12.S593: Proposals and Pathways

This seminar will build skills for writing scientific proposals and facilitate investigation of career pathways. Topics covered include scientific writing and graphics, proposal writing for grants and fellowships, and exploration of academic and non-academic careers.

Instructor: Paul O’Gorman
Email: pog@mit.edu
Office: 54-1712

Meet Thursdays 3-4.30pm in 54-517
Class webpage: http://www.mit.edu/~pog/proposals_pathways.html

Topics

1. Scientific writing and graphics: brainstorming, literary versus scientific writing, effective paragraphs and sentences, graphical excellence, data-ink maximization, editing and finishing up, ethics including self plagiarism

2. Proposal writing: Overview of funding landscape, how to write for proposal reviewers, common mistakes, maximizing programmatic relevance, title and project summary, scientific objectives, background, research plan, budget and overhead

3. Exploration of academic and non-academic careers: students interview 1-2 professionals working in careers they are interested in (e.g., academia, industry, national lab) and report their findings in a written summary and presentation to class.

Books and References

- Schultz, Eloquent science: A practical guide to becoming a better writer, speaker, and atmospheric scientist, AMS Books, 2009 (available to download through MIT libraries)
- The grant application writer's workbook, NSF Fastlane Version (available here)
- Tufte, The visual display of quantitative information, 2nd edition (available here)
- Feibelman, A PhD is not enough, Basic Books (available here)

Format and Assessment

Readings will be assigned before each class. Class time will involve discussion of readings lead by a different student each week and a follow-on class activity. Career section involves presentation to class at end of semester and written summary. Graded P/D/F.