

**Put Your Science to Work:  
Practical Career Advice for  
Early Career Scientists**



**Dr. Peter S. Fiske**  
March 7, 2019  
APS Spring Meeting



**Why am I REALLY here?**



- **Experience**
  - My career path (so far) has been unusual (for a Geophysicist) but highly stimulating and enormously enjoyable.
  - I benefited from numerous mentors and got lots of good advice
    - Pass some of it along
- **Concern**
  - Young S&Es don't get very good career development advice.
  - Such advice is of greatest value at the START of your career!
- **Prejudice**
  - I believe that technically-trained individuals have enormous opportunity to improve the world.

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**Why did I become a scientist?**



- I loved exploration
- The natural world fascinated me
- My father was a scientist (and seemed to have a fun career)
- I wanted to do something adventurous and meaningful
- I wanted to have an impact on the world (and be recognized for it)



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**Why did you become a physicist?**



- What you do for a career is a deeply personal thing**
- Influenced by your parents and family
  - Influenced by your upbringing
  - Influenced by your personality and temperament
  - Influenced by random encounters and chance opportunities



**Becoming familiar with your own "story" is the first step in charting your career**

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**The world outside of academia has evolved...**

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**Old**

- Go to school for skills
- Job Security = Good
- Wages = Reward
- Infrastructure = Biggest Asset

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**Old**

- Go to school for skills
- Job Security = Good
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- Infrastructure = Biggest Asset

- Seniority (mattered most)
- Guilds (were everywhere)
- Risk Aversion (was the smart thing)
- Passivity (was the safe bet)

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**The world outside of academia has evolved...**

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**New**

- Life-long learning
- Risk-taking = Good
- Stock Options = Reward
- IP = Biggest Asset

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**The world outside of academia has evolved...**

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**New**

- Life-long learning
- Risk-taking = Good
- Stock Options = Reward
- IP = Biggest Asset

- Experience (matters most)
- Independents (are everywhere)
- Risk Management (is the smart thing)
- Entrepreneurialism (is the safe bet)

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**The world outside of academia has evolved...**

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<p><b>Old</b></p> <ul style="list-style-type: none"> <li>Go to school for skills</li> <li>Job Security = Good</li> <li>Wages = Reward</li> <li>Infrastructure = Biggest Asset</li> </ul> <ul style="list-style-type: none"> <li>Seniority (mattered most)</li> <li>Guilds (were everywhere)</li> <li>Risk Aversion (was the smart thing)</li> <li>Passivity (was the safe bet)</li> </ul>	<p><b>New</b></p> <ul style="list-style-type: none"> <li>Life-long learning</li> <li>Risk-taking = Good</li> <li>Stock Options = Reward</li> <li>IP = Biggest Asset</li> </ul> <ul style="list-style-type: none"> <li>Experience (matters most)</li> <li>Independents (are everywhere)</li> <li>Risk Management (is the smart thing)</li> <li>Entrepreneurialism (is the safe bet)</li> </ul>
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Unfortunately, much of academia reinforces ...the OLD

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**The need for PhDs to think broadly about themselves is not new...**

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*“Young people themselves don’t realize how valuable they are with a Ph.D. It means an ability to think deeply, solve problems, analyze data, criticize and be criticized. [PhD-trained graduates] often don’t realize the breadth of what they are capable of doing.”*

**Dr. Neal Lane**  
 (Former Director, National Science Foundation)  
 “Producing the Finest Scientists for the 21<sup>st</sup> Century”  
 Science 4, November 1994 741-743

**PhDs possess many of the traits and skills that are of highest value in the “real world”**

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Dr. Al Levin



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Transferable skills

1. ability to function in a variety of environments and roles
2. teaching skills: conceptualizing, explaining
3. counseling, interview skills
4. public speaking experience
5. ability to support a position or viewpoint with argumentation and logic
6. ability to conceive and design complex studies and projects
7. ability to implement and manage all phases of complex research projects and to follow them through to completion
8. knowledge of the scientific method to organize and test ideas
9. ability to organize and analyze data, to understand statistics and to generalize from data
10. ability to combine, integrate information from disparate sources
11. ability to evaluate critically
12. ability to investigate, using many different research methodologies
13. ability to problem-solve
14. ability to do advocacy work
15. ability to acknowledge many differing views of reality
16. ability to suspend judgment, to work with ambiguity
17. ability to make the best use of "informed hunches"

*Did you know a Science degree teaches you these things?*

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Personal qualities

1. intelligence, ability to learn quickly
2. ability to make good decisions quickly
3. analytical, inquiring, logical-mindedness
4. ability to work well under pressure and willingness to work hard
5. competitiveness, enjoyment of challenge
6. ability to apply oneself to a variety of tasks simultaneously
7. thorough, organized and efficient
8. good time management skills
9. resourceful, determined and persistent (and able to live on \$2K/month!)
10. imaginative, creative
11. cooperative and helpful
12. objective and flexible
13. good listening skills
14. sensitive to different perspectives
15. ability to make other people "feel interesting"

*Employers in all fields are looking for people with these traits*

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20 successful PhDs in non-academic careers were asked ...

