

Insights on a research career in industry

Liesl Folks

 **Hitachi Global Storage Technologies**

History

- BS Hons. (1989), PhD (1994), Physics, University of Western Australia
 - Permanent magnet materials
- Research "Fellow" (1997), Physics, University of Western Australia
 - Teaching, supervising, researching ... the academic life
 - Nanostructured permanent magnet materials
- Visiting scientist (1999), S&T, IBM Almaden Research Center
 - Nanoparticle arrays for media
- Research Staff Member (2002), IBM Almaden Research Center
 - Magnetic tunnel junction sensors
- Research Staff Member (...), Hitachi GST
 - Spintronics devices – strategic partnership
- MBA (2004), Cornell



The company

- Manufactures hard disk drives
- Founded in January 2003
- Combination of IBM and Hitachi's storage technology businesses
- Strong R&D heritage

- 21,000 employees
- Headquartered in San Jose, CA
- Operations in ...
 - San Jose (CA)
 - Rochester (MN)
 - Japan
 - China
 - Mexico
 - Philippines
 - China
 - Singapore



- Some of the Cornell folks at the San Jose lab:
 - Bruce Gurney PhD (1987) Physics
 - Liz Dobisz BS, MEng (1976) Eng & Appl Physics
 - Neil Robertson BS (1982) ChemE
 - Barry Stipe MS, PhD (1998) Physics
 - Jeffrey Childress BA (1985) Physics
 - Jordan Katine, postdoc (1999) Physics
 - Guohan Hu MS, PhD (2002) MSE
 - Sergey Kiselev PhD, postdoc (2004) Physics

Why industry?

- errr ... because it's where the jobs are ...
- Industry positives
 - \$\$\$
 - Toys
 - Teams
 - Clear(-ish) goals
 - Work environment
- Industry negatives
 - No students
 - Less intellectual freedom
 - Less control
- Industry career paths
 - Technical (no clear hierarchy)
 - Research
 - Engineering / Development
 - Technical
 - Management (clear hierarchy)
 - Nearly all have tech. backgrounds
 - Must care about operations !

Work week



How to get into industry

- At the end of your degree ...
 - Be the world expert in your field
 - Don't be a generalist!
- Experience
 - Get a coop / internship somewhere
- Mentor(s)
 - Get one
 - Better still, get two or three
- Network at conferences
- Use your University connections
 - Alumni networks
 - On-campus recruiting events

Dual career problems

- Location, location, location!
- Many companies will help spouses find work
- Managing with children is harder in industry
 - Less likely to have on-site child care
 - Child care costs can be extreme

Other thoughts

- Don't let yourself get isolated
 - Nothing you are experiencing is new
- Don't treat your decisions as irreversible
 - Be adventuresome – take some risks