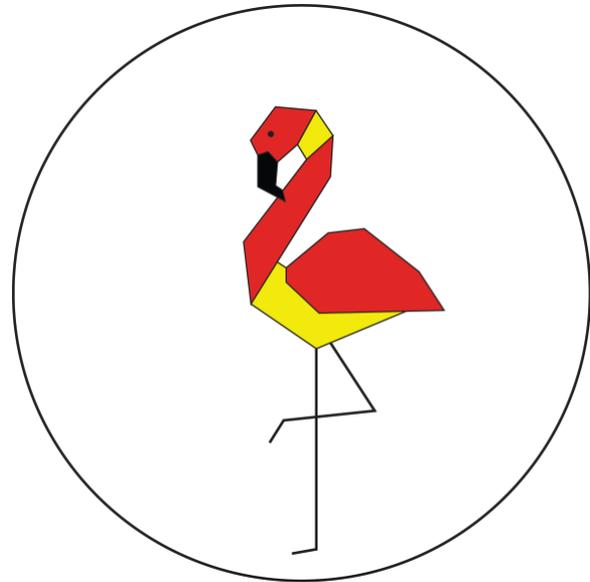
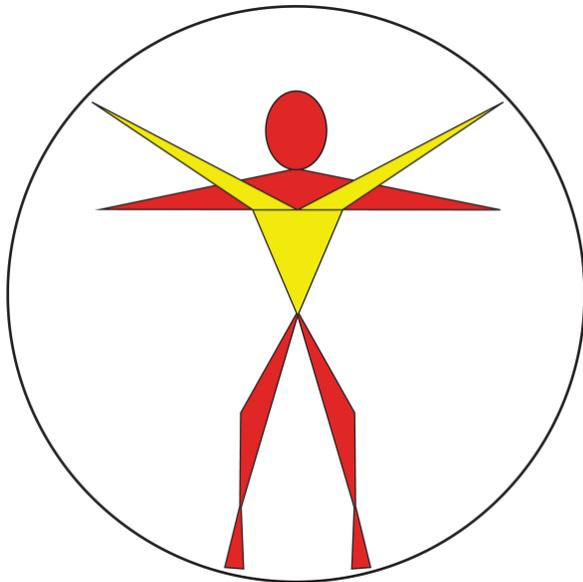


SciPhD Online Certificate Program

The Business of Science for Scientists: Core Professional Skills that Make You Competitive for a Professional Career

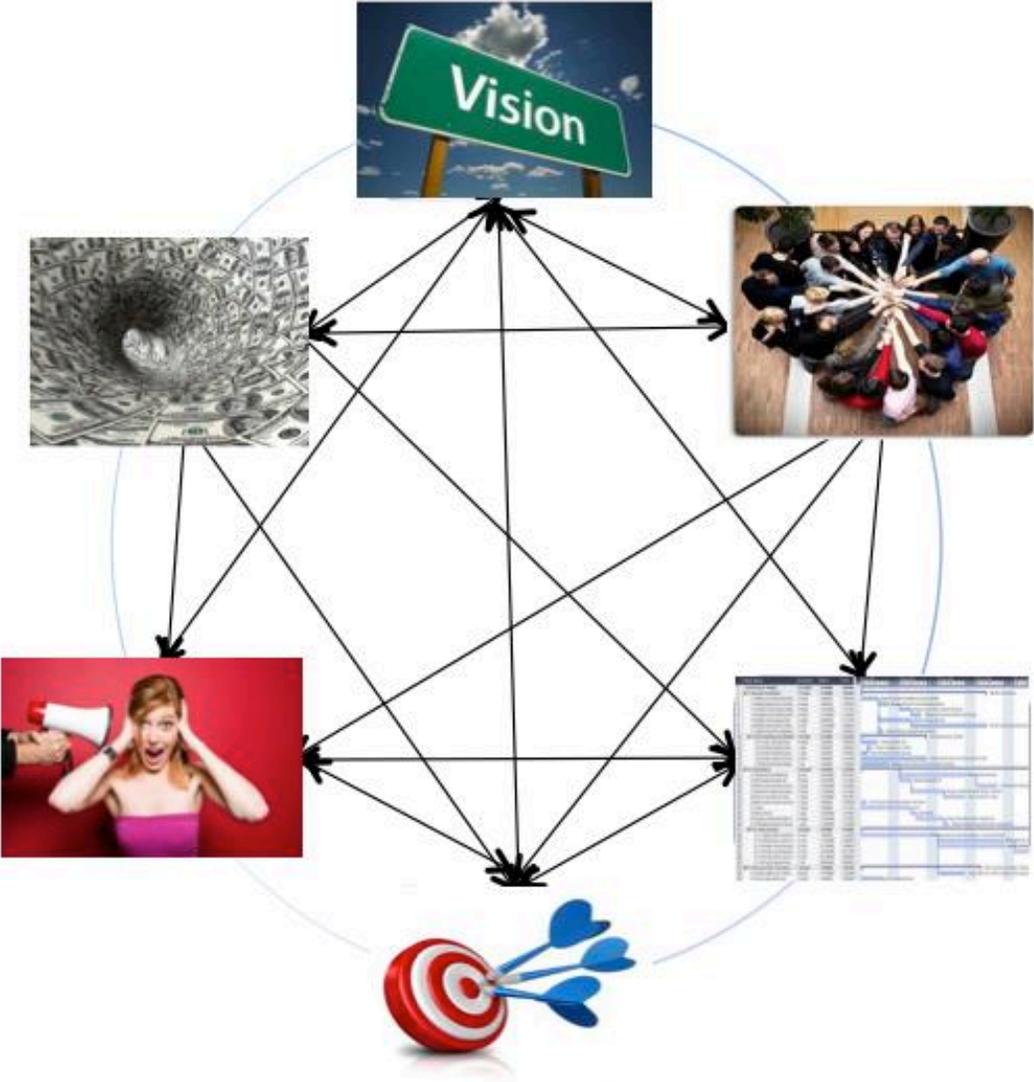
With Flamingo[®] Integration



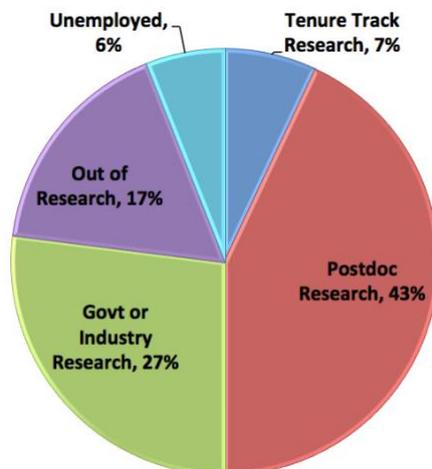
Student Manual

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Chapter 1: The Business of Science



Employment of Young Biomedical PhDs



Source: USA Today March 29, 2013

Career opportunities for PhDs in the biomedical sciences have been changing substantially over the past 15 years. Currently, depending on the specific study being cited, between 7-15% of PhDs successfully enter tenure track positions with the remainder pursuing multiple postdoctoral positions, exiting academia for either government or industry positions, or leaving research altogether. Given this reality, understanding the professional opportunities outside of academia is critical in making the best possible career choices. We will examine this first by looking at the various kinds of institutions who value people with PhDs and then also by looking at the kinds of positions that are available in these organizations.

The Job Hunt Process



Regardless of where you want to work, there is a common process that you will need to follow. First you need to find a job that excites you. After all the time, effort and commitment you have put into your PhD, you deserve to pursue a career that will compensate you fairly both financially and intellectually. Once you identify jobs of interest, you will have to systematically analyze the job description to determine if you are qualified, and if so, how to best make the case why you should be hired. This requires you to articulate specific experiences and accomplishments that provide confidence to the organization that you're up to the job. You will convey that confidence by developing a targeted resume *for that specific job* and preparing for the interview process so that you reinforce the claims you made in your resume when you meet with interviewers. At the same time, recognize that you will be competing with dozens of other candidates. So, from a practical standpoint you must do everything you can so that your application is noticed. The best way to do this is by building a powerful network and leveraging that network so that your resume gets directly to the hiring manager. In this program we will look at successful approaches that achieve this goal.

What Kind of Jobs are Out There?

There are many different kinds of organizations that value PhDs, and within those companies there are many career paths you can pursue.

Types of Companies

- Large Pharma
- Biotechs & Engineering Firms
- Medical Device & Diagnostics
- Non-profits, NGOs
- Venture Capital
- Legal/Patent Related
- Consulting Firms
- Government/Military



Job Titles

Research and Development

- Discovery Research
- Pre-clinical Research
- Clinical Research
- Clinical Development

Communications

- Product/Technical Support
- Applications Specialist
- Sales & Marketing
- Science Writing
- Medical Science Liaison
- Corporate Communications

Operations

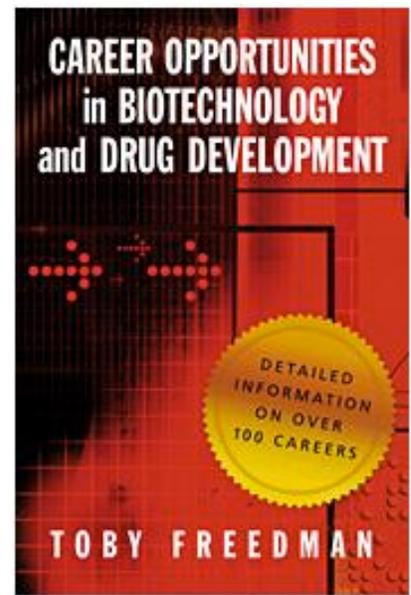
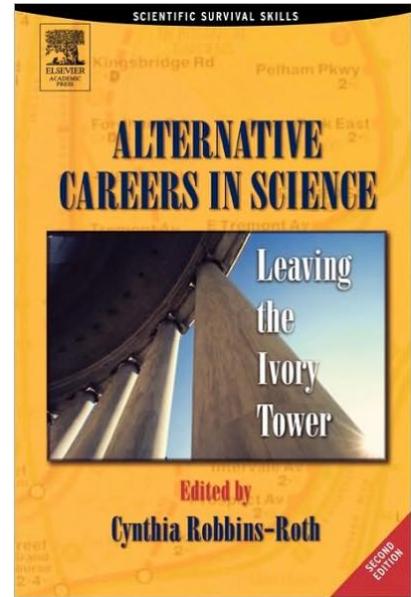
- Project Management
- Quality Assurance & Quality Control
- Engineering & Manufacturing
- Business Research Analyst

Business Enterprise

- Business Development
- Equity Research
- Wealth Management
- Executive Leadership

Legal and Regulatory

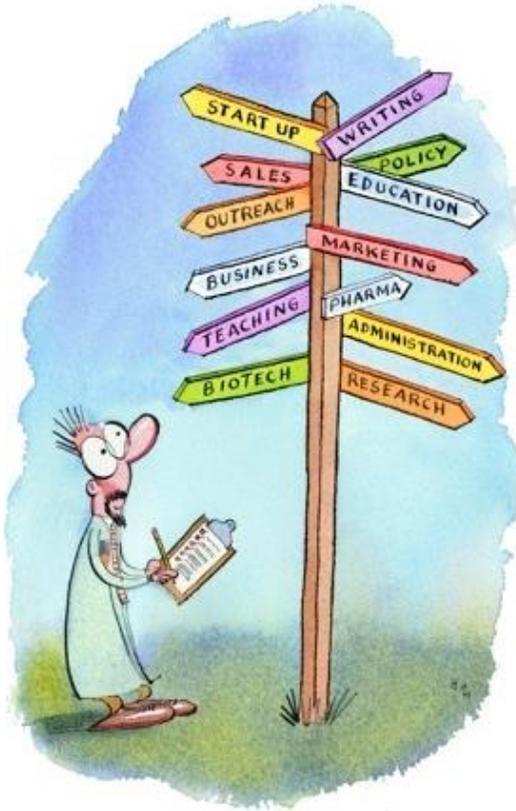
- Medical Affairs & Regulatory Affairs
- Public Policy
- Intellectual Property
- Technology Transfer
- Patent Agent/Examiner
- General Counsel Office



myIDP: Self Assessment
(myidp.sciencecareers.org)



- Skills
- Interests
- Values



myIDP provides a way to self-assess the following areas:

Skills: scientific, knowledge, research, communications, professionalism, management and leadership, responsible conduct, and career advancement.

