Overview of the Life Sciences Landscape in the Boston Area

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Outline

- Overview of Boston Area life sciences landscape
- Trends in research areas and companies in the area
- Financing trends
- Networking opportunities
- Smaller companies vs. larger ones
- Tips on connecting with companies
Career Searching is a Journey
Types of Companies

Global
- Marketing / Communication
- Companies Developing Technologies

Local
- Consulting
- Investment Banking / Finance

Small
- Venture Capital
- Non Profit / Disease Fndn.
- Patent Law

Mid-Sized
- Medical / Science Writing
- Entrepreneurial

Large
- Ecosystem

Making Connections that Fuel Innovation!

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Therapeutic Trends in MA

Source: The 2012 MassBio Industry Snapshot

Making Connections that Fuel Innovation!
Top 10 Therapy Areas in 2018, Market Share & Sales Growth

Source: EvaluatePharma® (23 JUN 2013)

Key growth drivers:
Revlimid (CELG), Afinitor (NVS), Perjeta (Roche), Xtandi (Astellas), Tasigna (NVS), Kadcyla (Roche), Kyprolis (Onyx), Avastin (Roche)

Key patent expiries:
Gleevec (NVS) in 2015, Eloxitin (Sanofi) in 2012, Xeloda (Roche) in 2013

Sales lost from Angiotensin II segment:
- Diovan (NVS): $3.4bn
- Benicar (Daiichi Sankyo): $1.9bn
- Micardis (Boehringer Ingelheim): $1.1bn
- Blopress (Takeda): $0.9bn

% Sales Growth: CAGR 2012-18

Source: Evaluate Pharma World Preview 2013, Outlook to 2018 Report.
www.evaluategroup.com/wp2013
Medtech Trends

Analysis on Top 10 Device Areas in 2018, Market Share & Sales Growth (2012-18)
Source: EvaluateMedTech™ (23 SEP 2013)

Note: Bubble = WW Sales in 2018
% Sales Growth: CAGR 2012-18

www.evaluategroup.com/MedTechWP2013
As in 2011, the three leading regions for fundraising were the San Francisco Bay Area, New England and San Diego. However, in 2011, New England had led the nation in both venture capital and innovation capital raised by a wide margin. In 2012, the gap closed, with the San Francisco Bay Area inching ahead in innovation capital while New England retained the lead in venture capital. The rest of the regions are clustered together.

Source: Ernst & Young Beyond Borders Biotechnology Industry Report 2013
Biotech VC Financing by Stage

Sources: 2012 PricewaterhouseCoopers, National Venture Capital Association, MoneyTree™ Report, Historical Trend Data and Evaluate Pharma ©
Drug Development Pipeline by Stage

Candidate medicines of Massachusetts-headquartered companies, by clinical trials stage

- Research project: 252
- Pre-clinical: 353
- Phase I: 148
- Phase II: 125
- Phase III: 66
- Filed for approval: 11

* There are many drugs in development in Massachusetts by companies with headquarters located outside of Massachusetts. These candidate drugs are not included in this report.

Source: EvaluatePharma®

Source: The 2012 MassBio Industry Snapshot
Big Pharma / Biotech Companies in MA include:

- Pfizer
- Novartis
- AstraZeneca
- Sanofi
- Merck
- Johnson and Johnson
- Eisai
- Millennium
- Vertex
- Biogen
- Cubist
Big Medical Device Companies in MA include:

- Boston Scientific
- Covidien
- Abiomed
- Johnson and Johnson
- Philips
- MedTronic
- Baxter
- Perkin Elmer
- Hologis
MA Compared to other States

**FIGURE 9**
Employment in Life Sciences Indexed to 2001, Massachusetts vs. Big Competitor States

**FIGURE 10**
Life Sciences Jobs per 1 Million 2010 Population Top 8 States in 2011, by Year

Source: Author's Analysis from BLS data

Source: Life Sciences Innovation as a Catalyst for Economic Development: The Role of the Massachusetts Life Sciences Center Report

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Beyond borders
Global biotechnology report 2012

World Preview 2013, Outlook to 2018
The Future of Medtech

From vision to decision
Pharma 2020
Job Trends by Area

% change in major job categories, 2010-11

- Quality: 84.4%
- Finance & Administration: 30.4%
- Operations (including MFG): 30.2%
- Business Development: 13.6%
- Research (Discovery)*: 10.8%
- Research (Development)*: 7.3%
- Clinical Research & Ops: 5.6%
- Regulatory Affairs: -27.0%

*See endnotes for clarification.

