

DATE: 14 Aug 2023
TO: IMP Graduate Students Presenting Literature Seminars
FROM: Liviu Mirica (Chem 515), So Hirata (Chem 545), & Gregory S. Girolami (Chem 585)
SUBJECT: Literature Seminar Guidelines

GENERAL THOUGHTS

Giving an effective talk to a technical audience is a key skill that every scientist should master. The literature seminar gives you an opportunity to add to your skills in presenting scientific information to other scientists. It is also a chance to read up on topics that interest you but are not related (too much) to your thesis.

You will get a grade that will be assigned by the course instructor, with input from your audience.

TIMELINE and DEADLINES

- (1) Separately from this document, you will receive information about (a) an organizational meeting with one of us (the Chem 5x5 course instructor for your area), and (b) choosing a date for your literature seminar. The literature seminars are held in the same time slot as for regular seminars in the I, M, and P areas. Your seminar should be given on a day when your advisor is in town to enable him/her to attend. It is also a good idea to invite your committee, so they can see you in action and provide feedback.
- (2) Start thinking *now* about possible topics (see later sections for details).
- (3) **Early September (exact time to be announced later), 1024 Chem Annex.** Please attend the “Seminar on Seminars” by Prof. Kenneth Suslick. The slides and a recorded version of the talk are also available at <http://www.scs.illinois.edu/suslick/seminars.html>
- (4) **Five weeks before your seminar or earlier:** Final selection of the seminar topic; get approval for your topic from your advisor, then subsequent approval by the course instructor. This can be done via email or in person.

The literature seminars should not consume massive amounts of time. After you have chosen a topic, two or three weeks of intensive preparation should be sufficient to master your topic area.

- (5) **Three weeks before your seminar:** Contact the course instructor to get final approval for your title and to review a draft outline for your seminar. This can be done by email or in person.
- (6) **Two weeks before your seminar:** Please email the IMP office the approved title of your seminar for inclusion in the SCS weekly seminar bulletin.
- (7) **Ten days before your seminar:** Please email the course instructor a draft copy of your abstract for review, in the format outlined at the end of this memo. After you receive back suggested edits and get final approval of the revised abstract from the course instructor, submit the approved abstract to the IMP office as a PDF document, again in the format outlined at the end of this memo.
- (8) **One week before your seminar:** Please arrange to meet with the course instructor to review

your slides (in some semesters, this review may be conducted in the seminar room with the other Chem 5x5 students present).

- (9) **On or just before the day of your seminar:** Make sure you are familiar with the technical aspects of the projection system in the room before you need to use it.

CHOICE OF TOPIC

Your topic must be approved by your research advisor and then by the course instructor. The topic should be one that *interests* you and will interest others.

Your topic must NOT be closely related to any research being carried out in your group, and should not be related to a topic you have presented before in any format. The seminar is intended to be a learning experience in both subject matter and presentation skills, and these goals are too easily circumvented if your group works on the same topic or if you have previously done something like writing a term paper on a similar topic.

Your topic should also be different from those presented in a literature seminar during the past few years unless developments in the area have been particularly dramatic. Examine the literature seminar abstracts on-line at:

<https://chemistry.illinois.edu/research/materials-chemistry/materials-literature-seminar-abstracts>

<https://chemistry.illinois.edu/research/inorganic-chemistry/inorganic-chemistry-literature-seminar-abstracts>

<https://chemistry.illinois.edu/research/physical-chemistry/physical-literature-seminar-abstracts>

CONTENT OF SEMINAR

You are not allowed to use recently published review articles to prepare your talk. One of the purposes of the literature seminar is for you to review a recent topic of interest. This goal is thwarted if you rely on someone else's efforts to review a topic.

All of the papers discussed in the main part of the presentation must be from the last five years. A few earlier papers may be mentioned in the introduction. The literature seminar is supposed to cover recent scientific results; your audience has little need to hear about older material.

The scope of the seminar should be limited to permit reasonable depth in treating the literature discussed. It is best to concentrate on several important papers rather than attempting to cover a wide range of subject matter. It is best to focus on a topic, not an individual research group.

If you choose a topic that is interdisciplinary, it will be your responsibility to describe in some detail its relationship to inorganic, materials, or physical chemistry (as appropriate for which Chem 5x5 course you are enrolled in).

LENGTH OF SEMINAR

The length of your presentation should be about 20 minutes, followed by up to 10 minutes for Q&A. This amount of time, which corresponds roughly to 20 to 30 slides, is similar to the lengths of contributed talks at ACS meeting.

VISUAL AIDS

Please give your seminar as a PowerPoint or Keynote presentation.

