2015 SOARS Scientific Communications Workshop (SCW)

The general format of the Friday morning SOARS scientific communications workshop will be:

9:00-9:30 am: Ethics seminar; program announcements
9:30-11:30 am: Scientific communications workshop
11:30-12:30 pm: (some weeks) SOARS Seminar Series

All events are in Room 1003, UCAR’s Foothills Lab 2.

The SCW is designed to be a hands-on, discussion based workshop that will guide you through the process of preparing scientific presentations, posters and papers while also developing your confidence in talking about your research with a wide variety of audiences. The format is relaxed, and will not be lecture heavy, so we encourage you to do some background reading ahead of the workshop to ensure you get the most out of it. Please bring your laptops, lab notes and any papers etc. you need for writing!

Our format this year is going to be a mixture of instructor-led and peer-led content presentation (so you should expect to be part of at least one group presentation), writing analysis and peer review. There will be ample time for questions, and opportunities for the workshop style to evolve based on the needs and experience of the class.

During the week following each SCW you should:

a) Complete your communications piece as listed under “homework”.

- If it’s a written piece, send A DRAFT to your writing mentor for comment (by 5 pm Wednesday, or as arranged with your mentor), and upload to the SOARS google drive. (Incorporating your mentor’s suggestions is expected, but a revised version does not have to submitted, as we realize it may evolve significantly through the summer and may undergo several revisions with your various mentors). Many research mentors like to see your drafts at this stage too – please discuss with them when they’d like to be included in the writing feedback process.

- If it’s an oral piece, please look it over/practice with your writing mentor before Friday’s workshop.

b) If appropriate, also send your draft to your peer review group (also by 5 pm Wednesday). Read the pieces sent by your peers and prepare useful feedback for discussion at the session on Friday.

c) Look through next week’s suggested ‘background reading’ in preparation for the next workshop.

Note: If you’d like another reading of your writing following incorporation of your mentor and peer reviewer comments, you are always welcome to send things to Bec, rbatch@ucar.edu.
Syllabus

May 22: Overview

Discussion [Bec]: In this discussion we will talk about all aspects of science communication:
- Going about your research and keeping good records
- Working with your collaborators; giving and receiving feedback
- Presenting it: the poster, the paper and the presentation
- Defining your research question and crafting a title
- The elevator speech

Homework:
1) Prepare a one minute elevator speech summary of your research suitable for a general audience, to be presented at the next SCW.
2) Craft a good title for your research, upload it to google-docs and send it to your writing mentor by 5 pm Wednesday, May 27.
3) Find 2-3 papers related to your research to bring with you to the next workshop.

Background reading:
- Writing an effective title: Chapter 3, *Eloquent Science*

May 29: Reading the literature and creating a work plan

Ethics discussion topic: Plagiarism

Discussion [Bec]: After listening to all the elevator speeches, in this discussion we will talk about how to plan out your summer using a work plan. We’ll also discuss how to read and structure scientific papers, correctly cite the existing literature and plagiarism. Finally, we’ll begin work on a literature study.

Homework:
1) Literature study

Gather and read 3-4 papers in your field. For each:

- Read the abstract. Look for the context, the specific question the research addresses, and the key findings.
- Read the introduction. Pay attention to the way that previous literature is used to put the research in context and lead to the question that this work will address
- Read the methods section. Are there subsections? What level of detail is provided?
• Read the results/discussion sections. How are these arranged? If figures are used, think about how the captions are used to describe the work. Notice how the figures are referenced and discussed in the text
• Read the conclusion. How does it differ from the abstract?
• Look at the references. How are these cited in text, and in the reference section? (note this will vary by journal)
• Make yourself some notes about what was in the paper and why it was relevant to your work.

Once you’ve read all of your papers, write a 2 paragraph summary that brings the papers together in a way that’s relevant to your research (a short literature review). Include full citations in AMS style. Upload it to google-docs and send it to your writing mentor by 5 pm, Wednesday June 3.

2) Discuss your work plan with your mentors. Upload to google docs, and share completed copies with your mentoring team by 5 pm, Wednesday June 3. If a different format than that provided is more useful to you, that’s fine.

**Background Readings:**

• The Structure of a Scientific Paper: Chapter 4, *Eloquent Science* (particularly sections 4.6 & 4.7)
• Using Effective Words and Phrases: Chapter 10, *Eloquent Science*
• Literature reviews: [http://writingcenter.unc.edu/handouts/literature-reviews/](http://writingcenter.unc.edu/handouts/literature-reviews/)
• Citations and References: Chapter 12, *Eloquent Science*

**June 5: Introduction and methods**

**Ethics discussion topic:** Data fabrication in science

**Discussion [Group]:** In this discussion we will briefly debrief the literature study, and have our first two group presentations – on the *Introduction* and on the *Methods* section.

**Homework:**

1) Complete a **draft** of your methods section. Upload it to google-docs and send it to your writing mentor **and your peer review team** by 5 pm Wednesday, June 10.

2) Read your team’s method sections in preparation for the workshop on the 12th.

**Background readings:**

• The Structure of a Scientific Paper: Chapter 4, *Eloquent Science* (particularly sections 4.4 - 4.8)
• Using Effective Words and Phrases: Chapter 10, *Eloquent Science*
June 12: Illustrations, figures, and writing about your results

Ethics discussion topic: Ethical issues in atmospheric science

Discussion [Group]: We will begin this workshop working in groups to provide peer-review feedback on each other’s methods sections. We will then have group presentations on how we present results using figures, captions, tables, charts, and how we talk about them in the results and discussion sections.

Homework:

1) Write a draft of your introduction. Upload it to google-docs and send it to your writing mentor by 5 pm, Wednesday June 17.