Source: Massachusetts Biotechnology Council

Source: The 2012 MassBio Industry Snapshot
Types of Roles

Technology Development Firms

R&D
- Basic Science
- Preclinical or Development
- Engineering
- Product Development
- Epidemiologist
- Regulatory Affairs
- Clinical Research
- Clinical Data Analysis
- Drug Safety
- Medical Affairs
- Biostatistician
- Bioinformatics

Commercialization
- Marketing
- Product Management
- Project Management
- Market Research
- Sales
- Business Development
- Market Access / Reimbursement
- Pharmacoeconomics
- Medical Science Liaison
- Medical / Clinical Communications
- Medical Writing
- Health Policy

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Additional Roles

Consulting Firms, Investment Banks, Venture Capital

Consulting

- Scientific Evaluation
- Strategic Analysis
- Competitive Landscape
- M&A Analysis
- Financial Valuation
- Partnership Strategy
- Intellectual Property
- Sales Strategy
- Marketing Strategy
- Pharmacoeconomics
- Pricing Scenarios
- Reimbursement
- Market Assess
- Health economics
- Operational Assessment
- Commercialization
- Emerging Markets
- Supply Chain
# Transferable Skills for Specific Roles

<table>
<thead>
<tr>
<th>Role</th>
<th>Required Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and development</td>
<td>strong scientific foundation, adaptability, working cross functionally, commercial focus</td>
</tr>
<tr>
<td>Business development</td>
<td>scientific knowledge, commercial perspective, financial skills, networking</td>
</tr>
<tr>
<td>Marketing</td>
<td>writing, creative skills, branding insight/experience, communication</td>
</tr>
<tr>
<td>Product/project management</td>
<td>organization, working with various people, detail oriented, strong communication skills</td>
</tr>
<tr>
<td>Strategy consulting</td>
<td>analytical and logic, scientific knowledge, presenting, evaluating trends, larger picture view, networking</td>
</tr>
<tr>
<td>Medical Affairs, Clinical Research</td>
<td>Disease relevance, strong scientific foundation, regulatory/clinical knowledge</td>
</tr>
</tbody>
</table>
# How to Build Skills

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and development</td>
<td>Translational research, drug discovery / development course, intern with startup, write patents, business plans</td>
</tr>
<tr>
<td>Business development</td>
<td>Tech Transfer Internships, Intern at Startup, Business Development Plans, Business Course(s)</td>
</tr>
<tr>
<td>Marketing</td>
<td>Write Blogs, Social Media, programs i.e. Illustrator, take courses, design flyers, i.e. networking groups</td>
</tr>
<tr>
<td>Product/project management</td>
<td>Organize/Lead collaborations or activities, work with people of different backgrounds, gain “big picture”, manage budgets, Gantt charts,</td>
</tr>
<tr>
<td>Strategy consulting</td>
<td>Consulting club, case competitions, business courses, leadership roles in organizations, tech transfer internships</td>
</tr>
<tr>
<td>Medical Affairs, Clinical Research</td>
<td>Translational disease research, clinical research, IRB’s, regulatory / clinical courses</td>
</tr>
</tbody>
</table>

Making Connections that Fuel Innovation!

