Scientific Writing: Key Principles
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June 21, 23, 25 (M, W, F), 2010
3:00-5:00 PM

Goals:
1) Learn how to effectively communicate the what, why, how, and outcomes of experimental aims (what you did and what you found).
2) Learn how to write effective proposals and how this differs from other forms of scientific writing.

Objectives:
1) Learn the differences in scientific writing requirements (e.g. writing abstracts versus proposals)
2) Learn how to tailor writing to a specific audience
3) Write with clarity (effectively conveying scientific ideas as well as using proper grammar)

Session 1: Introduction
This session will begin with introductions of the teachers and students followed by a survey of the student’s personal writing goals and areas they feel need improvement. Then we will note the differences between writing requirements for various publications such as writing a meeting abstract versus an article abstract, differences in writing between proposals and scientific papers, etc. Finally, we will give handouts displaying the different nuances in scientific writing depending on the audience.

Session 2: Writing a Journal Article I- Abstract
This session will de-convolute the different parts of a scientific article and strategies that can be used to organize and prepare an article. The focus will be on writing abstracts- students will be asked to write an abstract based on a research rotation or previous research experience. They will have time in class to prepare and their final writing samples will be critiqued in pairs in the following class.

Session 3: Writing a Journal Article II- Introduction and Methods
We will go over writing detailed experimental methods and appropriate introductions including deciding what type of papers to cite. Students will work on second writing sample with a critique in different pairs in the following session.

Session 4: Writing a Journal Article III- Results and Discussion
This session will focus on organizing data for presentation and on what aspects are exclusive to the Results versus the Discussion section of an article for clarity and to avoid redundancy. Work on next writing sample.

Session 5: Writing Proposals I
Focus on writing hypothesis-driven proposals with an emphasis on the background and significance of the subject. Activity (to stress the importance of writing a proposal with significance in mind): have students “sell” why they believe the IMSD program is valuable or why they feel their rotation project is deserving of funding. Students will evaluate each other’s “sales pitches” and the most convincing will receive an “award”.

Session 6: Writing Proposals II; Wrap-up and Assessments
Focus on aspects of stating specific aims and experimental design in proposals. Each student will review their first and final drafts of each writing assignment and then complete a questionnaire based on an overall assessment of their improvement.