
Industry Careers

Session 1: Industry Careers and Interviewing

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Industry Careers

Session 1: Industry Careers and Interviewing

- An industry overview examining how changes in the health care market may impact opportunities in industry and academia
- Preparing for successful industry interviews

Session 2: Negotiating the offer and making the transition

- Tips on negotiating the best possible offer
- Making the transition into your new role

Session 3: The Organization of Business

- Introduction of critical business functions and describe how companies are organized to best perform those functions
- Job titles and key business tools and terminology



Today's Agenda

- **The business of health care**
 - Industry
 - Academia

- **The impact on employment**
 - What jobs are out there for scientists?
 - Where are they

- **Navigating the job search process**
 - Creating an industry resume and cover letter
 - Strategies for successful interviews



What is Industry?

A Broad Definition

Pharma / Biotech Manufacturers

- Branded
- Generic / Bio-similar
- Bio-defense

Medical Device Manufacturers

- Diagnostics / Bio-marker Developers

Service Providers

- CRO
- Regulatory
- Marketing / analytics
- Other

Consumables Companies

- Lab equipment
- Chemicals / Reagents
- Other

Health Insurers / Payers

Venture Capital / Banking

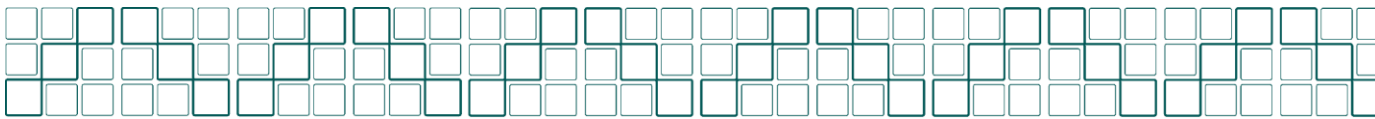
Government Agencies

- CDC
- DoD
- FDA
- NASA
- NIH
- NIST
- USDA



Global Revenue Estimates

<u>Industry</u>	<u>Est. 2014 Revenues</u>
Pharmaceutical Industry	826 B USD
Biotech Industry	268 B USD
Medical Device	310 B USD
Life Science Tools and Reagents	45 B USD
Contract Research Organizations	<u>30 B USD</u>
Total	~1.5 T USD



Global Pharma Sales 2014

By Region

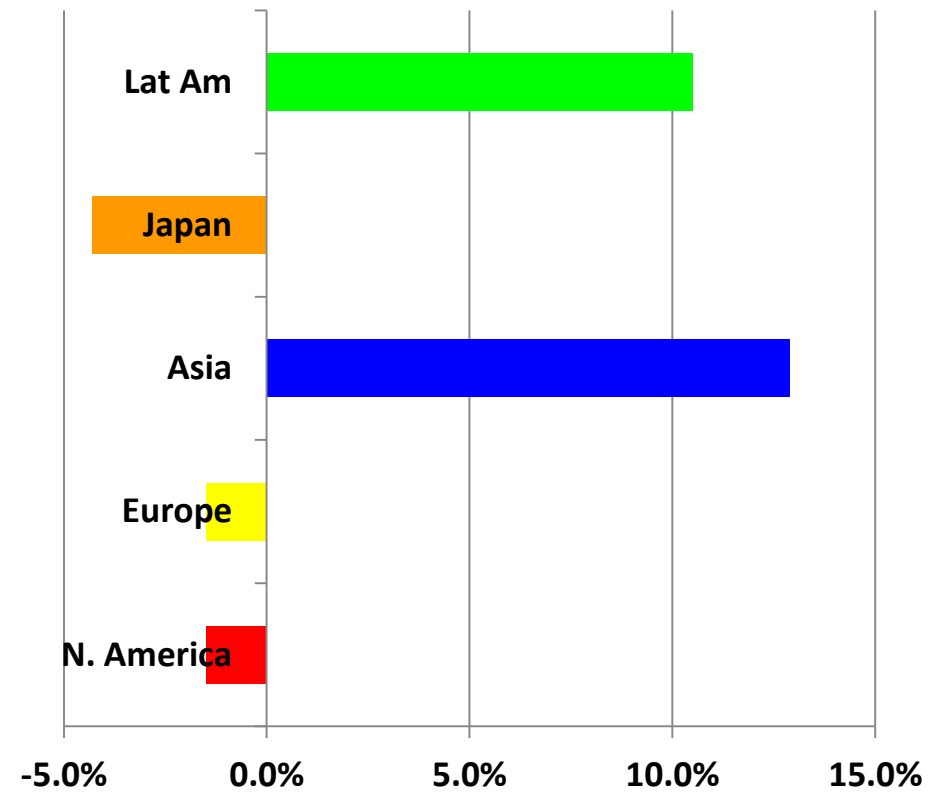
Sales by Region



■ N. America ■ Europe ■ Asia ■ Japan ■ Lat Am

Total = 991 B USD

% Change from 2012



Global Growth = 2.4%



Top-Ten Industry R & D Expenditures 2014

Pharma*

1.	Roche	\$10.2B	21.0%
2.	Novartis	\$9.3B	16.5%
3.	Roche	\$8.2B	17.3%
4.	Pfizer	\$7.9B	13.3%
5.	Sanofi	\$7.7B	11.4%
6.	GSK	\$6.3B	13.7%
7.	Merck	\$6.3B	15.0%
8.	Bayer	\$5.3B	23.4%
9.	A-Z	\$5.2B	18.7%
10.	Lilly	<u>\$3.9B</u>	22.2%
		\$70.3B	

Biotech

1.	Amgen	\$3.4B	20%
2.	Gilead	\$1.8B	18%
3.	Celgene	\$1.7B	32%
4.	Bio-Id	\$1.3B	32%
5.	Shire	\$1.0B	22%
6.	Vertex	\$.8B	62%
7.	Regeneron	\$.6B	72%
8.	Actelion	\$.5B	28%
9.	Onyx	\$.3B	450%
10.	Bio-Mar	<u>\$.3B</u>	60%
		\$11.8B	

Med Device

1.	Siemens	\$1.7B
2.	J&J	\$1.7B
3.	Medtronic	\$1.6B
4.	Phillips Hlth	\$1.0B
5.	Roche	\$1.0B
6.	Boston Sci	\$.9B
7.	Abbott	\$.8B
8.	St. Jude	\$.7B
9.	Covidien	\$.6B
10.	Danaher	<u>\$.5B</u>
		\$10.5B

* Total pharma industry, \$136B 18.1% of sales

Source: Fierce Publications

Figures shown are global R&D expenditures and % of total global sales shown in USD



Pharma / Biotech Employment

2014

	<u>Est. Jobs</u>
China	1,300,000
US	650,000
Europe	650,000
Japan	250,000
ROW	<u>80,000</u>
	~2.9 Million

It is estimated that 30% - 40% of the pharma jobs are in R & D positions



Academia

Is a Science Ph.D. a Waste of Time?

New York Times: August 31, 2012

Are our universities producing too many PhDs?