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Networking

Making Connections that Fuel Innovation!
State Organizations

MassBio
Massachusetts Biotechnology Council

www.massbio.org

MassLIFE
Massachusetts Life Sciences Center

www.masslifesciences.com

MassMEDIC
Massachusetts Medical Device Industry Council

www.massmedic.com

NECEC
New England Clean Energy Council

www.cleanenergyconcept.org

Making Connections that Fuel Innovation!
Connections Through Organizations

- **Local Networking Groups**
  - i.e. AWIS, WEST, HBA, AAPS, AACR

- **National Organizations**
  - Biotechnology Industry Association (Bio)

- **Industry Associations**
  - i.e. Drug Information Association (DIA), American Association of Pharmaceutical Scientists (AAPS), American Institute of Chemical Engineers (AIChE)

- **Sector Specific**
  - i.e. Oncology focused, Medical Device focused, Drug Metabolism Focused, etc
Making Connections that Fuel Innovation!

Women’s Networking Groups Include

- [WIB](http://womeninbio.org/)
- [WEST](http://www.westorg.org/)
- [AWIS](http://www.awis.org/)
- [HBA](http://www.hbanet.org/)

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Connections with Smaller Companies

**Incubators/Incubator Spaces**

- MassChallenge: [http://www.masschallenge.org](http://www.masschallenge.org)
- North Shore Technology Council: [www.nstc.org](http://www.nstc.org)
- Cambridge Innovation Center: [www.cictr.com](http://www.cictr.com)
- HealthBox
Networking through News Sources

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International Consulates for Networking

- > 40 International Consulates in Boston
- Tremendous Networking Opportunities
- Utilize Language and Cultural Skills
- Many with active Life Sciences Engagement
  - Swiss, French, and UK most active
Monday, October 28th 2013
6th PIB Biomedical Series Event: Policies on Biomedical Research, Italian and American Models

Event Organizer: Professionisti Italiani a Boston and the Consulate General of Italy in Boston
Location: American Academy of Arts and Sciences, Cambridge MA
Time: 6:00pm-9:00pm
For more information: http://www.piboston.org/

Previous events

Swiss Life Sciences Night 2013: Career opportunities in

June 2013 at MIT – Chilean Scientists Meeting

Making Connections that Fuel Innovation!
2013 Futures in Life Science Events

- **Life Sciences Overview of Career Paths:** Jan 15, 2013
- **Consulting Career Paths:** Feb 19, 2013
- **Commercialization 1** - (Marketing, Product Management, Business Development): March 19, 2013
- **Research and Development:** April 16, 2013
- **Clinical Development, Regulatory, Medical Affairs:** May 21, 2013
- **Bio-Informatics, Modeling, Systems Biology:** Sept 17, 2013
- **Finance, Legal, Operations:** Nov 12, 2013
Networking with Non-profits

**STRENGTH, SCIENCE & STORIES OF INSPIRATION**

**Benefit Event – September 14, 2013**
Join a new generation’s fight against neuromuscular disease!

**9th Annual ALS TDI Leadership Summit**
Thursday, October 3, 2013 @ The Westin Copley Place Hotel
The latest science, the PALS’ perspective, and advice from the world’s most accomplished pharma, biotech, and venture leaders for the ALS community.

- View the Awards
- View the Presentations

Making Connections that Fuel Innovation!
Additional Networking Opportunities

- Scientific Conferences
- Law Firms
- Finance Firms
- Consulting Firms
- Realty Firms
- Etc

Making connections happens in many ways

Be creative – your career will benefit from this.
Branding Yourself
Elevator Pitches
I am a (postdoc) at (Harvard) focusing on (prostate cancer research). I will be finishing in (6 months) and looking for a (research role) in a (entrepreneurial firm) in (Boston).
Three Levels of Elevator Pitches

- **The overview pitch** – networking events, cocktail hours, people who don’t know much about your area

- **The deeper dive** – meant for someone who knows a little about your area

- **The really deep dive** – meant for someone who knows your specific area
Resumes - a Few Points to Consider...

- Resumes tell a story
- **Customize each resume for each job application**
- Make it easy to read
- Pay attention to formatting
  - Bullet points, fonts, size, ease of reading, etc
- Put your **first and last name** in resume file name
- Two pages are okay, if you have enough experience
- Include email address and phone # in your resume
- Academic CVs are different from industry resumes
A Few More Points to Consider...

• If you want to do Research
  • Highlight research experiences, skills, techniques
  • **Research Techniques Section in Resume**

• If you want to do non-research
  • Highlight teaching, presentation, organizational, volunteer, team work, mentorship experiences

• Industry values skills such as
  • Communication, team work, organizational skills
FIRST, LAST, Ph.D.