*"Of the many skills you developed while in graduate school, which ones are the most valuable to you now?"*

- Finding one's own path and taking initiative with little assistance
- Ability to work in a high-stress environment
- Independence
- Maturity
- Computer skills
- Circumventing the rules
- Learning to seek out problems and solutions
- Ability to persuade
- Ability to create
- Ability to work productively with difficult people

**and my favorite:**

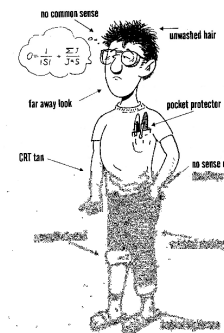
The ability and courage to start something even if you don't know how yet

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**Employers in ALL sectors are hungry for people with these skills and qualities**


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What image does "Physics PhD" conjure?



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## The Curse of Being Smart



We have become very highly skilled → We tend to value our skills the most

We can conceptualize → We can conceive of complications


We are used to knowing it all → We fear being the “dummy”

We are intellectually smart → We fail to appreciate other forms of smart

We are used to being exceptional → We don't like to fail

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## Match the Person and the Career



Cell Biologist	Science Media Entrepreneur
Chemist	Congressional Staffer
Astrophysicist	Financial Analyst
Biophysicist	Management Consultant
Geologist	Rodeo Star
English	Experimental Physicist
Plant Biologist	Book Editor
Theoretical Chemist	Chancellor of Germany
Geophysicist	Software Entrepreneur
Mathematician	High School Teacher
Electrical Engineer	Secretary of Defense
Medieval History	Programmer

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## Match the Person and the Career: The Answers




Cell Biologist	_____	Science Media Entrepreneur
Chemist	_____	Congressional Staffer
Astrophysicist	_____	Financial Analyst
Biophysicist	_____	Management Consultant
Geologist	_____	Rodeo Star
English	_____	Experimental Physicist
Plant Biologist	_____	Book Editor
Theoretical Chemist	_____	Chancellor of Germany
Geophysicist	_____	Software Entrepreneur
Mathematician	_____	High School Teacher
Electrical Engineer	_____	Secretary of Defense
Medieval History	_____	Programmer

*They do have ONE thing in common: They're SMART ... like YOU!*

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## The 80:10:10 rule




How will you grow and gain new skills if you don't invest the time?

How will people know of your abilities if you don't tell them?

**"Opportunities are seldom labeled"**  
- John Shedd

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## The skills that will REALLY count ...




Leadership  
 Persuasion  
 Humor  
 Tact  
 Understanding of Risk and Reward  
 Understanding of Investment and Return  
 Organization  
 Sensitivity  
 Drive  
 Perspective  
 Creativity

**Good News: You can LEARN These!**

*"Give me ten people who have all of these skills and I could do anything"*

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## Typical questions asked by Science grads facing an uncertain job market



"How do I get a job in \_\_\_\_\_?"  
 "How do I write a resume?"  
 "What jobs call for my skills?"  
 "Where is the bathroom? I'm going to be sick!"

Better questions are:

What do I enjoy doing and what am I good at?  
 What are various career like?  
 What careers and jobs are a good match to my skills, interests, and values?  
 Who can I talk to?

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## Why are these questions better?

- Scientists and engineers (S&Es) are preoccupied with matching skills and ignore other important factors in choosing a career
- S&Es lack information and exposure to other career fields
- Career change for S&Es can be harder:
  - lack of an established pathway
  - fear/anger of getting a degree “for nothing”
  - ignorance/fear of life in the “real world”

**If you don't like what you do for a living, you probably won't be very good at it**

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## Steps in the Career Planning Process

Career development is a continual process

Career development is part of being a professional

most people think it starts here  
but  
it really starts down here

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## Self-Assessment:

- Informal methods  
Initial brainstorming
- Self-guided methods  
Interest Exercises
- Formal methods  
Exams and Tests  
Career counseling

**Make your neuroses work for you!**

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## Initial brainstorming

- What do I enjoy doing most?
- What do I like most and least about my present career?
- What are my values?
- What do I like to read?
- What organizations or jobs sound interesting to me?
- When have I been my happiest at work?
- When have I been most unhappy?

Career Development Journal

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## Self-guided exercises

1. Make a two-column list of everything you can think of that you like and dislike about the academic career, and then assign priorities. What do you learn about your values, interests and skills as they affect the work and workplace?

Things I love about a research career	Things I hate about a research career
Intellectual challenge	Long hours
Teaching	Low pay
Flexible work schedule	Isolation
Independence	Funding rat race
Smart colleagues	Politics
Learning new things	Arrogant colleagues
Collaborating	Lack of teamwork

**These differences are critical to career success and happiness**

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## Self-Guided Exercises

Think back over the experiences you have had in your life - in the areas of work, leisure, or learning - and pick three to ten that have the following characteristics:

- a. you were the chief or a significant player
- b. YOU - (± the world or significant others) - regard it as a success: you achieved, did, or created something with concrete results, or acted to solve a problem, or gave something of yourself that you are proud of and are pleased by
- c. you truly enjoyed yourself in the process.

List each of them, write why you consider it a success, and write a paragraph or two detailing the experience, step by step.

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### Formal methods of self-assessment

**Myers-Briggs Type Indicator Test** - analyzes your beliefs and interests and categorizes you into 1 of 16 personality types. Used to understand how individuals may work well or not well together.

**Strong Interest Inventory** - analyzes your interests and skills and compares them to representative people in a variety of careers and work environments.

**Career Beliefs Inventory** - assesses the sources of anxiety about jobs, careers and career change.

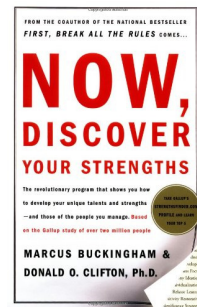
**StrengthFinder** – identifies the things you are BEST at (so you can play to your strengths)

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### What is a strength?

