The Chicken or the Egg... or Catch-22

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Abstract

The old conundrum: I’m interested in a job in industry but don’t know how to get the skills needed while I’m in an academic institution. How do I show prospective employers I have management experience when I have never been a manager? What does it even entail to work in industry? I don’t know much about regulatory affairs, early discovery, downstream processing, or manufacturing. I don’t even know where to start looking for the job titles that might be appropriate to my research experiences. What do industry employers look for? What does ”3-5 years of industry experience” mean, and do I qualify? How do I get experience when I have no experience?

Employers seek specific so-called 'soft skills' beyond solid technical skills in people they hire: reliability, strong ethics, teamwork, good communication and leadership. They are looking for self-confident, problem-solving, self-initiators who can clearly express the value they will add to the organization. It is important that you can translate your experiences into a language that will get their attention. Can you synthesize a lot of information to sift out what is most important to the bottom line? Are you willing to tackle a project you have no background in and recruit others to get it done? Do you have a 'can-do' attitude?

In this session we will bust some common myths, help you re-focus your skills to think of them from an industry perspective, and share resources available to help you get further training while completing your postdoc productively. Lastly we’ll provide some concrete examples of how to re-craft your resume to appeal to an industry HR gatekeeper.
New faculty positions versus new PhDs.

The missing piece to changing the university culture
Maximiliaan Schillebeeckx, Brett Maricque & Cory Lewis
Non-academic jobs: Doctoral students

Non-academic jobs: Doctoral students

### Academic Jobs

**Educational Institution:**
- A faculty position, typically involving teaching and research

### Non-Academic Jobs

#### Business and Industry:
- Consulting companies
- Manufacturing
- Financial institutions
- Media outlets

#### Government:
- Federal
- State
- Local

#### Educational Institution:
- Alumni office
- Grants and contracts
- Public relations

#### Not-for-profit organization:
- Libraries
- Museums
- Professional societies
# Careers in Academia

<table>
<thead>
<tr>
<th><strong>Positives</strong></th>
<th><strong>Negatives</strong></th>
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<tbody>
<tr>
<td>+ Intellectual freedom</td>
<td>- Low pay</td>
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<tr>
<td>+ Flexible hours</td>
<td>- Long hours</td>
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<tr>
<td>+ Interactions with students</td>
<td>- Interactions with students</td>
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<tr>
<td>+ Access to resources (libraries, museums)</td>
<td>- Politics and hierarchy</td>
</tr>
<tr>
<td>+ Familiar setting, clear career path</td>
<td>- Stressful working environment</td>
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<tr>
<td>+ Job security</td>
<td>- Pressure to publish</td>
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<tr>
<td>+ You can “use” your graduate degree</td>
<td>- Isolation</td>
</tr>
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<td>- Difficult funding environment</td>
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# Careers Outside Academia

## Positives

- Faster-paced working environment
- Good salaries
- Health insurance
- Work-life balance
- More social impact
- Less geographical restrictions
- Explore new career areas and use skills in different ways
- Shorter-term projects

## Negatives

- Faster-paced working environment
- Corporate culture
- Graduate degree may not be valued
- Less intellectual freedom
- Deadline- or product-driven environment
- May have less flexible schedule
Reasons to Stay in Academia
(Even If You Don’t Want To!)

• Your graduate degree will be “wasted”
• Your advisor won’t support you if you leave academia
• You’re a failure if you leave academia
• Your personal beliefs conflict with the corporate world
• You don’t know what’s out there
• You’re afraid of making a career change
• You don’t have any transferable skills
• Nobody will hire a PhD anyway
• You don’t have time to look for a job
• You’re over- and under-qualified for non-academic jobs
How can you overcome these challenges?