Trends in Genetics: 1999

U.S. pushes for more scientists, but the jobs aren't there

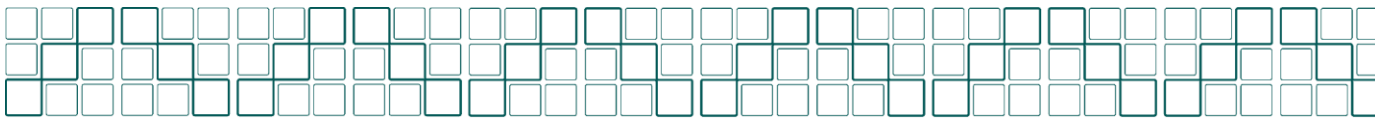
Washington Post: July 7, 2012

12 reasons not to get a PhD

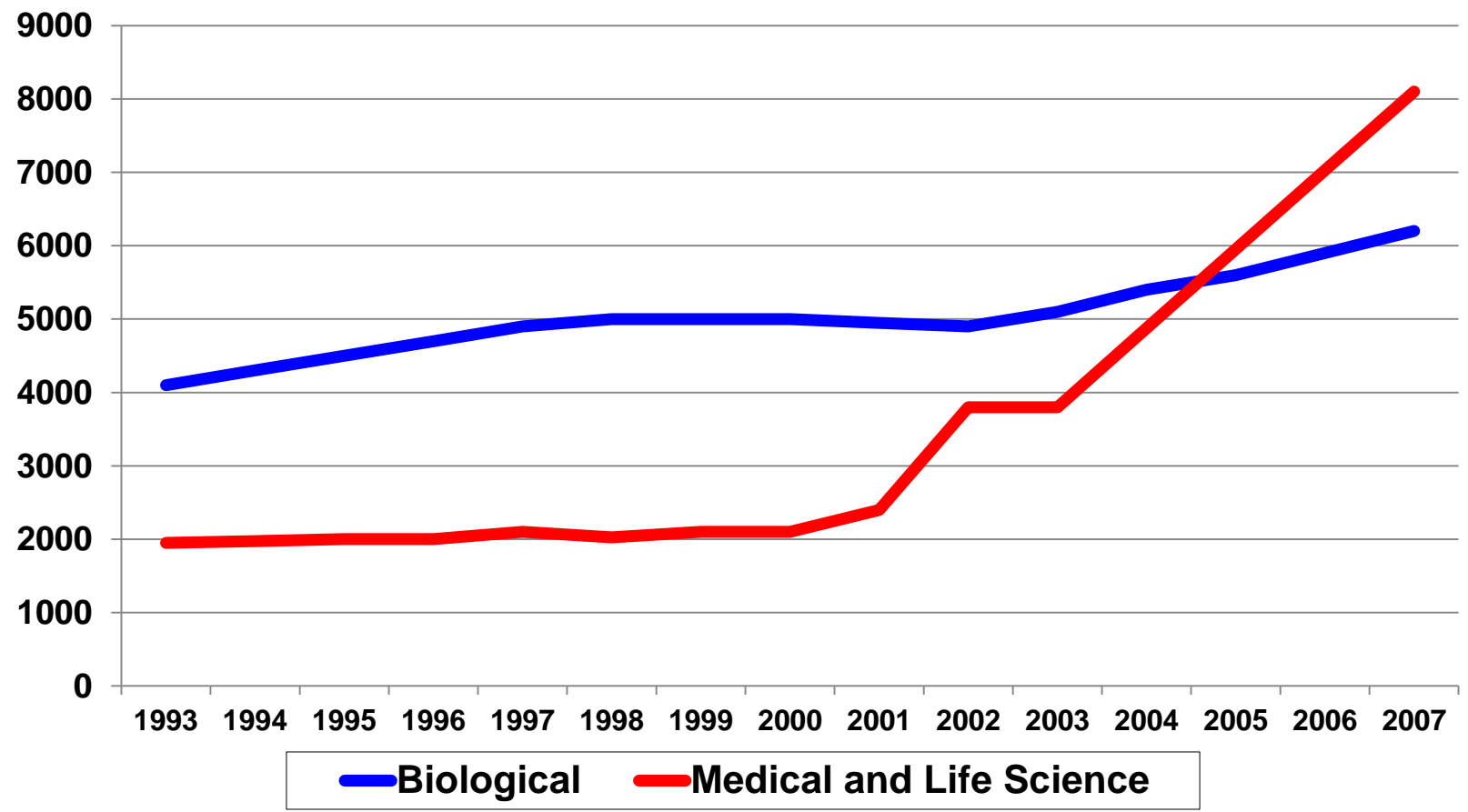
CBS Moneywatch: July 10, 2012

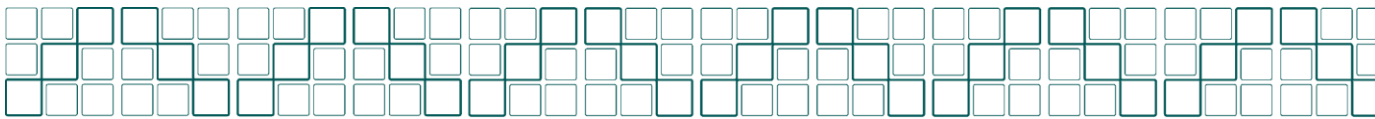
Does the U.S. Produce Too Many Scientists?

Scientific American: February 22, 2010



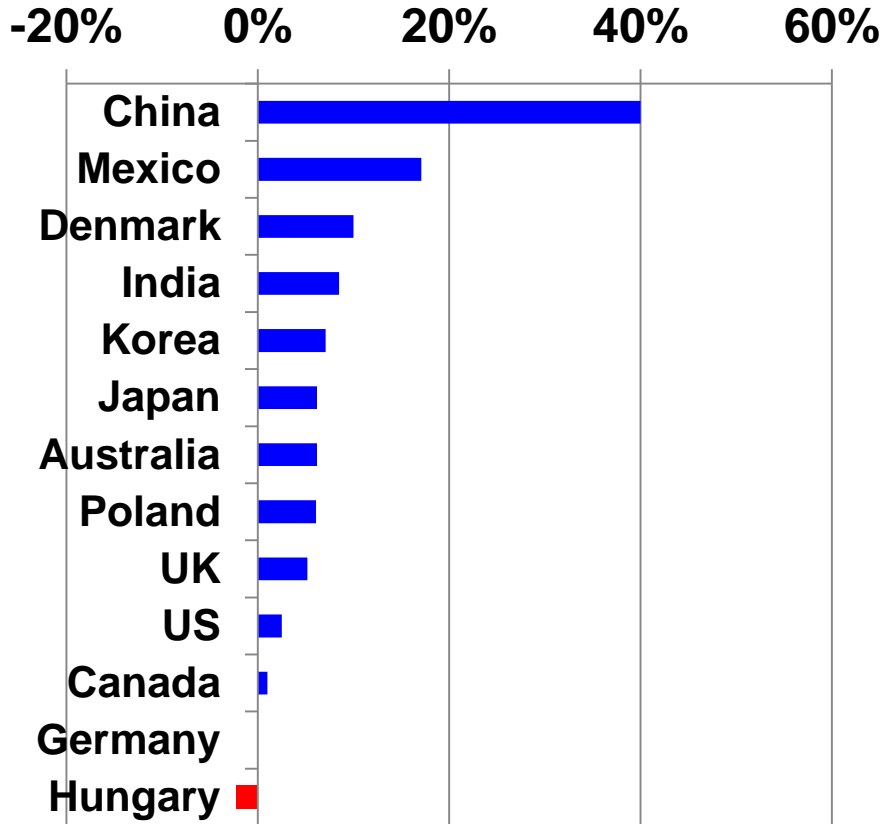
PHDs Awarded in the US



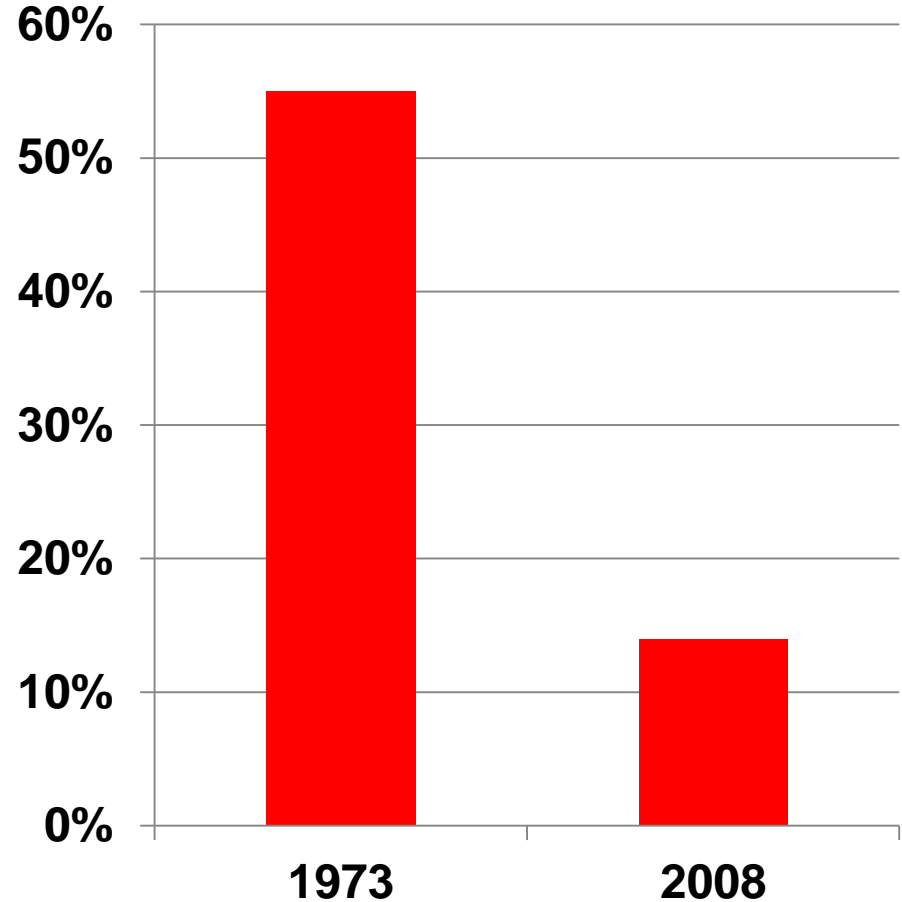


Too Many PHD's?