Interests: tasks you enjoy doing, such as planning science, doing science, communicating science, leading a group, networking, writing, developing curricula

Values: what is most important to you- intellectual challenge, helping society, working on teams or alone, recognition, variety, location, job security

MyIDP is a very useful tool to explore many different career options and determine how closely those options align with your skills, interests and values.

Average Salaries

Sector/Job Title	Average Salary
Faculty (US average)	\$66,219
Industry (average)	\$104,389
Academic Professor	\$93,293
Industry- Director	\$182,697
Industry- Principal Scientist	\$145,048
Industry- Senior Research Scientist	\$117,936
Nonacademic/nonprofit/government (average)	\$78,434

Source: [Glassdoor 2021](#)

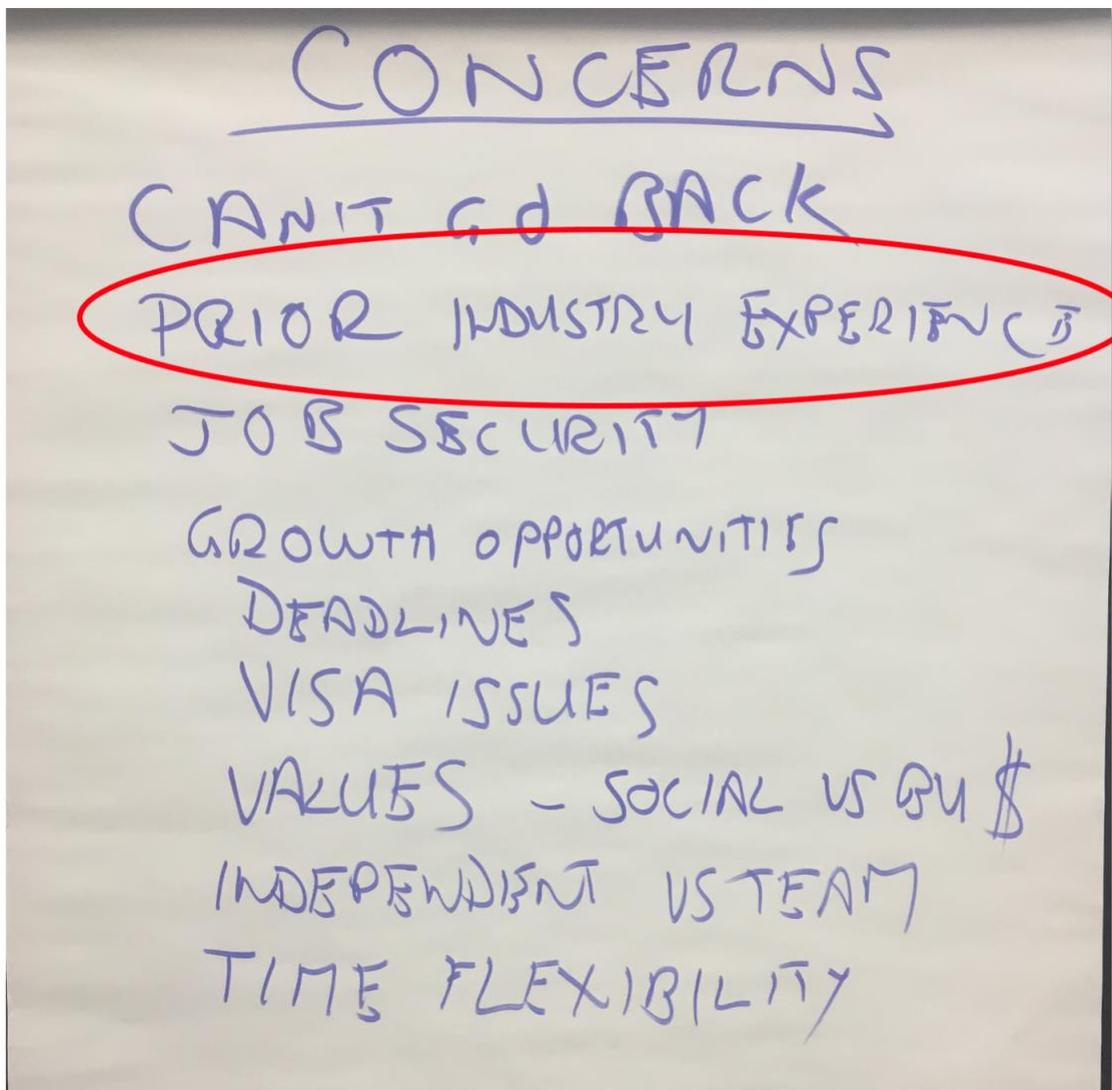
50 Best Jobs in America 2021

Rank	Job Title	Median Base Salary	Openings	Job Satisfaction	Job Score
2	Data Scientist	\$113,736	5,971	4.1/5.0	4.7/5.0
3	Product Manager	\$121,107	14,515	3.9/5.0	4.5/5.0
32	Project Manager	\$80,562	34,362	3.8/5.0	4.6/5.0

Source: [Glassdoor 2021](#)

Major Concerns of Transitioning to Industry

Careers beyond academia have many benefits, both financial and in terms of career breadth and growth. These benefits are often tempered by concerns of leaving academia. Below is a list of typical concerns academic PhDs express when considering careers outside academia. All are legitimate. One that stands out is the concern that many positions seem to require prior industry experience. This creates a challenge: "How can I gain industry experience if you're not willing to hire me to gain that experience." This is obviously a myth, since everyone in industry came from academia. So, the challenge is how to convince hiring institutions that you have the equivalent experience of scientists in industry, but you just gained those experiences elsewhere.



The “Science of Science” vs. the “Business of Science”

What Drives and Motivates Us as Academic Scientists?

- Knowledge
- Solving problems
- Understanding mechanisms

How Do We Do Our Science?

- Generally, work independently
- Make our own decisions
- Plan our own Program

What is Our Return on Investment?

- Knowledge
- Publications
- Speaking invitations
- Complete your PhD
- Job offers

What drives the “Business of Science”?

The Two Rules of Business (USA)

1. By definition, a business must make a profit
2. A business must compete globally and must continually improve products, services and productivity standards to remain competitive

You are part of a larger process and team that may involve:

- Technical experts
- Production-scale up specialists
- Senior executives/strategists
- Project Managers
- Product Managers
- Marketing
- Legal experts
- Regulatory experts
- Sales
- Physicians
- Patients
- ...

Business Requires Cooperation

- Many roles
- Many responsibilities
- Tight coordination
- Tight communication

Teamwork is essential to success!!!



What are the Leadership Skills Necessary to be Effective?

Leadership Best Practices for Successful Scientists

Source: Management Research Group ®



- Authority
- Communication
- Consensual
- Conservative
- Control
- Cooperation
- Delegation
- Dominant
- Empathy
- Excitement
- Feedback
- Innovative
- Management Focus
- Outgoing
- Persuasive
- Production
- Restraint
- Self
- Strategic
- Structuring
- Tactical
- Technical

Rank the most important competencies for entry-level positions in industry

1.
2.
3.



CREATING A VISION

Conservative: Studying problems in light of past practices to ensure predictability, reinforce the status quo and minimize risk.

Innovative: Feeling comfortable in fast-changing environments; being willing to take risks and to consider new and untested approaches.

Technical: Acquiring and maintaining in-depth knowledge in your field or area of focus; using your expertise and specialized knowledge to study issues and draw conclusions.

Self: Emphasizing the importance of making decisions independently; looking to yourself as the prime vehicle for decision-making.

Strategic: Taking a long-range, broad approach to problem solving and decision making through objective analysis, thinking ahead and planning.

DEVELOPING FOLLOWERSHIP

Persuasive: Building commitment by convincing others and winning them over to your point of view.

Outgoing: Acting in an extroverted, friendly and informal manner; showing a capacity to quickly establish free and easy interpersonal relationships.

Excitement: Operating with a good deal of energy, intensity and emotional expression; having a capacity for keeping others enthusiastic and involved.

Restraint: Maintaining a low-key, understated and quiet interpersonal demeanor by working to control your emotional expression.

IMPLEMENTING THE VISION

Structuring: Adopting a systematic and organized approach; preferring to work in a precise, methodical manner; developing and utilizing guidelines and procedures.

Tactical: Emphasizing the production of immediate results by focusing on short-range, hands-on, practical strategies.

Communication: Stating clearly what you want and expect from others; clearly expressing your thoughts and ideas; maintaining a precise and constant flow of information

IMPLEMENTING THE VISION (Cont'd)

Delegation: Enlisting the talents of others to help meet objectives by giving them important activities and sufficient autonomy to exercise their own judgment.

FOLLOWING THROUGH

Control: Adopting an approach in which you take nothing for granted, set deadlines for certain actions and are persistent in monitoring the progress of activities to ensure that they are completed on schedule.

Feedback: Letting others know in a straightforward manner what you think of them, how well they have performed and if they have met your needs and expectations.

ACHIEVING RESULTS

Management Focus: Seeking to exert influence by being in positions of authority, taking charge, and leading and directing the efforts of others.

Dominant: Pushing vigorously to achieve results through an approach which is forceful, assertive and competitive.

Production: Adopting a strong orientation toward achievement; holding high expectations for yourself and others; pushing yourself and others to achieve at high levels.

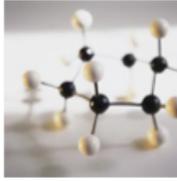
TEAM PLAYING

Cooperation: Accommodating the needs and interests of others by being willing to defer performance on your own objectives in order to assist colleagues with theirs.

