What I Can Be with My PhD:

Career planning from a 6th year graduate student’s perspective

A recap of the ASCB Mini Course
ASCB MiniCourse: Managing Science in the Biotech Industry

- One Day all intensive workshop to help basic scientists become more competitive for jobs in biotech and industry

- **Morning Session**: Industry Business and Marketing (Steve Casper MBA)

- **Afternoon Session**: Business of Science and Career Planning (Randy Ribunado Ph.D.)

Funding for course enrollment provided by SMD Center for Professional Development (CPD)
Intensive Course Opportunity

- Managing Science in the Biotech Industry: An Intensive Course for PhD Students & Postdocs
- **Application deadline February 27, 2015**
- [http://ascb.org/biotech-course/](http://ascb.org/biotech-course/)
- **For July 12-24, 2015 2 weeks**
- **40 students; covers tuition, housing, meals and 50% travel support**
- Apply for a scholarship to attend an intensive, two-week course for postdocs and graduate students. You must be a member of the ASCB to apply. Join now at [www.ascb.org](http://www.ascb.org) and then apply for the course as a member-applicant. For more information, contact Thea Clarke at tclarke@ascb.org.
It’s nice to meet you!

• 6th year Immunology PhD Candidate in Deborah Fowell’s Lab

• Studying how specialized immuno suppressive CD4+ T regulatory cells (Tregs) are modulated by different types of inflammation in the skin

• Science interest sparked from Amgen Internship in 2006

• Exploring “alternative” career options: translational research, therapeutics and biotech industry work

• Loves dogs
Start preparing for your career now!

Why?... Because its your **Career!!**
Why don’t I just figure it out during my postdoc?

Where will a biology PhD take you?

- 86,000 current US biology PhD students
- Every year, 16,000 students start biology PhD programs
- 1,900 to 3,900 foreign-trained PhDs start postdocs
- 720 leave the US
- 30% do more than one postdoc¹
- 70% (5,800) postdoc
- 37% drop out
- 30% (2,500) don’t postdoc
- 37 years average time to degree

A faculty job is an “alternative” career.

- 15% of postdocs get tenure-track faculty jobs within 6 years post PhD.²
- 29,000 current tenured and tenure track faculty
- 20% get non-tenure track academic jobs within 6 years post PhD.²
- 25,000 current non-tenure track academic positions

At this rate, ~8% of entering PhD students will become tenure-track faculty. Yet, 53% rank research professorships as their most desired career.³

22,500 current industry researchers
- 17,000 current bio PhDs doing non-science jobs
- 24,000 current non-research, science related jobs
- 7,000 current gov’t researchers

Sources:
2. doi:10.1016/j.jurol.2013.01.017 http://www.sciencemag.org/content/341/6149/1082

Unless otherwise noted, NIH Biomedical Workforce Working Group (2012)
How to figure out what you want to do in life

Use Tools!
Individual Development Plan (IDP)

- Exercises to help you examine your skills, interests, and values

- A list of 20 scientific career paths with a prediction of which ones best fit your skills and interests

- A tool for setting strategic goals for the coming year, with optional reminders to keep you on track

- Articles and resources to guide you through the process
My IDP Career Options

Rate what skills you have

“Career Fit”

Update as grad career progresses!!

Notice “Last Choice” Is NOT permanent!!

Consider Career Fit

The table below lists career paths commonly followed by PhD-level scientists.

Click on the percentages in the right-hand columns to see how your skills and interests compare to the skills and activities most important to each career path category (as rated by professional career advisors). Return to the Quick Tips to learn about how these match scores were calculated. NOTE: Do not feel that these results limit your career options. You may be able to improve key skills to allow success in any career path.

Click anywhere in the “Values” column for a list of questions to help you think about how your values may fit into each path. Keep these questions in mind as you learn more about each career path in later sections of the module.

