Why Academe Wants YOU

Matt O'Donnell, University of Washington
Suzanne Hawley, University of Washington

Why Academe wants YOU

- Can connect theory and practice
- Understand how to complete projects
- Complementary network to academics
- Can relate to students who enter industry
- Can think big!

Matt O'Donnell
Dean, College of Engineering & Professor, Bioengineering
University of Washington

Why Academe wants YOU

Suzanne Hawley, Chair, Astronomy Department and Director, Apache Point Observatory

- Technically savvy
- Used to a competitive environment
- Understand project management
  - -- schedule and budget
  - -- people
- Bring real world experience and career options
- Shake things up!

Building Your Research Program

Ayanna Howard, Georgia Institute of Technology
Mihaela van der Schaar, University of California Los Angeles
Suzie Pun, University of Washington

Building Your Research Program

- Planning NOW is important
  - Take advantage of your position in industry. Build relationships with colleagues, management, and academics (because you don't need resources now).

- Be open to any, and all, opportunities
  - Capitalize on your experience in working with diverse and interdisciplinary teams
  - Hone the people and time-management skills of industry
  - Find out about industry-academic partnership opportunities
  - Use your INDUSTRY experience to differentiate your research

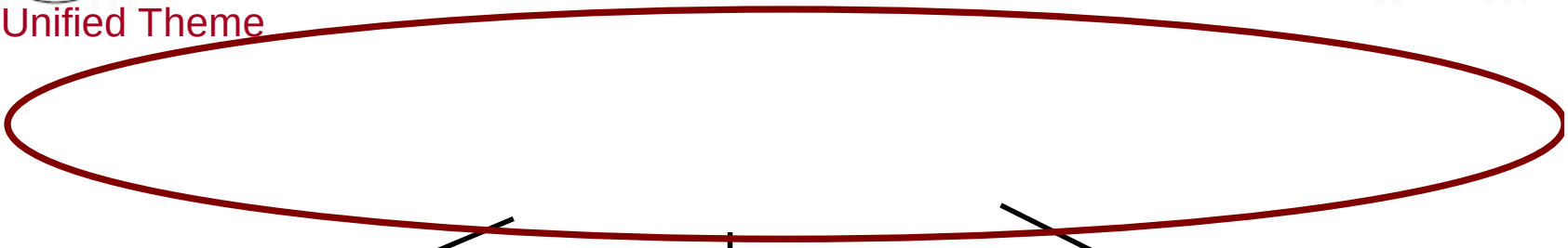
On how industry experience can help your academic career

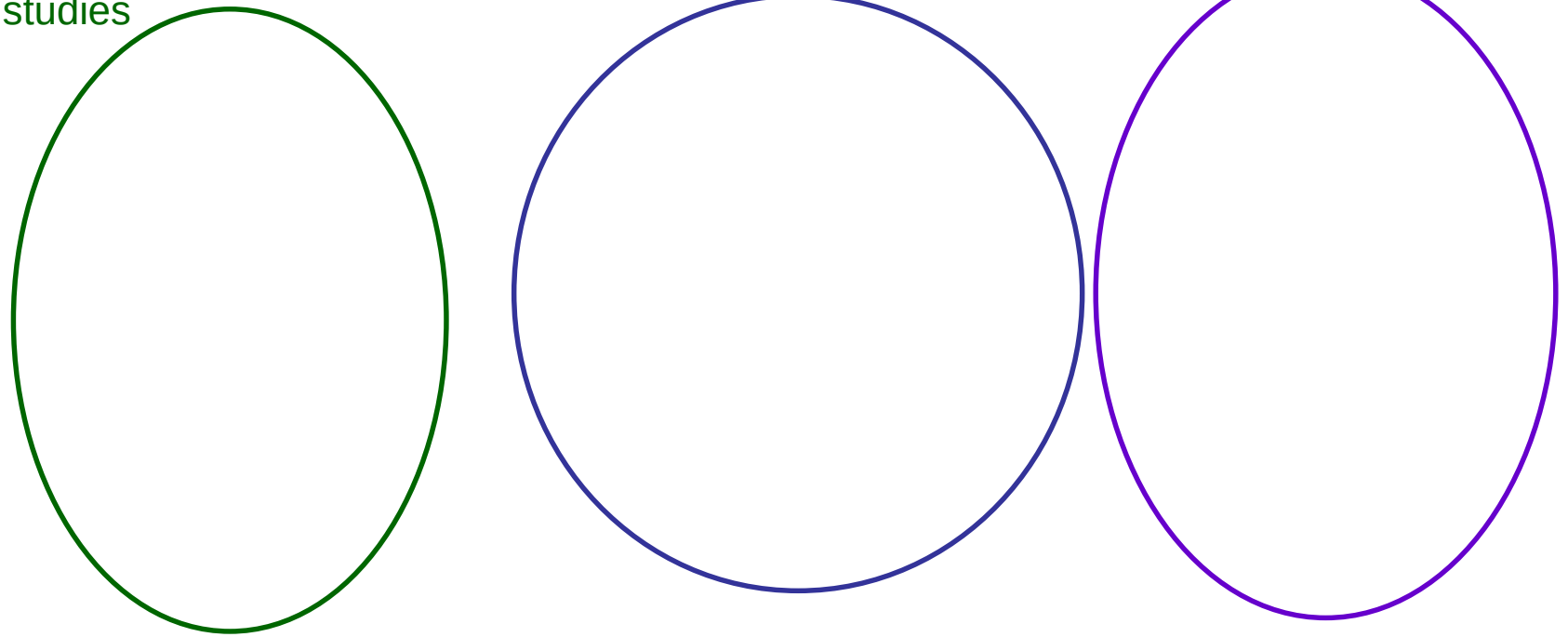
- You know what relevant research is, and what will have an impact on products, standards, people
- You can write high quality patents that matter
- You have practical as well as theoretical knowledge
- You can place students in research labs and guide them on career choices
- You can get famous industrial researchers as co-advisers (important for students and your research)
- You can more easily get funding from industry