Consensual: Valuing the ideas and opinions of others and collecting their input as part of your decision-making process.

Authority: Showing loyalty to the organization; respecting the opinions of people in authority and using them as resources for information, direction and decisions.

Empathy: Demonstrating an active concern for people and their needs by forming close and supportive relationships with others.



Leadership Best Practices for Scientists and Engineers

The results of a recent global study of 1,814 Scientists and Engineers in management roles identify key leadership practices tied to effectiveness.

Effective Practices for Scientists and Engineers

Although scientists and engineers play a vital role in success and growth of organizations, little actual empirical research on the characteristics of effective technical professionals actually exists.

Management Research Group®, a global leader in assessment-based individual and organizational development, has been studying leadership empirically for over four decades. In a recent global study of leadership effectiveness among scientists and engineers in a wide array of industries we found that a number of leadership behaviors reliably distinguish superior leaders (the superstars) from less effective ones.

The Study

1,814 scientists and engineers from over 500 organizations were included in the current study. Each leader completed MRG's LEA 360™ leadership assessment and development tool that measures 22 dimensions of leadership practice (what leaders actually do) and 22 dimensions of leadership effectiveness (how effectively they're perceived by their bosses, peers, and direct reports).

A number of key practices were identified that significantly predicted higher leadership effectiveness ratings.

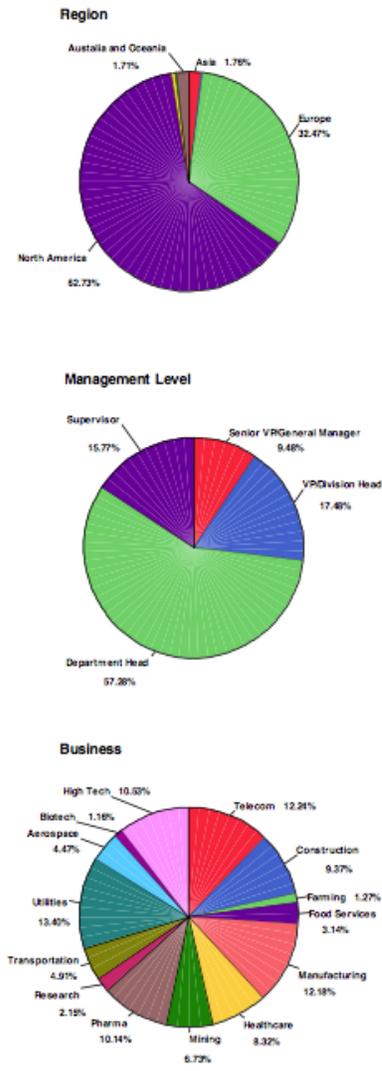
The Findings

In order of importance (starting with the most important) superior technical leaders:

- Analyze the future impact of their decisions and understand the impact of these decisions throughout the organization.
- Clearly express their thoughts and ideas, keeping others informed of their expectations.
- Energize others, getting them enthusiastic and involved.
- Are comfortable being the one in charge and seek out opportunities to be influential. They know and accept the fact that they will be under constant scrutiny.
- Are willing to seek input from others, rather than believing that they are the only one with answers to questions.
- Maintain in-depth knowledge and expertise in their area.
- Set deadlines and monitor the progress of activities to ensure success.
- Challenge the perceptions and mandates of superiors.

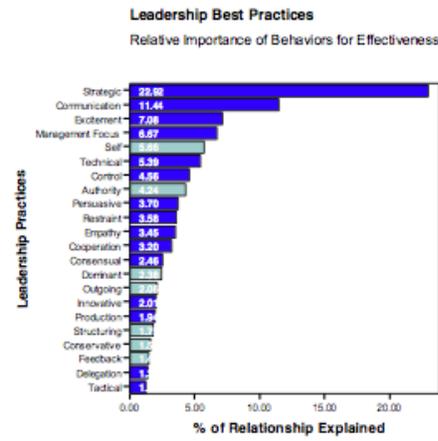
Study Details

Participants were selected from MRG’s extensive global databases of leadership information. Each was evaluated during ongoing developmental programs, by their bosses, peers, and direct reports. Participant breakdown by geographic region, management level, and industry are presented below.



A weighted mean procedure was employed to combine the rating of bosses, peers, and direct reports for each participant. An overall measure of leadership effectiveness (based on the summation of 22 effectiveness scales) was regressed on ratings of 22 common leadership practices. As a set, the 22 practices accounted for 53% of the individual variation in overall effectiveness.

Relative importance measures were calculated for each predictor and are displayed in the figure below. Bars indicate the percent of the variation accounted for by each predictor. Light bars indicate an inverse relationship (i.e., higher levels of the practice were associated with poorer effectiveness ratings).



Total Percent of Effectiveness Explained = 53%

Using these Results

Understanding the relative importance of leadership practices for achieving success in technical management roles is a vital first step in planning developmental programs. For information on applying this research to executive coaching, succession planning and selection, please contact MRG or an MRG Network affiliate.

Management Research Group®
14 York Street, Suite 301
Portland, Maine 04101
www.mrg.com

Job ads are very clear about the technical, teamwork, and business skills that are valued. Below in orange are the scientific/technical skills for this Senior Scientist position.

Job Example: Senior Scientist, Antibody Engineering

Job Description

The candidate will lead a group focused on the establishment and development of innovative **recombinant antibody engineering technologies**. He/she will develop novel technologies in the areas of antibody discovery to support GSK therapeutic protein and antibody programs in **autoimmune, oncology and infectious disease areas**. In addition, the candidate will manage internal collaborations with other GSK research and development groups on relevant projects as well as external collaborations/contracts with current or future GSK partners.

Desired Skills & Experience

A PhD in Chemistry, Biochemistry, Molecular Biology or a related field is required in addition to a **strong publication record in peer-reviewed journals**, demonstrating significant postdoctoral and independent research. The candidate must also have at least five years of demonstrated successful leadership of an academic or industrial research lab group (research associate and Ph.D. scientist) with managerial skills and be able to independently plan, design and execute experiments as well as follow literature, interpret results and direct new approaches. He/she should be passionate about new engineering technologies and have hands-on experiences with all **modern molecular biology techniques**. The candidate should have broad knowledge of **antibody structure and function** and have extensive expertise in **antibody/protein engineering**. The candidate should also have good knowledge of the relevant literature and be able to develop creative solutions to scientific problems. Experience in the application and development of protein and **antibody phage/yeast or attentive display methods** and high throughput screening/selection are preferred. Strong interdisciplinary problem solving, communication, presentation and writing skills are essential.

In this same job ad, the phrases highlighted in blue are the business and social skills that are valued and considered highly important for this position.

Job Example: Senior Scientist, Antibody Engineering

Job Description

The candidate will **lead a group** focused on the establishment and **development of innovative** recombinant antibody engineering technologies. He/she will **develop novel technologies** in the areas of antibody discovery to support GSK therapeutic protein and antibody programs in autoimmune, oncology and infectious disease areas. In addition, the candidate will **manage internal collaborations** with other GSK research and development groups on relevant projects as well as **external collaborations/contracts** with current or future GSK partners.

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What is your Brand?

“Me Inc.”

To be competitive for professional jobs, you must define yourself in business and social skills. You must define your brand as:



Scientific/Technical Identity: This is *what* you do. It is defined by your education, professional training, publications, presentations and references. Your ability to discuss your science with peers will demonstrate your mastery. You are competing with other PhD level scientists who have similar training and skills. Because of this, it is hard to imagine that your scientific/technical skills alone will distinguish you from the competition.

Business Identity: This is *how* you do what you do. Examples of job requirements language that relate to your business identity include:

- Lead a group
- Develop novel technologies
- Independently plan, design and execute
- Ability to work independently with minimal day-to-day supervision
- Develop creative solutions
- Problem solving



Business behaviors focus on four major areas:

- **Creating the Vision:** This behavior is demonstrated by your ability to express the *strategic* value of your science. What is the impact and importance of your science now, and into the future? What impact and inter-connectedness does, and will your work have on other disciplines and institutions? How have you applied *innovation* to achieve success? How do you anticipate and *manage risks* associated with your project, and what strategies do you have in place to mitigate that risk? Can you use the above behaviors to articulate or “*champion*” your science to others to garner energy and support?
- **Execution:** Success in professional organizations requires the ability to be efficient and productive with your resources. Can you provide examples that show your projects are well *structured* and thought out? What processes have you put in place to manage project deliverables in the *control* of your research to ensure that they are completed on time. Can you provide examples of how that structure and control allowed you to monitor your project and get it back on track when something unexpected happened? What *tactical* steps have you employed to execute that control? Are you able to *delegate* accountability and authority to others in order to most efficiently utilize your resources for your projects to progress?
- **Achieving Results:** Success in professional organizations is all about being highly *productive* and always *focused* on that strategic vision. Can you demonstrate times where you have resisted scientific distraction in order to stay focused on the project goals? How have you leveraged your awareness of your *competition* in order to remain competitive and successful in execution of your science?

- **Financial Acumen:** All organizations are driven by the two rules of business: 1) must make a profit, and 2) must continuously improve. Can you demonstrate an awareness of the actual costs of your work, and articulate what the **return on investment** is for that investment of time and resources? Can you express that ROI in terms of a **rate of return**? Do you have examples of how you have improved a process by studying the **performance metrics** to find specific tasks or procedures which can be improved in order to increase that ROI?

Social Identity: This is how you **interact with others**. The kinds of language you will encounter in job descriptions and interview questions related to your social identity include:

- Manage internal and external collaborations
- Management skills
- Be passionate
- Communications
- Work with a team of scientists
- Project team participation
- Take a lead role
- Ability to work well in a cross-functional team-oriented environment



Social Identity behaviors focus on two major areas:

- **Developing Your People:** One of the biggest distinctions in how professional organizations operate compared with academic labs is the team-based design. Forming and managing a team is a highly valued skill that will differentiate you from your competition when competing for jobs. Can you provide examples of when you have participated in **collaborations** and how you have put aside personal ambitions in order to focus on the goals of the group? Have you successfully **enabled** others by training them in tasks to become expert, even if that means them becoming better at that task than you? Do you employ **empathy** in all your relationships within and outside your collaboration in order to develop **rappport** with your co-workers and team members?
- **Communications:** Are you able to adjust your technical language to the appropriate level of your audience and use this **technical literacy** to effectively deliver your message: Are you able to recognize the differences in learning and communications styles of people and employ **style flexibility** so that you can communicate effectively with individuals, regardless of whether they are more introverted or extraverted, whether they perceive new information in a data-centric detailed way or a more intuitive conceptual way, and regardless of whether they judge and make decisions on new information in a thinking, logical and critical way, or are more influenced by the social impact of their judgements and decisions? Can you provide examples of using **emotional intelligence** to control the emotional energy of interactions in order to keep them positive? Are you able to apply **social intelligence** in order to adjust your communications style and content so that it is relevant and adds value to the social role of your audience? Demonstration of these skills with accomplishments goes a long way towards convincing hiring managers that you will fit well in the team environment that is common to virtually all professional organizations.