**% Increase in Doctorates Issued
1998 - 2006**

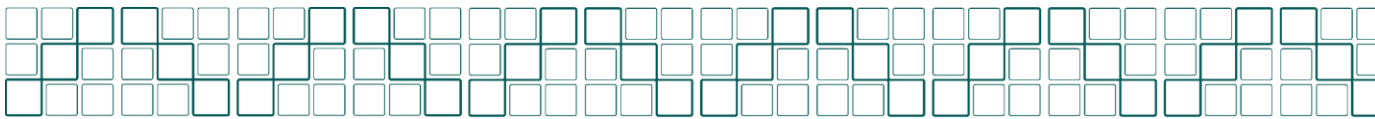


**% with Science PHD's in
Academic Tenure-track Positions**

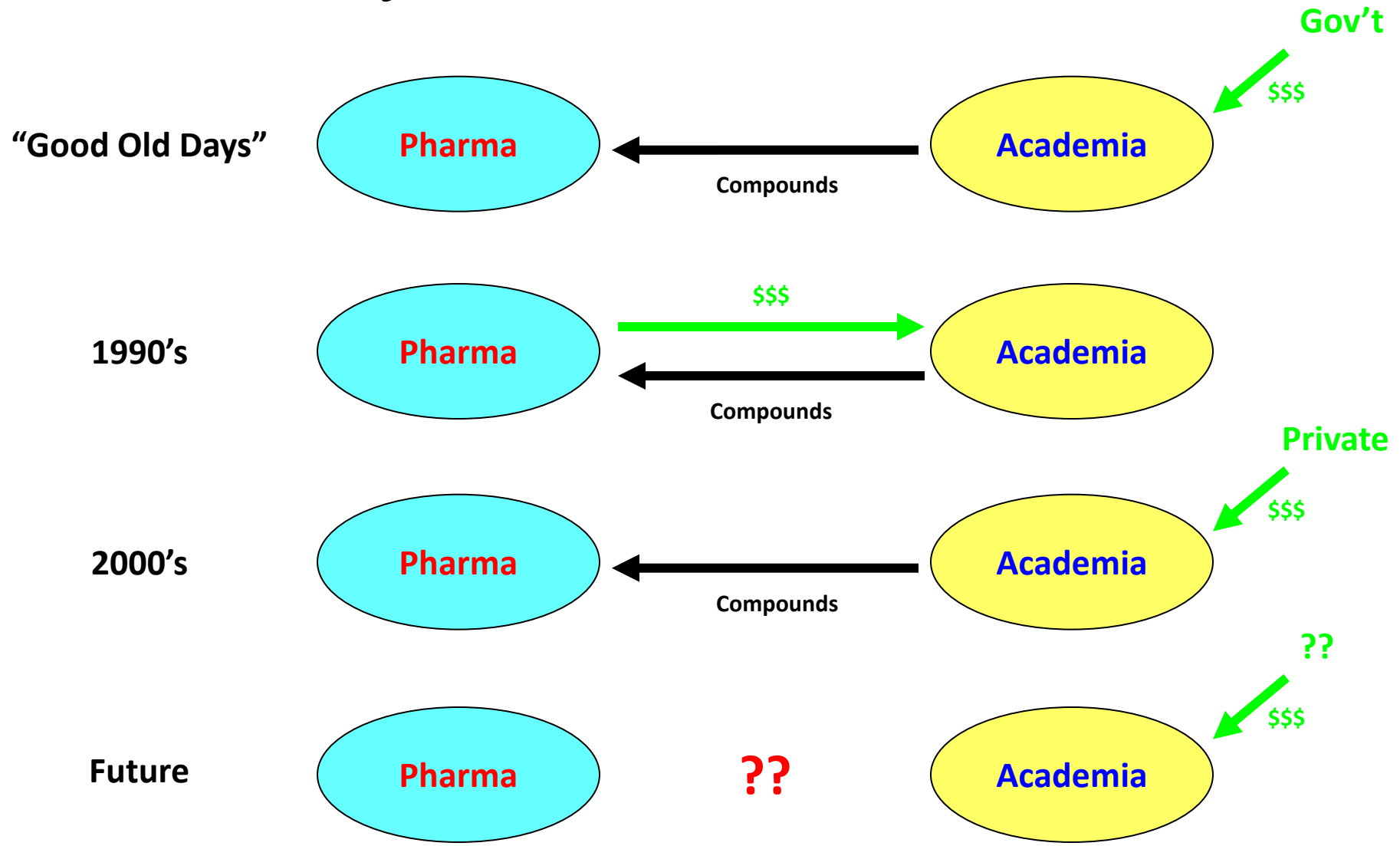


Source: Nature April 2011

Source: National Science Foundation



The Industry Academic Connection





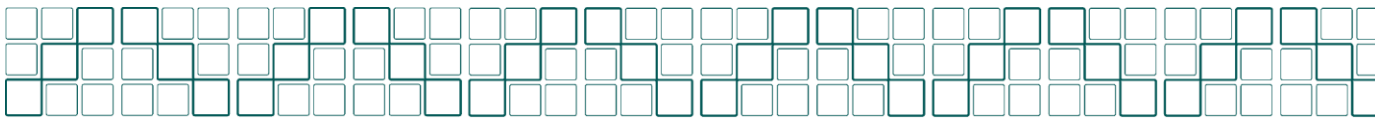
Pharma Industry Downsizing

- Between 2007 and 2012 the pharmaceutical and biotech industries were among the hardest hit with nearly 500,000 job losses
- Unlike in past downturns, job losses have been relatively equally divided among marketing, sales and R & D.



The Perfect Storm, 2007 - 2012

- Years of diminishing returns on both R&D and marketing
- Bloated and inefficient R&D organizations
- Rising healthcare costs with an increasing percentage in out-of-pocket spending
- Outmoded strategies for product development and marketing
 - Patent Cliff



Patent Expirations 2013 - 2016

2013

Oxycntin	Purdue
AcipHex	Janssen
Zometa	Novartis
Xeloda	Genentech/Roche
Opana ER	Endo
Asacol	Warner Chilcott
Annual Sales:	~\$6B

2015

Abilify	Otsuka
Copaxone	Teva
Gleevec	Novartis
Namenda	Forest
Provigil	Teva
Combivent	B-I
Zyvox	Pfizer
Prezista	Janssen
Avodart	GSK
Annual Sales:	~\$16B

2014

Nexium	A-Z
Cymbalta	Lilly
Celebrex	Pfizer
Symbicort	A-Z
Lunesta	Sunovian
Restasis	Allergan
Evista	Lilly
Sandostatin LAR	Novartis
Actonel	Warner-Chilcott
Annual Sales:	~\$14B

2016

Crestor	A-Z
Benecar	Diichi Sankyo
Cubicin	Cubist
Annual Sales:	~\$9.5B



The Perfect Storm, 2007 - 2012

- Years of diminishing returns on both R&D and marketing
- Bloated and inefficient R&D organizations
- Rising healthcare costs with an increasing percentage in out-of-pocket spending
- Outmoded strategies for product development and marketing
 - Patent Cliff

The economic situation has exposed a pharmaceutical industry model that is “broken”



