

## Mentoring is for you!

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Women @ SCS

November 6, 2001

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## Mentoring?

- Mentoring has become a "buzz" word in higher education - what is it?
- Mostly to promote the advancement of women and minorities, especially in S & E. Why do only women and minorities need mentoring?
- What is the difference between mentoring and advising?
- Who should be mentored?
- How should one mentor?
  - for graduate students
  - for undergraduates
  - faculty

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## What is a mentoring?

- Mentoring is establishing a very special relationship
  - is professional (ultimate goal to help someone achieve success) but also personal
    - care about the personal development as well as professional
    - for example, balancing careers and families, 2-body
  - develops and lasts over an extended period of time, with varying intensity - lifetime
  - provides information, help, advice, and contacts
  - provides encouragement and advocacy

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## Is research adviser a mentor?

- Research adviser - helps define and develop a research project leading to Ph.D.
- Is mentor the same as an adviser?
- Difference
  - Mentoring is a personal as well as professional relationship
  - Faculty adviser may or may not be a mentor - depends on the relationship - ideal YES!
  - Mentor may not be a research adviser - maybe not in same field - maybe more than one mentor
- May have an adviser and not mentor as your Ph.D. adviser - should find a mentor also
- Role model is not necessarily a mentor

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### Why only women and minorities?

- Recently, study looked at how faculty envision and practice mentoring among themselves
  - Result: When faculty mentoring (informal) occurs, it is mutually negotiated, primarily between persons of the same sex and between assistant and full professors
  - In departments (ranks) where men are majority, white males are being mentored - informal mentoring
- To mentor women when underrepresented, must have structured or formal mentoring plan

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### Status of Women - undergraduate

- Women earning B.S. degrees
  - 1984 - 37%
  - 1998 - 26% - about 29% drop
  - 2002 - about same - stabilizing
- Other sciences & mathematics -
  - Engineering +32.0% (current 16.9%)
  - Physical Sciences +39.1% (current 38.4%)
- *Computer science is only science % falling*

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### Advanced degrees in CS (1999)

- Master's Degrees: 29% for women (steady)
- Ph.D. degrees: 15% for women (increase from 11% in 1990)
- Women Faculty:
  - 14% are assistant professors (16% in 1998)
  - 13% are associate professors
  - 8% are full professors

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### Status of Women - cont.

- Pipeline shrinks at all levels
- Girls represent 17% of Computer Science AP test takers
- Women are about 20% of IT professionals

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## Mentoring in CS at all levels

- **Students**
    - Undergraduate
    - Graduate students
  - **Faculty**
    - Assistant
    - Associate
    - Full
- Can be both  
mentor and mentee

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## Mentoring/advising Graduate Students

- **Relationship between faculty mentor/adviser and student is unique** -
  - Start --- master/pupil
  - End - friends
  - Lifelong
- **Person chosen for Ph.D. adviser - very important**
  - Difference between success and not being successful
  - Adviser should open doors
    - Opportunities you did not know about or think about
    - Abilities you did not know you had

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## How to find a dissertation adviser

- **Ideally**
  - Someone in area of interest - flexible
  - Someone you can work with - who is a good mentor
- **Universities**
  - Training for research
  - Training for teaching
  - Nothing for advising
- **We "parent" like our parents did - no training**
  - We "advise" like our advisers did - no training!!

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## Finding an adviser

- **Is he/she in the research area you would like to pursue?**
- **Is the person's work current and relevant? Is it funded? Does the faculty member publish in respectable places?**
- **How many students does he/she supervise?**
- **How long does it take students to finish?**
- **What is the placement of the adviser's students in the past?**

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### Finding/evaluating an adviser (cont)

- How much freedom does the student have?
  - Learn to do research - find problems
  - Not just be handed a project from research grant
- Does the adviser publish with students? What is the order of names?
- Who presents the papers that are co-authored?
- Does the person take students conferences and help with networking?
- How responsive is adviser?
  - How long to return written materials?
  - How accessible
    - Too busy????? IS NOT AN EXCUSE!!!
- Are the person's work habits compatible with own?

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### Characteristics of adviser/mentor

- Encourage students
- Help with networking
- Meet regularly - on time
- Be prompt in providing feedback
- Help students learn to write
- Help students learn to do research
- Help with job opportunities and job interviews

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### Characteristics of adviser/mentor (cont)

- Educate students about the CS culture
  - Publishing
    - Conferences versus journals
    - Dual submissions
    - Conference papers resubmitted to journals
  - Reviewing
    - Constructive criticism
    - Confidentiality

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### Characteristics of good mentee

- Don't be unreasonable in your expectations
- Be willing to listen and learn
- Be willing to speak up
  - Intellectually
  - Personally
- Be dedicated and willing to work hard
- Take control of your education and research

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### Undergraduate - mentoring

- Encourage to stay in CS
  - Involve in research - writing and oral presentation
- What are the opportunities for you in
  - After graduation
  - Graduate school
  
- Women @SCS- has Big Sister/Little Sister program

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### Mentoring faculty

- Assistant Professor
  - tenure
  - setting up research lab
  - networking - conferences, funding agencies
- Associate Professor
  - Visibility
    - professional activities & program/conference chairs
- Professor
  - Leadership
    - honors, leadership positions
    - networking

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### Why be a mentor?

- One of the most rewarding activities
  - helping shape the professional and personal life of someone
- Mentoring is 2 way street
  
- What we need to do to increase the participation of women in CS & E
  
- Open doors for others

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### Myths/truths about mentoring

- A research adviser is a mentor.
- A person only needs one mentor.
- All faculty can serve as mentors.
- Mentoring is essential for career success.
- Men can mentor women as well as women.
- Men are better mentors for women than women.
- Mentoring is for the benefit on the mentee.
- Mentors should be passive and wait for questions from mentee.

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