Pun Lab

Department of Bioengineering, University of Washington

1. Unified Theme





Faculty Life at Different Institutions

Elizabeth McCormack, Bryn Mawr College
Geri Richmond, University of Oregon
Pat Mooney, Simon Fraser University

Faculty Life at Different Institutions

- Understand the market for your field
- Consider where you'd like to be
  - Institutional Characteristics
  - Departmental Characteristics
  - Geographic and Other Considerations
  - Expectations for Tenure
- Discuss your plans with others
- Know (and trust!) your priorities and values

A quilt representing the career trajectories of many of my women friends in science and engineering.

Successful navigation requires you to:

- *Know what you value most and use those values as your compass through difficult times.*
- *Be adaptable and embrace change.*
- *Develop a network of mutually supportive friends and colleagues.*

Geri Richmond, University of Oregon

Quilt by Joan Kauffman Wolfson

Dr. Patricia Mooney, Professor and Tier 1 Canada Research Chair in Semiconductor Physics, Simon Fraser University, British Columbia, Canada

SFU

• highly ranked Comprehensive University: significant research activity (no Medical or Law School)
• size: 27,000 students, 3 campuses, 100 undergraduate majors, 45 graduate programs
• research faculty (default): 40% research, 40% teaching (3 courses per year), 20% service
• tenure and promotion: based on all 3 activities, *research is most important!*

Research Program

• start up package is important – release time from teaching, postdoc support, lab space and equipment, access to other university facilities
• quality of graduate students is very important – weak or unmotivated students waste your time!

Challenges

•supervising graduate students is not like working with industrial research scientists and engineers or technicians
• deadlines of classroom teaching and service can push research to the back burner

The Interview Process

Elizabeth McCormack, Bryn Mawr College
Mari Ostendorf, University of Washington
Anna Karlin, University of Washington

Interviewing for an academic post—the Campus Visit

- Be prepared to discuss
  - a technical subject to demonstrate your ability to communicate scientific ideas
  - future research interests and possible funding sources
  - thoughts on and approaches to teaching and learning
  - interest in the specific institution and its educational mission
  - the added value of your industrial/private sector experience
  - examples illustrating transferable skills and experiences
- Be prepared for a challenging one-to-two day format
  - Public presentation of a project related to the relevant academic field--demonstrate your expert knowledge and respond to Q&A
  - Demonstration of instruction or training
  - Social events--collegiality
  - Many one-on-one sessions with faculty and administrators
- Be prepared to ask questions to learn about the institution and position
  - Physical teaching and research settings and resources
  - Students—who, how prepared, access
  - Department—service obligations, tenure expectations, availability on campus
  - Curriculum—courses and texts, workload, typical day, typical year, etc.

