Transitions and Survival Skills: Perspectives from a Career in Industry

Joanna L. Batstone, PhD
Joanna L. Batstone, Ph.D.

**Today**
- Senior Manager and Senior Technical Staff Member, Solutions Development, IBM Healthcare and Life Sciences
  - Manage 3 development teams producing solutions for large Pharma and biotechs and solutions for medical informatics and medical imaging for healthcare customers
- 3 kids (3,6,8), IBM spouse

**Formerly**
- Research Staff Member, IBM Research
- Lecturer, University of Liverpool, UK
  - Dept. of Materials Science and Metallurgy
- Postdoc., AT&T Bell Labs, Murray Hill, NJ
- Ph.D., (Physics), B.Sc., (Chemical Physics) University of Bristol, UK
What career transitions can we expect?

- From graduate school to first job
- From postdoc to "permanent" or regular position
- Switching jobs or switching field of study
- From researcher to manager
- From 1st line manager to middle-manager to executive
- Deciding to have kids and choosing to stay home or return to work

- Your next job is a single step in your career
What skills do we need?

Communication

Teamwork
Relationships
People
Management

Time
Management

Leadership
Independence
Initiative
Motivation
Responsibility
Switching fields - from Physics to Software

- From semiconductors to electronic commerce
  - DB2 and DLLs
  - Most valuable "transition skills" were:
    • knowledge of purchasing department processes
    • 10+ years of research experience
  - what expertise or core competencies do you have?
Switching fields - from software to Life Sciences

- **From financial services to Life Sciences**
  - Joining a new business unit in IBM
  - Most valuable "transition skills" were:
    - knowledge of DB2 and data management
    - knowledge of science, mainly chemistry & biology
    - understanding of the research process
  - Make tough decisions, fail early
Switching jobs - from scientist to Mom!

- Having kids is a personal decision
- Take time to understand your employer's "maternity leave" policies and the Family & Medical Leave Act (FMLA)
- Speak with other women in your department - what worked for them? What failed?
- How much time do you take off? What about "reentry" to the workforce? Full time or part time?
- Will my career advancement grind to a halt?
- Good way to practice time management!
People skills and teamwork are essential components for a successful career

- 90% of our jobs require people interaction
- Selling our products and ideas to our colleagues, managers and customers
- Working in a team and accomplishing work as a team
  - Most science students work on their own projects in a lab
- Value diversity - each of us brings unique skills, experiences, opinions
Excellent communication skills are essential

- "When we write, we can delete as much as we want. When we SPEAK, there is NO delete key"
  - "Technical people that can communicate have an advantage over the best techies in world."

- **Presentation skills**
  - Who is the audience, what decision needs to be made, "what's in it for me"?
  - Tailor presentation to audience - don't assume they know everything you know
  - Clear, concise statements and explanations - don't put your audience to sleep
  - Practice, practice, practice

- **Mobile, networked, e-mail, chat - dominated world**
  - Face to face communication still extremely important
Time management is essential

- Different jobs define different work styles
- Work days can be:
  - "interrupt-driven", demanding, reactive, urgent
  - highly scheduled or extremely flexible
- Manage your work/life balance
  - Learn to juggle
  - Make time for yourself
Develop your leadership skills

- Innovation is driven by technical leadership
  - creativity, breakthrough thinking, marketplace insight

- Promote new ideas, drive change

- Identify new projects, drive new technology adoption
  - Not all projects will succeed, be smart, analyze the marketplace opportunities, accept project failure

- Learn the "system", understand the measurements processes and exploit for success

- Leadership skills differentiate you from your peers
Survival skills for a Physicist

Conduct your personal inventory of survival skills

- Physics is a great start
- Core set of technical skills
  - thesis subject expert
  - experimental/theory
  - hypothesis, test, refine, conclusions
  - technical writing
  - technical presentations
  - ability to learn new stuff with an open mind
  - process design
- Additional "extra" skills
  - project management
  - design methodology
  - programming/IT skills
  - build/design labs/equipment
  - logical thinking
  - practical, organized behavior
  - teacher (TAs, seminars)
Physics is great training for a technical career

- **Comments from colleagues in industry - what skills from their Physics training have been valuable in industry?**
- Ability to communicate a complex subject succinctly
- Problem solving skills applicable to most domains
- Ability to deal with messy, amorphous problems, ability to abstract simple models from complicated systems
- Model and hypothesis building
- Approaching a problem from different angles to solve it
- Self-motivation, self-direction
- Degree of comfort with technical material even when one doesn't completely understand it
- Responding to "on your feet" questions that take a different perspective on the problem
- No fear of asking questions