

# Visualization Careers: Academia

## Visualization/VAST Doctoral Colloquium Panel

Tamara Munzner, UBC

2 November 2006

# My Perspective: Career History

- ▶ industry
  - ▶ ETA Systems (supercomputer company), intern, 86/87/88
  - ▶ SGI, part-time consultant, 96-98
- ▶ industrial lab
  - ▶ Microsoft Research, intern, 98
  - ▶ Compaq Systems Research Center, researcher, 00-02
- ▶ academia
  - ▶ Stanford, undergrad, 86-91
  - ▶ Stanford, grad, 95-00
  - ▶ Geometry Center (Minnesota), technical staff, 91-95
  - ▶ UBC, assistant professor, 02-now

# Academic Freedom

- ▶ intellectual freedom to choose projects
- ▶ academia funding model
  - ▶ raise money by writing grants
  - ▶ you cover grad student salaries, travel, equip.
  - ▶ time required: constant, medium overhead
- ▶ can do project if convince anybody on planet to fund it
- ▶ free to publish, discuss, release code open-source, ...
- ▶ labs funding model
  - ▶ keep your job by justifying existence
  - ▶ time required: highly variable
    - ▶ minimal when company rich
    - ▶ arbitrarily high when company poor
- ▶ can't do project if killed by anybody in chain of command
- ▶ more secrecy, pressure to patent, ...

# Academic Constraints

- ▶ crossing discipline boundaries
- ▶ academia
  - ▶ boundaries significant
    - ▶ hired into given department
    - ▶ judged by impact in specific field
    - ▶ often stay within forever, maybe switch once
    - ▶ very risky to switch before tenure
  - ▶ good base for longterm influence in field
- ▶ labs
  - ▶ easy/encouraged to move between fields
  - ▶ good base if motivation is do interesting new things

# Scope

- ▶ academia: grad student
- ▶ lab
  - ▶ one or few hands-on projects at once
- ▶ academia: professor
  - ▶ many projects going simultaneously, as advisor
  - ▶ many non-research commitments: teaching, service
  - ▶ unusual to do coding personally (alas...)

# US vs. Canadian Universities

- ▶ again, funding models underlie differences
- ▶ US
  - ▶ grant overhead paid directly to department
    - ▶ institutional pressure for having large group
  - ▶ grantwriting odds: small chance of big payoff
- ▶ Canada
  - ▶ no direct overhead off federal grants
    - ▶ changing slowly, but less pressure for empire
  - ▶ grantwriting odds: medium chance of medium payoff
- ▶ degree program differences
  - ▶ US: direct to PhD
  - ▶ Canada: MS with thesis first

# Visualization: Collaboration Approaches

- ▶ none/minimal
    - ▶ concentrate on algorithmics
  - ▶ deep
    - ▶ establish persistent relationships in one or few domains
    - ▶ become near-expert yourself
  - ▶ broad
    - ▶ establish shallower connections in many areas
    - ▶ easy to be opportunistic
- ▶ also, good way to cross between academia, labs, industry!