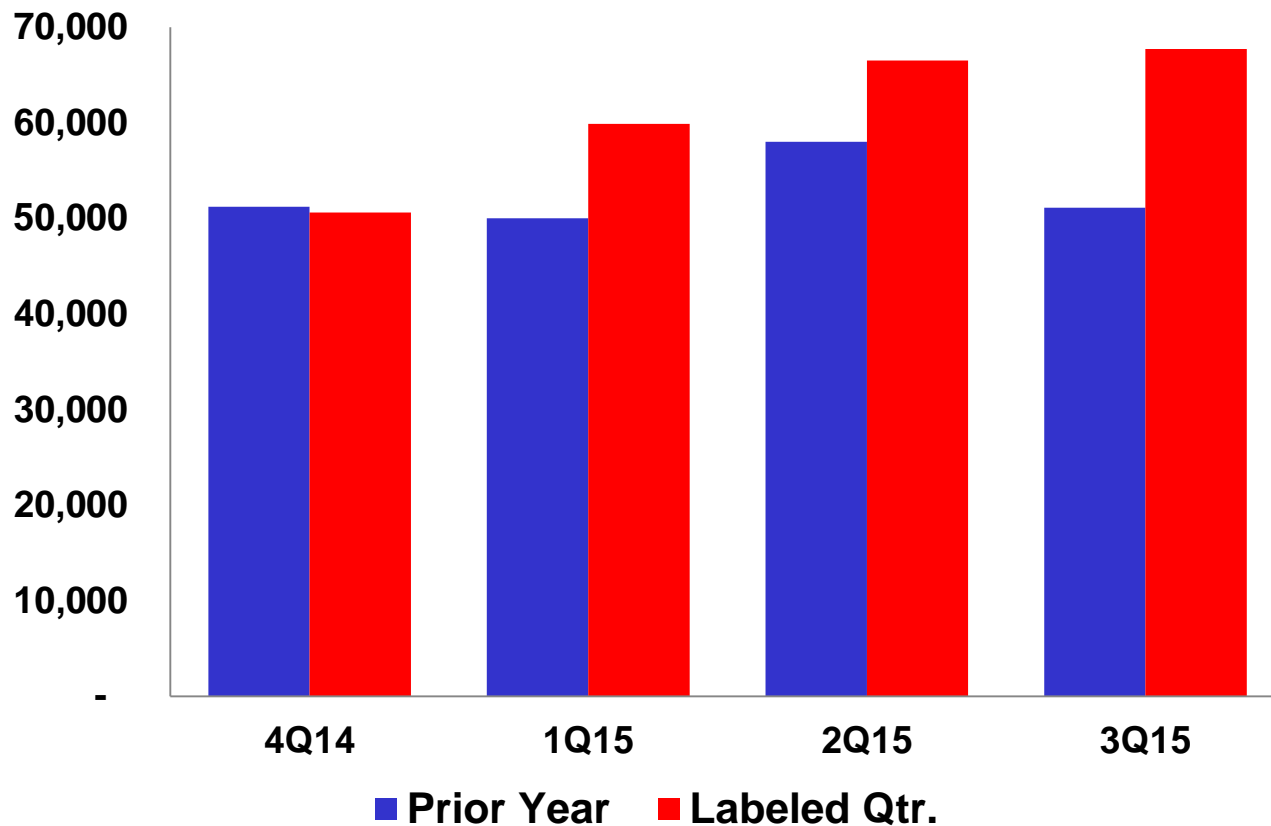
Some Perspective

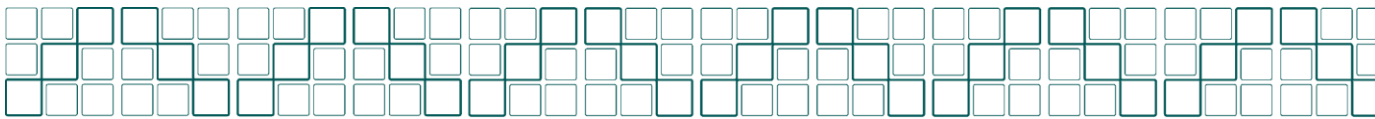
- Since 2007 the pharmaceutical and biotech industries have been among the hardest hit with nearly 500,000 job losses
- Unlike in past downturns, job losses have been relatively equally divided among marketing, sales and R & D.
- **Overall industry employment was down 5.8%**



Total Life Sciences Sector Postings

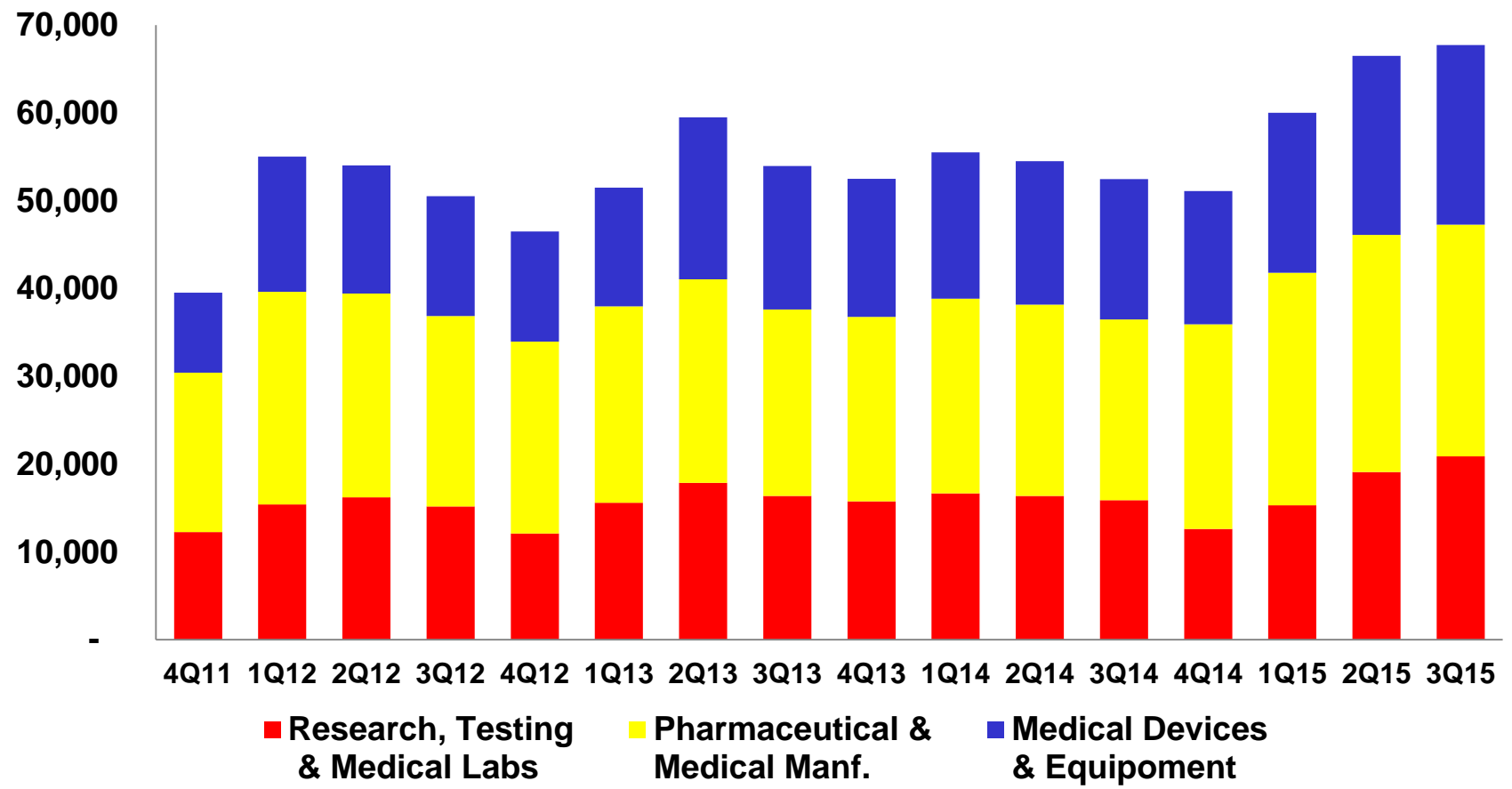
Year over Year (YOY)





Life Science Sector Postings

By Sub-category





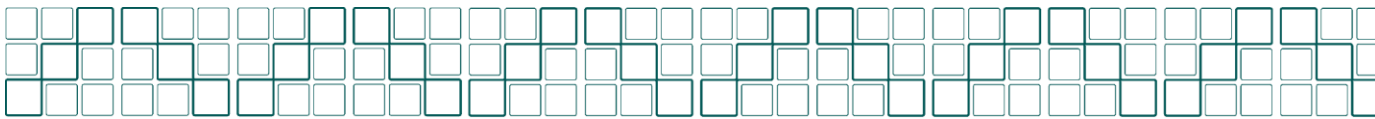
Where are the Jobs?

Mega-companies	Annual revenues greater than \$10B 70,000+ employees worldwide
Large Companies	Annual revenues between \$1B - \$10B 2500 - 70,000 employees
Medium Companies	Annual revenues between \$500M - \$1B 100 - 2500 employees
Small Companies	Annual revenues between \$100M - \$500M 20 - 100 employees
Early Stage / Start-ups	Annual revenues between \$0 - \$100M 1 - 20 employees

