Week 9: Writing II - Developing and Writing a Research Paper:

The roles of the title, abstract, introduction, materials and methods, results, figures, tables, legends, discussion and conclusions will be reviewed. A discussion of where to start and how to proceed in writing a research paper will conclude with an analysis of well-written and flawed papers.

Instructors Outline

Reference literature:
* ACS Style Guide: A Manual for Authors and Editors* by Janet S. Dodd
* How to Write and Publish a Scientific Paper* by Robert A. Day
* Handbook of Technical Writing* by Gerald J. Alred, Charles T. Brusaw, Walter E. Oliu
* The Elements of Style* by William Strunk Jr. and E. B. White
* Writing a Thesis: Substance and Style* by R. Keith van Wagenen
* MLA Handbook for Writers of Research Papers* by Joseph Gibaldi

Introductions to Developing and Writing a research paper:
Scott’s ppt presentation (*Scott’s power point presentation can be found on the previous page in the ‘course notes’ section*)

Process, “Outlining”: Find a journal template. Start with figures/tables, schemes then write around data. Who to send paper to (editors)

Read and go over the assigned primary literature for grammar, style, and content. (*have overheads of the articles*)


Discussion with students (20 min):
What makes a good paper, science vs. presentation?
Does effective writing make a better paper?
Discuss the papers you have been asked to read. Which was a good paper and which was a particularly poor paper? What attributes gave it such a designation?

I. Purpose
   a. Results
   b. Audience
   c. Authorship

II. Mechanics
   a. Who writes the paper?
   b. Structure
      i. Title
      ii. Abstract
      iii. Introduction
      iv. Experimental Design
         1. Figures
         2. Schemes
      v. Results
         1. graphs
         2. tables
      vi. Conclusions
   c. Proper citation
      i. plagiarism: paraphrasing, quoting, and ideas
      ii. Where is proper citation necessary

III. Drafts and revisions
   a. The importance of allowing time for revision
   b. Allowing others who are not directly associated with the work to aid in the revision process