Social Identity Matters!

In a study reported in Forbes, 20,000 new hires across a wide variety of industries were tracked.

- **46% failed** (were fired, or were cited for poor performance) within the first 18 months
- **89%** of those who failed were for *“attitudinal reasons”*, not lack of technical skill
 - lack of coach-ability
 - low levels of emotional intelligence
 - low levels of motivation
 - low levels of appropriate temperament

The good news is that as a PhD scientist many of your past experiences and accomplishments actually align very closely with business process. For example, in business, all work effort is driven by the strategic direction of the company. Similarly, in your research, all your activities are driven by your hypothesis and specific aims of your project. Similarly, assembling your team of co-workers (technicians, core facilities, graduate students, etc) maps closely to what we refer to as “Developing Your People” in the professional world. This involves identifying the appropriate talent and organizing and empowering those individuals to work effectively as a team.

In professional organizations, project managers organize and orchestrate all aspects of the work to ensure that it is delivered on time and on budget (see Chapter 8) by carefully mapping out the project and making sure all the dependencies and interactions run smoothly. For you as an academic, your lab notebook is written testament to your project planning that includes the detail of carefully designed controls, time courses and other aspects of the project. PhD planning is the envy of any good project manager!

Performing the work as a scientist requires high levels of productivity, attention to detail, and constant focus on the mission, and awareness of your competition. The same is true in business.

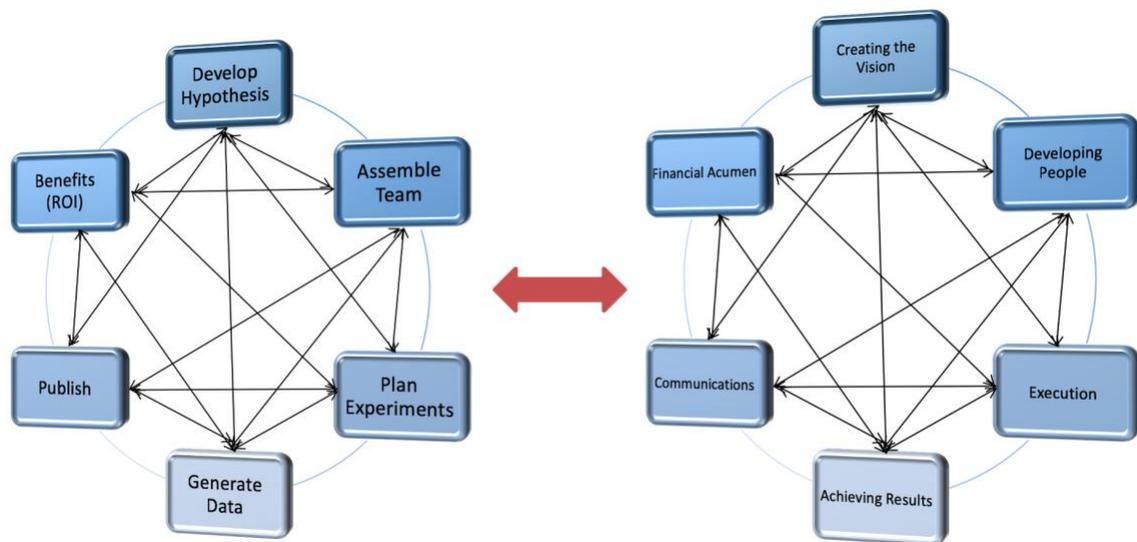
Sharing results of successful projects is yet another shared behavior in both academic and professional worlds. The ability to effectively communicate to specific targeted audiences is a critical skill.

And because of the two rules of business, the return on investment for your efforts is also an important justification for the continued commitment of resources (human, financial, material) to see the project to its completion.

The table below demonstrates the relationship between these processes in the academic and business worlds, and the general categories to which they map.

Comparison of the Scientific Method with Business Process

	PhD Life Cycle	Business Life Cycle	Category
1	Hypothesis	Creating the Vision	Business ●
2	Assemble Research Team	Developing Your People	Social ●
3	Plan experimental design	Execution	Business ●
4	Perform experiments	Achieving Results	Business ●
5	Publish results	Communications	Social ●
6	Return on Investment	Financial acumen	Business ●



SciPhD Core Business Competencies

❑ Creating the Vision

Strategic
 Innovative
 Risk Management
 Champion/Energy

Business Skills

❑ Achieving Results

Production
 Focus
 Competition

❑ Developing People

Collaboration
 Enabling
 Empathy
 Rapport

Social Skills

❑ Communications

Technical Literacy
 Emotional Intelligence
 Social Intelligence
 Style Flexibility

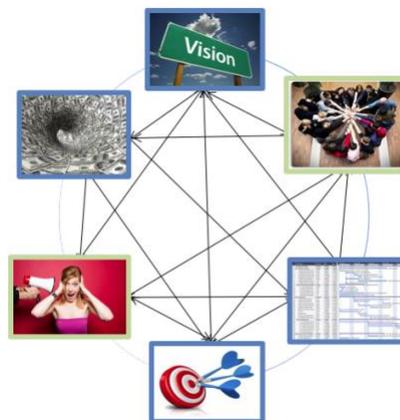
❑ Execution

Structuring
 Control
 Tactical
 Delegation

Business Skills

❑ Financial Acumen

Return on Investment
 Internal Rate of Return
 Performance Metrics
 Balance Sheet



These six SciPhD Competency areas and their associated 23 core competencies are highly valued for entry level positions in professional organizations. These competency areas are common to the scientific method as well as standard business practice. As such, many of your own experiences as a scientist/engineer utilizing the scientific method have direct parallels to the business process and can be used to demonstrate that you have relevant experience.

SciPhD Job Ontology

Jobs shouldn't just be viewed in the context of the technical requirements, but also the business and social skills necessary to fulfill the expected duties. For example, more is expected of a *Scientist* than good technical execution. *Scientists* are expected to *achieve results* which means they have the focus to execute their science towards fulfilling the *strategic vision* of the company or division. Below we have mapped job titles to the SciPhD behaviors essential for success.

Creating the Vision

- Executive Leadership (C-level)
- Vice President
- Director
- Business Development
- Clinical Research
- Clinical Development
- Medical Affairs

Developing People

- Team Leader
- Technical Training
- Business Training
- Relationship Training
- Recruiting

Execution

- Project Management
- Quality Assurance/Control
- Requirements Gathering
- Technician
- Consultant

Achieving Results

- Scientist
- Manufacturing
- Business Research Analyst
- Requirements Gathering
- Regulatory Affairs
- Data Analyst
- Consultant

Communications

- Sales
- Applications Specialist
- Technical Support
- Product Support
- Client Management
- Marketing
- Medical Science Liaison/Science Writing
- Corporate Communications

Financial Acumen

- Venture Capital
- Intellectual Property
- Technology Transfer
- Legal, General Counsel
- Patent Examiner, Patent Law

SciPhD Business Core Competencies Definitions

Creating the Vision:

Where is the company going? How does my work fit into that vision?

Technical Scientific: This is your scientific expertise. Maintaining and continuing to acquire an in-depth knowledge in your field or area of focus. Using your expertise and specialized knowledge to study issues in depth, draw conclusions and advance the field of knowledge. Research, analyzes, and evaluate issues and opportunities based on the application of knowledge and expertise.

Strategic Thinking: Reaching into the future- the relevance of your work moving forward: A good example is your problem statement or hypothesis for your research. What is the impact of your research into the future? Why is it important? The second component of strategic thinking is how your work *interconnects* with other work, system, companies, etc. Also expressed as a “time horizon” of thinking such as 10 or 15 years from now.

Innovative: Feeling comfortable in fast-changing environments. You are willing to take risks and to consider new and untested approaches. Looks at issues from a fresh viewpoint; can look at old methods in new, creative ways. How were you creative in developing your research? Did you develop new approaches to address an important problem? Have you encountered a problem during your research for which you had to devise a “work-around”? The ability to come up with creative innovative solutions to issues in your everyday work.

Risk management: Understanding the context and ramifications of looking into the future, not just the technical aspects. Think through financial, technical, people, infrastructure requirements. Weighing all aspects of a project-- cost vs impact professionally, socially, etc. Weighing the relative value of publishing vs getting more work done. Using knowledge of anticipated complications to decide whether a project is worth doing, and how to mitigate the risks.

Champion/Energy: The ability to make the vision a reality. Self-motivation and self-discipline to keep a project going when there are obstacles. Ability to motivate others on the team to continue forward. Ability to inspire faith, trust and get committed resources in your project by superiors. You are competing for resources in the business environment and your ability to sell your idea effects your success. Think of persuasive arguments you have made to obtain necessary resources to perform your research. Think of ways you have inspired and motivated others on your research team to work harder, longer, more diligently.

Developing People

Leading a team of workers with their own skill sets, personalities and issues in a way that promotes a functional team environment. This is a critical skill in becoming a team leader and working in cross-matrixed environments. This also draws heavily on Communications skills as well as Champion/Energy capabilities.

Collaboration: The ability to get everyone working towards a common goal. It's about building a team. Making individuals work important to others on the team. Sharing in success. Often collaboration requires deferring individual goals in the service of the success of the goals of the group. How do you bring your team together and get them to focus on what you want to accomplish? How do you handle conflict for the benefit of the team? For example, how did collaboration add value to your research? How did you encourage collaboration even with challenging personalities? How did you sustain cohesion within your research team?

Enabling: Taking upon yourself to build the capacity of others to add value to the team. Allowing others to develop and perform tasks that you could perform as well or better, to develop them as contributors for the betterment of the team. From a business point of view it's not enough for you to be technically good, but to demonstrate your ability to develop others to reach their potential with the team.

Empathy: Appreciation of the circumstances of your team members, not just your own. Your ability to accommodate others needs while still focusing on getting the job done. This also comes into play when managing emotional conflicts between team members. Can you demonstrate your ability to understand their circumstance in finding resolution while maintaining their dignity and motivation to contribute to the project?

Rapport: The ability to create relationships with others: those on your team, customers, suppliers, anyone with whom you interact. Building a trusted network in your business (research) environment. Developing close relationships, trust, and cooperation. This includes not just peers, but competitors, superiors, and support personnel as well (admin staff for example). 360° of trust from all with whom you interact. It also includes being able to relate to individuals with different personalities. Mastering many of the other SciPhD core competencies will lead to establishing good rapport with your team members and colleagues.

Execution

The practice of taking actions and turning them into real accomplishments towards fulfilling a predefined goal. This encompasses planning, direction, utilization of feedback, and adaptation in order to get things done.