Treat your career exploration as another research project.
Your Career Exploration Research Project

1. Conduct background research to identify topics of interest
2. Develop a hypothesis or question
3. Gather information to test your hypothesis or answer your question
4. Evaluate your findings
5. Articulate your results and publicize
Your Career Exploration Research Project

1. Conduct background research to identify topics of interest
   *Identify your skills and what is important to you in your career*

2. Develop a hypothesis or question

3. Gather information to test your hypothesis or answer your question

4. Evaluate your findings

5. Articulate your results and publicize
Your Career Exploration Research Project

1. Conduct background research to identify topics of interest

2. Develop a hypothesis or question
   - E.g. “I would like to use negotiation skills in my future career”
   - or “Is consulting a good match for my skills and interests?”

3. Gather information to test your hypothesis or answer your question

4. Evaluate your findings

5. Articulate your results and publicize
Your Career Exploration Research Project

Conduct background research to identify topics of interest

Develop a hypothesis or question

Gather information to test your hypothesis or answer your question
Locate resources, read, and speak to experts to learn about careers in which you could use certain skills and fulfill your priorities

Evaluate your findings

Articulate your results and publicize
Your Career Exploration Research Project

1. Conduct background research to identify topics of interest
2. Develop a hypothesis or question
3. Gather information to test your hypothesis or answer your question
4. Evaluate your findings
   - Prove your hypothesis or answer your question by processing the information you found. Are any careers are a good fit for your skills, interests, and values?
5. Articulate your results and publicize
Your Career Exploration Research Project

1. Conduct background research to identify topics of interest
2. Develop a hypothesis or question
3. Gather information to test your hypothesis or answer your question
4. Evaluate your findings
5. Articulate your results and publicize

*Apply for jobs!*
Your Graduate/Postdoctoral Experience Already Taught You How To:

- Define a topic of interest by reading extensively
- Formulate a hypothesis or question
- Figure out what you know and don’t know
- Identify resources (books, websites, databases)
- Talk to experts intelligently
- Question your assumptions

Why not use this same approach to discover how you fit into the world beyond academia?
Redefining Yourself

Instead of listing what you’ve done, think about what problems you’ve solved and what value you will bring to the new position.

**Academia:**
- Job title (Professor)
- Subjects (American history)

**Outside of Academia**
- What you’ve done and could do (transferable skills)

This may be why you feel as though you don’t fit anywhere but in academia.
Redefining Yourself

I am getting my PhD in cell biology.

Tenure-track or adjunct professor

Industry researcher
Redefining Yourself

I am getting my PhD in cell biology.

- Tenure-track or adjunct professor
- Industry researcher

I am skilled at writing, researching a wide variety of topics, reading and synthesizing large amounts of information, and working independently in high-pressure environments.

- Journalism
- Grant officer
- Editor
- Government job: patent reviewer, speech writer, foreign service officer...
Why Do You Have to Redefine Yourself?

% of people in US over age 25 with...

- High school degree: 87.6%
- Bachelor’s degree: 30.9%
- Master’s degree: 8.0%
- Professional degree (MD, JD, DDS) degree: 1.5%
- Doctoral degree: 1.6%

http://www.census.gov/hhes/socdemo/education/data/cps/2012/tables.html
How Can You Redefine Yourself?
Three Skill Types

Transferable/Functional Skills
• Actions used to perform a task and are transferable to different positions
• Examples: organize, promote, analyze, write

Knowledge-Based Skills
• Specific areas of knowledge needed to perform a task, procedure, process
• Acquired through education, training and on-the-job experience.
• Examples: accounting, synthetic chemistry techniques

Personal Qualities
• Personal characteristics that contribute to performing work activities.
• Developed in childhood and through life experience
• Examples: patient, diplomatic, results-oriented, independent
Identifying Your Transferable Skills

1. Using the skills handout, check off all of the skills in which you are highly or moderately proficient
   • Note: If you possess skills not listed, add them to the list.