- The ability to provide consistent, near perfect performance in a specific given activity
- An activity that leaves you feeling strong
- A Strength is produced when a talent is refined with knowledge and skill



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Strength	Description
Achiever	one with a constant drive for accomplishing tasks
Adaptor	one who acts to start things in motion
Adaptability	one who is especially adept at accommodating to changes in direction/plan
Analytical	one who requires data and/or proof to make sense of their circumstances
Arranger	one who enjoys orchestrating many tasks and variables to a successful outcome
Belief	one who strives to find some ultimate meaning behind everything they do
Command	one who steps up to positions of leadership without fear of confrontation
Communication	one who uses words to inspire action and education
Competition	one who thrives on comparison and competition to be successful
Connectiveness	one who seeks to unite others through commonality
Consistency	one who believes in treating everyone the same to avoid unfair advantage
Context	one who is able to use the past to make better decisions in the present
Deliberative	one who proceeds with caution, seeking to always have a plan and know all of the details
Developer	one who sees the untapped potential in others
Discipline	one who seeks to make sense of the world by imposition of order
Empathy	one who is especially in tune with the emotions of others
Focus	one who requires a clear sense of direction to be successful
Futuristic	one who has a keen sense of using an eye towards the future to drive today's success
Harmony	one who seeks to avoid conflict and achieve success through consensus
Insight	one who is adept at seeing underlying concepts that unite disparate ideas
Includer	one who instinctively works to include everyone
Individualization	one who draws upon the uniqueness of individuals to create successful teams
Input	one who is constantly collecting information or objects for future use
Interfection	one who enjoys thinking and thought- provoking conversation often for its own sake, and also can data compress complex concepts into simplified models
Learner	one who must constantly be challenged and learning new things to feel successful
Maximizer	one who seeks to take people and projects from great to excellent
Positivity	one who has a knack for bringing the light side to any situation
Relator	one who is most comfortable with fewer, deeper relationships
Responsibility	one who, inespically, must follow through on commitments
Restorative	one who thrives on solving difficult problems
Self-Assurance	one who stays true to their beliefs, judgments and is confident of his/her ability
Significance	one who seeks to be seen as significant by others
Strategic	one who is able to see a clear direction through the complexity of a situation
Woo	one who is able to easily persuade

### IDPs

- Explore how your skills interests and values map onto some common PhD career paths
- Set goals for yourself
- Keep you and your advisor in sync



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Science 11 December 2015  
Vol. 350 no. 6266 pp. 1367-1371  
DOI: 10.1126/science.aac5949

#### REPORT

#### Wrapping it up in a person: Examining employment and earnings outcomes for Ph.D. recipients

Nikolas Zolas<sup>1</sup>, Nathan Goldschlag<sup>1</sup>, Ron Jarmin<sup>1</sup>, Paula Stephan<sup>2,3</sup>, Jason Owen-Smith<sup>2</sup>, Rebecca F. Rosen<sup>2</sup>, Barbara McFadden Allen<sup>2</sup>, Bruce A. Weinberg<sup>3,4,5,6</sup>, Julia I. Lane<sup>3,4,6&10</sup>

1 | Author Affiliations

6 | Corresponding author. E-mail: [weinberg.27@osu.edu](mailto:weinberg.27@osu.edu)

ABSTRACT | EDITOR'S SUMMARY

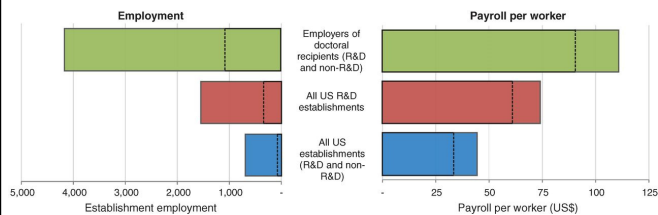
#### Tracking the knowledge economy

Although the U.S. investment in scientific research can be documented readily, its output is harder to track. Zolas et al. combined data obtained from eight universities on their doctorate recipients with data from business registries and the U.S. Census Bureau. This allowed them to link Ph.D. recipients to all their subsequent employers. Doctoral recipients tended to stay in academia or join large companies with high salaries. Roughly 20% stayed in the state in which they received their degree. In the year after receiving a Ph.D., mathematicians and computer scientists received the highest salaries, and biologists received the lowest.

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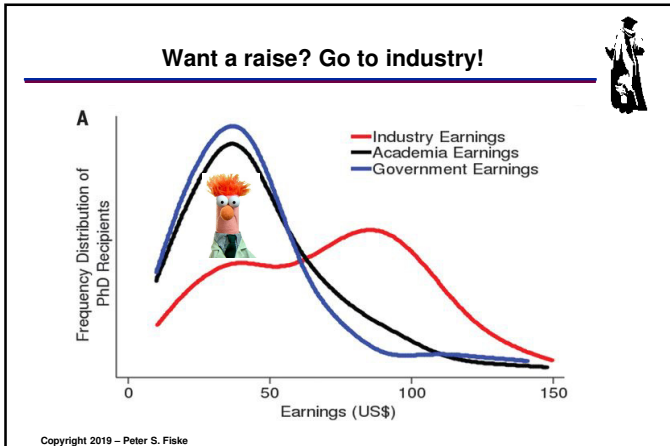
### PhDs end up in larger companies with higher salaries



Zolas et al., 2015

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- ### Exploring the World of Work
1. Keep your eyes and ears open
    - read the newspaper
    - talk to people
    - browse the Web
    - hear outside speakers
  2. Build your skills base
    - stay conversant with the latest technologies
    - attend workshops
    - take a class or two outside your area
  3. Build your NETWORK
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### Networking: Essential Career Tool #1

**What is networking?**

**My definition:**  
 Networking is developing relationships with people who share your professional and personal interests, and alerting them to your goals and abilities.

