

2017 SOARS Scientific Communications Workshop (SCW)

The general format of the Friday morning SOARS workshops will be:

9:00-9:30 am: All group check in; program announcements

9:30-11:30 am: Scientific communications workshop (data workshop for returning protégés during some weeks)

11:30-12:30 pm: (some weeks) SOARS Seminar Series

2:00 – 4:00 pm (May/June): Data Workshops (New protégés) or SCW (returning protégés)

Note that there will be events throughout the day on Friday most weeks; in general you will not see your protégé on Fridays in June, and may or may not see them Friday afternoon in July. We will remind you of our calendar throughout the summer.

Most events are in the EOL Atrium FL1-2918, UCAR Foothills Campus.

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 the 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) and some learn-create- peer-review workshops. 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 be 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) 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 26: 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 31**.

Background reading:

- How to develop an elevator speech:
http://www.bandwidthonline.org/howdoi/develop_elevator_speech.asp
- Writing an effective title: Chapter 3, *Eloquent Science*

June 2: Reading the literature and creating a work plan

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 how to avoid 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 7**.

- 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 7**. 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/>
- Citations and References: Chapter 12, *Eloquent Science*
- AMS reference formatting
<https://www.ametsoc.org/ams/index.cfm/publications/authors/journal-and-bams-authors/journal-and-bams-authors-guide/references/>

June 9: Introduction and methods

Discussion [Group]: We will begin this workshop by debriefing the literature study. We will then have our first two group presentations – on the *Introduction* and on the *Methods* sections.

Homework:

- 1) Complete a **draft** of your methods section. Upload it to google-docs and send it to your writing mentor by 5 pm Wednesday, June 14.

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 16: Illustrations, figures, and writing about your results

Discussion [Group]: In this class we will 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 21.

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 23: Awesome presentations

Workshop: This workshop will be an all-in-one learn, create, present, and review block workshop on oral presentations, in preparation for our practice talks next week. Our first group will talk about *creating great scientific talks*, then we will open power point and build one. Our second group will *share tips and tricks for presenting your talk* and we will work in small groups to present and peer-review them.

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! Most of this will hopefully be done in class!
- 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*

June 30: Practice talks

Practice talks will be held in the small auditorium in FL2 from approximately 9 am – 3 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 7: All about abstracts

Workshop: This workshop will be another all-in-one learn, create, present, and review block workshop, this time focusing on abstracts. We will learn what an abstract is, how it's 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. And then we will each write, share, and review an abstract.

Homework:

- 1) Complete your conference abstract for SACNAS, AMS or AGU (talk with your mentors and/or Bec about the best conference for you). Upload it to google-docs and send it to your writing mentor by 5 pm Wednesday, July 12th. *If you are planning on submitting to SACNAS, you will need to finalize your abstract with your mentors and submit by July 14.*
- 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. **The final version of your figure and EWSS abstract, on the EWSS template, will be due at 5 pm, July 26.**

Background readings:

- The Abstract and Extended Abstract: Chapter 23, *Eloquent Science*
- 2017 SACNAS National Conference: <http://www.2017sacnas.org> (October 17-21, Salt Lake City, Utah) **ABSTRACTS ARE DUE BY JULY 14**
- AMS conferences as part of 98th annual AMS meeting (January 7-11, Austin, Texas) - abstracts due August 1 <https://annual.ametsoc.org/2018/index.cfm/call-for-papers/>
- AMS Student conference (January 6-7, Austin, Texas), abstract deadline August 1: <https://annual.ametsoc.org/2018/index.cfm/programs/conferences-and-symposia/17th-annual-ams-student-conference/>
- AGU Fall Meeting, (11-15 December, New Orleans, LA) - abstract deadline TBD (early August) <http://fallmeeting.agu.org/2017/>

July 14: Tying it all together

Discussion [Bec]: During this short class, we will discuss the final pieces of your paper – conclusions, acknowledgements, references and authorship. Finally we will discuss how to bring all the pieces of your paper together and edit for coherence and flow.

July 21: Posters

Workshop: This workshop will be our final all-in-one learn, create, present, and review block workshop, taking all the work you have done so far and turning it into an awesome poster! Please come prepared with figures, graphics and photos that you might want to include on your poster.

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 26.**

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 26.**
- 3) **Reminder: The final version of your talk is due on July 28.** Finish it up so you have time to go through it with your mentors next week!

Background readings:

- The Structure of a Scientific Paper: Chapter 4, *Eloquent Science*
- Potent Poster Presentations: Chapter 27, *Eloquent Science*

July 28: 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 in the next week), many conference abstracts are due in the first week of August (see Background Readings, July 7 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 Bec before submitting your abstract(s).

SOARS Colloquium	31 July
DEADLINE: Poster required for printing	2 Aug, 8 am
Poster Session	3 Aug, 2 pm
DEADLINE: Paper due	4 Aug, 5 pm

Deadline Summary

(All deadlines 5 pm unless otherwise noted)

Wednesday, May 31:	Working title
Friday, June 2:	1 minute elevator speech (during SCW)
Wednesday, June 7:	Literature study; Work plan
Wednesday, June 14:	Methods section (draft)
Wednesday, June 21:	Introduction (draft)
Friday, June 30:	Practice talks (7 minute, intro and methods)
Wednesday, July 12:	Conference abstract (draft)
Wednesday, July 26:	EWSS abstract and figure (FINAL) Results and Discussion, Conclusions (draft) - Suggest also whole paper draft around this time
Friday, July 28, 5 pm:	Colloquium presentation to Bec (FINAL) SOARS conference abstract pre-submission form completed and Abstracts Submitted (if not already done)
Monday, July 31:	Colloquium (12 minute talk, 3 minutes for questions)
Wednesday, Aug 2, 8 am:	Poster due for printing (FINAL)
Thursday, Aug 3, 2 pm:	Poster Session
Friday, Aug 4, 5 pm:	Paper (FINAL)