New Year – New Career

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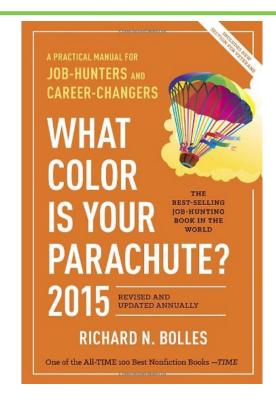
Outline

- Self Awareness
- Overview of Careers
- Building Skills for Career Success
- How to identify organizations
- How to identify relevant roles
- Networking to learn about career paths
- Tips to accelerate your search
- What companies look for when evaluating talent

Where to Start?

A few questions to ask yourself:

- What do you like?
- What are you passionate about?
- What are you good at?
- What do your peers/teachers think you are good at?
- What motivates you?
- What culture do you want to be in?
- What location do you want to be in?



Answers to these questions will narrow down your focus areas as you think about your career



Develop your Job Search Checklist

Item	Must Have	Nice to Have	Definitely No

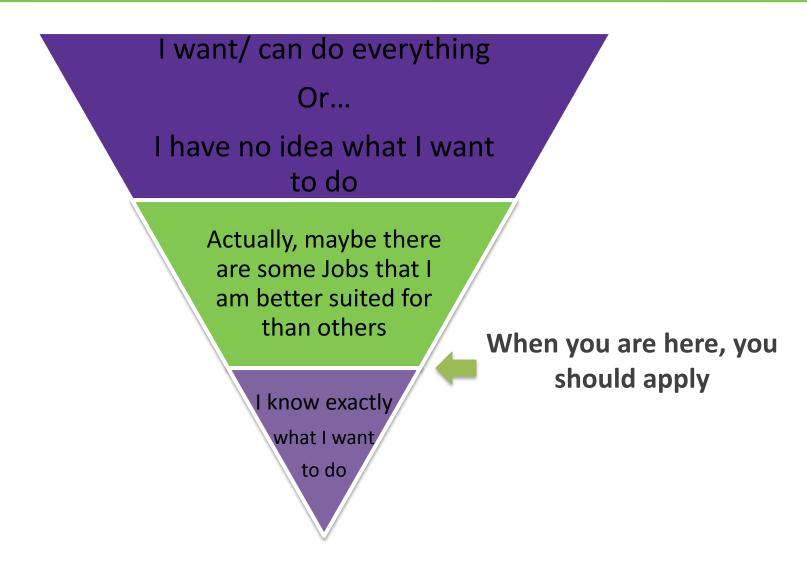


Develop your Job Search Checklist

- Outline what you want in a job
 - **✓** Location
 - **☑** Requirements
 - **☑** Responsibilities
 - ✓ Size of company
 - ✓ Salary
 - ✓ Culture
 - ✓ Management style
 - **☑** Etc...

Item	Must Have	Nice to Have	Definitely No

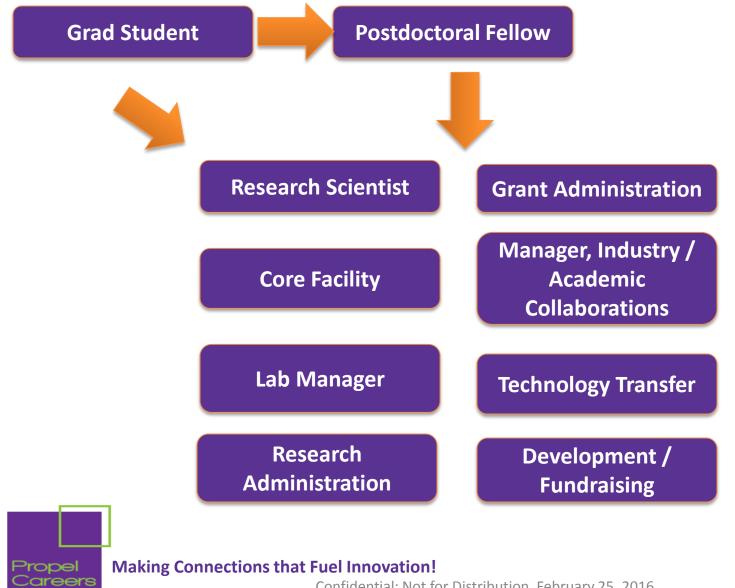
Job Searching: The Funnel Effect



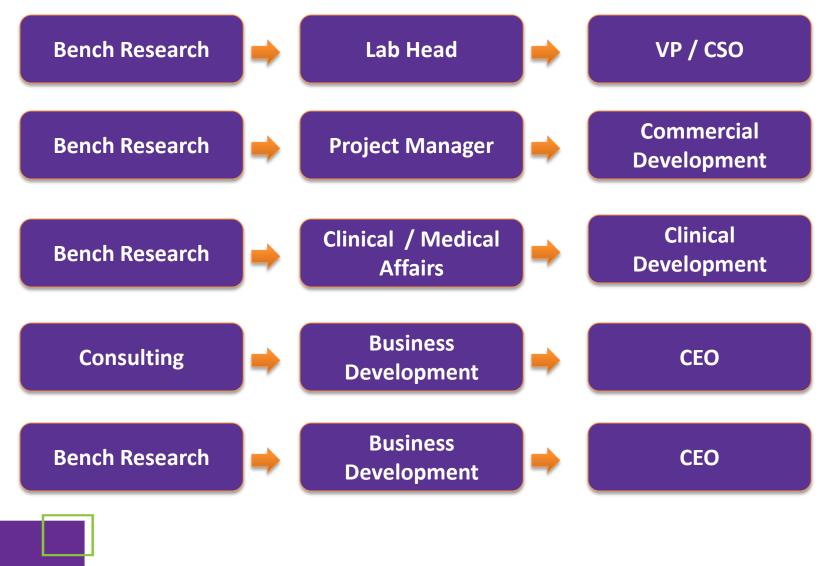
Various Career Paths



A Few Academic Career Paths



A Few Industry Career Paths



Additional Roles

Consulting

- Scientific Evaluation
- Strategic Analysis
- Competitive Landscape
- M&A Analysis
- Financial Valuation
- Partnership Strategy
- Intellectual Property
- Sales Strategy
- Marketing Strategy
- Grant Writing