Structure: How you get stuff done. Desired outcomes, the execution plan. Typically, research has this sort of built in and you can score pretty highly. There's a plan, a sequence, steps along the way to measure progress and define boundaries. These utilize the basic skills of project management. Examples of how you overcome challenges to guarantee ability to deliver on a project are relevant. Specific examples of how your structured approach efficiently identified problems and allowed you to draw on other competencies to address those problems and move the project forward are relevant.

Tactical: Making the daily and immediate adjustments to keep your work on track. Examples you could cite might include circumstances in which new data indicated the need to make an adjustment in the experimental protocol, or new literature impacted some aspect of your work, or even mundane things like weather or illness of a team member altered the execution of the project. How did you make the necessary adjustments while maintaining the original vision and keeping to your timeline?

Control: Having constant grasp of your data, personnel, progress of the project: always knowing where you are, what the execution plan is, and how you are going to successfully complete the project. What were the processes you had in place so that you always were aware of the status of your project? Think of examples of more challenging projects and how you kept things on track, anticipated problems, and mitigated against those to keep the project moving forward.

Delegation: Takes the skill of “enabling” and completes the training process such that the enabled person can take full responsibility and accountability to complete the enabled task. Very much like training someone to do your job. Think of examples when you delegated tasks or whole projects to others despite your ability to do the work (perhaps even better than anyone else) and how that delegation developed rapport and built a highly functional team. An important aspect of delegation is providing an opportunity for others to excel and develop their own careers. This is highly valued in industry. Delegation requires an ability to evaluate the technical level of independence of an individual and based on that, providing the appropriate levels of technical and personal support necessary to enable that person to succeed and become independent. If you have examples of students or interns working with you and your allowing them to be the lead on a project for their benefit, this could be a good example to use in your experience statement and in interviews.

Achieving Results

The constant pursuit and desire to improve productivity through fine tuning and leveraging the specific skills of your team. It is not enough to be technically good, but to ensure that the work you are accomplishing remains consistent with, and focused on the strategic mission that justified the work in the first place. Scientists are really good at many technical skills. But in industry, having the focus and discipline to make certain that the science moves the strategic vision forward is critical.

Production: The generation of high-quality work. Adopting a strong orientation toward achievement; holding high expectations for yourself and others; pushing yourself and others to achieve at high levels. It follows a good work ethic and follows protocols for execution and analysis. Willingness to tap into others' expertise even though it may be “better” than yours. Willingness to benchmark your work against the best in the field. Think of examples in which you've rejected work generated by your own team because the quality wasn't high enough. How do you set your standards for quality of work? How did this establishment of high quality positively impact your program?

Focus: It's not enough to demand high quality work. It's about staying focused on the goal and not getting distracted, no matter how exciting an unexpected result or event may be. Getting off on tangents is a great example of not staying focused. Aligning your personal goals with your research goals is very important as well. Think about challenges in your work that could have easily disrupted your ability to stay focused and how you resisted that temptation (if you did).

Competition: How do you use competition to drive your work? Can you demonstrate examples in which based on what your competitors were doing, you found ways to excel to an even greater extent while staying focused on the original vision? How do you keep abreast of competition and use that productively to your advantage? Competition refers to both internal and external sources.

Communications

The verbal, nonverbal, emotional and social interactions among people that promote the other five competency areas.

Technical Literacy: This is the ability to adjust the way you talk about your work depending on the audience you are addressing. This primarily focuses on four major areas:

1. the 20 second essence of your work that you can explain to get the main point across (also known as the “elevator speech”).
2. the slightly more detailed explanation of your work extending out to about a minute for folks in indirect support who need a little more information because they are involved in some way
3. the even more detailed information for those in direct support of your project
4. explanation to your peers

In all these cases, you are focusing on the technical aspects of what you do while reducing or expanding on the level of detail based on your audience. For example, the lab chief, or a donor

to your laboratory's budget may not need or even understand detailed technical explanations but would appreciate the 20 second or one minute “50,000-foot view”, while your advisor, or your peers in lab meeting or collaborators might need or appreciate far more extensive detail. The ability to boil down the essence of your work into 30 seconds is extremely important in business. The chance encounter with a senior executive in your company who asks what you do is an opportunity lost if you can't efficiently describe your project and value to the company.

Emotional Intelligence: You have control over your emotions regardless of the emotional state of the people with whom you are interacting. When your counterpart gets defensive, can you recognize that and turn it into positive energy? Or do you become defensive and argumentative? Specific examples may be interacting with a faculty member who aggressively criticizes your work. Rather than argue with him/her, you might acknowledge their criticism, complement the insight it provides and then use that complement in making your point. The key mindset is your conscious switching from being an Expert to communicating as a Learner.

Social Intelligence: This is the ability to recognize the social context of the audience you are dealing with and frame your message in the audience context. For example, if you are talking with a group funding cancer research, you might frame your work in terms of its impact on understanding disease in general, and even mechanisms that may cause cancer in particular. If you are talking with people whose focus is on fiscal responsibility, you might focus your message on how advances in your work will lead to lower costs for treatments, and even that your approach to experimentation takes into consideration the costs of doing the actual work so as to minimize expenses. Effectively moving your focus from global relevance (impact on society) down to personal relevance (a friend, son, daughter afflicted with the disease, or financially burdened) based on the social context of your audience is a powerful skill to master. Always ask the question “what is the role of my audience, and how can I make their job easier?”

Style Flexibility: This is the ability to explain your technical work based on the background and personality styles of the people with whom you are interacting. For example, when explaining the value of your work to non-scientists, can you simplify the explanations to their level of understanding by appropriate use of analogies, drawings or other illustrations to get your major points across? Recognizing personality preferences of those with whom you interact are also key to effective communication. Are they more introverted or extroverted? Are they more comfortable with discrete lists and directions, or do they function more effectively when allowed more intuitive freedom? Understanding these personality preferences can dramatically impact your effectiveness in communicating and leading.

Financial Acumen

The ability to communicate personal or organizational objectives and behaviors in financial terms.

Return on Investment: This considers all the commitments of dollars, resources, people and time that are put into a project for the purpose of representing an investment by the organization. Expressing the anticipated dollars (or equivalent “value”) as a result of successfully implementing the project represents the Return On Investment (ROI). This would include the total cost of supplies, reagents, animals, etc. in performing your studies as well as the personnel time (in dollars) for you, any technicians or other personnel.

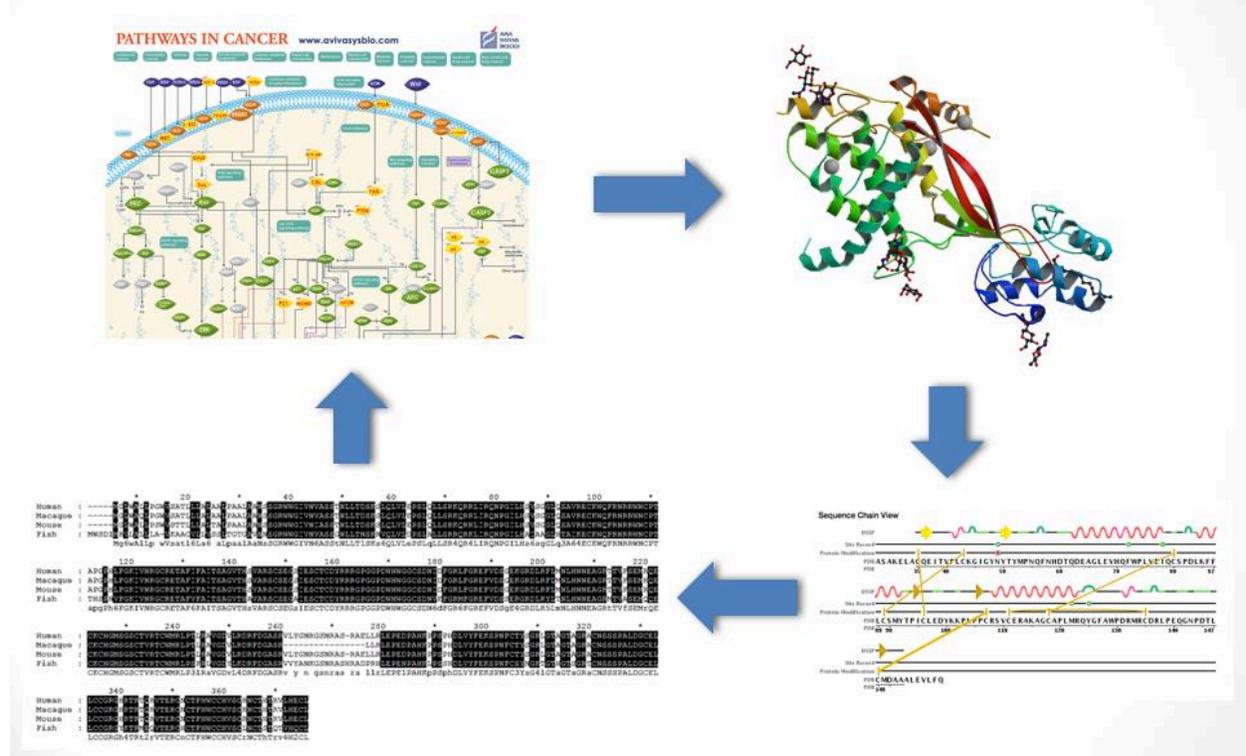
Internal Rate of Return: This takes the ROI and quantitates it as an interest rate. Expressing the direct and indirect costs of research in dollars to indicate what the net value of the research is to the organization. This would include both direct and indirect costs of your project and quantitates the total value as an interest rate or percentage, while also considering the impact internally to the company. For example, tactical process refinements that were realized as part of execution of your project may provide efficiencies for other projects in the company, in addition to any direct revenues realized by the results of the successful completion of the project itself.

Performance Metrics: This is the mapping of the entire workflow activities of the project over time to determine the level of effort for each part of the project vs the return obtained. For example, in studying the genetic bases for a particular disease, activities performed over time might include cell transfections, screening, gene cloning, gene expression, protein expression, and animal functional studies. Those activities can be mapped over time along with the experimental results at each step of the process and the costs for each step to see where the biggest “bang for the buck” is. This is commonly done in pharmaceutical companies as they re-evaluate their processes to identify strong and weak components of their drug discovery pipelines. In screening hundreds or thousands of chemical compounds using sequential assays, results of these analyses can reveal a simple re-ordering of different processes in a pipeline that more efficiently eliminates compounds earlier in the pipeline thus significantly reducing costs.

Managing the Balance Sheet: This is a financial expression of who the company (or laboratory) is and where they are going. It is a standardized reporting system commonly used by investors to gain an understanding of the performance of an organization. In your own lab, the balance sheet would list all personnel, their direct and indirect costs, the costs of all supplies, reagents, and support costs from administration etc. Against that would also be listed revenue streams: grants, institutional support (salary support by the institution, physical plant, etc), any revenues from CRADAs, patents, etc.

The Language of Science

Often in science, in order to understand complex systems or pathways, we break them down into their component parts.