2. Put a check next to those highly proficient or moderately proficient skills you enjoy using the most.
RESEARCH SCIENTIST

• creating and conducting experiments;
• processing and analyzing results and data;
• communicating results to the scientific community via published papers;
• collaborating with industry/academia to apply the results of research and develop new techniques, products or practices;
• presenting ongoing work and findings to colleagues at academic conferences, and summarizing the nature of the research, methodology and results;
• carrying out field work to inform research;
• teaching, demonstrating to or supervising students (in academia) and training and supervising other members of staff;
• devising or helping to draw up new research proposals and applying for funding and grants;
• working in multidisciplinary teams, in different faculties or schools in academia, and in different functions of the business in industry.
Job Posting

RESEARCH SCIENTIST

• creating and conducting experiments;
• processing and analyzing results and data;
• **communicating results** to the scientific community via published papers;
• **collaborating with industry/academia to apply the results** of research and develop new techniques, products or practices;
• **presenting** ongoing work and findings to colleagues at academic conferences, **and summarizing the nature of the research, methodology and results**;
• carrying out field work to inform research;
• teaching, **demonstrating to or supervising students** (in academia) and **training and supervising other members of staff**;
• devising or helping to draw up new research proposals and applying for funding and grants;
• **working in multidisciplinary teams**, in different faculties or schools in academia, **and in different functions of the business in industry**.
Go ahead and do it

THINK

Develop Your Focus

Understand Yourself
Interests
Values
Strengths
Goals

DO

Take Action
Applications
Letters
Resumes
Interviews

LEARN

Explore Options
Resources
Networking
Activities
Internships
Tools & Resources: EXPLORE!

Do Self-Assessments

- Myers-Briggs, StrengthsQuest, SkillScan

Individual Development Plan:
- ScienceCareers’ myIDP
- U of Wisconsin IDP template: all fields
- O*Net Interest Profiler

Find others

- The Versatile PhD
- Google search with keywords:
  - LinkedIn
  - “PhD (or MS, MA, etc), your graduate field”
  - A skill, career area, company
Networking... to find advice

- Speak to individuals in the field
- LinkedIn search
- Job title, company, industry, degree, career path
- Conferences/symposia
- Collaborators on research projects
- Professional Societies
- Vitae
- Alumni databases
Gather Information about Employers

Industry/For-Profit:
- Hoovers
- Uniworld

Nonprofit:
- Leadership Library
- Guidestar
- Idealist

Higher Education:
- Higher Education Recruitment Consortium (HERC)
- Chronicle of Higher Education

International postdocs:
- Myvisajobs.com
- FindTheBest
**DO**

**Attend events:**
- seminars, career panel discussions, workshops...on and off campus, and outside your field

**Join/Start a club or professional society:**
- make an impact, improve your institution, get leadership experience

**Take courses/workshops:**
- outside your field-in policy, business, communication, governance...

**Volunteer:**
- according to your passion (EYH, teach, mentor, coach, etc...) and hobbies (sports, music, dance, clubs...)
DO

Academic credit
- CLASSES *e.g.*, in Entrepreneurship, Business, Science Policy, Communication
- WRITE A REVIEW or TECHNIQUES paper

Certificates
- Online offerings in Six Sigma, Lean, QA/QC, Biopharmaceuticalal, Regulatory Affairs, Medical devices, Good Clinical Practices

Experience
- Enter a business plan, case competition, Dance Your PhD, 3MT
- Apply for a seed grant (internal, state, federal-*e.g.* SBIR...) or fellowship
- Start a company
- Invite a speaker or organize an event (*ComSciCon*, Dept. Symposium)
- Be a speaker at an industry conference
Finding Jobs

TRADITIONAL

• Career services from your PhD and current institution
  • phds.org
  • ScienceCareers
  • NewScientist
  • Usajobs.gov
  • Chronicle of Higher Education: Vitae
Finding Jobs

- Alumni, family, and friends: your network
- Mailing Lists
- Professional Societies
- Craig's List (many local companies use this)
- Indeed

AT STARTUPS:
- GolgiCareers (for biotech and healthcare startups)
- Chubby Brain
- CoNotes
- Hot Start Up Jobs
- NPost
- Startup Agents
- Startup Hire, Startup Jobs
- Startup Match Maker, Startup Zone
- Startupers
- Startuply
- Venture Loop
A New Paradigm for PhD Training

Before Broadening Experiences in Scientific Training (BEST)

After implementation of BEST practices

Thank You