- Pharmacoeconomics
- Pricing Scenarios
- Reimbursement
- Market Assess
- Health economics
- Operations
- Commercialization
- Emerging Markets
- Supply Chain
- Communications

Patent Law

- Technical Specialist
- Patent Analyst (licensed patent agent) (future)

Editor / Writing

Venture Capital /
Investment
Banking

Analyst



Non-Profit Organizations – such as...





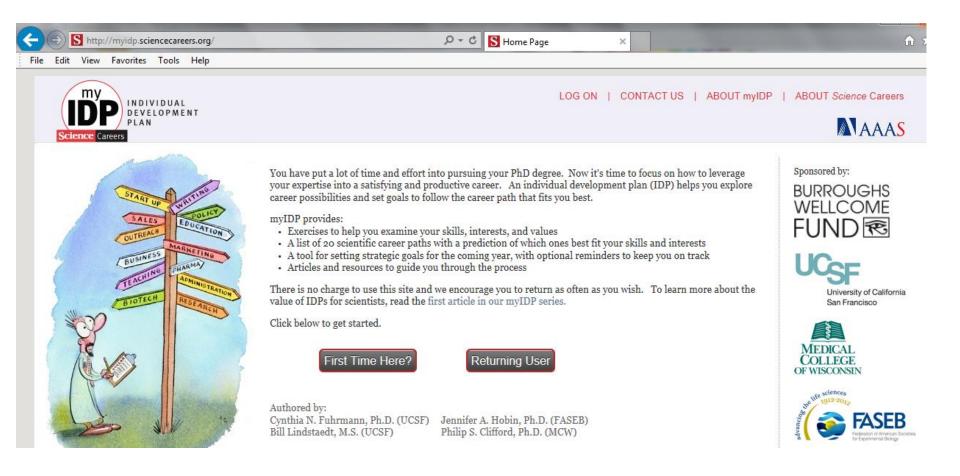




- Research Roles
- Alliance / Project / Program Management Roles
- Grant Administration / Evaluation
- Patient Advocacy Roles
- Licensing / Partnership Roles



My IDP - http://myidp.sciencecareers.org/





20 Different Career Paths

Principal investigator in a research-intensive institution:

Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities

Research in industry:

Discovery or preclinical researcher; manager of a research team or facility

Research staff in a research-intensive institution:

Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution

Combined research and teaching careers:

Faculty at a liberal arts college or university whose job includes both research and major teaching responsibilities

Teaching-intensive careers in academia:

A primarily teaching faculty position in a research university, liberal arts college, community college

Science education for K-12 schools:

Classroom teacher; curriculum developer; science specialist

Science education for non-scientists:

Education or public outreach specialist such as at a science museum or scientific society

Clinical practice:

Clinician such as genetics counselor, therapist, physician

Public health related careers:

Public health program analyst or evaluator; epidemiologist; biostatistician; medical informaticist

Drug/device approval and production:

Regulatory affairs professional; quality control specialist

Scientific/medical testing:

Testing specialist in an environmental, public health, genetics, or forensic science setting (intelligence agencies, federal/state departments of justice); clinical diagnostician

Science writing:

Science, medical, or technical writer or journalist; science editor; science publisher

Research administration:

Research administrator in private or public research institutions, government or academia, including compliance officers, grants and contracts officers; dean or director of research programs

Science policy:

Public affairs/government affairs staff at scientific societies, foundations, government entities, or think tanks

Intellectual property:

Patent agent; patent attorney; technology transfer specialist

Business of science:

Management consultant; business development professional in a biotech company; venture capitalist; market researcher; investment analyst

Entrepreneurship:

Starting your own business

Sales and marketing of science-related products:

Medical science liaison; technical sales representative; marketing specialist

Support of science-related products:

Technical support specialist; field application specialist; product development scientist or engineer

Clinical research management:

Clinical research project/trials manager or coordinator



Compare Skills Match to People in the Role

Career Path	Skills Match	Interests Match
Science education for non-scientists: Education or public outreach specialist such as at a science museum or scientific society	<u>79</u> %	<u>82%</u>
Sales and marketing of science-related products: Medical science liaison; technical sales representative; marketing specialist	82%	<u>80%</u>
Science policy: Public affairs/government affairs staff at scientific societies, foundations, government entities, or think tanks	<u>79%</u>	<u>80%</u>
Intellectual property: Patent agent; patent attorney; technology transfer specialist	77%	<u>76%</u>
Business of science: Management consultant; business development professional in a biotech company; venture capitalist; market researcher; investment analyst	<u>74%</u>	<u>78%</u>

Scientific Knowledge Broad based knowledge of science Deep knowledge of my specific research area Critical evaluation of scientific literature your rating 4 4.64 Critical evaluation of scientific literature



Important Considerations to Keep in Mind



Variety of Career Paths - Postdocs

Academic

- Research fellowship
 - Medical Institution
 - Research Institution
 - Non-profit
 - NIH
- Policy Fellowship
 - i.e. AAAS
- Mass Media Fellowships
 - i.e. AAAS