Professor: Course for subject area in genetics
  • Course 1
  • Course 2

Research:
Specialist in research area focusing on neurobiology
Expert in animal models of disease states
Extensive knowledge in research area with ≥20 peer-reviewed publications

Professional Experience
2010- Present
Harvard School of Medicine, Boston, MA
Instructor and Course Director for Graduate Classes

2004–2009
Harvard School of Medicine, Boston, MA
Postdoctoral Research Associate at the Department of NeuroBiology

1999-2003
University of Pennsylvania, Philadelphia PA
Research Fellow

1995-1998
University of Pennsylvania, Philadelphia PA
Research Assistant

Education
2003 Ph.D. in NeuroBiology, University of Pennsylvania
1995 BA in Molecular Biology, UCSD, CA

Awards
2006-2007 Exploratory research grant XXXXXXX from NIH
2004-2006 Postdoctoral Research Fellowship Award
FIRST LAST, Ph.D.  
ADDRESS, CITY, STATE, ZIP  
Phone, EMAIL: Name@hotmail.com

SUMMARY OF QUALIFICATIONS
- Experienced scientist with focus on neurobiology and signaling pathways involved in development.
- Skilled in gathering, analyzing and synthesizing data and developing testing of new hypotheses.
- Excellent writing, verbal communication and presentation skills.
- Experienced in scheduling, budgeting and leading projects for nonprofit organizations.
- Demonstrated ability in writing successful grants, teaching materials and engagement proposals.

PROFESSIONAL EXPERIENCE

Harvard School of Medicine, Boston, MA  
Instructor  
2010- Present
- Directing Research Seminar focusing in Developmental Neurobiology.
- Developing the content (lectures and case studies) for the coursework.
- Taught two courses each semester, 25 graduate students per course.

Harvard School of Medicine, Boston, MA  
Postdoctoral Research Associate, Department of Neurobiology  
2004 – 2009
- Published the first report on the involvement of novel receptor to neural development and growth.
- Unveiled the molecular mechanism utilizing XX research areas.
- Reported on novel receptor for its functional implications for conditional gene inactivation.
- Demonstrated the involvement of this receptor in a specific disease state.
- Presented research at the annual NSF conference.
- Experienced in other research areas such as XX, XX, and XX.

University of Pennsylvania, Philadelphia, PA  
Research Fellow  
1999-2003
- Investigated mechanisms of intracellular signaling pathways of growth factors.
- Conducted cloning and biochemical characterization of proteins involved in neural development.
- Performed assays including XX, XX, and XX.
- Established a mammalian/insect cell-based transient and stable cell line for protein expression, purification and protein interaction studies.

SCIENTIFIC ACCOMPLISHMENTS
- Demonstrated the role of novel receptor in neural development.
- Unveiled the mechanism by which the receptor is controlled.
- Developed an animal model to evaluate efficacy.

PRESENTATIONS
- NSF conference, “Novel Receptor and its Importance”  
- Keystone Research Conference oral presentation

EDUCATION

University of Pennsylvania, Philadelphia, PA  
Ph.D. in Neurobiology  
2003
Using LinkedIn

- >30% of jobs are filled using LinkedIn
- This is not just for filling jobs...
  - Networking event follow-up
  - Informational Interviews
  - Keeping in touch
  - Searching for types of roles / companies to gain insight
Your Brand Matters

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Build out Your Profile

Lauren Celano
Co-Founder and CEO, Propel Careers
Greater Boston Area | Biotechnology

Lauren Celano’s Summary
Successful business development professional with a proven track record of establishing strong relationships, growing existing client relationships, and managing complex projects. Diverse knowledge of drug discovery and development areas and experience with small and large molecule development programs.