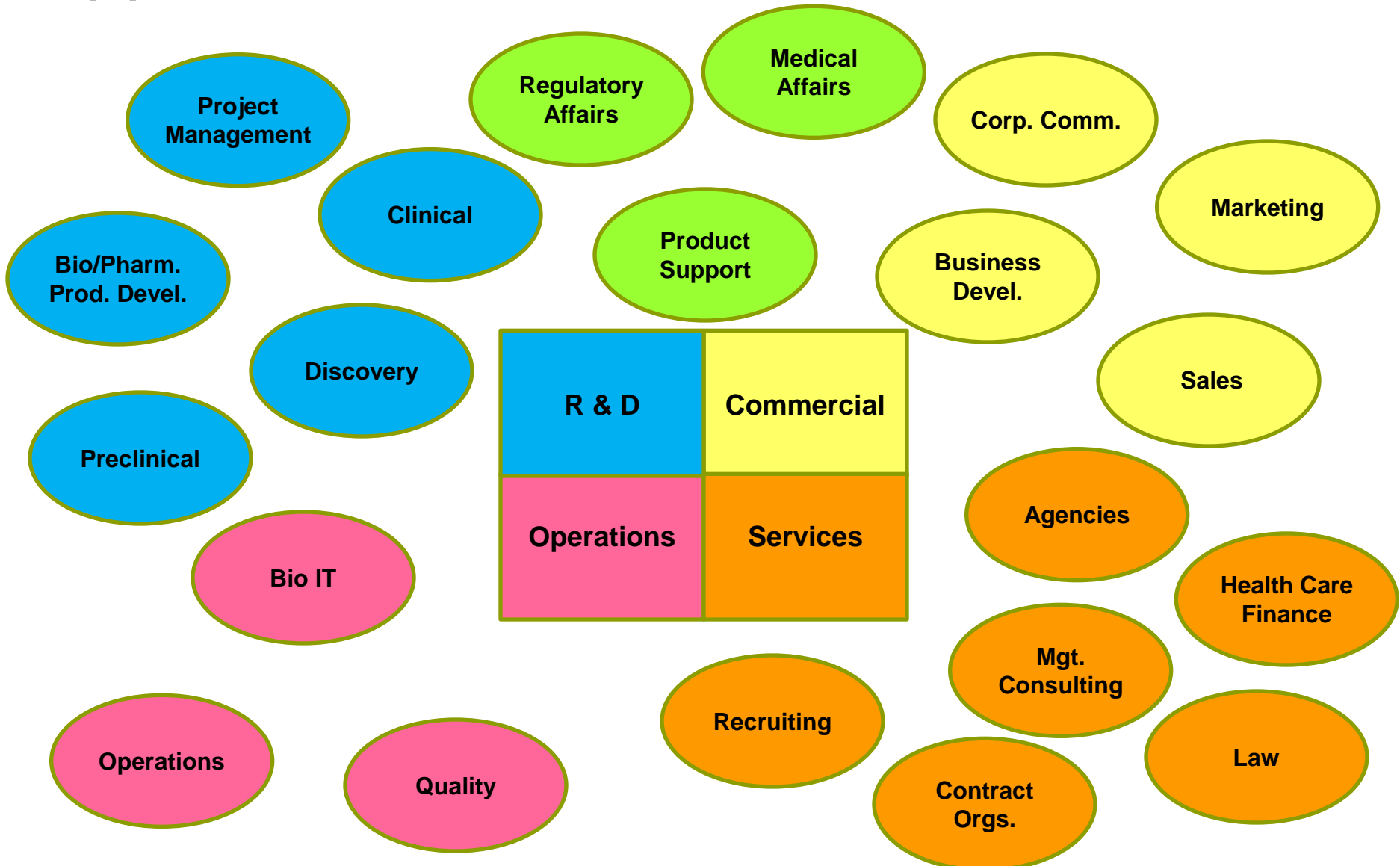


Example Companies

	Mega	Large	Mid-size	Small	Early Stage/ Start-up
Pharmaceutical	Pfizer BMS GSK	Medimmune Teva B. I.	Endo Eisai Millennium	Macrogenics Purdue	Vanda
Biotech	Amgen	Celgene	Shire HGS	Vertex Alexion	Achillion GlycoMimetics NovaVax
Device	J & J	Baxter	Covidien	PPG	
Consumables	GE	Thermo Fischer Scientific	Life Technologies	Qiagen OriGene	
Contract Organization	Quintiles Covance	PPD	Accelovance	Westat	KAI Research, Inc.



Opportunities in Pharma and Biotech





Opportunities in R & D

Discovery

Drug discovery research; also positions in life sciences companies that provide platform technologies, instruments, reagents and medical devices. **Qualifications: PhD with some specialization in post-doctoral work**

Preclinical

Conduct research to identify, synthesize and characterize new drug candidates. **Qualifications: PhD with some specialization in post-doctoral work**

Clinical

Conduct research to test drug safety and efficacy in humans. **Qualifications: Involvement in clinical trial planning, protocol development or evaluation, execution and monitoring of clinical trials.**

Project Mgt.

Ensure that projects are moving forward according to pre-established timelines, scope and budget. **Qualifications: MD/PhD with project management experience**

Bio-Pharm

Creating, formulating and manufacturing drug products.

Product Delvel.

Qualifications: PhD and formulation experience



Preclinical Roles and Responsibilities

- **Characterizing drug candidates**
- **Evaluating and selecting the most promising drug candidates**
- **Conducting preclinical studies during clinical development**

Career Tracks in Preclinical Research

- **Metabolism and Pharmacokinetics**
 - ADMET (absorption, distribution, metabolism, excretion, toxicity)
 - DMPK (drug metabolism and pharmacokinetics)
- **Toxicology, Drug Safety Evaluation and Pathology**
- **Pharmacology**
- **Translational Research and Medicine**
- **Animal Services and Welfare**
- **Chemistry Manufacturing and Controls, and Biologics**



Opportunities in Commercial

Marketing

The development and communication of product strategic plans to achieve objectives. **Qualifications: BS/BA/MBA**

Sales

Interact with customers to generate revenues and provide education. **Qualifications: BS/BA and sales experience**

Business Development

Identify and consummate deals that further the company's strategy. **Qualifications: BS/BA/PhD in select therapeutic areas**

Corp. Comm.

Generate interest in a brand and faith in company's ethos. **Qualifications: Ability to "distill" technical information for a variety of audiences**



Opportunities Between R&D and Commercial

Product Support

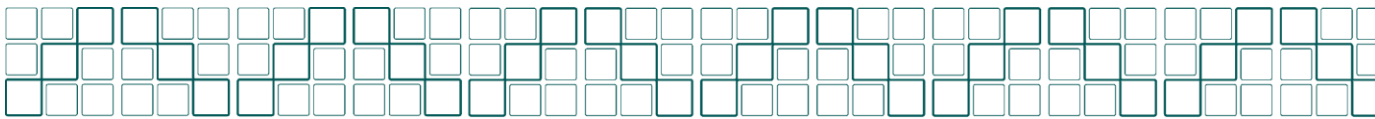
Provide technical support to enable customers to use products correctly and successfully. **Qualifications: MD or PhD with product / therapeutic expertise**

Medical Affairs

Provide medical and scientific support for company's marketing effort. **Qualifications: MD, PhD or PharmD**

Regulatory Affairs

Ensure that discovery and development processes are consistent with regulatory processes. **Qualifications: MD or PhD with knowledge of Agency requirements**



Opportunities In Operations

- Manufacturing** Ensure smooth operations of all processes; manufacturing.
Qualifications: BA / BS or MBA, promotional position for those with advanced science degrees

- Bio IT** Systems validation, data management, algorithm and software development. **Qualifications: BA / BS with computer skills**

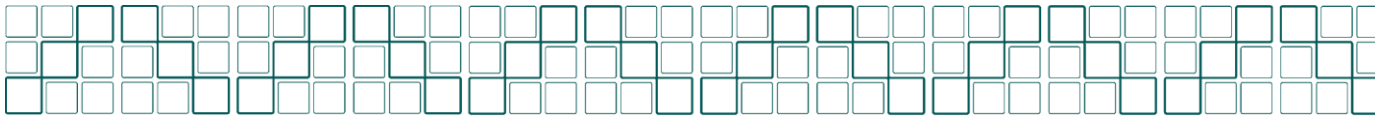
- Quality** Ensure products are consistent and that all company processes comply with agency standards. **Qualifications: BS / BA, PhD is common in supervisory roles**



Opportunities in Services

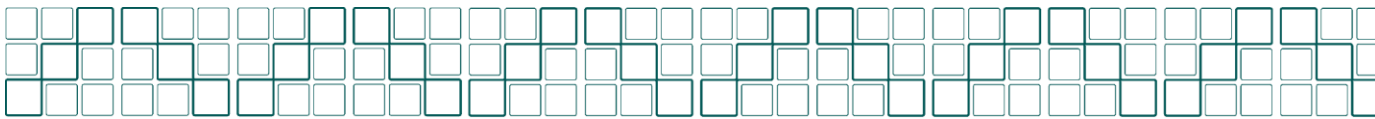
Virtually all functions within a company can also be outsourced to a contract provider; i.e. Development, Regulatory, Manufacturing, Medical Affairs, Marketing, Sales, Product Support, Legal etc. Qualifications: similar to those for the internal functions

- | | |
|------------------------------|---|
| Agencies | Discovery, research, development and regulatory responsibilities performed in Government supported labs. Qualifications: MD or PhD |
| Management Consulting | Provide strategic and technical advice to company management. Qualifications: MBA, MD's and PhD's generally for technical and subject matter expertise |
| Health Care Finance | Evaluate technologies to support or reject capital investment. Qualifications: CPA and MBA, MD or PhD with a knowledge of business operations |
| Recruiting | Match qualified candidates with job opportunities. Qualifications: MD's and PhD's can be beneficial in recruiting for technical and scientific positions |



Opportunities by Degree

		BA / BS	MA / MS / MBA	PhD	MD
Commercial	Sales				
	Marketing				
	Business Development				
	Corp. Communications				
Between	Product Support				
	Medical Affairs				
	Regulatory Affairs				
R&D	Discovery		Technician		
	Preclinical		Technician		
	Clinical				
	Project Management				
	Bio-Pharm. Development				
Ops.	Manufacturing				
	Bio IT				
	Quality Assurance			Supervisory	
Services	Agencies				
	Consulting				
	Finance				
	Recruiting				



Example Job Postings

Research Positions

COMPANY: Achillion Pharmaceuticals, Inc.
POSITION: Director, Formulation Development
REPORTS TO Senior Vice President and Chief Compliance Officer

RESPONSIBILITIES : Guide the development of product formulations at all stages of development. Establish the physical form and properties of end products to meet development requirements. Conduct formulation development studies at the preclinical stage. Collaborate with R&D and Manufacturing in process and product specification. Supervise contract research and contract manufacturing organizations

CANDIDATE QUALIFICATIONS

PhD with a life sciences concentration. Several years' industry experience preferred. Liquid dosage experience. Technologically up-to-date with regard to the manufacture of insoluble drug formulations

COMPANY MacroGenics, Inc.
POSITION Process Development Manager (cell culture)
REPORTS TO Senior Director, Manufacturing

RESPONSIBILITIES:
Develop scale-up of bioreactor processes for mammalian cell culture
Analyze data and draft technical reports
Assist with drafting and revision of manufacturing batch records

Establish and maintain GMP standards in manufacturing operations

CANDIDATE QUALIFICATIONS

Master's degree in biochemistry, chemical engineering or related scientific discipline
Some relevant industry experience
Experience with bioreactor operations and process scale-up



Example Job Postings

Development Positions

COMPANY Achillion Pharmaceuticals, Inc.
POSITION **Clinical Development Director**
REPORTS TO Senior Vice President and Chief Medical Officer

RESPONSIBILITIES

Plan and execute human clinical trials in multiple therapeutic areas. Provide medical professional expertise in relations with clinical sites. Contribute to study design and protocol development. Monitor research execution at clinical sites. Monitor patient safety and respond to adverse events. Collaborate in data review and results evaluation and participate in regulatory interaction.