Industry

- Research Postdoctoral fellowships
- Non Research Postdoctoral Fellowships
 - Regulatory
 - Medical affairs
 - Quality



Choosing an Academic Track Post-Doc

- Choose a post-doc at:
 - a highly respected Institution
 - a highly respected lab, "pedigree" will get you interviews!
- Change your research focus (i.e. Ph.D. in *Drosophila* genetics sleep research), Post-doc:
 - Same behavior, new organism (<u>human</u> sleep research)
 - Same organism, new behavior (ie. *Drosophila* memory)
 - Same organism/behavior, new approach (Drosophila sleep electrophysiology)
- To move to industry, choose a post-doc lab that will:
 - Expose you to a disease-relevant field
 - Train you in industry-relevant techniques
 - Allow you to initiate collaborations with industry partners



Choosing a Post-Doc Within Industry

- Find a company that has a successful research program
- Be open to doing research that may not be your "expertise"
- Choose a lab doing research that you are passionate about
- Prepare ahead of time in graduate school by learning industry relevant techniques
- You often will need to propose a research plan to be considered for a postdoc in industry



Post-Doc's

Postdocs can open up many doors for your career

 If you plan to be an academic lab head, or head of a research group in industry or a non-profit, a productive postdoc is necessary



Research Career Paths

- Many organizations have different career tracks:
 - Management track
 - Do research in an org → 3-5 years later Manage people, projects, teams, etc
 - Research track
 - Strong bench researchers are invaluable. If you like research, you can have a fulfilling career at the bench



How to Identify the Right Career Path



Fit Matters



VS



Job Search Checklist

- Outline what you want in a job
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 - **☑** Etc...

Item	Must Have	Nice to Have	Definitely No

Articulate What you Want

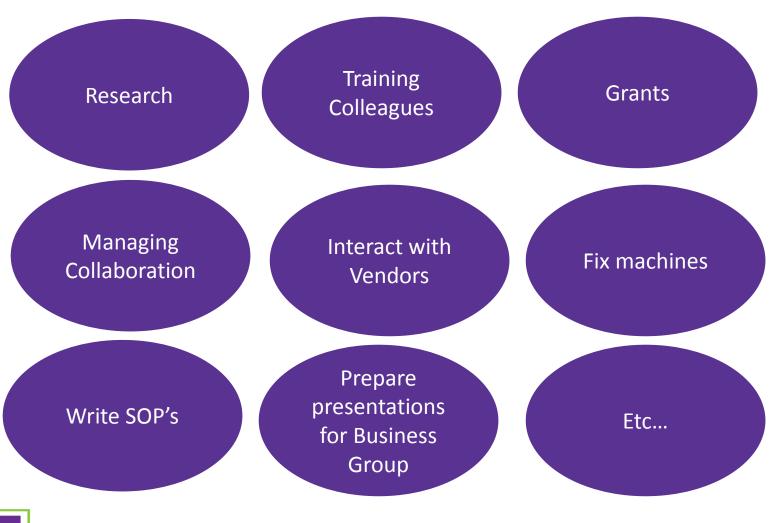
- Reflecting on these helps you articulate what you want
 - ✓ Location i.e. I am looking for a role that is <u>non-car</u> accessible
 - ☑ Requirements i.e. I am looking for a heavy research role
 - ☑ Responsibilities i.e. I am looking for a role where I manage
 - ✓ Size of company i.e. I am looking to work in a startup
 - ✓ Salary i.e. I am looking for a salary in the \$80-90K range
 - ☑ Culture i.e. I am looking for a <u>team based</u> culture
 - ✓ Management style i.e. I am not looking for a micromanaging
 - <u>environment</u>
 - **✓** Etc...



Are you a fit for a Small Organization?



Small Organization





How about a Large Organization?





Your Training has Taught you many skills ... which do you want to use?

- Excellent Scientific Foundation!
- Data analysis skills
- Ability to synthesize information/learn new areas
- Ability to ask questions
- Writing ability abstracts, papers, grants
- Work ethic and drive
- Work independently and be accountable

- Exposure to Clinical Research
- Disease Knowledge
- Management of the Lab
- Training of People
- Grant Writing
- Interacting with Collaborators
- Finding Collaborators
- Starting new Groups / Initiatives
- Presenting
- Developing new processes
- etc



How to Identify Organizations



Identifying Organizations – Search...

- Conferences
 - Exhibitors
 - Sponsors
 - Presenters
 - Poster Sessions
 - Conference Career Fairs



Conferences provide a wealth of Information





Exhibit Hall Information: a wealth of details





October 17-21 | Chicago

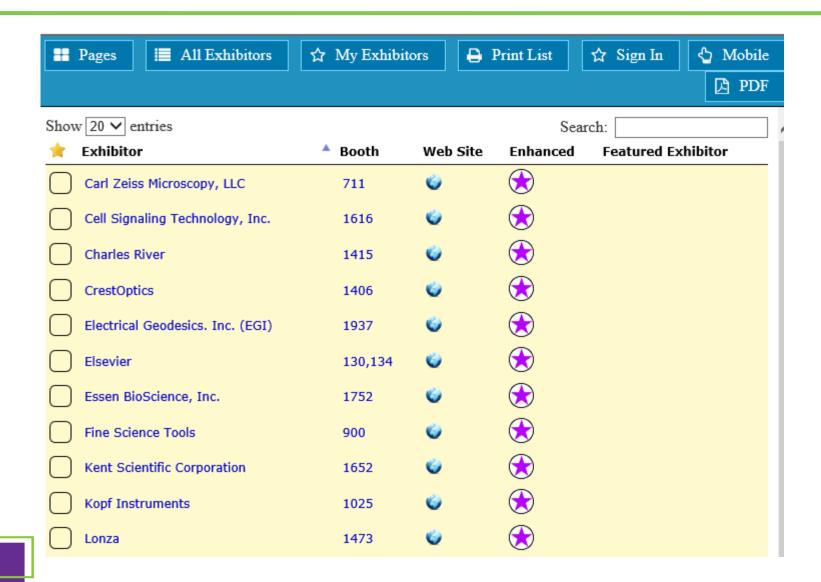
Exhibit Hall

See a list of Neuroscience 2015 exhibitors. My Neuroscience Marketplace (MNMP) is a virtual directory of Neuroscience 2015 vendors. Use the marketplace to:

- Search companies specializing in neuroscience products before, during, and after the annual meeting
- · Use 3D push pins as visual cues for return MNMP visits
- Browse by alphabetical or category listing and search by product, company description, keyword, exhibitor name, and booth number



SfN Exhibitor List

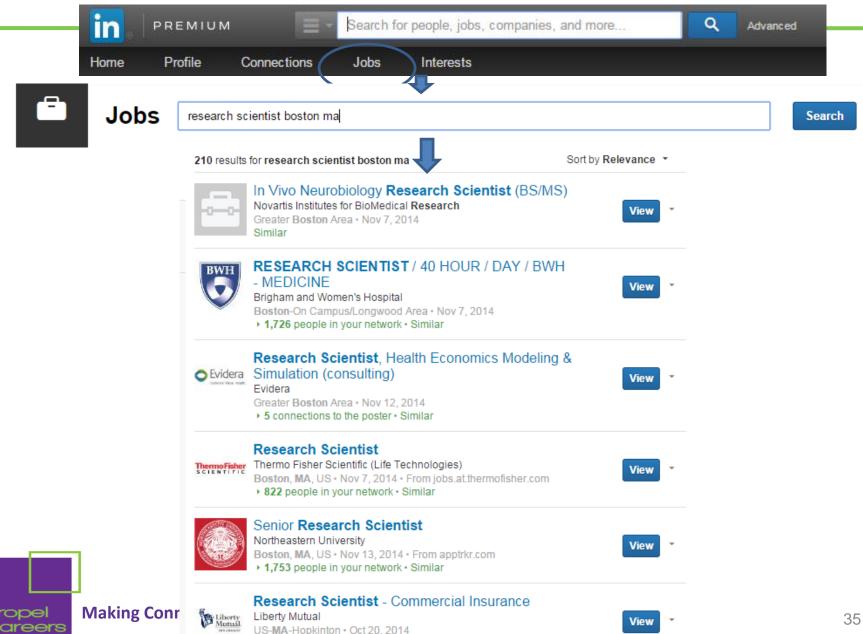


Identifying Organizations – Search...

- Papers (Science, Nature, Cell, etc)
- Patents
- Grants
- Personal Connections



LinkedIn Job Search



1.503 people in your network • Similar

Organizations may have a career page

mww.wibcareercenter.com













Welcome to Women In Bio's Career Center

We are dedicated to helping you find your next career in all professions in the life sciences industry.

Create your professional profile or import your LinkedIn® information to apply for jobs, create personalized

Job Alerts, and connect with recruiters.

Get Started Today!

Become a WIB Member



Women In Bio (WIB) was established in 2002 to help women entrepreneurs and executives in the Baltimore-Washington-Northern Virginia area build successful bioscience-related businesses. WIB includes women from all sectors of the bioscience industry, including executives, scientists, academics and professionals. Chapters are opening across North America in all the key biotech hubs, as the organization continues to attract energetic and engaged women to join as members and volunteers.

For Employers

Are you seeking to support women in the life sciences, as well as market your company to life science leaders? See our posting prices and learn how we can help you create a strong employer brand with WIB.

Learn More »

Post Jobs | Get your job in front of hundreds of WIB members.

Analytics | Receive real-time performance metrics on your job posting.



36

Job Boards can be useful



what where

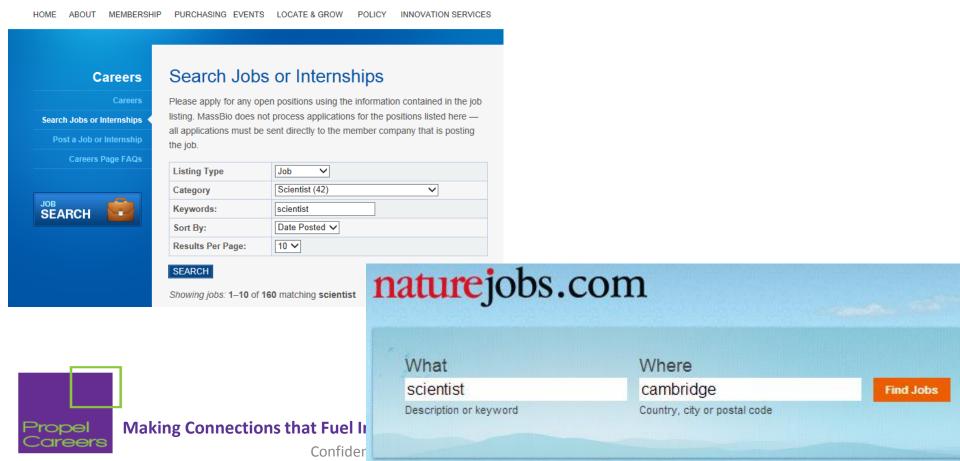
research scientist

cambridge, MA

Find Jobs

job title, keywords or company name city, state or zip code

Advanced Job Search



Identifying Smaller Organizations

Incubators/Incubator Spaces

- MassChallenge: http://www.masschallenge.org
- Tech Stars: http://www.techstars.org/
- Dog Patch Labs: http://dogpatchlabs.com/
- North Shore Technology Council www.nstc.org
- Cambridge Innovation Center: www.cictr.com
- Lab Central: http://labcentral.org/
- HealthBox



Financing Organizations Provide a Wealth of Information

Venture Capital Organizations Including:

















Corporate Venture Funds Including:









Identifying International Companies - Consulates

- Business development people at Consulates are connectors
- They may know which companies (from their country) are hiring locally or hiring in their home country. In Boston, >30 consulates.

