So you've decided to get a Ph.D....
Doctor of Philosophy

- Highest academic degree
- Called “Dr.”
- Get to wear funny robes and sometimes funny hats at graduation
- Required for many research-centered positions

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A little history from Wikipedia [1]

- First Doctor of Philosophy degrees awarded in Germany in the 1650's
  - No research component
- 1810: University of Berlin Arts faculty (called faculty of philosophy) demanded a research component, *i.e.*, a dissertation
- 1861: Yale does the same, by the beginning of the 20\textsuperscript{th} century Ph.D. is a common degree
Erhard Weigel, one of the first known Ph.D.'s [1]
See the figure titled, “II-12d: Racial/Ethnic Distribution of 2015 Doctoral Degree Recipients, Selected Academic Fields”. Also see:

https://www.nature.com/naturejobs/science/articles/10.1038/nj7655-517a
The dissertation

- A *seminal* contribution to the body of knowledge in computer science
- Typically several chapters, arranged around a thesis statement
- You become a “Ph.D. Candidate” after you successfully defend a proposal for a dissertation topic
- You become a “Ph.D.” after you defend a dissertation
The research component

- Ph.D. is *fundamentally* different from M.S.
- Research positions
  - Academia (research or teaching positions), government, labs, NGOs, industrial research
- What do you plan to do with your Ph.D.?
- Postdoctoral researcher
  - (not required in Computer Science)
Academia

- Typically Assistant Professor for six years (tenure-track but not tenured), Associate Professor for six years (tenured), and then Professor
  - Lots of variation
- Tenure is about academic freedom
- According to Wikipedia [3], “Academic freedom is the conviction that the freedom of inquiry by faculty members is essential to the mission of the academy”
  - Should only be fired for “gross professional incompetence or behavior that evokes condemnation from the academic community itself” [3]
Tenure

- Arguments for: academic freedom, keeps faculty salaries lower [3]
- Arguments against: reduced academic freedom before tenure, reduced effort of tenured faculty [3]
- Typically you submit a “tenure case”
  - Research, teaching, and service
Empirical science (preview)

- Robert Boyle and the Royal Society
- Ben Franklin and the American Philosophical Society
- This is why your dissertation defense is a “defense”
My thoughts about the Ph.D.

- What Dr. Doug Burger told me about faculty (paraphrasing): faculty are “entrepreneurs”
  - TRIPS architecture
- Same is true of all Ph.D.'s, in my opinion
- Having a Ph.D. is about more than employment, in my opinion
Discussion

• What are your general thoughts about the Ph.D. degree?
• Are Ph.D.'s being “handed out like candy” these days?
• Is tenure a good thing?
• Is academic freedom really needed in computer science?
Assignment #1

• Due Friday, August 31st in class (bring a printed copy to class)
• Write a paragraph about who you are and what you're passionate about, in general and not related to research or your Ph.D. studies
• Write a second paragraph about what your plans and passions are for the research you plan to do for your Ph.D.
• Ideally these two paragraphs will be cohesive and relate to each other, but there's not a right or wrong way to do the assignment
• Put your name on it!
Sources