<table>
<thead>
<tr>
<th>Career Path</th>
<th>Skills Match</th>
<th>Interests Match</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support of science-related products:</td>
<td>91%</td>
<td>69%</td>
<td></td>
</tr>
<tr>
<td>Technical support specialist; field application specialist; product development scientist or engineer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales and marketing of science-related products:</td>
<td>87%</td>
<td>71%</td>
<td></td>
</tr>
<tr>
<td>Medical science liaison; technical sales representative; marketing specialist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science education for non-scientists:</td>
<td>70%</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Education or public outreach specialist such as at a science museum or scientific society</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business of science:</td>
<td>72%</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Management consultant; business development professional in a biotech company; venture capitalist; market researcher; investment analyst</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science writing:</td>
<td>67%</td>
<td>69%</td>
<td></td>
</tr>
<tr>
<td>Science, medical, or technical writer or journalist; science editor; science publisher</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurship:</td>
<td>60%</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>Starting your own business</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal investigator in a research-intensive institution:</td>
<td>68%</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Consider Your Values!
Choosing the right Job for you:

Post-doctorate position
- Type of Science (Research, Industry, Teaching)
- Big or Small Lab?
- Funding opportunities
- Location

Alternative Career
- Venture Capitalist, Patent/Legal, Consulting, Industry
  - Type of Company: Big Pharmaceutical, Biotech, Engineering firms, Toolkit, medical devices/diagnostics
  - Job Type: R&D, Communications, Operations, Business enterprise
Resources for your career search

Career Path Videos (NYAS): http://www.nyas.org/WhatWeDo/CareerVideos.aspx

Books (available via CPD lending library)
- Alternative Careers in Science by Cynthia Robins Roth
- Career Opportunities in Biotechnology and Drug Development by Toby Freedman

Linkedin (Virtual Networking)
Connects you to job postings
Ask people with your dream questions!
Market yourself for the career you desire

- **Job Adds** - Look up dream job advertisements, what experience is required, fill in the blanks!

- **Find Mentor** for Dream Job - in addition to PI that has your dream job and can advise appropriately

LinkedIn-

- Create Scientific identity (Virtual Resume)
- Get a professional headshot (or a friend that has a nice camera)
- Add people you network with/know
Building a ‘Targeted’ Resume

- Resume should reflect EACH Job Ad
  - Focus on non-science language as well as science
    - **Science ID**: Papers published, Wet and Dry Lab skills, Research Experience, Awards etc.
    - **Business ID**: Strategic thinker, highly motivated, manage tight timelines
    - **Social ID**: group leader, works in cross-matrixed teams, collaborator
Sr Research Scientist 1, Content Assay Design

Tracking Code
2367

Job Description
Promega is looking for a senior level scientist to develop new content-based assays based on existing technology platforms. This role will design, plan, and execute project strategy for cell biology technologies. You will also have the opportunity to work with customers on custom assay requests. The ideal candidate will have industry experience in cell biology, assay development, tissue culture, and gene editing. Experience with protein interactions and cell signaling is preferred.

JOB OBJECTIVE: Involved in the scientific leadership of the company, i.e., management, mentoring, consensus building, and/or act as a technical expert in multiple areas of specialization. Apply scientific leadership to individual R&D Projects. Ability to execute and champion innovative research. Formulate an overall project strategy for experimental design in the context of experimental results and scientific literature.

ESSENTIAL DUTIES:
1. Primary author for contributions to internal technical literature, abstracts, patents, or journal articles.
2. Contribute to preparation or evaluation of patents.
3. Communicate problems, ideas, and suggestions to appropriate person or group.
4. Direct others on a designated project.
5. Independently develop project plans and manage project timelines.
6. Recognized as scientific expert in multiple areas of specialization and provide scientific leadership.
7. Ability to suggest novel and innovative approaches.
8. Work at bench.
9. Understands and complies with ethical, legal, and regulatory requirements applicable to our business.
Promega is looking for a senior level scientist to develop new content-based assays based on existing technology platforms. This role will design, plan, and execute project strategy for cell biology technologies. You will also have the opportunity to work with customers on custom assay requests. The ideal candidate will have industry experience in cell biology, assay development tissue culture and gene editing. Experience with protein interactions and cell signaling is preferred.

Involved in the scientific leadership of the company, i.e. management, mentoring, consensus building and/or act as technical expert in multiple areas of specialization. Apply scientific leadership to individual R&D Projects. Ability to execute and champion innovative research. Formulate an overall project strategy for experimental design in the context of experimental results and scientific literature.
Promega is looking for a senior level scientist to develop new content-based assays based on existing technology platforms. This role will design, plan, and execute project strategy for cell biology technologies. You will also have the opportunity to work with customers on custom assay requests. The ideal candidate will have industry experience in cell biology, assay development, tissue culture, and gene editing. Experience with protein interactions and cell signaling is preferred.