Most active are:

- Swiss
- Canadian
- UK
- French

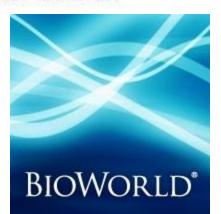


Read Industry News

FierceBiotech

THE BIOTECH INDUSTRY'S DAILY MONITOR

naturejobs.com











World Preview 2013, Outlook to 2018 **The Future of Medtech**

EvaluateMedTech*



Make a List of Organizations to Apply to

Organizations Interested in	Organizations that are a fit	Organizations applied to	Status
X	X	X	
X	X	X	
X	X		
X	X		
X			
X			
X			



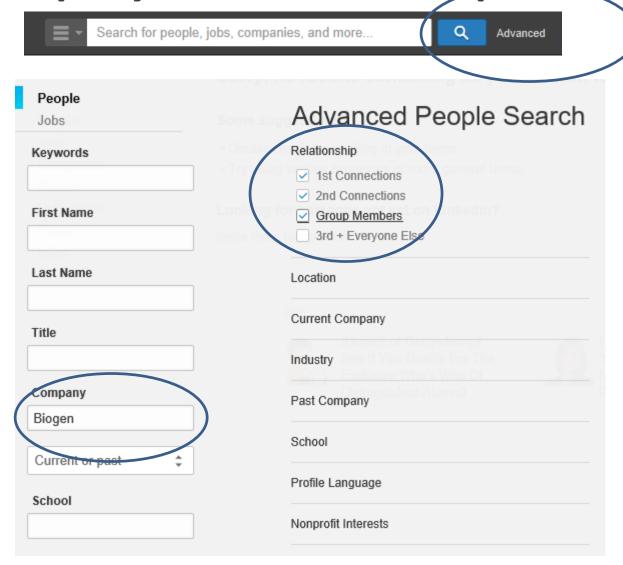
Make a List of Organizations to Apply to

- Use this list...
 - to search LinkedIn
 - to identify posters to view at an upcoming industry meeting
 - to let your close contacts know about which companies you are interested in
 - to search events to see if people from these companies are speaking
 - etc

Company Interested in	Companies that are a fit	Companies applied to	Status
X	X	X	
Х	X	Х	
Х	Х		
Х	Х		
Х			
Х			
Х			



Use LinkedIn Advanced Search to Identify People you know at Companies



When talking to your contacts

- Don't be afraid to tell them what you are thinking about, i.e.
- I am interested to work at a company like (Google or Pfizer), do you know of other companies similar to them, that I can add to my target list?

 Your contacts may be able to provide other company names because you were specific.

If you are not sure about company names

- Don't be afraid to tell them what you are thinking about, i.e.
- I am interested to work at a <u>(startup company doing novel drug delivery for oncology</u>), do you know of any companies that I should look into?

 Your contacts may be able to provide other company names because you were specific.



How to Identify Relevant Roles



Thoroughly Read Job Qualifications

When reading through a job description, look at the qualifications. Compare with your background.

Qualifications

- The candidate must have a Ph. D. in Molecular Biology, Biochemistry, or a closely related field, preferably with oncology/immunology experience.
- Hands-on experience with molecular biology (including recombinant DNA construction, RNA quantification using RT-PCR, transfection, western blotting techniques, etc) and cell biology (such as maintenance of variety of cell lines).
- Experience with protein purification, enzymatic characterization and inhibition assays desirable.
- Excellent written and oral communication skills.
- He or she should be highly motivated, productive and team oriented with demonstrated ability to work independently and to solve problems as they arise.



Reading Job Descriptions

- 3 years of experience vs. 3 years of industry experience
- Required vs. preferred
- Typically first few bullet points are most critical

Tips

- If you are a "stretch" explain why you are applying in your cover letter
- Companies want to know that you read the job description



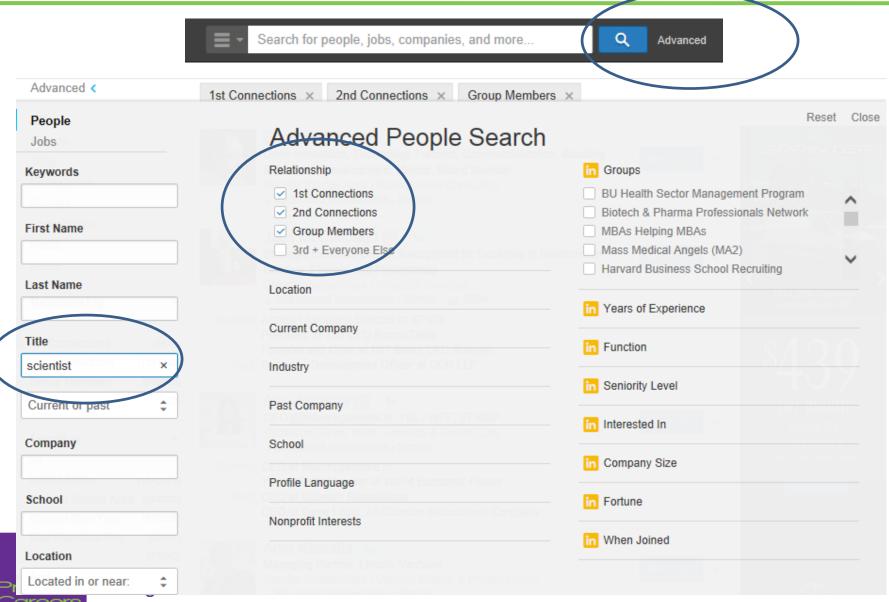
Which title is relevant to you?