Lauren Celano’s Experience
Founder and CEO
Propel Careers
Pharmaceuticals & Biotechnology | April 2010 – Present (2 years 2 months)

Propel Careers is a recruitment firm focused on delivering a wide array of placement and career development services in the life sciences sector. Whether you are an undergraduate or graduate student, a recent graduate, or experienced professional, Propel’s resources and network can be an asset to your career growth. The Propel website (www.propelcareers.com) contains information on how we can assist you with:

- Recruiting services for full-time positions with leading life sciences companies
- Securing a job-based opportunity or internship in the life sciences sector
- Identifying a seasoned professional who can serve as a mentor
- Career counseling and resume review
- Networking

Please contact me at Lauren@propelcareers.com with any questions about how we might be able to help you.

Experience

Associate Director - Global Marketing

Public Company | Biotechnology industry
May 2008 – Present (3 years 1 month)

Product Manager - Oncology

Public Company | 10,001+ employees | Pharmaceuticals industry
January 2007 – May 2008 (1 year 5 months)

Cardiovascular specialty sales

Public Company | Pharmaceuticals industry
September 2003 – January 2007 (3 years 5 months)

Sales representative for cardiovascular portfolio at covering the Washington, DC territory.

Senior Account Executive

Public Company | Marketing and Advertising industry
August 2001 – July 2003 (2 years)

Managed marketing and advertising for pharma and biotech clients in Oncology.
I want/ can do everything

Actually, maybe there are some Jobs that I am better suited for than others

I know exactly what I want to do

When you are here, you should apply
### Job Search Checklist

- **Outline what you want in a job**

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<thead>
<tr>
<th>Item</th>
<th>Must Have</th>
<th>Nice to Have</th>
<th>Definitely No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
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<tr>
<td>Requirements</td>
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<tr>
<td>Responsibilities</td>
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<tr>
<td>Size of company</td>
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<td>Salary</td>
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<tr>
<td>Culture</td>
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<td>Management style</td>
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<tr>
<td>Etc...</td>
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</tbody>
</table>
### Job Search Tips – Companies to Apply to

<table>
<thead>
<tr>
<th>Company Interested in</th>
<th>Companies that are a fit</th>
<th>Companies applied to</th>
<th>Status</th>
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<tbody>
<tr>
<td>X</td>
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Informational Interviewing: How to find the right opportunity

Definition: An informational interview is an interview conducted to collect information about a job, career field, industry or company.

An informational interview is not a job interview.
Informational Interviewing

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Particular Job

Company

Career Progression

Career Entry

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What to ask about

- Particular Job
  - Responsibilities
  - Day to Day
  - Like
  - Dislike
  - Growth potential
  - Skills needed

- Company
  - Culture
  - Work Environment
  - Management Style
  - Growth Potential
  - Personality Fit
  - Skills needed
  - Skills valued

- Career Progression
  - Growth Opportunities
  - Career Path
  - Skills to Develop

- Career Entry
  - How to get in a role
  - Networking
  - Experience required
  - Skills needed
  - Skills one can learn
  - Best way to enter field
Prepare for Informational Interviews

Email the person you will be speaking with an idea of what you are looking for and questions ahead of time.

I am looking to learn more about:

- What your role is like, day to day
- What skills are needed to be successful (so that I can build these)
- What you like best about your role
- What you would change
- What is a typical career path
- What is your company culture
Small Company

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Small Company

- Research
- Training Scientists
- Grants
- Managing Collaboration
- Interact with Vendors
- Fix machines
- Write SOP’s
- Prepare presentations for Business Group
- Etc...

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Large Company
What Organizations Look For

- Passion and interest in the company/role
- Relevant skills
- Team work, organizational, analytical skills
- Excellent Interpersonal skills
- A personal connection to the company/people in the company, is huge
Propel Careers

Propel Careers is a life science search and leadership development firm that specializes in connecting innovative, entrepreneurial companies and like-minded professionals in a more efficient and personal manner.

www.propelcareers.com
Contact Details

Lauren Celano
Founder and CEO
Propel Careers
cell: 215-370-2285
email: Lauren@propelcareers.com

Blog: http://www.propelcareers.com/blog/
Twitter: http://twitter.com/Propel_Careers
Facebook: Propel Careers
Linked in: Propel Careers

Fueling Innovation. Fostering Leaders.

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