CANDIDATE QUALIFICATIONS

MD
Clinical trial experience
Relevant therapeutic specialization

COMPANY Achillion Pharmaceuticals, Inc.
POSITION **Director, Pharmacology & Pharmacokinetics**
REPORTS TO Senior Vice President and Chief Medical Officer

RESPONSIBILITIES

Provide clinical pharmacology expertise to the planning and execution of clinical development programs. Participate as a development team member in interaction with clinical sites and regulatory bodies. Contribute to study design and monitor implementation. Support data analysis, report writing and regulatory submissions

CANDIDATE QUALIFICATIONS

PhD or PharmD. A strong background in clinical pharmacokinetics, ideally in drug development, is highly desirable. Experience in design and analysis of human ADME and drug-drug interaction studies. Knowledge of pharmacokinetic simulation software



Example Job Postings

Business Positions

COMPANY Guilford Pharmaceuticals Inc.
POSITION: Vice President, Business Development
REPORTS TO: Senior Vice President, Corporate Development

RESPONSIBILITIES: centrally responsible for establishing business partnerships and ensuring their successful operation. As such, the individual is an essential member of the closely collaborating management team. He or she is directly responsible for structuring the business development organization, evaluating the existing organization and consulting relationships, and providing it with leadership

CANDIDATE QUALIFICATIONS: Substantial business development background within the biopharmaceutical or pharmaceutical industry, ideally with significant out-licensing experience Demonstrated record of successful deal-making, Technical fluency in the CNS therapeutic area and a knowledge of CNS markets. An advanced degree in a business or scientific discipline. Exceptional sales and relationship skills. Willingness to travel extensively

COMPANY MedImmune, Inc.
POSITION: Regional Director, Medical Affairs
REPORTS TO: Vice President, Medical Affairs

RESPONSIBILITIES: Function as medical professional link with field-based activities. Provide information to management about directions in patient care, unmet medical needs and research opportunities. Interact with thought leaders to shape company research and marketing strategies. Develop and manage company-funded fellowships at leading institutions. Identify opportunities to conduct post-marketing research. Design and administer protocols. Participate in the training of field sales representatives and product specialists.

CANDIDATE QUALIFICATIONS: M.D. preferred. Experience in designing, conducting and evaluating research. Specialization in pediatric and/or infectious diseases



Example Job Postings Other Positions

COMPANY MedImmune

POSITION Director, Product Support

REPORTS TO: Vice-president, Scientific Operations

RESPONSIBILITIES: Provide support to medical affairs, marketing, sales, and other professionals who were in direct contact with prescribers of the company's products in the healthcare provider sector. The position typically conducts research which is necessary to provide information in response to inquiries from the field. Typically, such inquiries go beyond the scope of the market communications program developed to support product marketing

QUALIFICATIONS: Advanced degree in a scientific discipline and, ideally, research experience in the pertinent therapeutic area, or with the particular class of drug. Excellent oral and written communications skills

COMPANY Achillion Pharmaceuticals, Inc.

POSITION Formulation Development Executive

REPORTS TO: Senior Vice President and Chief Compliance Officer

RESPONSIBILITIES: Providing the professional expertise and leadership to appropriately guide the development of company product formulations at all stages of development, from preclinical to commercial launch. The position plays a central role in establishing the physical form and properties of end products so that those products can be successfully developed and produced within regulatory, safety, efficacy, economic and other constraints.

QUALIFICATIONS: A PhD with a life sciences concentration is preferred, with several years' industry experience. The ideal candidate should have experience in the full range of development stages, from early phase formulation activities through transition to first-in-human studies



Where the Opportunities Are Likely to Be

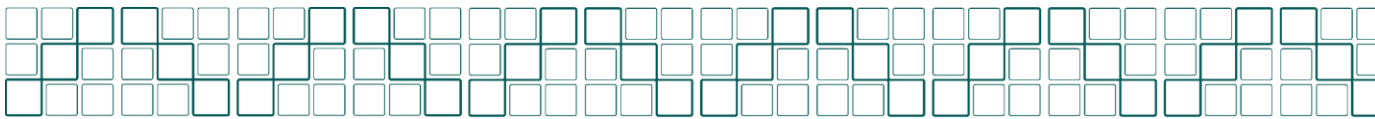
2016 - 2019

Research Positions	Predominantly in biotech and early-stage
Development Positions	Mid- to mega-companies and CRO's
Business Development	Out-licensing - Smaller companies and early-stage In-licensing - Larger companies
Medical Affairs	Larger companies with marketing and launch products
Regulatory Affairs	Mid- to mega-companies and FDA
Product Support	Larger companies with marketing and launch products
Quality	Companies with manufacturing and Contract Manufacturing Organizations
Management Consulting	Consulting companies, companies in transition and medical insurance providers



What do I do now?

- 1. Foster your network of contacts outside of academia**
 - NIH Alumni database, Linked In
- 2. Identify companies with money and/or cash infusions**
 - Fierce, BIO, OnBioVC
- 3. Identify companies with R & D interests in your area of expertise**
- 4. Identify key contacts for use as references**
- 5. Prepare an industry resume (CV)**



Networking

Building / expanding your contacts outside the academic arena

- Finding and making new contacts
 - Social media (Linked In, Facebook, Twitter, Research Gate)
 - Alumni data bases
 - Conferences
 - Professional societies
 - PubMed, Patent data bases
 - Career centers
- Informational interviews
 - Ask for advice - **Not** a job

Your best chance of landing a job is to be recommended by someone in the company



Targeting Companies

Mass resume distribution and using “generic” job sites rarely result in an interview

- Categories
 - Similar research focus
 - Geography
 - Contacts
 - Company size

- Sources
 - BIO (State Chapters)
 - FDA.gov
 - Company web sites



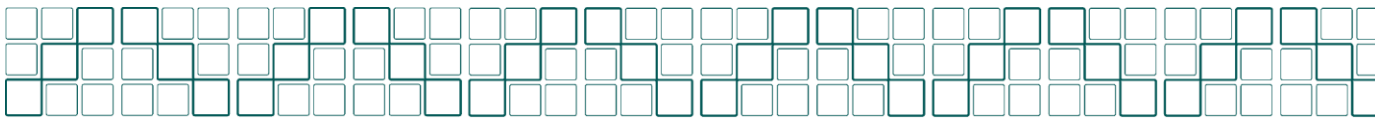
Resumes and Cover Letters

Resume

- Is a “**selling document**”
 - Vary based on the job ad
- Focus on **accomplishments** and **results**
- Not the place for your life history
- Can be organized in reverse chronological or functional order

Cover Letter

- **Part 1**
 - How you found the job
 - Basic info on yourself
 - Say something nice about the organization (homework)
- **Part 2**
 - Why you are interested in position/employer
 - How you best fit the position
 - Match the wording
- **Part 3**
 - Close – ask to take the next step
 - Thank them for their consideration
 - Follow-up



Sections of a Resume

- Contact info
- ***Expertise Summary***
- ***Summary of Accomplishments***
- Professional experience
 - Research
 - Job related
 - Teaching/Mentoring
- Education
- ***Skills***
- Leadership
- Funding/Honors/Awards
- Service/leadership
- Publications/Patents (likely not posters)
- Invited talks (maybe)
- References (maybe)



Summary/Objective Statement

- Typically only for resumes
- First (and easiest) place to adjust for job ad

~~Seeking a responsible position in an industry lab doing research.~~



Expertise Summary

- Protein biochemist with 10 years of experience managing research and administrative tasks
 - 6 years experience in *in vitro* protein synthesis, including optimizing media contents for selective labeling and to improve growth
 - Strong expertise in enzymatic assays, including single turnover kinetics of DNA cleavage using biophysical techniques
 - 2 years experience in RNA biology creating RNA-protein complexes
 - Developed a postdoc association, led mentoring committee, was treasurer of graduate association
 - Strong attention to details as seen by success in both the lab and as a committee member
 - Excellent communication skills, experience in writing and speaking to technical and non-technical audiences

Assume 4-6 bullets here on why YOU fit the job ad



Summary of Accomplishments

Focus on the results and/or application of your work

- Identified regulatory T cells as a diagnostic biomarker in experimental graft-versus-host disease with implications for improved clinical treatment of bone marrow transplant patients
- Identified markers with potential to be used to target cancer stem cells with metastatic and drug resistant properties in Osteosarcoma.



Developed Transgenic Mouse Model

■ Industry

- Developed a cystic fibrosis transgenic mouse model that resulted in 8 peer reviewed publications and \$3.6 Million in grant funding.

