Overview

- Stages of the Doctoral Study
- The Daily Grind
  - Reading
  - Listening
  - Doing
  - Journal
- Advisor
- Committee
- Expectations
Stages of the Doctoral Study

- Field
- Area
- Direction
- Topic
- Thesis

The Daily Grind

- Getting the ideas
- Trying the ideas
- Sharing the ideas
- Documenting your work
Getting the ideas

• Reading, reading, reading...
• Attending research seminars
• Attending conferences
• Talking
• Explore broadly! Most creative ideas appear on the crossroads
  – Old problem, new math
  – Problem from one field, approach from another

The Motto of an PhD Student?
Trying the Ideas

• Don’t just sit there, do something
  – You will not get real experience until you try to do something
• Try a small-scale project
  – You have a space for two with two independent studies!
• Start something new or add new component to an existing project
• The benefits of a large group

Sharing the Ideas

• Sharing you ideas will bring you critical feedback
  – White paper, share with advisor and friends
  – Presentation at your group seminar
  – Doctoral Brown Bag
• Start publishing early
  – Workshops, student posters
  – Your Prelim paper
• Share broadly
  – Sharing your ideas will make you “known”
  – It’s easy to learn from others when you have something to say!
Documenting Your Work

- Maintain a research journal
- Central place to put in ideas, reflect on readings and seminars, plan the work and analyse results
- Paper days are gone, use an information system
  - Search, tagging, structuring
- Keeping a blog may combine the journaling and the sharing issues – you will be heard
  - Sometimes you do not want to ...

Advisor

- Advisor is the most vital to your success
  - PhD study is an apprenticeship
- Academic advisor vs. research advisor
- Find your research advisor
  - See and talk to every candidate advisor
  - Go to Brown bag seminars, colloquia
  - Ask around (but use your common sense!)
- Follow your candidate advisor
  - Take his/her classes
  - Attend his/her research seminar
  - Read his/her thesis and papers
The Advisor: Critical Issues

• Is his/her area of research something that I want to get into?
• Is he/she a good scientist?
• Does he/she have a good track record in terms of publications and funding?
• Has he/she been a good advisor for his/her students (ask around)? Have there ever been problems in his/her interactions with students?
• Is his/her research style fitting my expectations? Can he/she be my role model?
• Will he/she have enough time for me?
• Can I get along with him/her personally?
• Does he/she have (prospects for) money for me?

Your Dissertation Committee

• The Committee is very important
  – Shaping your thesis from multiple prospects
  – The committee should be strong in the area of your proposed work and should be able to contribute something meaningful to your thesis (they are your secret weapons)
• Think about the committee early
• Choose the committee together with your advisor
• Preferably involve the potential committee members in your Comprehensive Exam
The Committee: Critical Issues

- There should be no fundamental scientific disagreements between your advisor and the other committee members.
- They should be no personal animosities between your advisor and the other committee members.
- They should be reasonable (ask around). Every committee member potentially pulls in his/her direction and can mean more trouble for you.
- Try not to have more than three or four people in your committee. If the requirement is higher, take the minimal number.

Expectations

- You already selected your field by applying to SIS.
- Choose your area and your advisor within the first 2 years:
  - Preliminary Examination is a good trial of an area and an advisor, but it is not a contract.
  - Your first projects is more for trying and area and learning how to do research.
  - Until this is done, your reading should be broad, not narrow: read many overview papers.
- Choose your specific direction of work within first 3-4 years:
  - Once it is done, start extensive reading and exploration in this direction.
  - The structure of Comprehensive Exam helps you to do it.
  - Do research and start publishing your work in this direction early (the earlier, the better, you will not get a good job with a thesis alone!)
- Start working on your thesis before you hit 5th year in the program:
  - Your thesis is the culmination, but not the whole content of your study.
  - Still a lot of reading and a lot of work.
Wise Words from the Faculty (M.D.)

- Don’t wait for your “lifetime” topic - this is an illusion
- Don’t think that hanging around for five years will give you a degree
- Freedom of choice is also an illusion
- Make a commitment to your career, organize your life, make sacrifices (no TV, no newspapers, no newsgroups and web surfing)
- Consider quitting your job so that you can focus on your studies
- Have a role model, be careful whom you are following and who you are listening to. Avoid crowd mentality

More Wise Words from the Faculty

- Get involved in research as soon as possible, preferably during your first semester here
- Don’t jump around in terms of research groups and advisors. Make a commitment and follow it up (unless it really does not work out)
- Work hard, spend time on things. You can’t go around the 10 years 80 hours a week baseline
  - Perhaps, if you are exceptionally smart, 9 years and 75 hours a week will suffice
- Stop working in the “course and exam” mode. Everybody knows that you are good at it