How to Succeed in a Research Career (Education)

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Susan Rodger

- B.S. Computer Science/Mathematics, NCSU, 1983
- PhD. Computer Science, Purdue University, 1989
- 1989-1994, Rensselaer Polytech Institute
- 1994-present Duke University, Professor of the Practice
  - Computer Science Education
  - Visualization, Tools - JFLAP
  - Integrating Computing into K-12
- Fun
  - Baking, Write Wikipedia pages, Hiking, Swimming
Richard Ladner

- B.S., St. Mary’s College of California, 1965
- Ph.D., UC Berkeley, 1971
- University of Washington, 1971 – present
  - Theoretical Computer Science (35 years)
  - Accessibility/HCI (15 years)
  - Outreach (25 years)
  - 30 PhD students - 12 in academia
- Fun
Preparation

- Research Preparation
- Teaching Preparation
  - TA versus Taught your own class
  - Summer Course
- Should you do a Postdoc?
  - Research or teaching
- Should you take a leave?
  - Pre-postdoc
Types of Positions

- Teaching Faculty at Research Institutions
- Faculty at Small Elite Colleges
- Faculty at State Colleges and Universities that prize teaching
- Faculty at Community College
- Titles vary
  - Prof of the Practice, Teaching Professor, Professor, Lecturer with Security of Employment, ...
Start Up Package Negotiation

- Salary, and other supplements (housing)
- Teaching load - first semester, first year
- Equipment - laptop/desktop/specialized
- Summer salary/travel for conferences
- Travel for education conferences/development
  - SIGCSE/GHC/Tapia
- Summer support for students
Expectations

● How much research is expected?
  ○ Where to publish? Research vs Education Conferences
● How much teaching is expected?
● What counts for teaching?
● Quality of teaching
● Expectations with student research
● Advising students
Research Funding

• Internal funding
• External funding
  • National Science Foundation - CRII, CISE, DUE, EAGER
  • Small grants ($5K) - SIGCSE, Teach Access
  • Industry awards - Google, Microsoft
• Join a larger grant proposal
Balance

- Teaching - Research - Service Balance
- How to say “no”
- Work - Life Balance
  - Family, friends, exercise, hobbies, vacations
- Reinvigoration
  - Sabbatical
  - Part-time
Beyond your Department

- College or university
  - Committees of various kinds
- Research community
  - ACM SIG, IEEE TC, AAAI, or other organizations
- CS education community
  - SIGCSE, CCSC, CSTA
Research Leadership

- Quiet
  - Write a book, develop a tool or app
- Visible
  - Appointed or elected positions
- Local
  - Curriculum
- National
  - SIG Committees, Conference Committees
Teaching / Research

- Combining research and teaching is ideal
  - Creating a course in your research area keeps you engaged
- Very few of us are born teachers
  - Being excited about what you teach makes it enjoyable
Mentoring Students

- Take on students for research projects
- Match the project to the student
  - Find out what the student is interested in and their skills to find the right project
- Be nice
  - Have high expectations, but always encourage
Advancement

• Assistant to Associate (in 5-7 years)
  • What are expectations at your institution?
  • Typical - Developing quality teaching and mentoring, some level of research, little service

• Associate to Full (anytime)
  • What are expectations?
  • Typical - Quality teaching and mentoring, continuing research, significant service and leadership
Questions?