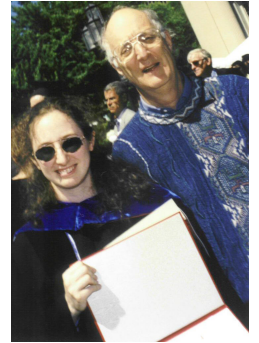


## Research

Ellen Spertus  
CRA-W Workshop  
February 23, 2005

## About me

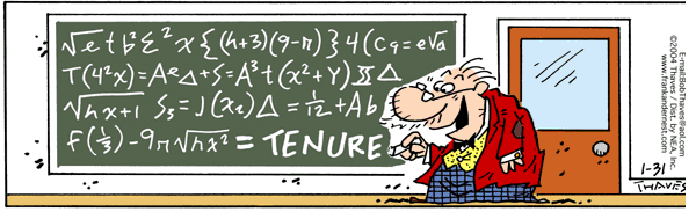
- SB ('90), SM ('92), and PhD ('98) from MIT
- At Mills College since January '98
  - Assistant professor (1998-2003)
  - Associate professor (2003-)
- Married, no children
- Motto: "If you never hear 'no', you're not asking for enough."



- Women's college
- Located in Oakland, California
- Department of Mathematics and Computer Science (7 FTE)
- Undergraduate major, minor
- Graduate studies
  - Reentry program
  - Interdisciplinary Computer Science MA

## Research priorities

1. To get tenure
2. To supervise student research
3. To remain visible
4. To make research contributions



- What counts as scholarly achievement?
- How much do you need to do?
- Who judges your dossier?

## What counts?

- Building on your thesis
  - Publishing work that you already did?
  - Add-on projects
- Conference vs. journal publications?
- Work in progress or under review?
- Pedagogical publications?
- Collaborations?

## Collaborations?

- With your advisor?
- With another educational institution?
- With a company?
  - Is it proprietary?
  - What about patents?
- With your colleagues?
- With students?
- Order of authorship?



## Quantity?

- A few high-quality publications?
- Many LPUs?
- Focused in one or two areas?
- Showing breadth?



## Who judges?

- Within institution
  - Department committee
  - Entire department
  - College-wide committee
  - Provost and president
- Outside referees
  - Who chooses?
  - Does your advisor count?
  - Tip: Use contacts from job search



## Ask about previous decisions

- Prof. A was initially denied tenure but was awarded it when X was raised during the appeal.
- Prof. B got tenure for writing a textbook, but that wouldn't count nowadays.
- Prof. C didn't get tenure because the department head disliked him and assigned him an impossible teaching load.

## Finding funding

- Don't be scared of rejection.
- Get assistance writing grant proposals.
  - Ask for release time or summer salary
  - Seek help from Office of Sponsored Research
  - Seek help from thesis committee
  - Get copies of funded proposals
- Sit on grant review panels.



## Sources of research funding

- NSF (\$\$\$)
  - Career grant (formerly PYI)
  - Research experiences for undergraduates (REU)
  - Other grants
- CRA-W (\$)
  - Collaborative research experiences for undergraduates (CREU)
  - Distributed mentor program (DMP)
- Everywhere (college, companies, foundations)

## Managing without funding

- Pay your own way to conferences.
- Take a pre-tenure sabbatical or unpaid leave.
- Ask for credit for lab courses.
- Ask people for equipment and software.
- Remember to take tax deductions.
  - Business expense
  - Charitable donation

## Supervising research: unexpected challenges

- Our students aren't as well prepared as we were.
- Our students have many demands on their time and are poor at estimating it.
- After professor trains student
  - Worst case: Student does no work.
  - Expected case: Student does a little work.
  - Unexpected case: Student saves professor time.

## Strategies

- Make sure students can't drop research
  - Undergraduate thesis
  - Class they can't drop
  - Hourly payment
- Meet frequently (at least weekly).
- Have multiple students work together.
- Don't have students in your critical path.

## Advice from Clare Bates Congdon (Colby College)

- Shift to research area in which undergraduates can contribute.
- Teach a course in your research area.
- Encourage students to do senior projects/theses.



## Advice from Amy Csizmar Dalal (Carleton College)

- Students can be really good at
  - maintaining or adding to existing code bases and
  - collecting and analyzing data
    - writing Perl scripts
    - using Matlab/gnuplot to analyze and plot the data
- For example, instrumenting an open-source media player



## Advice from Dian Lopez (University of Minnesota – Morris)

- Goal: Have students present at regional or national conference
- Students mentoring each other
  - one senior and one junior
- Keeping students focused
  - Meet about once a week
  - Work toward conference deadline
  - Know when to “let things slide”



## High-level advice

- Work smart.
- Ask senior faculty lots of questions.
  - About department history
  - About your work – and listen to their advice
- You should be frugal with your time.
- Read *Ms. Mentor's Impeccable Advice for Women in Academia* by Emily Toth
- Reduce, reuse, recycle.



“I want the whole package – tenure,  
a MacArthur, and a color printer.”