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### Networking: How most people get their jobs

**Networking is not:**  
 Tiresome schmoozing for a job  
 Restricted to the slick and superficial

**As a young scientist you have been networking throughout your career, you just probably didn't realize it!**

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### Who is my Network?

Anybody you know and feel comfortable asking a specific favor from can be part of your Network:

- Schoolmates
- Recent graduates
- Collaborators
- Friends from High School or College
- Past bosses and colleagues
- Family
- People you meet at seminars, conferences and workshops
- Other people who are looking for jobs

and Anybody they know

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## Asking a favor



- Please introduce me to \_\_ who is in your network
- Please forward my (resume, latest reprint, etc.) to...
- Please provide a reference for me if \_\_ calls
- Can you tell me the latest about \_\_\_?
- Can you send me a copy of \_\_\_?

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- Other people who are looking for jobs

and

Anybody they know

**The most valuable in your network are those already established in the career field that interests you and who are willing to give you help**

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“The best preparation you can make toward the goal of having an [academic] career is to find yourself a “research aunt or uncle,” someone with little or no authority over you, who has enough experience to act as a sounding board and giver of accurate advice. Do not be shy about getting to know the people outside your advisor’s realm.”

Peter Feibelman, A Ph.D. is NOT Enough!



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## Working a Meeting



- Identify who you want to connect with while at the APS meeting
- Reach out to them via e-mail
- Introduce yourself after their talk or during their poster
- Be clear about what you are seeking
  - Time frame for your transition
  - Introduction to someone else
  - Advice
- Follow up with a brief thank you and next steps
- Visit the exhibits booths
  - Chat up people there – what do they do for their company?
  - What are the areas of growth for their company in the next 12 months?

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*“On the Internet, nobody knows you’re a dog.”*



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## Your E-persona

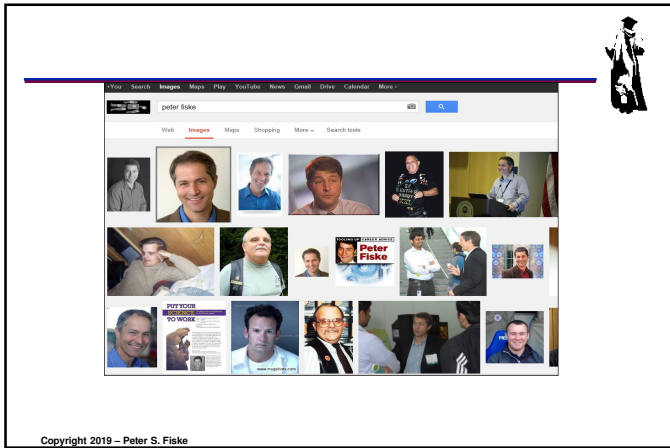


- Facebook – for friends
- Linked In – for colleagues and professional friends
- Your/your group’s website
  - Post your papers
  - Post your bio
  - Don’t post your CV
- Vanity Google

**You can link to me at Linked In (Peter Fiske – Put Your Science to WORK)**

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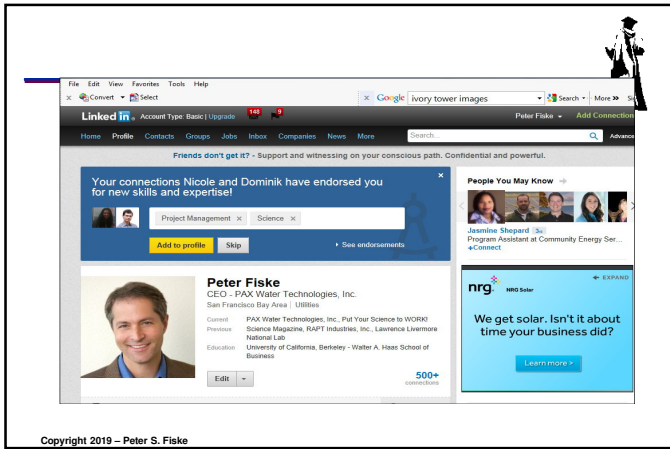




