Navigating a World of Career Options
For Physics Bachelors Degree Graduates

Crystal Bailey, PhD
American Physical Society
Some Questions
Out of a class of 100 undergraduate physics majors...

How many do you think will go straight to work after getting their BS?
39
(23 will go to work in the private sector, making $51K - $62K starting, on average)

How many do you think will become permanent physics professors?
5
(14 will actually complete a physics PhD, and only one-third of those will get a faculty job)
Where Physicists Work

• **Private Sector**
  – BS: comp. science and engineering, teamwork
  – MS: management, some research
  – PhDs: scientific research, product development

• **Academic Sector**
  – BS: primarily high school teaching
  – MS: lab coordinators, HS and college teaching
  – PhDs: permanent professors

• **National Lab/Government**
  – BS: technician, assisting users
  – MS: management of instrument teams, patent work, engineering
  – PhDs: senior research staff, oversee large operations

*Graph only includes individuals employed in potentially permanent jobs. Postdoctoral and other temporary positions are excluded. Source: AIP Statistical Research Center Survey Data*
Physics Workforce Summary

- Faculty positions are NOT the most common career path for physicists!
- Industry is the largest employment base for Physics PhDs...
  ...and for Physics Masters
  ....and Physics Bachelors.

You can find a career which aligns not only with your interests, but also your values, by keeping your mind and eyes open!

How Do I Start??
Self Assessment
Skills, interests, AND values

Exploration
Which Careers Fit?

Skills Inventory
Gathering transferrable skills

Networking (passive)
Establishing Connections

Job Search/Applications
Focused search for opportunity

Networking (active)
Utilizing connections to find opportunity

Interview, Negotiation
Connecting the dots between you and the job
Careers: A Broad View

A successful career means building connections between:

- **Skills Sets**
  
  *Does your skill set match the skill set needed for the job?*

- **Interests**
  
  *Will you find this job intellectually stimulating and/or rewarding?*

- **Values**
  
  *Is this job a good match your future lifestyle goals? or, Are the differences something you can reasonably adjust to?*

A detailed self-assessment of skills and values is what will help you achieve the perfect fit.
An Activity: Future Career Goals

5 minutes- Compose a List of Your Career Goals/Values

• Doing interesting research
• Making a difference in people’s lives
• Having a flexible schedule
• Working with other people
• Having a well-defined work schedule
• Making MONEY!!

5 minutes- Compose a List of Future Job Titles

• Graduate Researcher
• Postdoc Researcher
• Professor
• National Lab Scientist
• High School Teacher
• Community College Teacher
• Entrepreneur
• Lab Director
Many careers will match your talents, values and abilities. The first step is knowing YOURSELF, before you decide which careers to further explore.

- **Strong® Interest Inventory**
- **Myers-Briggs® Personality Test**

These tests are often available FREE, or at minimal cost, from Campus Career Services!!
Self Assessment

Skills, interests, AND values
Self assessment tools, Strong® Myers Briggs®

Exploration
Which Careers Fit?

Skills Inventory
Gathering transferrable skills

Networking (passive)
Establishing Connections

Networking (active)
Utilizing connections to find opportunity

Job Search/Applications
Focused search for opportunity

Interview, Negotiation
Connecting the dots between you and the job
Informational Interviews

Making the connection means understanding not only your values and interests, but also the jobs. Informational interviews are your secret weapon.

- 30-minutes
- talk to a person from an industry or company of interest
- you ask the questions!

Getting informational interviews is easier than you think!

- Networks (Alumni, Prof. Societies)
- LinkedIn®
Activity: Using LinkedIn®

Most (80%) of people get their jobs through 2nd degree connections.

LinkedIn® is your #1 tool in discovering new connections and new opportunities.

Homework:

• Complete your LinkedIn profile at this conference
  – Picture!!!
  – Educational Information (e.g. high school, college)
  – Transferrable Skills (volunteering experience, research, hobbies, etc.)

• Connect with 10 individuals at this conference!!
  – Other Students
  – Mentors
  – Speakers
**Self Assessment**

*Skills, interests, AND values*

*Self assessment tools, Strong®, Myers Briggs®*

---

**Exploration**

*Which Careers Fit?*

*Informational Interviews*

*Networking events*

---

**Skills Inventory**

*Gathering transferrable skills*

---

**Networking (passive)**

*Establishing Connections*

*LinkedIn®, Conferences*

---

**Networking (active)**

*Utilizing connections to find opportunity*

---

**Job Search/Applications**

*Focused search for opportunity*

---

**Interview, Negotiation**

*Connecting the dots between you and the job*
Activity: Assessing Transferrable Skills

5 minutes- Identify Transferrable Skills (not just technical skills!!)