Let your interests and enthusiasm for the position come through—relax and enjoy yourself

Tips for Academic Interviewing

Mari Ostendorf, UW Electrical Engineering

- Be prepared for different styles & priorities
  - Example people:
    - Dean, chair, faculty, grad students, maybe undergrads
    - Direct vs. stealth questioners
  - Example priorities:
    - "Be interested in my research" vs. "Tell me about yours"
    - Teaching vs. research; student vs. faculty interactions
    - Chalk talk skills (details) vs. showmanship (big picture)
  - Be alert and adapt to your interviewer!
- Have a 5-year vision & plan for getting there
  - What do you want your group to look like?
  - What problems do you want to have solved?
  - What do you want to be known for?

Preparing for an interview

- Get to know people or about people at the institution ahead of time, either at conferences, or by visiting (even long-term).
- Practice your job talk – weave in your industry experience.
- Ask for your schedule ahead of time. Find out what the people you are meeting work on and prepare some questions.
- At the interview: Listen carefully. Show interest in their work.
- Be sure you can give a concise 5 minute explanation of your work.
- Be prepared to explain your work to different kinds of audiences and to answer some tough questions.
- Show conviction and passion.
- Check out Jeanette Wing's slides on the interview process

http://www.cs.cmu.edu/afs/cs/usr/wing/www/tips.pdf

Building Your Teaching Program

Cheryl Greengrove, University of Washington
Jean Jacoby, Seattle University
Lih Lin, University of Washington

Transitioning from Industry to the Classroom

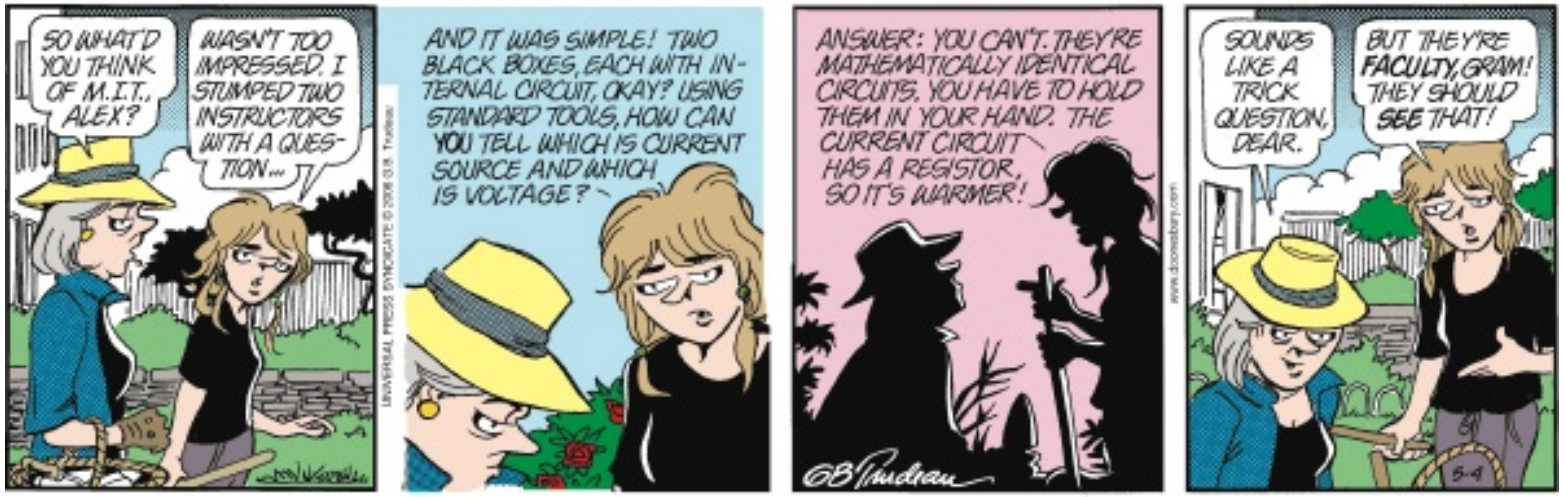
- Thinking like a teacher
- Everything you do in industry is applicable and portable to the classroom
- Engaging students and having fun

Cheryl Greengrove, UWT

Transition from Expert to Teacher

- Tip: Think of yourself as learners rather than experts.
  - Resource: "Teaching What You Don't Know" by Therese Huston, August 2009, Harvard University Press

- Tip: Draw upon skills that you've developed in the private sector.
  - Marketing, managing difficult people, giving presentations to the public → Develop course materials, build credibility with students, and give engaging lectures



- Practical and real-world experience from industry is VALUABLE to your teaching.
- However, students are not experienced engineers.
- Classroom teaching should be very different from tutorials or short courses at conferences.
- Too much is too little (teaching rating 3.0/5.0). Relax, slow down, and make sure the students are following what you say (teaching rating 4.5/5.0).