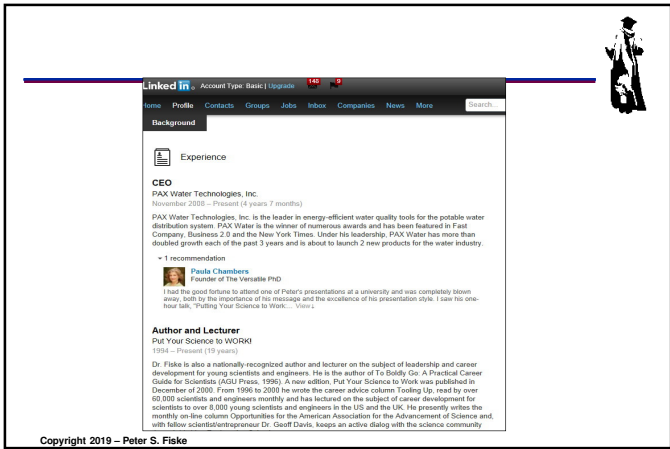
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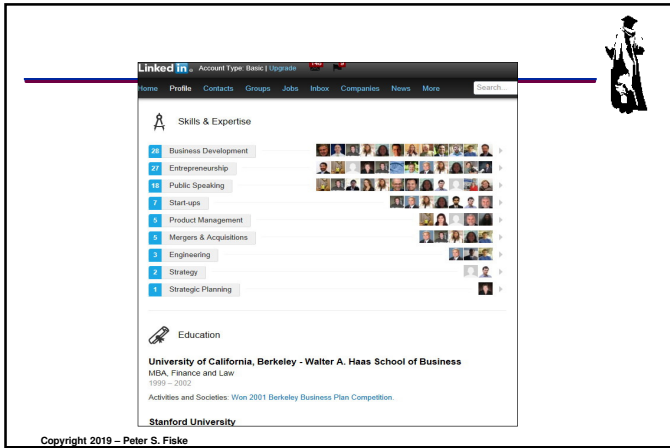
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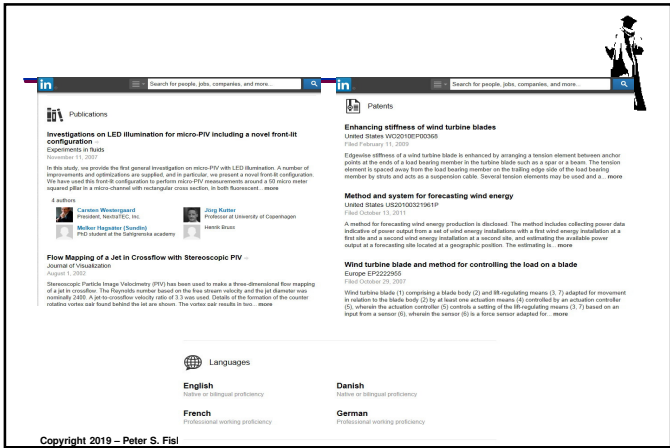
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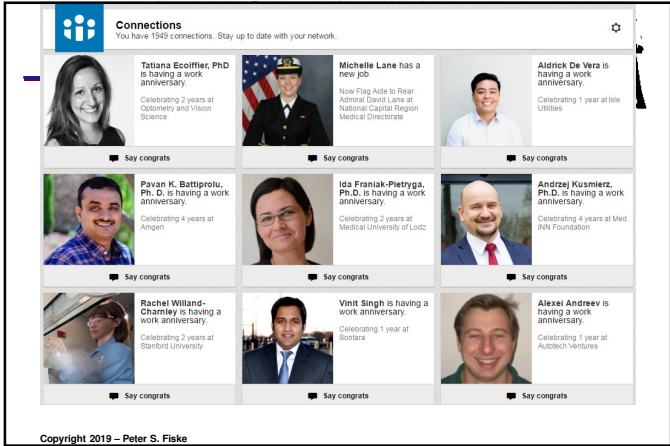
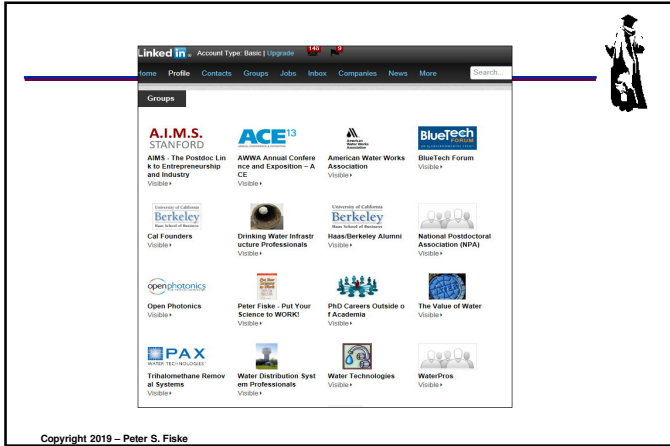
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## What do you want your image to be?

- **What professional face do you want to project?**
  - What are the consequences of choosing one part of your professional "façade" over another?
- **What would a potential funder think when viewing your profile?**
- **What would a potential employer think when viewing your profile?**

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## LinkedIn Etiquette

Hi Peter,  
I'd like to connect with you on LinkedIn.

**Fawas Nassar**  
MITAS Reservoir Engineer at Maersk Oil

Accept View Profile

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## LinkedIn Etiquette

Hi Peter,  
Hope you're doing good. It was great hearing from you last week at University of California. Thanks for your very thought provoking talk.

I would also like to add you to my professional connection. Hope to see you again.

Thanks

Kind regards,  
Ahmed Bilal

**Ahmed Bilal**  
MITAS Reservoir Engineer at Maersk Oil North Sea UK Limited

Accept View Profile

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## LinkedIn Etiquette

10/26/2015

Hello Peter,

I just wanted to take a moment to thank you for your Business culture and effectiveness talk you have last Tuesday. I found it very interesting and plan to pick up a copy of 'Put your science to work' once I get back to the UK.

I have taken your advice regarding building a stronger online persona and have added a short summary to my LinkedIn and expanded some of my work experience sections which were severely lacking before. If you had a moment to have a quick look at my profile I would very much appreciate any critique you would be able to offer.

