

**CS5014:
Research Methods in Computer
Science**

Instructor: Dr. Cliff Shaffer

Getting Started

The syllabus.

The three topic areas:

- How to be a researcher
- Technical presentation
- Experimental design

In addition, we will often encounter the following theme: How do you evaluate quality?

Discussion Question

How do you decide if a piece of research work is good or not?

Career Options for Research

Job titles:

- grad student
- post doc (not so common in CS)
- faculty (beware issues of tiers, expectations, fairness)
- industrial or government research job (what is “research?”)

Fact: Most of you will not end up with a career in “research” (at least not in a narrow or elitist sense).

- But you probably will use a lot of the information covered here, even after you graduate.

Some Issues of Ethics and Philosophy

Feynman Quote (see

[ftp://ftp.ncsu.edu/pub/eos/pub/jwilson/
see-final.pdf](ftp://ftp.ncsu.edu/pub/eos/pub/jwilson/see-final.pdf))

Aculturation Tidbit: The role of gifts in
American society

What Does a Researcher Do?

Products:

- Publish papers (conferences, journals, “invited” papers in conferences or journals, workshops, seminars, books)
- Submit proposals (and other requests for support)
- Write reviews (public vs. private)
- Write evaluations (letters of recommendation, employee evaluation)

Activities:

- Study the literature (learn), keep up things
- Analyze: Statistics, hypotheses (experimental design)
- Serve on editorial boards, review panels, etc (service)
- Hunt for jobs
- Hunt for money (proposals)
- Collaborate: Peers, superiors, employees
- Teach
- Mentor

Assignment

Look at these web documents:

- “How to Be a Good Graduate Student” by Marie desJardins,
<http://www.erg.sri.com/people/marie/papers/advice-summary.html>
- “Stanford Graduate School Survival Guide”
<http://www-smi.stanford.edu/people/pratt/smi/advice.html>
- “How to do Research At the MIT AI Lab”
edited by David Chapman
<http://www.cs.indiana.edu/mit.research.how.to.html>
- “How to have a Bad Career in Research/Academia” by David A. Patterson
<http://www.cs.berkeley.edu/~pattrsn/talks/BadCareer.pdf>