■ Project Management

- Developed strategy and implemented 2.5 year \$1.3 M project in collaboration with institutional core facility and external academic partner. Project resulted in \$3.6 M in additional funding.

■ Regulatory Affairs

- In collaboration with institutional Animal Care and Use Committee (IACUC) and Biological Safety Committee submitted and gained all necessary documentation to develop transgenic mouse model for cystic fibrosis. Documents were completed 6 weeks ahead of schedule.



Mentored 3 undergraduate students

■ Industry

- Responsible for hiring, supervision, and performance review of three junior scientists

■ Science Administration

- University of Michigan's EXPLORE program mentor for undergraduates from underrepresented groups, 2010 through 2012

■ Consulting

- Effectively communicated and transferred complex technical information to junior personnel. Used expertise to assist junior personnel with problem solving.

■ Project management

- Empowered project staff to meet quality standards, use resources effectively and deliver tasks on time.



Professional Experience

- **Job Title** (Dates and location)
- I do X to understand Y
 - *Examined the fidelity of the group II intron reverse transcriptase, determined that it is the most faithful reverse transcriptase found to date.*
- Job-related accomplishments
 - *Additional detail / explanation of “Summary of Accomplishments”*
 - *Avoid redundancy*
- Advisor? - usually only if the name is known



Education

- Usually graduate school thru undergrad
- Don't forget degrees and dates
- Have seen post-doc here, but more appropriate in work experience
- Don't add things like FAES courses, OITE certificates etc...these should go under additional training

Note on additional training: Only list relevant and recent things, i.e. a microscopy course 10 years ago may not be appropriate



Skills and techniques

- List of relevant skills, methodologies, techniques, equipment
 - Grouped for easy identification
 - Not a laundry list, match skills listed to the job ad

- Critical in avoiding computer filters
 - **Biochemistry:** protein purification, Western blotting, *in vitro* cell-free extracts, spectroscopy, electrophoresis
 - **Cell biology:** cell culture (bacterial, insect, mammalian), flow cytometry, immunofluorescence
 - **Microscopy:** light microscopy, epifluorescence microscopy, confocal microscopy
 - **Molecular biology:** gene cloning (prokaryotic and eukaryotic), PCR, Southern blotting



Skill Sections for Resumes

- **Team**
- **Communication**
- **Collaboration**
- **Leadership**
- **Technical**
- **Supervision/Management**
- **Professional**
- **Computer**
- **Service**
- **Languages**



Team skills

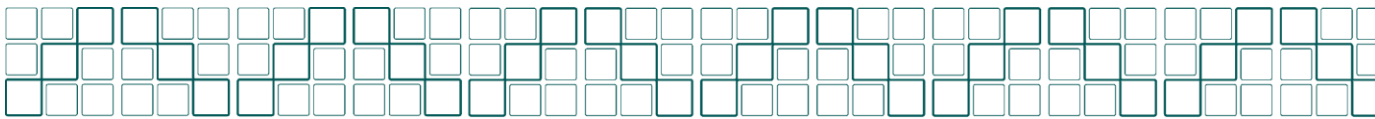
- What we normally see:
 - Nothing
- What we should see:
 - Participated in lab meeting, exchanged ideas and constructive criticisms
 - Organized collaborations by setting meeting times and agendas, promoting scientific discussions, and ensuring that deadlines were met
 - Integrated a team of 2 biochemists and 2 neuroscientists to solve a challenge resulting in a change of procedure that decreased the timeline of the project 3-fold
 - Managed 4 technicians, 3 graduate students, 9 undergraduates and many lab rotations students
 - Participated in hiring new lab personnel



Organizing your document

Some helpful tips

- Name and page # on each page
- Your name in file name
- Date of last update
- Your name in file names
- PDF and Word docs
- Font (11 pt Times Roman)
- Margins (1 inch)
- Bolding text can highlight, but too much may distract reader
- Bullets help to organize
- Plenty of white space
 - Lines and boxes can make the document look cluttered



What is the #1 resume mistake?

Typos



Have several people proofread your document



Industry Resumes

Some Final thoughts

- Reverse chronological order
- Be specific, avoid jargon
- Use their words to hit the keywords
- Results with quantifiable measures
- Action packed verbs
- Spelling and proofreading
- Organize



Cover letters

■ Part 1

- How you found the job
- Basic info on yourself
- Include company contacts
- Say something nice about the organization (homework)

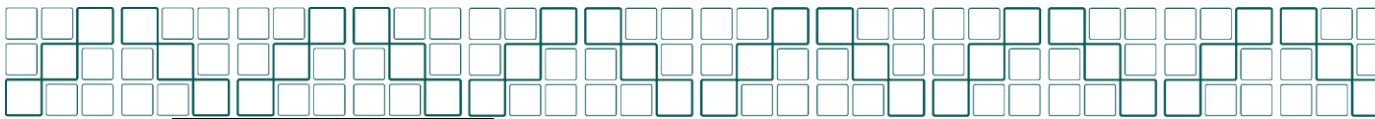
■ Part 2

- Why you are interested in position/employer
- How you best fit the position
- Match the job ad wording

■ Part 3

- Interested in interviewing
- Thank them for their consideration
- Follow-up

Homework on the To: Note the name and degree



Dear Hiring Manager,

I saw your ad for a Product Manager/Developer: RNA Enzymes/PURE-6071RG on the New England Biolabs website. I am currently a postdoctoral fellow in Marlene Belfort's lab at the Wadsworth Center, New York State Department of Health.

I have extensive experience in restriction enzyme biochemistry, and have had ongoing collaborations with scientists at NEB, including Paul Riggs. I am very familiar with the science at NEB, and am extremely impressed by not only the high quality products that the company produces but also with the academic atmosphere of the research and development centers. My specialty is in protein-nucleic acid

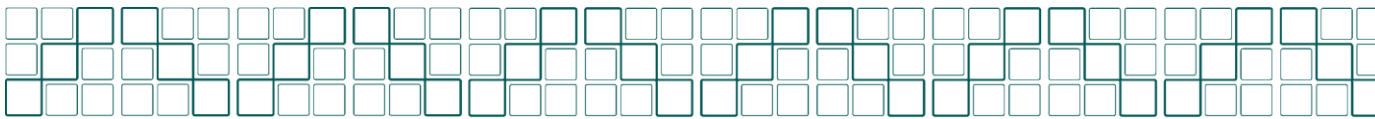
interactions, with an emphasis in exploring enzyme mechanisms. As a postdoc I expanded my scientific skills to include RNA biology, including RNA purification and analysis. I have a strong background with high quality *in vitro* protein synthesis and purification, including media modifications and preparations of quantities needed for biophysical and structural characterizations. I excel in improving and developing research programs as seen by incorporation of novel techniques to examine DNA binding and cleavage by restriction enzymes and the use of new system to monitor the fidelity of the group II intro reverse transcriptase. I took a strong leadership role in the lab to ensure coordination of chemical inventory and ordering systems. I have excellent organizational skills as noted by completion of 8 peer reviewed papers with the participation of technicians and students that I supervised. Additionally, I have a strong attention to detail. My diverse background in DNA/RNA-protein biochemistry would be a terrific fit for this position.

I look forward to continuing this conversation in an interview. I will contact you by X date to follow up on this application. Please feel free to contact me at anytime, the best method is by email atgghhg. Thank you for your consideration.

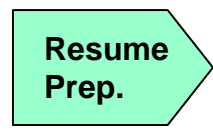
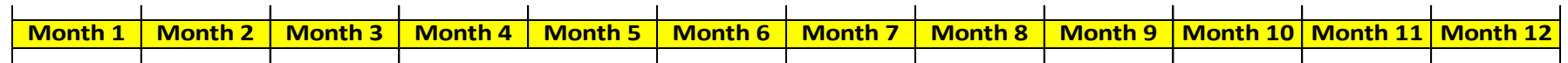


How are industry interviews different from academic interviews?