Kind regards,  
Jonathan Lintott

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11/11/2015

Hi Jonathan,

Here are some thoughts about your LinkedIn page:

1. Get a better headshot - better lighting and close-up of your face. A professional headshot makes you look so good.
2. I think you could provide a bit more detail and "color" in your descriptions of your past work. For example:

"Provided support to the multi-disciplinary reservoir management team for the Shuaiba carbonate and Nahr Umr sandstone reservoirs in the Al Shaheen oil field in the Qatari sea. Combined seismic thickness mapping with ad-hoc tasks. Included 29 total days of offshore experience witnessing coring, wireline, and geosteering while shadowing Well Site Geologists and Petrophysicists."

I would say something more about...  
 the size of the multi-disciplinary reservoir mgmt team  
 the complexity of the project  
 more specifics as to exactly what you did in support  
 don't say "ad-hoc" tasks - provide some specifics - here are some I totally made up:  
 "calculated reservoir volumes using 3D seismic data and proprietary volumetric algorithms"  
 "estimated hydrocarbon reserves using seismic, gravity and stratigraphic data"

Not sure what specific terms apply, but use whatever is appropriate.  
 Hope these comments help!

P.

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## Rules to Link By

- **Never Go Generic** – when sending invitations, cordially explain the connection and motivation
  - Don't use the automatic "link-to-everyone-in-my-contacts-list"
- **Be timely** – If you are going to seek a Link – do it within the first 24 hours of meeting the person
- **Have a goal in mind**
- **Establish rules and stick to them**
  - Fiske's rules:
    - Always accept invites from people I have worked with, met in person, spoken to on the phone, had an exchange with on a chat room or LinkedIn Group or students from one of my classes
    - (Almost) always accept invites from people not in the above categories who provide a cordial and clear explanation for why they want to Link

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## How to get a meeting with a busy person


- **Be persistent**
- **Make it easy for them**
  - "I will come to your office/home/wherever..."
- **Offer them something:**
  - "I'd like to have coffee with you and pick your brain.. In exchange, I will tell you everything I know about \_\_\_\_"
- **Thank them**
  - ... and follow up a few months later with an update (very sticky!)

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## Constructing a bio

- **1 paragraph**
- **3 paragraphs**
- **1 page**

Biography for Dr. Peter S. Fiske



Dr. Peter S. Fiske is the Chief Technology Officer of PAX Mixer Inc. and PAX Water Technologies as well as VP for R&D for parent company PAX Scientific, Inc. In his various roles, Fiske manages day-to-day operations for PAX Water and PAX Mixer, overseeing all aspects of Sales, Marketing and Product Development. Under his leadership, PAX Mixer Inc. won a prestigious 3-year, \$2M Advanced Technology Program award from the Department of Commerce.

Prior to joining the PAX Companies, Fiske was co-founder of RAPT Industries, Inc., a start-up based on technology from Lawrence Livermore National Laboratory, where Fiske was a staff member for 6 years. Fiske identified the technology while at LLNL and, as a second-year evening M.S.A. student, developed the business plan for RAPT which won first place in the third annual U.C. Berkeley Business Plan Competition in 2001. Fiske and his partners subsequently closed a series A round of investment and since then have raised over \$12M in government funding from the DOD, NIST and NASA. Fiske led negotiations to license a portion of the technology to a major semiconductor equipment manufacturer, and led the first sales of products. Fiske was CEO of the Company from May, 2001 to April, 2004.

Fiske is the author of 20 technical articles, most in international peer-reviewed journals including SCIENCE. He presently serves on Rep. Ellen Tauscher's (CA-10) Small Business Advisory Committee where he works with other small business owners and Congressional staffers to evaluate and propose legislative initiatives to increase the growth and economic vitality of the East Bay of the San Francisco Bay Area.

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## Business Cards

- Get a **PROFESSIONAL** looking card (spend the \$)
- Talk to your **Departmental Secretary or Campus Bookstore** about logo and printing
  - 500 is usually the minimum
- Check out **scannable versions**

**Business cards are a professional courtesy – and an indicator of professionalism**

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## Getting Out There: 2 programs at U.C.

- **PIEP – Postdoc Industry Exploration Program**
  - Monthly day-long visits to local technology companies
  - Face-to-face meetings with management
  - Tours of the facilities
- **BPEP – Berkeley Postdoc Entrepreneurship Program**
  - Postdocs are seeking advice about commercializing technology and starting their own companies
  - Monthly evening workshops
  - Network and resource center
  - Day-long summer workshop



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## Focusing on Specific Opportunities: Becoming an Insider on Every Job



*Research your career field of interest as thoroughly as you research your science*

*Stalk your next job like a big game hunter*

Techniques for getting on the inside track:

- Informational Interviewing
- Interning
- Volunteering
- Part-timing
- Moonlighting
- Consulting
- Incorporating the outside world in your research

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## Informational Interviewing



*“Going directly to places where you would like to work is six times as effective as mailing out résumés and cover letters.”*

Richard Bolles- What Color is Your Parachute

Advantages to Informational Interviewing:

- you are in control
- you can ask sticky questions that wouldn't be appropriate in a job interview
- you can see people in their actual work environment
- you can get feedback and advice
- you can make sure the work environment is right for you
- you can gain visibility
- you can practice being perfect for when it really counts

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## Step 1: Identify people you want to speak to




- What companies, organizations or jobs interest you?
- Where are people using similar tools or techniques to what you are using?
- Where (geographically) are you interested in working?
- What trends or fields are you interested in learning more about?
- What questions do you want to answer?