Background readings:

- Figures, Tables and Equations: Chapter 11, Eloquent Science
- The Structure of a Scientific Paper: Chapter 4, sections 4.9 and 4.10, Eloquent Science

June 19: Awesome posters and presentations

Ethics discussion topic: Authorship

Discussion [Group]: In these group presentations, we will talk about creating and presenting your work in oral and poster forms, and share tips and tricks for talking to your audience.

Homework:

1) Prepare a 7-10 minute practice presentation, focusing on your introduction and method. You may include some results if you have them, but they are not required!

2) Discuss your presentation with your mentors.

Background readings:

- Constructing Effective Oral Presentations: Chapter 25, Eloquent Science
- Delivering Compelling Oral Presentations: Chapter 26, Eloquent Science
- Potent Poster Presentations: Chapter 27, Eloquent Science
June 26: *Practice talks*

Practice talks will be held in the small auditorium in FL2 from approximately 9 am – 2 pm (schedule to follow). This is not a high-stress environment, but a chance to practice standing in front of an audience and talking about your work. You will also have the opportunity to give and receive feedback from the other protégés.

July 3: No WORKSHOP (Holiday!)

July 10: *Abstracts and how to talk about expected results*

*Discussion [Bec]:* In this week’s discussion we will talk about abstracts – what they are, how they’re laid out, the differences between conference and paper abstracts, and how to write about the results you’re hoping to get, when you haven’t got them yet! We will do an in-class critical analysis of some sample abstracts, and will discuss your abstracts for the conferences you may choose to attend in the fall, as well as the EWSS abstract and figure that you’ll be preparing for SOARS.

*Homework:*

1) Prepare a draft conference abstract for SACNAS, AMS or AGU (talk with your mentors and/or Bec or Rebecca about the best conference for you). Upload it to google-docs and send it to your writing mentor and your peer review team by 5 pm Wednesday, July 15th. Critically review your team’s abstracts in preparation for the workshop on the 17th.

2) Write your EWSS (and paper) abstract and create a figure and caption suitable for inclusion with it. The figure should be in grey scale only, in tiff, eps or very high resolution jpg formats, and all text must be completely readable when compressed to 1/3 of a page. Discuss it with your mentors, and incorporate their feedback (your peer-review feedback of your conference abstract next week may be helpful too). The final version of your figure and EWSS abstract, on the EWSS template, will be due at 5 pm, July 22.

*Background readings:*

- The Abstract and Extended Abstract: Chapter 23, *Eloquent Science*
- SACNAS abstract submission information: [http://sacnas.org/events/national-conf/student-postdoc-research-presentations](http://sacnas.org/events/national-conf/student-postdoc-research-presentations)
- AMS conferences as part of 96th annual AMS meeting (January 10-14, New Orleans, Louisiana) - abstracts due August 1 [http://annual.ametsoc.org/2016/index.cfm/call-for-papers/](http://annual.ametsoc.org/2016/index.cfm/call-for-papers/)
July 17: Tying it all together

Discussion [Bec]: We will begin this workshop reviewing each other’s abstracts in small peer groups. I encourage you to also bring your EWSS figure for discussion during this time. After peer-review, we will talk about bringing all the pieces of your paper together, drawing conclusions and editing for coherence and flow.

Homework:

1) Complete drafts of your results and discussion section and conclusions, upload to google docs and send to your writing mentor by 5 pm, Wednesday July 22.

Note: At this point you will ideally have a near-complete paper. I suggest you aim to send the entire paper draft, having reworked previous sections as your research changed and to incorporate earlier feedback, to your mentors at this time (or a mutually agreed on alternative).

2) Reminder: The final version of your EWSS abstract, on the EWSS template, is due to Bec by 5 pm, July 22.

Background readings:

• The Structure of a Scientific Paper: Chapter 4, Eloquent Science

July 25: We’re nearly there!

Discussion: No formal discussion this week. Instead we’ll have workshop time where you can break into small groups to assist with editing, do a practice talk, show your poster or simply work on your output with opportunities for feedback/help.

Homework:

1) In addition to the SOARS deliverables (all due next week), conference abstracts are due in the first week of August (see Background Readings, July 10 for deadlines).
2) Please complete the **SOARS Conference Abstract Pre-Submission Form** for all conferences you plan to attend, and have them signed off by your mentors and Rebecca before submitting your abstract(s).

**SOARS Colloquium**

**DEADLINE: Poster required for printing**

**Poster Session**

**DEADLINE: Paper due**

![](image)

---

**Deadline Summary**

(All deadlines 5 pm unless otherwise noted)

- **Wednesday, May 27:** Working title
- **Friday, May 29:** 1 minute elevator speech (during SCW)
- **Wednesday, June 3:** Literature review; Work plan
- **Wednesday, June 10:** Methods section (draft)
- **Wednesday, June 17:** Introduction (draft)
- **Friday, June 26:** Practice talks (7 minute, intro and methods)
- **Wednesday, July 15:** Conference abstract (draft)
- **Wednesday, July 22:** EWSS abstract and figure (FINAL)
  - Results and Discussion, Conclusions (draft)
  - Suggest also whole paper draft around this time
- **Sunday, July 26, 8 pm:** Colloquium presentation to Bec (FINAL)
- **Monday, July 27:** Colloquium (12 minute talk, 3 minutes for questions)
- **Wednesday, July 29, 8 am:** Poster due for printing (FINAL)
- **Thursday, July 30, 2 pm:** Poster Session
  - SOARS conference abstract pre-submission form completed
- **Friday, July 31, 5 pm:** Paper (FINAL)
  - Conference abstracts submitted