When reading through job descriptions and talking with people, make a list of relevant job titles

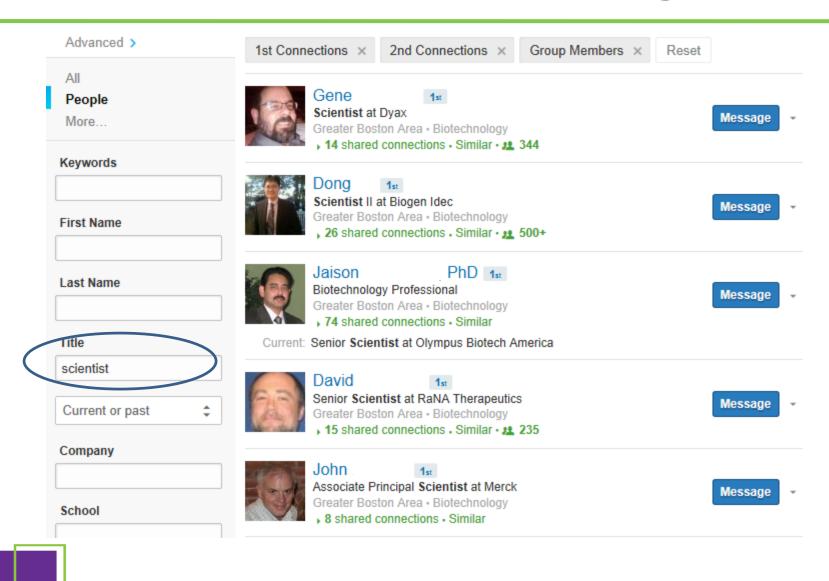
- i.e. Research Roles (these may all mean the same thing)
 - Scientist
 - Sr. Scientist
 - Investigator
 - Manager
 - Research Scientist



LinkedIn for Title Searches



Look at Profiles to View Backgrounds



Compare Profiles to your Background

- Look at titles in different companies
 - Where do you fit?
- How do people in "your desired role" describe their experiences/skills
- Do you need to build skills/experiences?
- Are you over or under qualified?
- Use LinkedIn connections for Informational Interviewing!!!



Use the job titles to search for roles

what



where

MassBio research scientist Cambridge, MA Find Jobs city, state or zip code job title, keywords or company name Advanced Job Search PURCHASING EVENTS LOCATE & GROW POLICY INNOVATION SERVICES Search Jobs or Internships Careers Please apply for any open positions using the information contained in the job listing. MassBio does not process applications for the positions listed here — Search Jobs or Internships all applications must be sent directly to the member company that is posting the job. V **Listing Type** Job Category Scientist (42) SEARCH Keywords: scientist Date Posted V Sort By: 10 🗸 Results Per Page: SEARCH naturejobs.com Showing jobs: 1-10 of 160 matching scientist What Where scientist cambridge **Find Jobs** Description or keyword Country, city or postal code **Making Connections that Fuel I**

Confider

Utilize 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.

It is **not a job interview**. Rather, it's an interview with an individual working in a career you would like to learn more about.





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

- GrowthOpportunities
- 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



Networking to Learn about Career Paths



State Organizations



www.massbio.org



www.massmedic.com



www.masslifesciences.com



www.cleanenergycouncil.org



Women's Networking Groups Include





http://www.awis.org/

http://www.westorg.org/





http://womeninbio.org/

http://www.hbanet.org/



http://gwis.org/



Professional Associations

- Regulatory Affairs Professional Society
- Association of Clinical Research Professionals
- Medical Writers Association
- Drug Metabolism Discussion Group
- Mass Spectrometry Discussion Group
- Boston Area Pharmaceutical Toxicology Group
- Boston Chapter of Disease Associations i.e. AACR
- Boston Area Systems and Synthetic Biology Association http://bassbiology.org/



University / Local Chapters



http://www.aiche.org/community/students/chapters/find



Institute of Electrical and Electronics Engineers http://www.ieee.org/index.html



American Society of Mechanical Engineers https://www.asme.org/



Connect with "Relevant" People

- Join an industry organization, relevant to your interests
 - i.e. <u>Medical Writers Association</u> (if you want to be a medical writer)
- Join a committee in the organization. Become involved!
 - Membership
 - Outreach
 - Programming
 - Finance
 - Etc



Tips to Accelerate your Search



Accelerate your Search

- Set goals: i.e.
 - Learn about 5 organizations a week
 - Attend an industry relevant networking event once a quarter
 - Informational interview with 4 people a month
- Sign up for an industry relevant newsletter(s)
- Develop / refine your Resume
- Develop / refine your LinkedIn Profile



Don't be too Technical ...

I am a <u>(postdoctoral fellow)</u> at <u>(Boston University)</u> studying <u>(the role of different cell types in VNH with emphasis on key proteins such as VEGF-A, miRNA-21 and IEX-1)</u> to understand <u>(disease progression)</u>. I will be finishing up in <u>(6 months)</u> and looking for a <u>(research role)</u> in a <u>(smaller biotech)</u> in the <u>(NYC or Boston area)</u>.