**Goal: Arrive at a short list of organizations or people to focus on**

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## Step 2: Connecting to specific people



- Who do you know at your target organizations?
- Who do you know who knows someone at your target organizations?
- Who are these people, and where do they sit in their organization?
- What other things possibly connect you to these people?
- Get their e-mail address

**Goal: Have a specific plan for reaching out to each person with a request for an informational interview**

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## Step 3: Make the request



- Reach out to the individual directly by e-mail
- Have your “friend-in-common” make a WARM introduction by e-mail
- Explain clearly who you are and what you'd like to learn and talk about
  - Promise them no more than 30 minutes, but allow them to expand the agenda
- Make it as easy for them as possible
  - “I would love to come to your office when convenient, but can also meet you for coffee nearby...”
- Be pleasant but persistent
  - Busy people are busy
  - Professional, friendly persistence is a GOOD thing

**Goal: Time and place for your interview**

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## Step 4: Prep them and yourself



- Continue to research the person
- Send them a short bio about yourself
- Ask if it would be possible/helpful/convenient to meet others while you are there
- Offer to give a technical talk, if appropriate
- Consider how you will dress and logistics for the interview
- Think more about what you want to learn and prepare questions

**Goal: Maximize the value of their and your time**

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## Step 5: Have a GREAT interview



- **Great first impression**
  - Good handshake
  - Make eye contact (color of their eyes)
- **Roll through your questions, but follow your instincts**
- **Be mindful of time and check in when you're close to the scheduled end**
  - Many Info interviews can run long if additional "connection" is established
- **Thanks them, and be clear on any possible follow-up**
- **Get their e-mail address**

Goal: Leave them with the impression that you are smart, outgoing, curious and interested in their work

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## Step 6: Follow-up and "anchoring"



- **Thank them by e-mail for their time**
- **Complete the follow-up items you discussed**
- **Make an appointment on your phone for 3 months time:**
  - E-mail them an update – and thank them again!

Goal: STICK in their minds as a positive, thorough, proactive and polished technical professional: make them a new member of your network

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## Informational Interviewing: Some final advice



- **Treat it like a formal interview for a job:**
  - do your homework
  - think carefully about what you want to learn
  - prepare questions
  - act professionally
  - thank them graciously
- **Do not treat it like a formal interview for a job:**
  - do not ask for a job, even indirectly
  - do not speak with one person and assume you have the whole story

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## Why are people willing to be bothered?



- **People like to "give back"**
- **People like talking about themselves**
  - It beats working for half an hour!
- **Finding fresh talent is critical to an organization's success**
- **Information transfer is a two-way process**
  - They may learn something important from you

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## Becoming an insider through ...



- **Internships**
- **Volunteering**
- **Part time work**
- **Moonlighting**
- **Consulting**
- **Incorporating outside topics into your research**

Academic job searches can utilize many of these same "insider" strategies

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## The Science of Résumés and CVs



### True or False:

The purpose of a résumé is to get you a job

A résumé is a description of all your past achievements and work history

An individual résumé can be sent out to many different employers without alteration

CVs and résumés are basically interchangeable

And now for the answers ....

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**The answers:**



The purpose of a résumé is to get you an INTERVIEW, not a job.

A résumé is a description of those past experiences that are MOST relevant to the position being sought. A resume is as much about where you are going as it is where you have been.

You should adapt your résumé for each specific job opening and you should USE THE WORDS IN THE JOB DESCRIPTION as much as possible.

CVs and résumés are totally different documents and should NOT be used interchangeably. If you are uncertain whether an employer wants a CV or a résumé ASK THEM!

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**Action-rich past tense verbs:**



Management Skills	Research Skills	Technical Skills	
administered	clarified	co-authored	assembled
analyzed	collected	collaborated	built
assigned	critiqued	corresponded	calculated
chaired	diagnosed	developed	computed
consolidated	evaluated	directed	designed
contracted	examined	drafted	devised
coordinated	extracted	enlisted	engineered
delegated	identified	formulated	fabricated
developed	inspected	influenced	maintained
directed	interpreted	interpreted	operated
evaluated	interviewed	lectured	pinpointed
executed	investigated	mediated	programmed
organized	organized	moderated	remodeled
oversaw	reviewed	negotiated	repaired
planned	summarized	persuaded	solved
prioritized	surveyed	promoted	
produced	systematized	proposed	
recommended		publicized	
reorganized		reconciled	
reviewed		recruited	
scheduled		spoke	
supervised		translated	
		wrote	
		authored	

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**The best resumes...**



- **The best resumes...**
  - Connect clearly with the job being advertised
  - Highlight key accomplishments that are relevant to the position being sought
  - Are cleanly laid out, easy to follow
- **The best cover letters...**
  - Are engaging, direct and well-written
  - Challenge the reader to rethink their preconceived notions of you
  - Explain the gaps and apparent mismatches

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**Resume and Cover Letter Advice**



On the web:

<http://www.nextwave.org>  
**Tooling Up**  
 Past columns:  
 How to Write a Winning Résumé  
 The Electronic Résumé Revolution  
 The Commandments of Cover Letter Creation

On the bookshelf:

**The Damn Good Resume Guide** by Yana Parker

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**A methodology for answering questions:  
STAR**



**Situation/Task:** Describe the situation you encountered. Give the background, and its relation to you.

**Action:** Describe what YOU did to address the situation or solve the problem.

**Result:** Describe the result of your actions.

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**Negotiating an offer**



1. Delay the salary negotiations as long as possible - try not to get locked into a salary before you are offered a job
- 2 Value the offer fully. Consider these other parts of compensation:
  - health care
  - schedule of raises
  - bonus plan
  - commission plan
  - stock option
  - pension plan
  - profit sharing plan
  - employee education/tuition reimbursement
  - stability of company
  - dependent tuition reimbursement
  - paid parking
  - car provided
  - vacation
  - sick leave
  - maternity/paternity leave
  - flex time/alternative work schedule
  - anticipated work hours
  - relocation allowance
  - potential for advancement

Get it in Writing

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Can you get the offer raised?

