Finding an Advisor and Developing an Effective Working Relationship with Them

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Theophilus in One Slide

2004
Startup

2006
Grad School

2012
Post Doc

2013
Assistant Prof.

Assistant Professor @Brown

Academic Background:
- PhD: U of Wisconsin -- Madison
- Post-Doc: Princeton

Research: Networking and Distributed Systems
- Improving web performance
- more reliable cloud infrastructures

Fun-stuff
- Rock climbing
- Amateur runner
Nancy in Brief

- PhD @ UIUC; MS @ Berkeley; BS applied math & econ @ Stanford
- Prof @Texas A&M: 1995-2018
- Prof & Dept Head (back at) @UIUC: since Jan
- Research – Applied Algorithms
  - robotics, computational biology & geometry, parallel algorithms
  - Graduated 3 PhDs (10 profs, 9 research labs, 2 postdocs, 3 startups)
- Other stuff
  - Bernese Mountain Dogs (currently Fred & Wilma)
  - Husband Lawrence – grad school, A&M & UIUC
  - Recent highlights: bucket trip to Machu Picchu, Diving!
Outline

• What is a good advisor?
• How to find an advisor?
• How to manage your advisor?
• Discussing change with your advisor!
A PhD program is an Apprenticeship

An ideal advisor …. 

- a good research advisor
- a good mentor
- a good fit
What should a good advisor/mentor do?

• Teach you fundamental research skills. How to
  – Prepare papers, talks, & proposals
  – Critically read the literature
  – Technical foundations

• Guide you to find a research topic & develop your identity as a researcher

• Demonstrate for you balance, research ethics, an intellectual roadmap

• Foster your career development through your PhD to your first job & promotion…and next job and promotion
  This is a life-long relationship
Finding An Advisor
How to find a good advisor/mentor

When looking for an advisor in a new university

• Get to know them and get them to know you
• Be persistent (but don’t pester)
• Know their research, read their papers, and ask informed questions
• Meet in person
• Talk on the phone
• Talk to multiple grad students in the lab! (including graduated students)
• Understand expectations about workload (courses vs research) and funding
How to find a good advisor/mentor

• Get to know your potential advisor(s)
  • Meet them (in person/skype/phone)
  • Know their research
    • read their papers
  • Be persistent (but don’t pester)
    • and ask informed questions

• Get to know their lab culture
  • Talk to multiple grad students in the lab!
    • including graduated students
    • (and) ex-students
  • Understand expectations about workload
    • (courses vs research)
    • Impact of funding structure
Assess the Advisor Fit

- Assess fit along multiple dimension:
  - Research topics
  - Advising style
  - Lab culture/structure
  - Support for URM-D
  - Status within the community
  - Expectations from students

Be Systematic in analysis of potential advisors
Assess the fit

• Find leaders in research topics you are passionate about
• Your advisor should be respected in the field
• Deep thinker who encourages students to do seminal work vs the job done
• Where do you fit in their lab? What is the lab structure?
• Understand what they expect from their grad students
• What is their philosophical bent? Does it align with yours?
• Is the advisor supportive of women, URM and students with disabilities?
• Be systematic in your assessment as though you were assessing candidates. List what you are looking for and what your advisor can realistically provide.
Finding advisors for interdisciplinary research

• One, two or more advisors and mentors? Often, it takes a village.
• Do they appropriately balance breadth vs depth of research?
• Do they have a core identity that supports or overlaps with yours?
• Are they open-minded and enthusiastic about learning from other fields?
• Can they provide financial support for interdisciplinary research?
• Will you find a community of researchers that support your work?
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Exercise: Ask Faculty Member to Work with them

• Pair up with a partner
• You will role play talking with a faculty member in their office and ask them if you can join their research group.
• Take 2 minutes to do this, and then switch roles.
Managing Your Advisor
Communication is key to management

- Multiple vehicles for communication
  - Weekly meetings
    - Group meeting
    - One-on-one
  - Emails
    - Keep emails short and direct
    - All messages are read --> responses may be slow
- Ask for more time if you need it
Make the Most of Every Interaction

• **Mentally outline** the meeting
  – Identify discussion points
  – Verify/validate the motivation behind each discussion point
  – Send out an agenda before the meeting

• Double-check results and assumptions

• Maintain project archives
  • Take notes, organize them, and send out summaries
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Discussing Change
What if it's not working….

Sometimes, despite all your good efforts, things don’t work. How to handle it depends on the situation

- **poor working style fit**
  - can often be addressed, if all else is ok
- **poor research fit**
  - harder to fix, but decision depends on how far along you are and your long term goals
- **something more serious is wrong**
  - requires major adjustment

Try to remember, changing advisors is NOT the end of the world:

- In most cases, if you feel there is a problem then your advisor likely feels that way as well
- While changing advisors may cost some time, it may be less than you think and may be made up by better results/outcomes
Exercise: Hard discussions with your advisor

- Pair up with a partner. Pick one of the topics of discussion with your advisor, or another of your choosing, and role play it with your partner.
- Take 2 minutes to do this, and then switch roles.

Scenarios:
- Tell your advisor you would like to work on one of the other projects in your group.
- Tell your advisor you feel you should be a co-author on a paper your labmate is working on.
- Tell your advisor you are ready to graduate.
Final Thoughts
Take home messages

Do your research! Look for
• A good research advisor
  – Productively engaged in research you are passionate about
  – Willing and able to effectively teach and guide you in research
  – Able to help fund your research
• A good mentor
  – Cares about your career & effectively supports your success
• A good fit
  – Personalities, research style & philosophy, lab structure and people
• It takes a village: You may need more than one advisor and mentor
• It’s a two way street: Communicate to your advisor the support that you need & try to work out problems
Questions?

Resources

• A site with some good tips (some of which we’ve adopted & adapted for this talk):
  https://greatresearch.org/2013/08/14/managing-your-advisor/