Similarly, job descriptions can also be broken down into their component parts in order to better understand the real requirements in the context of the technical, business and social skills necessary to be competitive. We can use the SciPhD Core Business Competency Ontology to do this. The benefit is a clear indication of the specific experiences and accomplishments you should develop in order to distinguish yourself from your competition.

Senior Scientist, Cancer Biology - Immune Oncology

AbbVie is committed to the discovery and development of innovative first-in-class therapies to help patients in the fight against cancer. AbbVie is at the forefront of cancer research in discovering and developing novel treatments that offer a new approach to cancer therapy. The Oncology Discovery team has an exciting opportunity available for a highly motivated and skilled Senior Scientist Immune Oncologist/Immunologist III or II (depending on experience) with a proven track record of accomplishments to help lead research efforts driving our small molecule immune oncology programs.

Key Responsibilities:

- Independently conceive, execute and communicate novel multi-disciplinary research strategies that encompass target discovery/validation, late stage discovery programs as well as early development agents engaging immune oncology (I-O) mechanisms
- Effectively lead efforts in building strong technical expertise and innovative infrastructure to support small molecule I-O programs
- Interact with cross-functional teams to establish productive collaborations within and outside of AbbVie
- Develop compelling scientific presentations and reports for internal review meetings and external scientific conferences and journals

Position will be hired based on level of experience

Basic:

- Extensive laboratory research experience and a desire to continue in a laboratory-focused role
- Demonstrated record of creativity and scientific achievements, i.e., strong publication and/or patent record
- Broad training in immune oncology and a deep understanding of current trends in I-O therapeutics
- Comprehensive technical expertise and knowledge in innate and adaptive immune response

Creating your Targeted Resume

<p>1429 Terrace View Chester Springs, PA 19425 (215) 555-1212</p>		<p>James Biglow, PhD NYU College of Dentistry 345 East 24th Street New York, NY 10010 jbigl@nyu.edu</p>	
<p>Summary of Qualifications</p>			
<p>Innovative Cellular Immunologist with a focus on respiratory, inflammation and autoimmunity mechanisms and an established record of opening a highly efficient research laboratory. Experienced in developing and optimizing cell-based assays to elucidate T-cell pathways using innovative approaches. Successfully led highly productive collaborative teams that generate high quality data and patents by instilling self-awareness and accountability in individual team members while recognizing team contributions. Foster agile approach to effectively monitor progress and adjust approaches strategically to ensure success of the plan.</p>			
<p>Education</p>			
McGill University, Montreal, Quebec, Ph.D., Immunology		2010	
University of Connecticut, Storrs, CT, B.S., Physiology		2003	
<p>Relevant Technical Skills</p>			
<ul style="list-style-type: none"> pharmacodynamics Tissue preparation Tissue culture 	<ul style="list-style-type: none"> Animal model development Respiratory inflammation models 	<ul style="list-style-type: none"> In vitro imaging Computational bioinformatics Immunoassays 	
<p>Relevant Business and Social Skills</p>			
<ul style="list-style-type: none"> Led collaborative teams Rigorous statistical analytics 	<ul style="list-style-type: none"> Project management Mentoring students 	<ul style="list-style-type: none"> Oral communications Written communications 	
<p>Educational and Professional Development</p>			
<p>Postdoctoral Fellow, Mentor: Dr. James Keisenberg <i>National Institutes of Health, Laboratory of Immunology</i> Development of pulmonary inflammation models in mice evaluated clinically, histologically, and with identification of novel protein that correlates with disease resulting in 2 peer-reviewed publications.</p>		2011 - Present	
<p>Adjunct Faculty <i>Ramapo Community College, NJ</i> Developed and taught "Principles of Biology"</p>		2011	
<p>Graduate Assistant, Mentor: Dr. Janice Bellanca <i>Salk Institute, Jefferson University, Philadelphia, PA</i> Development of animal models and molecular techniques, and pharmacodynamics profiling resulting in 3 peer-reviewed publications</p>		2005 - 2011	
<p>Medical Education Consultant, Mentor: Dr. David Germally Developed project management skills resulting in successful coordination of multiple simultaneous projects</p>		2003 - 2005	

<p>Clinical Biostatistician Intern <i>Dept. of Neonatology, UMDNJ & St. Peter's Univ. Hospital, New Brunswick, NJ</i> Organized and condensed large data samples and applied wide range of statistical analyses.</p>		2001
<p>Business and Management Experience</p>		
<p>SciPhD, The Business of Science for Scientists <i>New York University, New York, NY</i> • Focus: the core business competencies necessary for the transition from academia to industry.</p>		2014
<p>From Idea to IPO: Technology Venture Course <i>New York Academy of Sciences, New York, NY</i> Focus: the development of intellectual property into a marketable product</p>		2011
<p>Research Commercialization Introductory Course <i>National Council of Entrepreneurial Tech Transfer, Washington, DC</i> • Focus: the principals of entrepreneurship, including the management and investment strategies</p>		2010
<p>Mentoring Experience</p>		
<p>As a graduate student and postdoctoral fellow, I managed and mentored 3 undergraduates, a graduate student, two dental students, and a orthodontic resident resulting in:</p> <ul style="list-style-type: none"> A thesis award for physical sciences Acceptance into highly competitive MD, MDPHD, and orthodontic residency programs NYU College of Dentistry Research Day Awards Multiple publications in peer-reviewed journals 		
<p>Selected Publications</p>		
<ul style="list-style-type: none"> Deletion of Mdl leads to secondary immunosuppression with impaired shelf elevation. Bernice A*, Biglow J*, Bandine W, Chao M, Gearmal N, Cjan V, Jelong J. <i>BMC Developmental Biology</i>, 2014. *Co-first authors Developmental defect of D1/2-/- mutant mice is caused by lack of vertical outgrowth in the posterior spur. Bandine W, Biglow J, Chao M, Bens L, Wesmith H, Hunstein RK. <i>Developmental Dynamics</i>, 2012. Rantes has a non-essential role in acentrosomal suppression assembly in <i>helminth</i> oocytes. Biglow J, McKnight BS. <i>Journal of Cell Science</i> 2011. 		

Your Resume must VALIDATE your Experiences

James Biglow, PhD

1429 Terrace View
Chester Springs, PA 19425
(215) 555-1212

NYU College of Dentistry
345 East 24th Street
New York, NY 10010
jbigl@nyu.edu

Summary of Qualifications

Innovative Cellular Immunologist with a focus on respiratory, inflammation and autoimmunity mechanisms and an established record of operating a highly efficient research laboratory. Experienced in developing and optimizing cell-based assays to elucidate T-cell pathways using innovative approaches. Successfully led highly productive collaborative teams that generate high quality data and patents by instilling self-awareness and accountability in individual team members while recognizing team contributions. Foster agile approach to effectively monitor progress and adjust approaches strategically to ensure success of the plan.

Education

McGill University, Montreal, Quebec, Ph.D., Immunology 2010
University of Connecticut, Storrs, CT, B.S., Physiology 2003

Relevant Technical Skills

- pharmacodynamics
- Tissue preparation
- Tissue culture
- Animal model development
- Respiratory inflammation models
- In vitro imaging
- Computational bioinformatics
- Immunoassays

Relevant Business and Social Skills

- Led collaborative teams
- Rigorous statistical analysis
- Project management
- Mentoring students
- Oral communications
- Written communications

Educational and Professional Development

Postdoctoral Fellow, Mentor: Dr. James Keisenberg, 2011 - Present
National Institutes of Health, Laboratory of Immunology
Development of pulmonary inflammation models in mice evaluated clinically, histologically and with identification of novel protein that correlates with disease resulting in 2 peer-reviewed publications.

Adjunct Faculty, 2011
Ramapo Community College, NJ
Developed and taught "Principles of Biology"

Graduate Assistant, Mentor: Dr. Janice Bellances, 2005 - 2011
Salik Institute, Jefferson University, Philadelphia, PA
Development of animal models and molecular techniques, and pharmacodynamics profiling resulting in 3 peer-reviewed publications

Medical Education Consultant, Mentor, Dr. David Germalny, 2003 - 2005
Developed project management skills resulting in successful coordination of multiple simultaneous projects

Clinical Biostatistician Intern 2001
Dept. of Neonatology, UMDNJ & St. Peter's Univ. Hospital, New Brunswick, NJ
Organized and condensed large data samples and applied wide range of statistical analyses.

Business and Management Experience

SciPhD, The Business of Science for Scientists 2014
New York University, New York, NY
• **Focus:** the core business competencies necessary for the transition from academia to industry.

From Idea to IPO: Technology Venture Course 2011
New York Academy of Sciences, New York, NY
Focus: the development of intellectual property into a marketable product

Research Commercialization Introductory Course 2010
National Council of Entrepreneurial Tech Transfer, Washington, DC
• **Focus:** the principals of entrepreneurship, including the management and investment strategies

Mentoring Experience

As a graduate student and postdoctoral fellow, I managed and mentored 3 undergraduates, a graduate student, two dental students, and an orthodontic resident resulting in:

- A thesis award for physical sciences
- Acceptance into highly competitive MD, MD-PhD, and orthodontic residency programs
- NYU College of Dentistry Research Day Awards
- Multiple publications in peer-reviewed journals

Selected Publications

- Deletion of Mcl leads to secondary immunosuppression with impaired spleen elevation. Bernice A*, Biglow J*, Bandine Walt A, Chao M, Germal N, Cjan V, Jelong J. *BMC Developmental Biology*, 2014. **Co-first authors**
- Developmental defect of D1/2-/- mutant mice is caused by lack of vertical outgrowth in the posterior spur. Bandine W, Biglow J, Chao M, Bens L, Weusmith H, Hunstein RK. *Developmental Dynamics*, 2012.
- Rantes has a non-essential role in centrosomal suppression assembly in helminth oocytes. Biglow J, McKnight BS. *Journal of Cell Science* 2011.

Using Flamingo® to Map a Job Ad and Identify Critical Competencies to Build a Targeted Resume

The following process provides a reliable way to identify and prioritize specific technical, business, and social requirements valued by prospective employers in a job ad, develop experience statements that demonstrate why you are qualified for that job and generate a targeted resume. Flamingo® stores all your work and makes it available to you as needed. There is also a manual approach to mapping a job ad and developing a targeted resume which is also described.