- Consider the factors listed below. The more that are true, the greater your flexibility:
- You possess unique abilities
  - They have few other candidates for the job
  - The search has been going on a long time
  - This is a unique position in the organization
  - The organization is flexible in general
  - You have other offers
  - They really need someone soon

- In contrast, you will have less flexibility to negotiate salary and benefits if the following are true:
- The job is at an entry level and similar to others in the organization
  - The organization is highly structured and rigid
  - The organization expects you will take what is offered

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Some final advice on interviewing

- Arrive early—give yourself 10-15 minutes to sit and chill out
- Case the joint—if it is in a place you've never been before, swing by the day before just to make sure you know how to get there. The assurance of having been there before will help
- Bring along extra copies of your resume
- Give a good handshake—if you are unclear about what a good handshake is, go try out your handshake on your friends
- **Make eye contact**—one simple technique for ensuring that you have made good eye contact: make a mental note of the color of your interviewers eyes
- Ask questions—it's better to be clear about the question at the start than go rambling down some tangent
- Be yourself—people tend to do a poor imitation of anything else but

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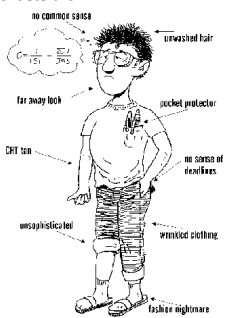
Perceptions and Realities: Overcoming Stereotypes

According to business people, academics/scientists are:

- simple minded about money
- impractical about time
- no sense of deadlines
- socially passive
- value ideals as absolutes

Other potential perceptions to overcome:

- hermit vs. leader
- arrogant vs. team player
- rebel vs. organizer
- problem person vs. solution person



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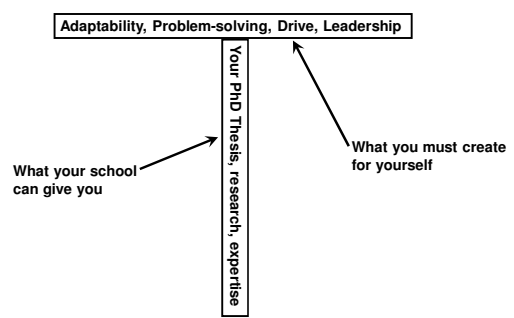
Don't forget your own misconceptions...



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Summing it all up: You must be a T-person



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Myths and Realities of the Modern Job Market



Myth 1# Find a job that matches your skills

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**Myths and Realities of the Modern Job Market**

Myth 1# Find a job that matches your skills




**Reality #1: SKILLS, VALUES and INTERESTS are all critical aspects of finding a fulfilling career.**

*“You always end up overvaluing what you know and undervaluing what is out there in plain sight”*  
Thomas Friedman – The Lexus and the Olive Tree

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**Myths and Realities of the Modern Job Market**



Myth #2: Employers care only about technical skills

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**Myths and Realities of the Modern Job Market**

Myth #2: Employers care only about technical skills

**Reality #2: Employers care about lots of things in addition to skills:**


- Personality
- Degree of Fit
- Learning Ability
- Leadership
- Communication Skills
- Persuasion Skills
- Drive



*“We hire for attitude and train for skills”*  
VP for Product Development – Specialty Chemical Manufacturer

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**Myths and Realities of the Modern Job Market**




Myth #3: You should map out your career trajectory many years into the future

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**Myths and Realities of the Modern Job Market**

Myth #3: You should map out your career trajectory many years into the future



**Reality #3: Serendipity, unplanned detours, and “setbacks” are inevitable. The people who can exploit chance opportunities, explore new areas and make the best of setbacks tend to be happier and more successful.**

*“Five years ago, I would never have predicted that I would end up here!”*  
Astrophysicist-turned-Financial Analyst

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**Some final thoughts**

You can serve science, your community, and your country in many different environments - don't be afraid to consider a non-traditional career path just because it is unfamiliar to you, your advisor, your department or your family.

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My Nature columns...



CAREERS

COLUMN

Ticket to everywhere

The fossilization of the PhD harms students, employers and science in general, argues Peter Fiske.

Many career paths are undergoing a startling transformation. Instead of locking themselves into one discipline for an entire career, professionals now switch jobs often and jump disciplines and industries routinely. Such dynamism increases productivity, creativity and entrepreneurship; interdisciplinary mobility promotes exchange of ideas and business models.

And yet the training of scientific professionals through the PhD has remained essentially unchanged since the nineteenth century. Promising students are apprenticed



Where such programmes exist at all, they are more tolerated than encouraged by the fac-

Nature  
February 21, 2013  
Page 393

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