1. Occur throughout the year
2. Industry interviews will focus more on:
 - Results and accomplishments
 - Skills
 - Teamwork
 - Leadership experiences
3. But, if you are interviewing for a bench position, you will get science questions
4. Your publication record is not as important for the industry interview



The Industry Interview Process





The Interview is a 2-way street

Preparation should include not only answers - but also questions

- Interviewers want to learn more about your skills and experience to decide if you are a fit for the position
- You can learn more about the job, colleagues and the workplace to decide if the position is a fit for you



Key to successful interviewing is effective preparation

Prepare by:

- Researching the job and company
- Anticipating the types of questions you'll be asked
- Practicing your answers and interview responses
- Prioritizing your questions



Researching the job and company

- **Employer's web site**
 - Company's product line and priorities
 - Senior management
 - Key events (Press Releases)
- **Network – use LinkedIn, professional and alumni networks**
- **Library resources**
- **Current employees**
- **Professionals in the field**



Phone Interview

- Duration
 - 30 to 45 minutes

- Assessment
 - Validate the skills and accomplishments listed on your resume
 - The fact that you want to leave academia
 - Communication skills

- Who conducts?
 - HR - More general questions about your experience
 - Hiring manager - More focused on science



Preparing for the Phone Interview

- Be able to effectively and concisely communicate your accomplishments, skills and experiences
- Prepare your rationale for leaving academia
 - Why this company?
 - Why this position?
 - Why now?
- Review your research on the company
 - Management
 - Current products and compounds in R & D
 - Company events (press releases)
- Prepare questions to ask



Conducting the Phone Interview

- Use a land line
 - Tammy Collins can help you find an empty office
- No speaker phone
- Prepare your top accomplishments, skills and experiences
 - Make sure to cover them during the call
- Lay all documents out in front of you for easy access



On-site Interview

- Duration
 - Four to eight hours
- Meet with multiple people from various levels in the organization
 - Hiring manager
 - Peers of the position
 - HR
 - Sometimes the hiring manager's boss
- Presentation of your current project
- More in-depth assessment of:
 - Skills and accomplishments
 - Desire to leave academia – and join this company
 - Communication skills
 - “Fit”

May include lunch and/or dinner with members of the team



Interviewing with varying functions and levels

■ Hiring manager

- Scientific knowledge
- Communication skills
- Fit

■ Hiring manager's boss (CEO or CSO)

- Bigger picture
- Strategies

■ Peers

- Scientific knowledge
- Interpersonal skills

■ HR

- Experiences / work history
- Work environment (elements other than science)

■ Panel interview

- More difficult – multiple people with different views and styles
- Focus on the person asking the question



Types of Interview Questions

1. Opportunity questions

- Provides the opportunity for you to discuss, accomplishments, skills, interests, strengths, your homework, etc.

2. Behavioral questions

- Requires you to cite specific examples in your experience when you have dealt with the issues from the question



Sample Opportunity Questions

- Tell me about yourself.
- Why are you interested in our company?
- What interests you most about this position?
- What do you know about our organization (products, services, research, departments)



Tell me about your:

■ Strengths

- Be realistic
- Relate to the requirements of the job

■ Weaknesses

- Think through this one!
 - Choose an actual weakness
 - Make sure that it is **not** a “fatal flaw”
 - Always add what you are doing to address them



Sample Behavioral Questions

- Describe a time when you had difficulty working with a supervisor or co-worker in the past.
- Give me a specific example of a time when you sold your supervisor on an idea or concept.
- Describe the system you use for keeping track of multiple projects.
- Tell me about a time when you came up with an innovative solution to a challenge your lab was facing.



When Answering, Try to Avoid:

- **Over-answering questions**
 - Providing too much detail can diminish the quality and focus of your answers
- **Answering questions that were not asked**
 - Avoid making “leaps” that the interviewer may not make
- **Negativity**
 - Describe negative situations in a positive light
- **Too much honesty**



Preparing Your Answers

- Develop examples that demonstrate how your skills and experience relate to the major job responsibilities; what are your success stories?
- Create answers that will highlight your strengths, be memorable, and set you apart from the rest
- Use the **Situation-Action-Result** technique
- Practice so you can tell these stories in 90 seconds



Situation-Action-Result technique

- Describe a **situation** or context, the challenge or problem to be solved
- Describe the **action** you took
- Describe the outcome or **result**.
 - How the situation improved as a result of your action

Our graduate student symposium has been poorly attended over the last five years. As the 2014 symposium chair, I developed a marketing strategy targeted at increasing attendance. The results of my leadership was a 30% increase in attendance. My committee agreed the new marketing plan should be used in all of our future events.



S-A-R's – Keys to Success

- **Prepare them in advance**
 - You should have 4 to 6 ready to go
- **Write them out**
 - Keep them with you
- **Practice, practice, practice**
 - Say them out loud (in front of a mirror)
- **Prepare the “transitions”**
 - S-A-R's are most effective when you can smoothly move from one to another in answering the interviewers' questions



Hard Interview / Easy Interview

Hard Interview

- Direct questions
- Could be confrontational
- Interrupt your answers
- Stress situations

Remain calm and focused

Easy Interview

- Selling you on the company
- “Softball” questions
- Conversational and friendly

It's still an interview



Prepare your Questions

Questions that are well developed for the interviewer can:

- Reinforce your interest in the position
- Indicate that you have done your homework on the company
- Strengthen the interviewers' views of your knowledge
- Be used to highlight particular strengths
- Be an important tool to determine if the company, the position, the manager and the team are the right fit for you

Sample questions can be obtained through OITE



Some questions to ask the interviewer

- I enjoy working on a team, will there be many opportunities to interact in a team environment?
- One of my greatest strengths is my interpersonal skills. How do you see this fitting in this position and the company?

Use your opportunity to ask questions to continue to sell yourself and seek insights that can be used in subsequent interviews. Wait until you are offered the job to ask questions about the job!

Blog: Interviewing the interviewer



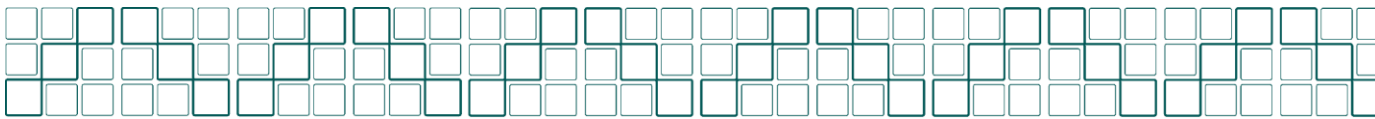
Presenting your research

- Audience is generally company scientists
- Used to determine your level of knowledge and understanding of scientific concepts
 - Even if it is not directly related to the position
- Also a barometer on your presentation skills



When you present:

- **Don't overwhelm them with data**
- **Your presentation should tell a story**
 - The rationale for your research
 - Why you chose this protocol
 - Results / expected results
 - Next steps
 - Potential applications
- **Highlight your:**
 - Scientific knowledge and abilities
 - Communication skills



Presenting your research

Helpful hints:

- **Start on time and end on time**
 - Generally one hour, 40 minutes of presenting and 20 minutes of Q&A

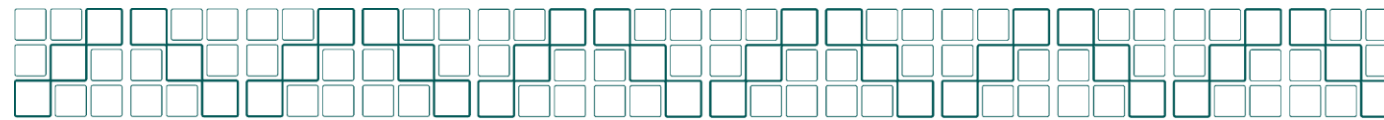
- **Limit the number of slides**
 - The biggest mistake you can make is to go overtime

- **Create a contingency plan in case something goes wrong**
 - This shows flexibility



At the end of the interview

- Close the interview
 - “Is there any additional information that I can provide you that will help with your decision?”
- Send thank-you notes
 - Collect business cards so you have the correct contact information
- Follow up for status updates
 - Two to three weeks is a reasonable time



Resources

- myidp.sciencecareers.org/ - great online assessment and career planner for science related career paths
- SciPhd.com - good online assessment for industry jobs
- Make an appointment with a Career Advisor online
 - **Brad Fackler** - industry careers
 - **Denise Saunders** - Career questions, all paths
- OITE careers BLOG
- Web Articles
 - Science careers - especially stuff by Dave Jensen
 - NatureJobs
 - BioSpace.com
 - ACS Careers Blog (and ACS website)
- Books
 - Career Opportunities in Biotech and Drug Development (Freedman)
 - Alternative Careers for Scientists (Robbins-Roth)
 - Non-traditional Careers for Scientists (Kreeger)



Follow-up Activities

- Connect with the OITE staff on Linked-In
- Watch previous OITE career workshops, including many on CVs, resumes and cover letters
 - A Practical Guide to Networking for Your Career
 - Academic and non-academic career paths
 - Job talks for academic and non academic positions
- Explore the OITE NIH Training Alumni database
- Contact me for help brad.fackler@nih.gov



More resources

■ Previous videos on industry jobs:

[An Overview of Careers in Industry for PhD Scientists](#) (10/5/2009)

[The Industry Job Search: Navigating the Application Process](#) (12/7/2009)

[Resumes and Cover Letters for Industry](#) (11/18/2008)

[Interviewing outside the Ivory Tower](#) (12/2/2008)

[Business Etiquette](#) (NIH only) (3/25/2009)

[Making the Transition to Industry](#) (4/6/2010)

■ Videos on specific career paths:

[Careers in Science Education and Outreach: A "How to" Workshop](#) (11/23/10)

[Careers in Regulatory Affairs: Second in the "How to" Series](#) (11/23/10)

[Careers in Tech Transfer: Third in the "How to" Series](#) (2/16/11)

[Careers in Science Policy: Fourth in the "How to" Series](#) (2/16/11)

[Careers in Global Health: Fifth in the "How to" Series](#) (4/13/11)

[Careers in Science Writing: Sixth in the "How to Series"](#) (4/30/2012)

[Using LinkedIn Effectively: Seventh in the "How to" Series](#) (4/30/2012)

[Careers in Grants Management: Eighth in the "How to" Series](#) (6/5/12)

[Careers in the Federal Government: Ninth in the "How to" Series](#) (7/18/12)