Involved in the scientific leadership of the company, i.e. management, mentoring, consensus building and/or act as technical expert in multiple areas of specialization. Apply scientific leadership to individual R&D Projects. Ability to execute and champion innovative research. Formulate an overall project strategy for experimental design in the context of experimental results and scientific literature.
Promega is looking for a senior level scientist to develop new content-based assays based on existing technology platforms. This role will design, plan, and execute project strategy for cell biology technologies. You will also have the opportunity to work with customers on custom assay requests. The ideal candidate will have industry experience in cell biology, assay development tissue culture and gene editing. Experience with protein interactions and cell signaling is preferred.

Involved in the scientific leadership of the company, i.e. management, mentoring, consensus building and/or act as technical expert in multiple areas of specialization. Apply scientific leadership to individual R&D Projects. Ability to execute and champion innovative research. Formulate an overall project strategy for experimental design in the context of experimental results and scientific literature.
TagCrowd (http://tagcrowd.com/)
Example of Targeted Resume

[Example of targeted resume content]

Lauren L. Simpson
19 First Avenue, Austin, Texas, 78746
lauren@email.com, (512) 555-1212

Objective: Marketing Planning Specialist — for health care insurance company to coordinate marketing of government program segments, including Medicare, Public Programs, and Federal Employee Programs, to work with corporate communications and outside vendors in development of marketing collateral, direct mail and advertising; and to assist Market Segment Manager.

Summary Of Qualifications:
• Five years’ marketing/education experience
• Liaison with corporate communications and vendors
• Develop effective marketing materials, direct mail campaigns
• Coordinate marketing campaign for new and existing products
• Assist Market Segment Manager with market analysis, strategy, planning, and reporting
• Assist with marketing plans to grew enrollment programs
• Coordinate new product introductions
• Lead teams for collaborative marketing projects
• Expert in Excel, Word, PowerPoint skills
• Skilled oral communicator, competent writer and editor

Professional Experience:

Brilliant Buyers Inc.®
Austin, Texas
Company is a specialty airport retailer selling 10 brands in 67 stores in major airports throughout U.S.

Merchandising Coordinator
• Buyer’s right hand in selecting and marketing merchandise for 67 stores. Set up new vendors, create SKUs, price and display orders.
• Responsible for product launches in four separate concepts: Silver, Gold, Playful Kids and DogTown. Use strong communications skills to make product presentations to store personnel.
• Supervise implementation of products into stores. Give work direction and supervise employee set-ups of new product lines.
• Problem solving 24/7: Communicate with vendors, manufacturers, and recipients to resolve shipment problems; for example, product out of stock, wrong product, or shipment to wrong location.
• Created model for quarterly human resources newsletter distributed to all employees, explaining merchandising policies and highlighting new products.
• Organized and conducted quarterly schedule of Webcasts for all store managers, in which managers have opportunity to ask questions of buyer and receive answers. Conduct conference calls intermittently as needed.
• The agenda for both Webcasts and conference calls include new product assortment, floor sets, markdowns, and sales and promotions.
• Competent with paperwork: Review and approve all tickets and receipts for hundreds of purchase orders going to 67 stores weekly.
• Meet weekly with buyers and merchandising assistants to discuss sales, budgets, and airport news — terminal closures and construction or strikes — impacting company sales.

Lauren L. Simpson
Page 2

Acomplishments
• In a congratulatory letter on my performance, HR Director complimented me on creating the model for a quarterly human resources newsletter, complimenting me on my “professionalism, creativity, and presentation of company values.” Additionally, the director praised my “marketing presentation approach to the newsletter, which ‘made all the difference in readability.’”
• In six months of assisting buyer in making product presentations to store personnel, buy has since sent me solo to 35 stores, expressing confidence in my “gifted marketing and sales abilities.”
• Product returns from stores down 12 percent since my involvement in marketing merchandise.

