

## **GRADUATE SCHOOL AND BEYOND**

**Moderator: Charles B. Fenster (Professor)**

**Meeting time: Mondays-Thursday 12:15-13:10, First meeting for organization Monday February 27.**

**Place: NTNU**

### **Workshop Objectives;**

1. Empowerment
2. Widen perspective
3. Develop leadership skills

### **Description:**

This workshop will be a DISCUSSION of the skills and knowledge necessary to succeed in a MSc or PhD program, as well as discussions of work/life balance, gender issues, and alternative career options. Successfully navigating these issues will benefit your post-graduate career. There will be readings that I have acquired over the years. These readings should not be considered as fact, but rather as starting points for discussion and self-thought, with the goal of knowing what the expectations of others are of you and constructing your own expectations of yourself, your advisor, your lab mates, and graduate programs at your institution. The plan is for you to learn skills that will allow you to meet these expectations. My hope is that this workshop will contribute to the timely completion of your degrees, one of the highest priority issues on campus. Some guest lecturers will be brought in to discuss non-academic career paths as well and we will have a panel discussion of work / life issues.

Achieving a graduate degree, and especially a PhD is both one of the single hardest accomplishments and one of the easiest tasks. To get your degree you will need to multitask (e.g., research and (in the US) teaching duties), learn new skills, including those associated with acquiring data, obtain funds to collect the data, as well as effectively communicate what you have learned. This is all easily done if you have passion for your research. This may be the first time that you are actually comfortable in your own skin, content with the intellectual challenges that YOU have created, and surrounded by like-minded individuals. As a bonus you WILL have acquired many skills that will allow you to do just about anything you want to do after graduate school.

In addition to discussing the habits of success (the importance of bringing passion and professionalism to campus) we also cover the nuts and bolts of success:

- If time allows, the 30 and 60 second elevator talk (used during the panel discussions, below)
- How to write a paper for an academic journal (in one meeting)
- The importance of peer review and how to write peer review

For example, I try to remove the mystery of writing a journal article, but I do not focus on good writing techniques. For the latter, I encourage students to identify authors whose style they want to emulate, in terms of sentence construction. Mostly we discuss how an academic article, the outcome of their thesis work, is constructed, in terms of breadth and focus, how many paragraphs in a typical introduction, etc., and how many figures and tables in in typical journal article. With this foundation, the mysterious aura of writing is removed, and students learn the common formulas of article construction, e.g., most scientific

articles are 20-30 paragraphs long, and if one can find the time to write just one paragraph per day, they can have a first draft written in 4-6 weeks.

Furthermore, we will discuss various career alternatives to academia in a positive and constructive perspective as well as work / life balance. Using people from the area or via remote participation, I invite panelists to discuss with the students their experiences and suggestions on these latter two topics. In the past speakers have come from industry, government, NGO's and always include equal representation of genders and various family contexts (for work / life balance and gender issues).

The workshop material is mostly general and can be used for any discipline that uses quantitative approaches including social sciences, and engineering. Many of the topics would be relevant for the non-sciences.

In short, the workshop reinforces the notion that graduate student's time on campus is to generate new knowledge and doing so requires certain habits of success and passion for their work. But just as importantly, these acquired skills and collective thought on work / life balance, including frank discussion of mental health issues, can be used to successfully navigate a post-graduate career.

Summary:

*In the end, the workshop can act to facilitate the development of future leaders academic or otherwise, because leadership skills depend on having a wide perspective that empowers people to see and act upon problems.*

I will treat you as colleagues, so that I will expect from you the same energy and intellectual engagement that you get from me.

### **Assignments:**

Discussions will be largely participant lead. Note the readings are not hard to complete and you should cherry-pick those readings that most interest you. However, for the most part reading all the material might take about an hour or less per discussion topic. The Discussion Leader(s) **will come with 3 questions** to be used to promote discussion. NO POWERPOINT presentations are necessary (or helpful). Anything learned from the class will come from the discussion points raised by the Leader(s) or by you, the participants. In short, the heaviest investment of time will be the time spent in class.

BELOW is the workshop outline. I will begin to provide reading materials prior to our first meeting.

Syllabus: Grad School And Beyond

All Meetings on Monday-Thursday 12:15 – 1:10

Week 1:	
Monday Feb. 27	Introduction, Assignment of tasks
Tuesday Feb 28	General expectations for graduate school
Wednesday March 1	The foundation for a successful thesis
Thursday March 2	Importance of academic societies, publishing in society journals, H-Index Importance of society meetings, presenting posters and session talks (CBF)
Week 2:	
Monday March 6	How to write a paper for submission to a society journal (CBF)
Tuesday March 7	The PEER review process
Wednesday March 8	Science and Ethics
Thursday March 9	Career options: academic and academic alternatives Panel Discussion
Week 3:	
Monday March 13	Science and Society
Tuesday March 14	Work / Life Balance and Panel Discussion
Wednesday March 15	What happens next? Postdoc(s), tenure, building a national/international reputation, other careers