• Created device controller using LabView
• Designed, built and tested new electrical component for experiment
• Used oscilloscope to isolate and minimize RF noise in circuits
• Built components using a drill press, lathe, band saw, etc.
• Served as president for local SPS chapter
• Volunteered to do outreach at local high school
• Speaks several languages fluently
• Etc.
Tips for Writing Transferrable Skills:

• Word bullet points in the active voice, e.g. “Designed,” “Developed,” “Manufactured.”
• Avoid repeating verbs—mix it up.
• Group bulleted skills under common categories, e.g. “Analytical Skills”, “Leadership Skills,” etc.
• Follow each bulleted item with (your title, the institution, and the relevant dates)

Continue to add to your stash of resume “building blocks”! Keep a Careers Journal and Write Regularly!
Self Assessment
Skills, interests, AND values
Self assessment tools, Strong® Myers Briggs®

Exploration
Which Careers Fit?
Informational Interviews
Networking events

Skills Inventory
Gathering transferrable skills
Research experience
Keeping Career Journal

Networking (passive)
Establishing Connections
LinkedIn® Conferences

Networking (active)
Utilizing connections to find opportunity

Job Search/Applications
Focused search for opportunity

Interview, Negotiation
Connecting the dots between you and the job
Job Search/Networking

• Visit the APS Job Board
• Job Fairs
  – Professional Meetings
  – Campus Career Fairs
• Talk to EVERYONE you meet or know!

http://careers.aps.org

Writing A Resume

• CVs are not the same as Resumes!!
  – CV is long, lists ALL experience—even if it’s not relevant to the job
  – Resumes are ONE PAGE, and only include information relevant to a specific job
• Learn to write a Skills Based resume:

http://go.aps.org/physicsresume
Self Assessment
Skills, interests, AND values
Self assessment tools, Strong®, Myers Briggs®

Exploration
Which Careers Fit?
Informational Interviews
Networking events

Skills Inventory
Gathering transferrable skills
Research experience
Keeping Career Journal

Networking (passive)
Establishing Connections
LinkedIn®, Conferences

Networking (active)
Utilizing connections to find opportunity
Reach out to contacts
Talk to people in everywhere

Job Search/Applications
Focused search for opportunity
Job boards, career fairs
Effective, focused resume

Interview, Negotiation
Connecting the dots between you and the job

Crystal Bailey ©2015
American Physical Society
What’s Next?

If your resume does its job, you’ll soon be faced with other questions like:

• Interviewing
  – How do I prepare myself? What can I expect?
• Negotiation
  – Should I negotiate my offer? What strategies can I use?
• Following Up
  – What are the standard practices? What if I don’t receive an offer?

APS Online Professional Guidebook

• Features 5-minute “webinette” clips from the top APS careers webinars
  – APS webinar “Putting Your Science to Work,” with Peter Fiske
  – APS webinar “Career Self-Advocacy: How I Got A Six Figure Job in the Private Sector,” with Meghan Anzelc
• Topics include self-assessment, networking, interviewing and negotiation strategies, and more.

http://go.aps.org/physicspdguide
Other APS Resources

• Library of Physicist Profiles
  – Advice from physicists representing a diversity of degree paths and careers
• Job Prospects Pages
  – Profiles feature the most common career paths for physicists
  – Includes day to day activities, additional skills and training needed, salary information, job outlooks

• Physics Employment and Salary Information
  – Clearing house for most recent physics employment data from AIP SRC
  – Thumbnails and links to full reports for more information
• APS Webinars Archive
  – On-demand viewing for all webinar presentations
Remember:

• Plan Effectively by Broadening Your Focus
  – Use your resources to explore your career values and learn about career paths outside of academic physics.
• Focus on Skills, Not on Labels
  – Use skills-based resumes and cover letters to connect the dots between the job description and your skill set.

Visit the APS Online Professional Development Guide and the Careers Website

THANK YOU!

BAILEY@APS.ORG