

Finding Your Way: Careers Away from the Bench

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AAAS/Science Careers

AAAS

- International nonprofit organization dedicated to advancing science, engineering, and innovation throughout the world
- Membership-based organization
- Publisher of *Science*
- Source for broad range of career advice and resources through *ScienceCareers.org*
- *Science Careers Outreach Program*
- Slides available at sciencecareers.org/outreach



Introduction

- Are these careers “alternative”?
- What sorts of opportunities are there?
- How do you decide what to do?
- How do you get there?

Right now there are some 60,000 biomedical postdocs in the U.S. ...perhaps 800 get academic jobs each year at ... serious research institutions. Perhaps that many more get faculty positions at other types of institutions. The traditional idea is that a postdoc lasts 3 years, but the way things are going it will take about half a century to get all the current postdocs into good faculty jobs. ... Next year, I am sure, we'll create several thousand new PhDs. Let us be grateful that there are other kinds of work for them to do.

- Jim Austin, Editor, *Science Careers*

Young people themselves don't realize how valuable they are with a PhD. It means an ability to think deeply, solve problems, analyze data, criticize, and be criticized. [PhDs] often don't realize the breadth of what they are capable of doing.

- Neal Lane, Science Advisor to Bill Clinton

Consider that the average person sleeps 8 hours per day; that leaves 16 hours for other activities. From the time that we are roughly five years old through the time we retire in our 60s or beyond, most of us are involved in vocational activities – educational and work – one-half or more of those remaining hours, 5 days per week. If you are unfulfilled in your work life, your dissatisfaction will certainly affect other areas of your life.

- Michael Shahnasarian, *Decision Time: A Guide to Career Enhancement*

Myths About Post-academic Careers:

- No one would hire you. You have no useful skills.
 - Your research is your most valuable asset.
 - People who work in the business world are stupid and boring.
 - Jobs in the business world are stupid and boring.
- Adapted from Susan Basalla and Maggie Debelius' *"So What Are You Going to Do With That?" Finding Careers Outside Academia*

What do scientists do outside of research?

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- Business development
- Journal editors
- Career development
- Technical writers
- Science writers
- Tech transfer
- Information science
- Venture capital
- Marketing/sales
- Public relations
- Funding agencies
- Professional associations
- Academic administration
- Program administration
- K-12 teachers
- Community college professors
- Curriculum development
- Educational research
- Museums/science centers/aquariums
- Public policy
- Patent agents and attorneys
- Finance
- Regulatory affairs
- Entrepreneurship
- and more...

Science Writing

- Work in one of many settings
- Write on various topics
- Need strong writing skills
- Training programs, internships, volunteer

Patent Agent/Attorney

- Advise companies and inventors on intellectual property and patent issues
- No degree necessary
- Strong communication skills

Science Policy

- Work on government policies that intersect with science
- Bridge between the policy world and scientists
- Communication skills are key
- Fellowships to enter the field

Sales

- Continue to work with science and scientists
- Work with customer before and after sales occur
- Requires good people skills

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- What sorts of concerns do you have about careers outside of research?

What career path is right for you?

The Decision Cycle

1. Awareness
2. Self-Assessment
3. Exploration
4. Integration
5. Commitment
6. Implementation
7. Re-evaluation

(Adapted from Carney & Wells 1995)

Self-Assessment, Exploration, and Integration

- Research your options
- Reflect on your preferences
- Conduct informational interviews
- Network

Research Your Options

- Learn about different career paths
- Ask unbiased sources
- Speak with career counselors
- Read about career paths
 - ScienceCareers.org – articles and forum
 - Alternative Careers in Science – Robbins-Roth
 - Put Your Science to Work - Fiske
 - So What Are You Going to Do With That? – Basalla & Debelius

Reflect on Your Preferences

- Take career inventories and self-assessments
- Informally reflect on preferences
 - Journal
 - Pro and con lists
 - Lists of skills and values

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- What would you miss about being in the lab?
- Where do you want to work?
- What do you want to wear to work?
- How often do you want to change projects?
- Would you like to work independently or as part of a team?

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- Who do you know who likes their job?

Yet Other Considerations

- Employment trends
- Societal needs
- Economic conditions
- Family responsibilities
- Geographic considerations
- Immigration issues

Informational Interviewing

- Learn about career options and expand your network
- Ask for a few minutes of the person's time
- Prepare ahead of time
- Ask open-ended questions
- Mind your manners
- Ask for referrals
- Afterwards, write a thank you note

Questions to ask

- What attracted you to this field?
- What do you like most or least about this position or field?
- Describe a typical day or week.
- What steps did you take to break into this field?
- What skills are most helpful in your job? How can I develop them?
- To what professional associations do you belong?
- How do I locate positions in this field?
- What other advice do you have for me?

Other Networking

- Ask your contacts about career options
- Social networking
- Career fairs
- Meetings and conferences
- Mentoring programs

Transitioning/Implementation

- Think about your skill set
 - Skills you have
 - Skills employers want
- Develop and cultivate new skills
- Start following a career path

Skills You Have

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- Data analysis and management
- Project management
- Communication
- Computer and technical operations
- Teaching and leadership
- Teamwork
- Problem-solving and critical thinking
- Technical knowledge

Skills Employers Want

- Learning to learn
- Reading, writing, and computation
- Communication
- Adaptability
- Personal management
- Group effectiveness
- Leadership

Develop New Skills

You might need experience in new arenas!

- Volunteer
- Complete an internship
- Pursue fellowships
- Get additional training
- Take a part-time or temporary job
- Demonstrate an interest in your new career path

Start Following a Career Path

- Decide whether you need a postdoc
- Start sending out applications
- Be explicit about the skills you have
- Make a plan (or not)
 - Individual Development Plans – FASEB

But what will my advisor think?

- Your career path is about YOU
- You are not the only one to doubt the academic/
research path
- Be honest about your concerns
- Many experience relief

Changing careers is not a failure; it often requires more courage than continuing in the expected direction and can lead to much greater personal development.

- Anita Crafts-Lighty

The PhD is good training for a professional life. For me, it was my entrée into the culture of physics and the first step to [my current job].

- P.W. Hammer, American Institute of Physics

Resources

Available at sciencecareers.org/outreach

- These slides

Available at sciencecareers.org/webinar

- Nontraditional Careers webinar