Avoid putting too much material on one slide. At the other extreme, slides with only a few words on them should be avoided. Your first slide should be the title of your presentation and your name. Some presenters like to show an outline, but for only a 20-minute talk, it is debatable whether this is necessary.

Tabulated data is sometimes required but should be kept at an absolute minimum. Extensive tabulation is a mark of a poor seminar. If at all possible, you should present your data in graphical form; in this way the audience can see the trends. Raw spectroscopic data are a very helpful way of touching base with reality and have a tremendous teaching value. Such data should be carefully labeled; graphs should show the compound structure, should be scaled (i.e., in Gauss, cm^{-1}), and for complex spectra the most important data should be highlighted.

Carefully proofread the slides for spelling and proper English grammar.

TELLING THE STORY

It is important to place the topic in some perspective. This means that you should introduce your topics (compounds, techniques, theories) with a textbook-level discussion. Attempt to be critical in evaluating what you read. The level of your talk should be sophisticated, but intelligible to the attentive non-specialist.

A successful literature seminar will be one in which you, and the audience, have learned something new, possibly to the point of wanting to work in that field later. You should not just report what other people have done; provide context, explain why this area is interesting and important. Highlight controversies, if they exist, and explain the reasons for it. Try to think of your literature seminar as a story you are telling: who are the main actors (these could be research groups or materials)? What are they doing and why? What did they learn and where do we go from here? If you are really interested in this off-thesis topic, keep it in mind: you might be laying the groundwork for your ORP in Year 4!

One of the best ways to approach your literature seminar is to pay close attention how visiting speakers present their material and decide for yourself what you think is effective and what is not. Remember that there are many ways to present an effective scientific seminar: part of the learning experience is finding out what works best for you.

Practice your seminar before a few people to test for clarity and length. Avoid distracting habits, such as “um”, “O.K.”, “very, very”, leg stamping, etc. Humor should in general be avoided; it can be a major turnoff in a technical presentation unless handled delicately. Make sure to familiarize yourself with the lighting controls in the seminar room. You are also responsible for bringing a laser pointer or one can be checked out from the IMP office.

ABSTRACT

Your abstract must be submitted as a PDF document in precisely the same format used in past model abstracts (see URLs above to view past abstracts)

Remember that **three pages** is the upper limit on length. Please make special note of the following:

- (1) **Font:** Times 12 point everywhere except in the title, which should be in Times 14 point.
- (2) **Margins:** Top, 1.00 inches; Bottom, 1.0 inches; Left, 1.00 inches; Right, 1.00 inches; gutter, mirror margins, 0.50 inches. All artwork, equations, etc. must stay within the margins. Right-justify the text.
- (3) **Title/Author Lines:** The abstract begins with the title in bold face Times 14 point font, centered. The title line is followed by a blank line and then your full name (left justified), "Literature Seminar" (centered), and the seminar date (right justified). This line is separated from the abstract text by two blank lines.
- (4) **Indents:** Indent paragraphs and references by ½ inch as the past model abstracts.
- (5) **Artwork, Equations, Tables, etc.:** Include one blank line both before and after each inserted figure, scheme, or table. You are encouraged to use ChemDraw® for line drawings. If you use a figure copied from the literature, it is a good idea to edit it in Photoshop or other drawing program to remove information you will not discuss. Label the figure as shown in past model abstracts (e.g., **Figure 1.** Crystal structure of compound **1.** Taken from reference 8.). Use Arabic numerals to number figures, schemes, and tables.
- (7) **References:** Follow the format used in past model abstracts and when in doubt, consult the *ACS Handbook for Authors*. You should **not** place a comma after the last author's initials or after the abbreviated journal title. Format the reference section with 0.5 inch hanging indents. Use the following ACS formats and the ones used in the past model abstracts:
 1. Doe, J. S.; Smith, J.; Roe, P. Stereochemistry of Diels-Alder Reactions. *J. Am. Chem. Soc.* **2018**, *140*, 8234-8265.
 2. Smith, A. B. *Textbook of Organic Chemistry*; D. C. Jones: New York, 2021; pp 123-126.
 3. Wawzonek, S. Potentiometry: Oxidation-Reduction Potentials. In *Techniques of Chemistry*; Weissburger, A., Rossiter, B. W., Eds.; Wiley-Interscience: New York, 1971; Vol. IIA, Chapter 1.
- (8) **Page Numbers:** Please do number the pages of your abstract.

EVALUATION OF SEMINARS

There is a standard evaluation form we use for literature seminars. These forms will be used to determine your grade, with larger weight given to faculty opinion. The results will be communicated to you toward the end of the semester.