Rephrased...

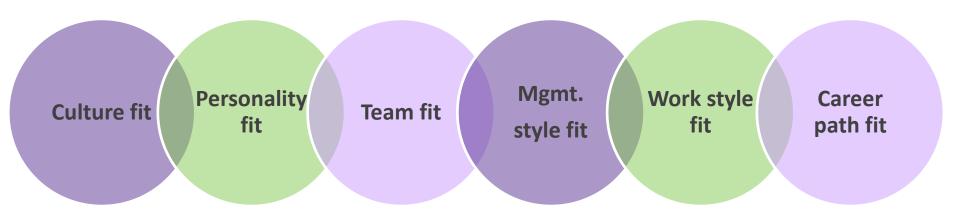
I am a (postdoctoral fellow) at (Boston University) studying (chronic kidney disease and the role of key proteins in an oxygendeprived environment) the findings may help understand (disease progression). I will be finishing up in (6 months) and looking for a (research role) in a (smaller biotech) in the (NYC or Boston area).



What Organizations Look for When Evaluating Talent



HR cares about "Softer Side"





HR want to see ... Focus



Do not apply for many different jobs at the same time



Organizations Value Teamwork

- Work on a multidisciplinary project with people outside of your expertise
- Work together with your lab mates to solve a problem
- Work on an external collaboration (academic, industry, or non-profit)
- Be active in a group, such as the postdoc association, an academic committee or industry association



Organizations Values Leadership in Academia

- Lead / initiate collaborations with academic labs / industry partners / non-profits
- Lead / contribute to grant writing opportunities
- Lead reporting activities for annual report process for grants
- Train students, interns, lab members in techniques; Mentor
- Improve processes and efficiency
- Set up new techniques, write protocols
- Give tours of your lab; Become a spokesperson for your lab
- Provide scientific input for non-profits



Skills for Academic Success can also apply to Industry

- Publications and Presentations
- Thought Leadership (e.g.)
 - Peer Reviewing
 - Chairing conferences
 - Advisory Roles
- Grants Navigation / external funding
- Involvement in the University
 - IRB, IACUC, etc
 - Admissions committees
 - Departmental initiatives
- Collaborations
- Teaching
- Mentoring

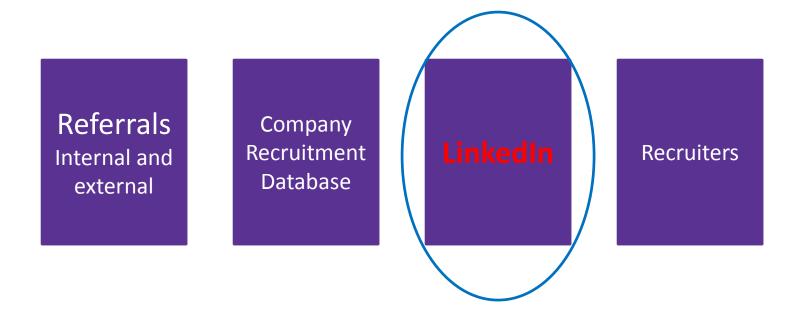
Additional Skills Gained in Academic relevant to Industry

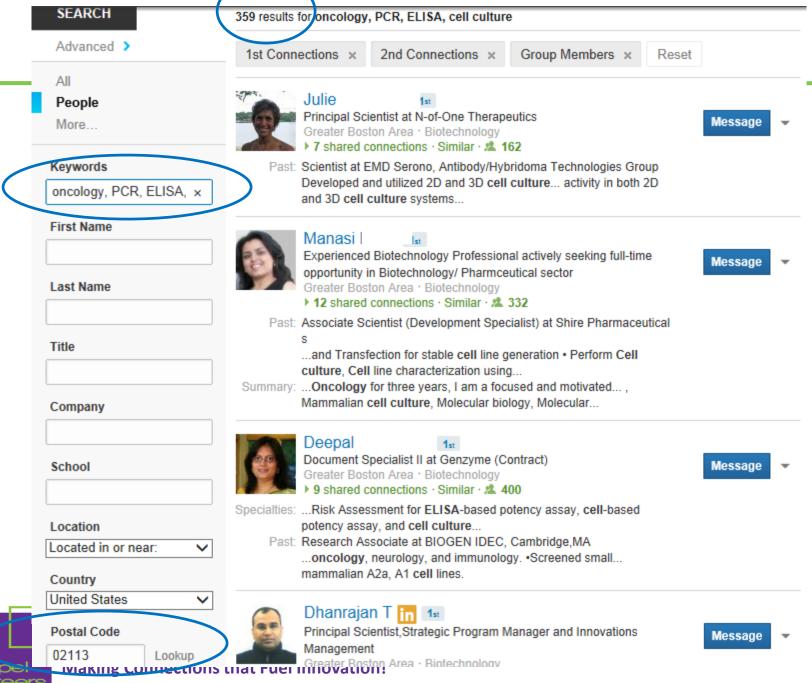
- Writing / reviewing intellectual property
- Developing Business plans;
 market research
- Consulting clubs / case studies
- Writing: blogs, technical / nontechnical writing
- **Software:** Illustrator, photoshop, indesign
- Quantitative Skills: SAS, Matlab, STATA, R, SPSS, Matlab, etc
- Courses: i.e. Drug discovery, entrepreneurship, finance, regulatory, etc
- Leadership roles in organizations



Making Connections that Fuel Innovation!

HR Searches ...





