Revised Skop Lab Meeting Formats

These meeting formats are designed to make lab discussions more useful, inclusive, and supportive for everyone—from undergraduate researchers to staff, graduate students, and postdocs. The goal is to improve experimental decisions, strengthen scientific storytelling, and make unexpected results productive.

1. Data & Experimental Design Talk

Purpose: Get early feedback on an experiment, dataset, or research direction before investing substantial time and resources.

Each presenter will post a **one-page overview in Slack at least 24 hours before the meeting**. Keep the language clear enough that everyone in the lab can follow the central idea, even if they do not work directly on the project.

Include:

- **Main question:** What are you trying to find out?
- **Hypothesis or prediction:** What do you think may happen, and why?
- **Experimental plan:** Show a simple workflow diagram. BioRender is encouraged.
- **Most important data:** Include only the key preliminary, positive, negative, null, or unexpected results.
- **Controls and limitations:** What comparison or control is essential? What might make the result difficult to interpret?
- **Decision needed:** What specific choice do you want the lab to help you make?
- **Possible next steps:** Propose two or three experiments or analyses you could do next.

Before the meeting, all lab members should read the one-page overview and post at least one question, suggestion, or comment in Slack.

Helpful question prompts:

- What is the most important question this experiment is meant to answer?
- Does the experiment test the hypothesis clearly?
- What control would make the conclusion stronger?
- Is there another explanation for this result?
- What result would change the next step?
- Which of the proposed experiments would be most informative first?
- What information is missing for us to make a good decision?

This format treats negative, null, and unexpected results as meaningful scientific outcomes—not failures to hide.

2. Research-in-Progress Talk

Purpose: Develop a coherent scientific story and receive feedback on projects that are farther along, including manuscript figures, grant aims, conference presentations, and mature datasets.

These talks should focus on the **research story**: what is known, what the data show, what the conclusions are, and what is still needed.

Presenter group	Presentation	Discussion
Postdocs, graduate students, and staff	30 minutes	15 minutes
Undergraduate researchers	15 minutes	5–10 minutes

At the end of the presentation, include a short **"story gaps" list**. This should identify what is still needed before the work is ready for its intended purpose.

Possible story gaps include:

- A missing experimental control
- A result that could be interpreted in more than one way
- A figure that needs to be created or improved
- An analysis that is still needed
- A missing experiment needed to support a central conclusion
- A background or literature point that needs clarification

Everyone in attendance should ask at least one question. Questions can be simple, such as asking for clarification, or more advanced, such as challenging an interpretation.

Helpful question prompts:

- What is the main conclusion you want the audience to remember?
- What evidence best supports that conclusion?
- What is the strongest alternative explanation?
- Which figure is hardest to understand, and how could it be clearer?
- What would a reviewer, committee member, or audience member likely question?
- Is there a missing control or analysis that would strengthen the story?
- What is the most important experiment or revision needed next?
- Does the conclusion match the strength of the data?

3. Operations & Career Development Meeting

Purpose: Address shared lab practices, improve how we work together, and support professional development.

Hold this meeting **once each semester**. Topics can rotate based on current lab needs and trainee interests.

Potential topics:

- Shared resources, reagent organization, sample labeling, data storage, and recordkeeping
- Lab notebooks, reproducible workflows, file naming, and data backup
- Authorship expectations, collaborations, communication, and project handoffs
- Preparing for presentations, posters, fellowship interviews, job talks, and networking
- Mentoring, onboarding, and lab culture
- One Skop Lab research overview: what should we **start**, **stop**, or **continue** doing?

Helpful question prompts:

- What part of our shared workflow is working well?
- Where do we lose time, samples, information, or clarity?
- What process should we start using?
- What process should we stop or simplify?
- What should we continue because it helps the lab succeed?
- What expectations around authorship, data ownership, or collaboration need to be clearer?
- What skill would help trainees most this semester?
- What resource, template, or shared practice would make research easier or more reproducible?