LouAnn's
Based in Denver, LouAnn's is a division of Outwest, FAS, with apparel marketed to professional middle-to-upper income women in 220 stores across the U.S.

Assistant Manager, Barton Creek Square, Austin, Texas
Sales Associate & Manager In Training, Barton Creek Square, Austin, Texas
Sales Associate, Tysons Corner Center, McLean, Va.
[dates]

Marketing Management
• Met national goals and compared with stores across the U.S. for weekly sales results, as well as comparable percentages over the previous year.
• Supervised two to three part-time sales reps per shift.
• Trained employees on how best to utilize the preferred corporate selling system and industry standards for up-selling.
• Met daily management responsibilities: maintaining sales floor, inventory, stocking, ordering and record-keeping. Keyboard 40 WPM, competent use of Microsoft Suite, including Word, Excel, Outlook and PowerPoint.

Acomplishments
• Personally delivered one-third of overall store revenues by closing $30,000 to $40,000 sales per month in store with 7 staff (3 full time, 4 part-time).
• Consistently maximized income through commissions earned.
• In two months, averaged $15,000 per month sales from regular customers.

Other Experience:

Blue Circle/Blue Badge of Virginia®
McLean, Va.
State office of health insurance company.

Administrative Assistant
• After high school, worked one year in administration for government marketing department.
• Compiled marketing analysis, and supported cross-company project teams.

Education:
• Bachelor of Science, McCombs School of Business
• University of Texas, Austin
2nd Example of Scientist Resume

- 1-2 pages Max
- 1st and Last information most important (publications last)
- Taylor to job description specifically
- Have others review before application
Coverletter

- Coverletter
  - My Resume Includes...
  - In addition I have these *business skills*
  - Use *Social ID* keywords
  - Contact Info
Networking with Targeted Resume

- Do not ONLY apply online
- Only 7% of applicants are referred but this accounts for 40% of hires (nearly half!!)
- Try to get a referral or contact HR to validate that the job ad is accurate and complete
- Gain company intelligence to get resume in the right hands
- NEVER Burn bridges if you do not get an interview or do not get chosen for the job. Ask to be considered for future positions.
Who do I network with?

- Current Job People (Grad School/Post Doc/within Medical Center)
- Previous Job People
- Social Contacts
- Alumnae
- Other Scientists (National/International meetings)
- Local Organizations
Make Business Cards

Contact info - Should survive past current position

Use Powerpoint (cheapest)

Professional (FedEX Starting at $19.99)

Picture is helpful for International/ large meetings
Preparing for Interview

- Give yourself DAYS to prepare for an interview

- Research
  - Company and players (or PI and Lab members)
  - Interviewers
  - Understand company products (or Research Projects)
  - Research the Science
  - Express skill sets in terms of what the company or lab needs
  - Relate personal experience with business-centric traits (manage multiple projects simultaneously, identified success criteria and managed such that reached goal on time and on budget)
Preparing for Interview

- Practice main questions:
  - Why should we hire you?
  - What are you interested working on in the lab, company, etc?
  - What would you do if... (something horrible happens)
  - Tell me about the time that you handled disaster
    - Situation
    - Task (what was it that you had to achieve)
    - Activity (what did you do)
    - Result (what was the outcome)

- General Rules
  - Be polite, be engaging, be your best professional self.
  - Only drink one beer at lunch if they order one.
You’re Hired! Negotiate!

- Negotiate the whole package, not just salary
- Research the position
  - Glassdoor - enter anything about the company you used to work for, shows salaries etc. per company
  - Salary.com
Center for Professional Development

- They are here to help YOU for FREE!!
- Courses
- Individual Support
- Writing Support
- Lending Library
- Seminars and Workshops

http://www.urmc.rochester.edu/education/graduate/professional-development/
Center for Professional Development

Schedule in a time to research your career options, you will feel more in control and prepared for the future!

This powerpoint will be posted under: “Recent Seminars and Workshops”

Or email me and I can send it to you directly.
Thank you and Best of Luck!

Special Thanks to:
Randy Ribunado, PhD.
Sharon McCullough
Amy Perazzo
Tracey Baas, PhD.

Contact me if you have questions:
Alison_Billroth-MacLurg@urmc.rochester.edu, x32902