Mentoring, Research Groups, and Collaborations
Mentoring

- Advisers - oversee conduct of research
- Mentors - may also be advisers - take personal as well as professional interest in development of a researcher
- Mentors can (and should) represent diverse backgrounds and expertise - a single mentor is probably not enough
Do you need a mentor?

**WHEN TO MEET WITH YOUR ADVISOR**

Is there ever a good time?

**Beginning of the week**
- **Pro:** Get it over with quickly
- **Con:** You have a guaranteed date with work on Sundays

**End of the week**
- **Pro:** You might actually have something to show by then.
- **Con:** You might not (!)

**Mid-week**
- **Pro:** Good balance. Gives you time to work on feedback
- **Con:** Your advisor will probably not show up (actually, this might be a pro)

**Saturday/Sunday**
- **Pro:** There is no “pro”.
- **Con:** Your advisor is a workaholic maniac. Good luck with that.

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Wednesday, May 25, 2011
Mentoring - discussion

- What information should you use in selecting a mentor?
- What do you think are the core values of the mentor-trainee relationship in science?
- Under what circumstances should a predoctoral trainee consider changing dissertation adviser (or mentor)?
- What is your estimate of the maximum number of graduate students a faculty member can effectively mentor at one time? Should the number be limited by the program or department?
Mentors...

- should help a researcher build a productive and successful career
- maintain and model high standards of conduct
- demand the same of their trainees/advisees

http://books.nap.edu/openbook.php?record_id=5789
Choosing a research group

- Who will oversee your work?
- Advising /mentoring style?
- Student/postdoc role in formulating project
- Funding sources and sustainability
- Climate in group - competitive, nurturing?
- Authorship, IP questions
- Networking opportunities
- Professional Development
- Safety
- Can you take your project with you when you leave?
What should you contribute to the group?

- Find an adviser you can work with and discuss your work regularly
- Be prepared to accept and respond to criticism of your work
- Come to individual and group meetings
- Take an interest in the welfare of your group
- Help with fund raising /proposal writing and other efforts
- Be collegial and act as a mentor for others where appropriate
- Maintain high standards of conduct
What if I don’t have a group?

• Take the initiative
• Organize discussions with your colleagues
• Suggest a seminar class
• Other suggestions?
Collaborations

Benefits?
- combine unique expertise, technology and resources, foster interdisciplinary work.

Challenges?
- space and resource allocations across departments /institutions
- mixing industry and non-profit
- cultural and professional mixes across national boundaries
Collaborations

- Verbal agreement

- Joint proposals

- Memorandum of Understanding
Guidelines: Communicate!

Goals
Responsibilities
Timing and duration of project
Accountability
Authorship
Conflict of interest
Data sharing, custody and ownership
Collaborations - large and small

- Is the faculty adviser /PhD student relationship a scientific collaboration?
- Should publishers limit number of authors on collaborative papers?
- How would you decide on whether to join a research project collaborating with someone you have never previously met?
- Who is responsible when a grant has multiple principal investigators?