LinkedIn Search Feature



Principal Scientist at Greater Boston Area | Biotechnology Previous Synta Pharmaceuticals, EMD Serono, Antibody/Hybridoma Technologies Group, University of Pennsylvania School of Medicine Education University of Pennsylvania School of Medicine Send a message

Contact Info

Background



Summary

Cellular, molecular, and matrix biology expertise includes extensive experience in mechanism of action studies, screening cell lines for drug response, biomarker studies and in studying signaling pathways involved in cell transformation, metastasis and drug resistance. This research has included examining cells in both a 2D monolayer and a 3D microenvironment.

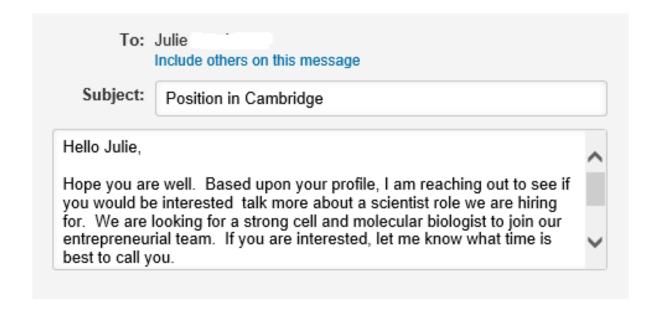
I have significant knowledge in molecular and cellular biology techniques as well as in vivo xenograft models and in vivo applications with small animals in conducting behavioral studies, durg administration, and performing surgical procedures.

My background is a broad one, ranging from extensive research in oncology to neurotrauma/ischemia and neuroscience/mental disorders (depression, anxiety and schizo-affective disorders). Ham very interested in being a part of research with clinical applications and am enrolled in a CRA/CRC course to help expand my knowledge of clinical trials.



Specialties: • Single agent/combination dose response curves/IC50s • Migration/invasion assays • IF & confocal microscopy • 3D cell culture models (polyacrylamide gels, embedding cells in rBM) • Molecular bio (ELISA, Western/Northern blot, PCR & activity assays) • Lenti-, retro- & adeno-virus • Protein purification • Survival/apoptosis/ADCC assays • Animal handling/behavioral studies (depression, anxiety, brain trauma & ischemia models) • Cell culture • Floy cytometry • Reporter assays • Spinning disc

LinkedIn Inmail...



Recruitment Database



- Used by many firms, both large and small
- Key word searchable
 - Details in resume = searchable
 - Searches for key words in job description
- User created profile (typically)
- Systems can track applications over time

Companies use Key Word Search

Skills and Techniques

- Molecular Biology: Cloning, PCR, quantitative PCR, mutagenic PCR, DNA purification from Grampositive and Gram-negative bacteria, DNA sequence analysis, plasmid design and construction, microarrays, Illumina-based sequencing
- Protein: Protein expression, protein purification via affinity chromatography, protein separation by SDS/PAGE, ELISAs, Western blotting, protein quantification, enzymatic protein digestion
- Microbiology: Construction and maintenance of mutant bacterial strains, characterization of mutant phenotypes (ie. growth curves, cell wall protein profile, biofilm assays, antibiotic and stress susceptibility, etc.), quantitative plating, bacterial staining, light and fluorescent microscopy, electronic microscopy sample preparation, transcriptional profiling
- Virology: Manipulation of positive RNA virus (Dengue virus) including tissue culture infection, plaquing assays, and mouse model of infection
- Immunology and Tissue Culture: Growth of bacteria in primary macrophages and tissue culture cells; maintenance of tissue culture lines; isolation and differentiation of primary cells; flow cytometry; cytokine analysis by ELISAs and Western blotting; immunofluorescence; transcriptional profiling by qPCR and microarray analysis; Tcell stimulation assays; quantitative and qualitative antibody assessment
- Animal Infections: Intravenous, intraperitoneal, and pulmonary infection, nasopharyngeal colonization
 of mice, full dissections and determination of bacterial load in liver, spleen, intestines, lymph nodes,
 lungs, nasal lavage; cytokine and antibody assessment from serum and tissue samples
- Computer: Microsoft Office, Swiss PDB, GraphPad Prism, Kaleidagraph, Adobe Photoshop and Illustrator, Vector NTI, EndNote, Literature Search (PubMed, MEDLINE, GoogleScholar, Science Direct)



Recruitment Firms



- Partner with big and small companies to find talent
- Typically work on specific roles
- Typically have a specific focus
 - i.e. Medical affairs, R&D, Business Development
- Paid upon filling a role
- Good source of industry information
- Can typically get you in front of hiring manager if you are a fit for the role
- If you are not a fit for a role, may be hard to get their attention

How to Identify Recruitment Firms



- You will see their names come up as you search job postings / boards
- Ask your connections for recommendations
- Search conference lists for recruitment firms
- Key word search

 Thousands exist: it will take time to identify ones relevant to you

Job Search Timeframes

- 2 years out: Self-awareness, Informational interviewing,
 and networking
- 1-2 years out: Informational interviewing and networking
- 3-6 months: Actively apply for roles
 - except for many larger consulting firms, investment banks, AAAS
 fellowships, usually ~ 1 year in advance
- Time to decide upon an offer: as short as 48 hours
- Offer to start date: 2-4 weeks



Specific Job Search Timelines

Large Consulting / Investment Banks: apply Fall 2016; start
 June 2017

 Boutique consulting firms / investment banks: Some fall application process, other rolling hiring

AAAS fellowships – Nov 1 application deadline, Sept start

Contact Details: Connect with Propel



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Twitter: @Propel_Careers

Facebook: Propel Careers

LinkedIn: Propel Careers

Web: www.propelcareers.com