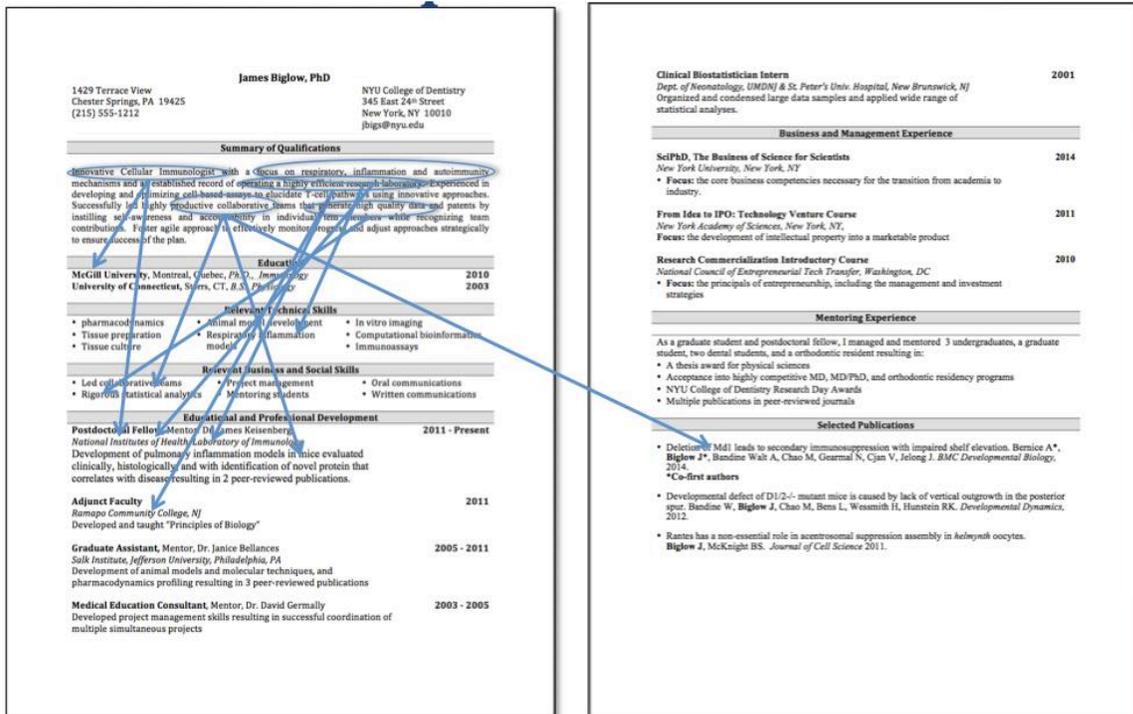
Overall Process



Highlight skills

Map skills to SciPhD core competencies

ID top skills



Develop Targeted Resume

Step 1: Identify scientific/technical and business/social skills

Launch the Career Coach in Flamingo® and import a job ad into the screen filling in all the required fields. Once you have imported a job ad, click the “continue” button and you will be taken to the **Job Analysis and Mapping** screen where you will highlight specific phrases in the job ad, and tag which of the seven SciPhD Competency Behaviors are being invoked. You can tag multiple competencies to a single phrase if appropriate.

Career Coach

Progress

Job Analysis and Mapping

Overview Video



Read through the job ad and highlight each phrase that indicates a required skill. The system will then ask you to assign that requirement to specific SciPhD competencies. You can assign requirements to more than one competency. The system will track where you left off in the job ad by highlighting the last mapped phrase. The mapped requirement will appear along with its assigned competencies to the right of the job ad. Repeat this process for the entire job ad.

[Watch an actual job mapping](#)

To learn more about SciPhD competencies below, [click here](#):

- Technical** The technical skills required to perform the work.
- Developing Your People** Mentoring, leading and building rapport towards generating high performing teams.
- Communications** The verbal, nonverbal, emotional and social interactions among people that promote the other five competency areas.
- Creating the Vision** Where is the company going? How does my work fit into that vision?
- Execution** Careful planning, direction and taking action to ensure projects succeed.
- Achieving Results** Demanding increased productivity and quality, and being focused on the strategic goal.
- Financial Acumen** The ability to communicate personal or organizational objectives and behaviors in financial terms.

Principal Scientist, Type 2 Inflammation & Fibrosis

Sanofi

The Type 2 Inflammation Therapeutic Area is focused on discovering novel findings into novel programs, we are a center for Sanofi and developing these al programs, we are a consortium for Sanofi and the BIOMAP nap-imi.eu/network/ind

Our Cluster is currently focusing on finding fresh ways to identify and functionally define new targets. We are therefore in search of a **creative, innovation-driven scientist** who will bring new perspectives to the Type 2 Inflammation and Fibrosis field, leading a team of 2-4 lab members focused on early targets and new biology. Bringing academic inquiry to the pharma environment, you will work closely and collaboratively with the Cluster Head, Dr Paul Bryce, to bring our most innovative visions to life. Your team will focus on breakthrough science and technology aimed at building our reputation for discovery research in the Type 2 Inflammation & Fibrosis field and for identifying new targets we can transform into first-in-class therapies.

Select skill tags

Technical Developing Your People Communications

Creating the Vision Execution Achieving Results

Financial Acumen

Cancel Done

Requirements

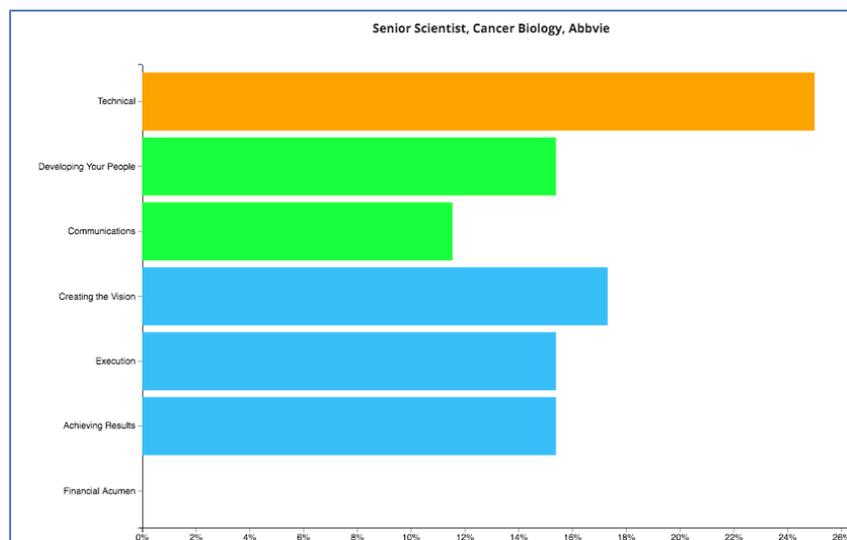
systems biology, advanced animal modeling, epigenetics, and/or proteomics

Technical

Communicate research through peer-reviewed publications and presentations at scientific conferences.

Communications

You can view a graphical representation of the mapped skills during the mapping process by clicking on the link at the bottom right corner of the **Job Analysis and Mapping** screen. You can resize, move, print, and close the graph as needed.



Flamingo's Job Analytics Engine displays relative emphasis of all SciPhD competencies for mapped job ads.

Step 2: Can You Do the Science?

The first and most important question to address is to critically consider if you are scientifically qualified to do the job. Remember that there are 50-1000 other PhD-level scientists that you are competing with, and they can all “do the science”. Although it is not typically necessary that you can fulfill 100% of the stated scientific/technical skills, you must use your professional judgement to determine if there are any skills that you cannot demonstrate expertise and that would be “deal killers”. Remember that companies can easily vet technical skills and will select from the pool of candidates who can meet these requirements for further consideration. Your science skills are typically your “ticket to play”, but rarely are the only consideration in whether you get the job. That depends on your business and social skills.

In Flamingo[®], once you finish the job mapping process, and click “continue”, the following **Experience Statement** screen allows you to view all of the mapped requirements organized by the seven SciPhD competencies. For example, select the “Technical” filter to review all the technical requirements and determine if you are technically qualified. As you review each technical requirement, you can also indicate your Skill Confidence level on a scale of zero (no ability at all) to five (complete mastery).

When you determine that you are technically qualified for the job, you must then indicate specific experiences with accomplishments and where you gained those experiences (second column in the Flamingo[®] **Experience Statements** screen. All your educational, professional, and additional experiences from your Profile are available from the pull-down menu. Select the single most relevant or impactful experience and provide a brief description *with relevant accomplishments* in the Description box.

Creating Behavioral-based Experience Statements

The key to demonstrating that you are qualified to step into a new job and “hit the ground running” is to develop experience statements with accomplishments that demonstrate your past successes relevant to the job requirements. In constructing experience statements, you should clearly follow the “STAR” format- **S**ituation, the specific **T**ask to be completed, the **A**ction you took, and the **R**esult. This “STAR” approach ensures that you are providing past accomplishments to assure prospective hiring representatives that you are the right person for the job.



In developing experience statements, the “situation” and “task” are typically specified in the job requirements. Your experience statement must capture the “action” you took and most importantly, the “result” of that action that demonstrates your expertise.

Finally, add specific skill bullets relevant to that requirement (third column in Flamingo[®] Experience Statements screen) that indicate more specifically your relevant skills (e.g. “molecular immunology”, “cell culture”). Flamingo[®] will use this information in generating your targeted resume. Note that for technical skills, these skill bullets are entered as “free text” due to the fact that there are almost unlimited technical skills. Try to be consistent with your choice of skill terms, and specific enough to clearly indicate that you have the technical skills required. When you map your business and social skills, the skill bullets used to refine specific skills will be selected from a controlled vocabulary (this will be discussed more below).

Dealing with Duplicate Requirements

Oftentimes, requirements will be repeated multiple times within a job ad, and as a result, when you map the job ad, and move on to writing experience statements, you may encounter the same requirement multiple times. You do not have to complete that duplicate row. You can simply uncheck the “Include” box in the first column and Flamingo[®] will not require you to complete the experience statements or skill bullets.

There are two approaches to “excluding” duplicate requirements. By clicking the “Select All” box at the top of the requirements table, Flamingo will “Include” all requirements (the “include” box will be checked. You can then read through each of the requirements within a category (e.g. Technical, Developing Your People, etc) and de-select the duplicates.

Alternatively, you can click the “Select All” a second time to de-select all requirements. In this approach, we recommend reading all the requirements within a category, and then selecting the most relevant and important non-redundant set of requirements and selecting those by clicking on their “Include” box.

With either approach, at the end of that process you will have a subset of all the mapped requirements for which you can now develop your experience statements, accomplishments, and associated skill bullets.

Important Tip

If the “Include” box is checked, and the skill level is greater than zero, Flamingo® requires you to indicate an experience location and statement, and at least one skill bullet before you can advance to the next phase of developing a targeted resume.

FLAMINGO
A Product of SciPhD

Home Career Coach Resources Return to SciPhD John Waterbird Log Out

Career Coach

Progress

Experience Statements

[QuickStart Guide: Creating Experience Statements](#)

1. For each requirement, first indicate your skill confidence (range 0-5).
2. If your skill is greater than zero enter a brief description of that experience along with any accomplishments that demonstrate your level of mastery. Also indicate from the pulldown menu where you gained that experience. If the institution is not listed, update your profile [educational experience](#) or [professional experiences](#).
3. In the Skills column, enter brief “bullet points” that describe the skill. For technical skills, you can enter any free text. For the six SciPhD skill categories, select from our controlled vocabulary in the pull-down menu. For a complete list and description of these categories, [click here](#).
4. If a particular requirement is redundant with a previous requirement, you can uncheck the “Include” checkbox in the first column and that requirement will not be used in developing your targeted resume.

