experiments and the reasoning behind them- <https://www.jove.com/>

Science in the classroom: Annotated research papers and accompanying teaching materials- <https://www.scienceintheclassroom.org/>

Howard Hughes Medical Institute, you can find information on new research and science education- <https://www.hhmi.org/>

Scientific American, you'll be able to find research papers explained with a focus on the general population- <https://www.scientificamerican.com/>

Understanding Science by UC Berkeley, you can explore an interactive representation of the process of science, resources for teachers and a resource library- <https://undsci.berkeley.edu/>

National Science Foundation Classroom Resources-
<https://www.nsf.gov/news/classroom/>

National Science Teaching Association (Journal of College Science Teaching)-
<https://www.nsta.org/college/>