Tell me, I'll forget;
Show me, I might understand;
Involve me, and I'll remember.
(Quoted)

Interdisciplinary Research

Martha Pollack, University of Michigan
Lisa Zurk, Portland State University
Marjorie Olmstead, University of Washington

Advice from the Accidental Interdisciplinarian

My opinion:

Good: A split appointment (50%/50%), but with one tenure committee.

Better: A primary appointment (e.g., 75%/25%) with a single tenure home.

Best: A full appointment in one department, with connections elsewhere.

- Adopt an interdisciplinary approach because your research demands it, not just to be interdisciplinary for its own sake.

- If your position is in more than one department, have all the terms agreed to up front in an MOU: teaching load, service assignments, authority for setting your salary, tenure process, etc.

- During your pre-tenure years, get advice, more advice, and more advice. Even when you don't think you need advice, ask for it: that can be an excuse for making sure that people know what you're doing.

- Find collaborators: you can't be an expert on everything

- Continue to participate in your "home" discipline: attend conferences, publish in disciplinary venues (as well as outside ones), do professional service, etc.

Martha Pollack, University of Michigan

Some Thoughts on Interdisciplinary Research

- **Collaboration**
  - **Key for building vital research projects**
  - **Requires up-front work and commitment of time/energy**
  - **Increases pool of colleagues outside department (especially critical for small departments)**
    - **Look for complementary strengths and ability to work together**

- **Recognition and metrics**
  - **Inter-disciplinary also means work doesn't fit into easily defined categories and may be hard (for others) to evaluate**
    - **Need to make a case for recognition/promotion, resources, etc.**
  - **Need to construct (non-traditional) student studies/curricula**
  - **Try to organize around a central theme or concept supporting multiple threads**

Where does an inter-disciplinarian fit in?

- Which University?
  - Are there interdisciplinary centers in your area?
    - Is there permanent funding? Is there space?
  - How porous are departmental or college boundaries?
    - Do grants cross them? Do classes? Do students?
  - How does local industry interact with the university?
- Which Department?
  - Which UG classes would I feel comfortable teaching?
  - Are grad students from other departments welcome?
  - Will my service to interdisciplinary centers count locally?
  - In which department(s) are my potential collaborators?
  - If a joint appointment, how many bosses will I have?

Work-Life Flexibility for Faculty

Ayanna Howard, Georgia Institute of Technology
Martha Pollack, University of Michigan
Chris Hailey, Utah State University

Work-Life Flexibility for Faculty

- Memorable Quotes
  - Academia provides personal freedom to manage own time and work.
  - You will work > 40 hours, but you get to decide on which hours you work.
  - You can say NO. Don’t feel guilty when you do!!
  - Schedule your personal commitments on your work calendar. Don’t say yes until you check.

Advice from the Home- and Office-front

- Yes you can! Don't let anyone tell you that you can't have a very successful career and a very successful "outside" life, including children if you want them.

- Don't sweat the small stuff. So your house is a bit messy; who cares?

- Remember that you can change your habits over time. When you have small children, be extremely focused: avoid extraneous conversations at work, and skip outside hobbies. As your children get older and you're comfortable with longer work days, you can return to a more relaxed style at work, or can stay focused in the office and learn to play the drums.

- Take advantage of the enormous time-flexibility that an academic job offers you.

- If you're a parent, have photos of your kids in your office. If you're a sculptor, show your artwork. Let the next generation know that work-life balance is possible!

Two Take Aways: Notions of Commitment and Flexibility

- In many industrial settings, professional "commitment" is measured by outputs AND the time spent at work. "The ideal worker as someone for whom … time to spend at work is unlimited." (Rapoport, Bailyn, Fletcher & Pruitt)
- In many academic settings, professional "commitment" is measured by outputs

Academia can provide flexibility in the following ways (in contrast with industry):

- Flexible work schedules and place of work (in contrast with time and billing sheets)
- Tenure-clock extensions and part-time appointments (full-time appointments often required for advancement in industry – demonstration of "commitment to the company")
- Research and teaching agendas can change over time (faculty members have considerable input in shaping their agendas rather than having them shaped to support the company)
- Dual career hiring – flexibility doubled