Current Job: Senior Scientist, Cancer Biology, Abbvie

All **Technical** Developing Your People Communications Creating the Vision Execution Achieving Results Financial Acumen

Select All

Include	Requirements ?	Experience Description ?	Skills ?
<input checked="" type="checkbox"/>	skilled Senior Scientist Immune Oncologist/Immunologist III or II Technical Skill Confidence: 5	Principal Investigator National Cancer Instit Managed laboratory at the National Cancer Institute for five years resulting in publication of 15 papers focused on augmenting the immune response to tumors and viruses through	Technical Skills * MHC Class I tumor immunology x Enter Skills
<input checked="" type="checkbox"/>	Extensive laboratory research experience and a desire to continue in a laboratory-focused role Technical Execution Skill Confidence: 5	Postdoctoral Fellow National Institutes of H Extensive experience in design, execution and publication of novel and effective tumor immunology studies resulting in seven peer-review publications	Technical Skills * molecular immunology x in vitro cell culture x Flow cytometry x in vivo animal studies x protein engineering x protein expression x Enter Skills Social & Business Skills * Established record of accomplishments x

The job analytics engine graph is currently hidden. To view your graph of job requirement mapping in real time. [Click Here!](#)

Step 3: Review and Document Business and Social Competencies

Use the filter buttons (Developing Your People, Communications, Creating the Vision, Execution, Achieving Results, Financial Acumen) in the Flamingo® **Experience Statement** screen to sequentially display the job requirements in each of the six business and social competency areas. As you review each requirement, determine your skill level as you did for the technical requirements in step 2 above, identify the most relevant/impactful experience from the pull-down menu in the Experience Description column, and provide brief experience statements *with accomplishments*. Finally, you should select “skill bullets” to provide more focused and specific qualifications within the competency area for that specific job requirement by selecting relevant skill bullets from the pull-down controlled vocabulary. Note that the available skill bullets reflect the 23 SciPhD core competencies as well as some additional related behaviors valued by professional organizations. Select as many skill bullets as are relevant. Each of the selected bullets will appear on your draft targeted resume, which you can then edit as required. As with the technical requirements described above, you can ignore redundant requirements by simply unchecking the “Include” box in front of that requirement row.

Step 4: Review Mapped Skills and Identify top Behaviors

Analysis of the graphical representation of the mapped job ad can be displayed by clicking at the link on the bottom of the Job Analysis and Mapping page and the Experience Statements page. You can clearly see which aspects of your Identity are most required/desired for the job ad by reviewing this analysis.

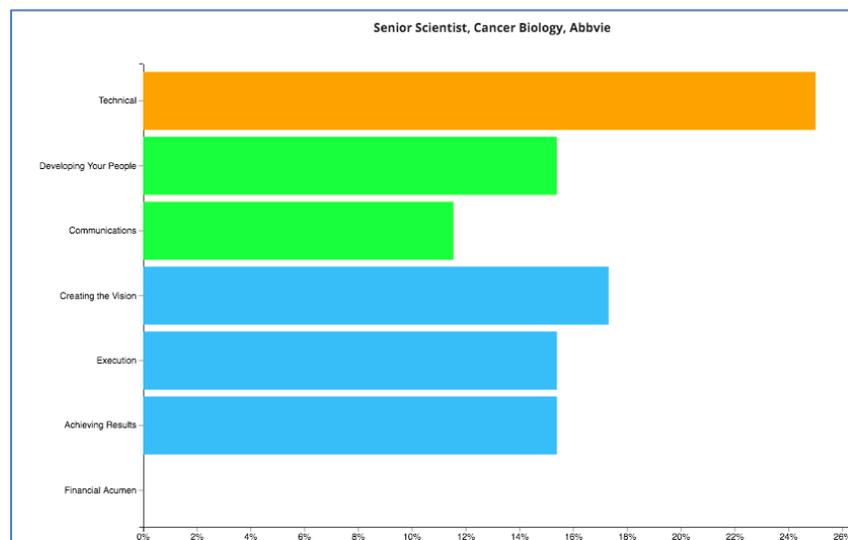
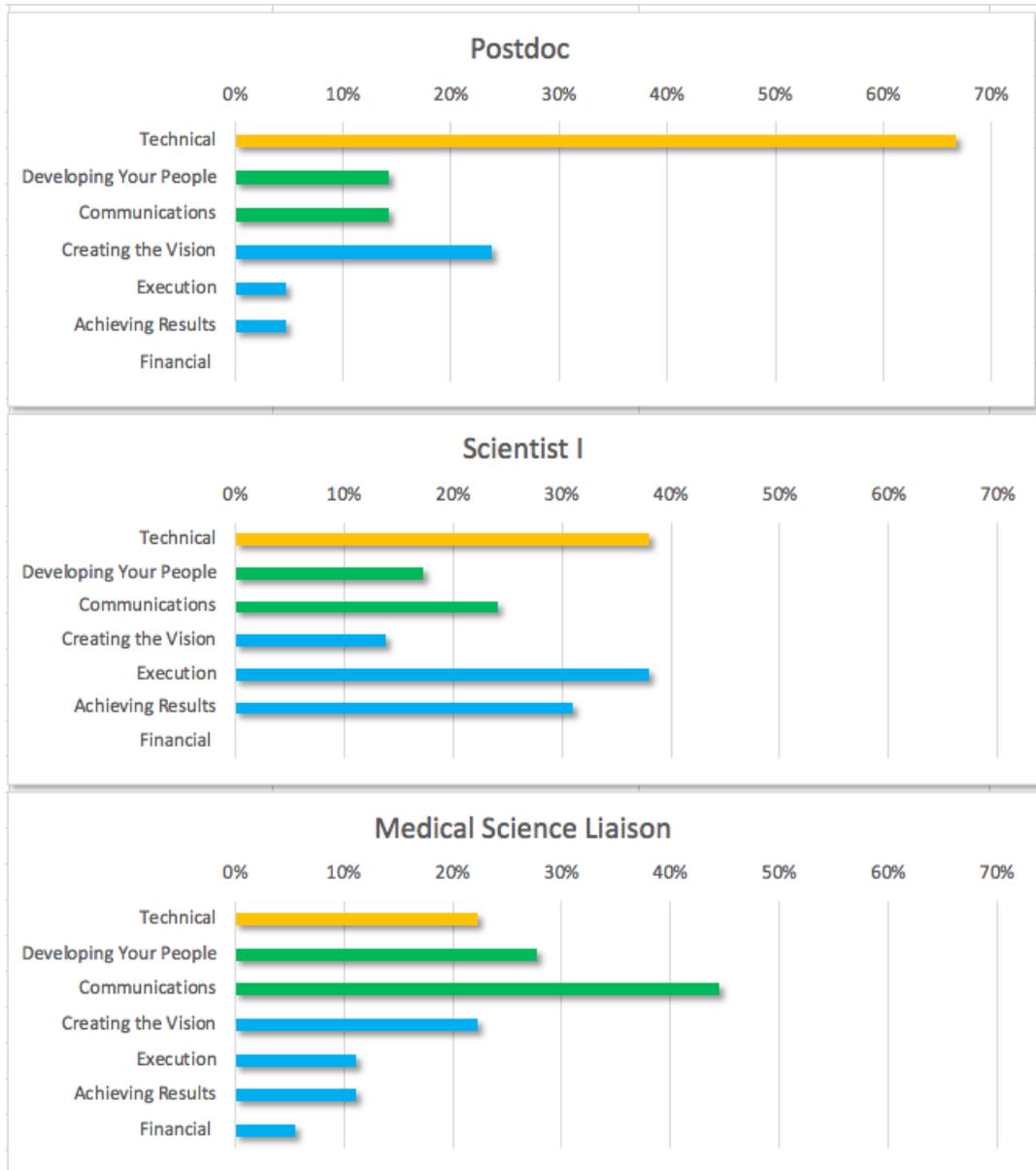


Figure: Flamingo's Job Analytics Engine provides graphical view of the job ad's relative emphasis in the seven SciPhD Competencies

In the example job analyses below, you can see the dominant impact of technical skills in a Postdoc position as compared with the emphasis on *execution* and *achieving results* for the Scientist I position, and the importance of *communications* for the Medical Science Liaison position.



Step 5: Developing Summary of Qualifications

Once you have completed creating Experience Statements and associated Skill Bullets, click “Continue”, to begin developing your Summary of Qualifications. This is a concise 5-7 sentence statement of why you are qualified for the job. This will appear at the top of your resume below your contact information and should convey your technical, business and social skills and accomplishments relevant for the position. Flamingo® will walk you through a three-step process to develop your SOQ which will appear at the top of your draft targeted resume. Note that all your documented requirements and experience statements are viewable and filterable in the Summary of Qualifications screen, just as they were in the Experience Statement screen. In this case, they are displayed across the top of the page, and show the requirement, your experience description, and the mapped SciPhD categories. The requirements are displayed in the order of Skill Confidence that you assigned with the highest confidence skills displayed on the left side. You can use those experiences to author and refine your three-step Summary of Qualifications process. Once you complete the Summary of Qualifications steps, click the “Finish” button to download your draft Targeted Resume as a Microsoft Word document. You can then edit the resume as needed.

The screenshot displays the Flamingo Career Coach interface. At the top, the Flamingo logo is visible, along with navigation links for Home, Career Coach, Resources, and a user profile for John Waterbird. The main heading is "Career Coach" with a progress indicator showing four steps, with the first three completed. The section is titled "Summary of Qualifications (SOQ)" with a "Step-by-Step Guide" link. A brief explanation states that the SOQ is a 5-7 sentence statement of qualifications. A numbered list outlines the three steps: 1. Main Qualifications (critical skills), 2. HOW you do your work (business and social skills), and 3. A strong closing statement. The current job is listed as "Principal Scientist, Type 2 Inflammation & Fibrosis, Sanofi". Below this, a filter bar shows categories like "All", "Technical", "Developing Your People" (selected), "Communications", "Creating the Vision", "Execution", "Achieving Results", and "Financial Acumen". Four job requirement cards are shown, each with a requirement, experience description, and mapped categories. The bottom section shows a three-step process for writing the SOQ: "Main Qualifications", "Additional Skill", and "Closing Statement". The "Main Qualifications" step includes a text box with a prompt to describe a primary technical skill and a list of examples: "Innovative molecular biologist...", "Collaborative biochemist...", and "Multi-lingual neurobiologist". An example text is provided: "Innovative collaborative pulmonary immunologist experienced in developing animal models to study pulmonary inflammation."

Flamingo's Summary of Qualifications (SOQ) organizes all mapped job requirements and user experience statements by category and user's skill level in a 3-step process.

There is additional information on crafting an effective Summary of Qualifications using a manual method below.

Summary of Qualifications (SOQ)

The *Summary of Qualifications* is a brief focused statement of your scientific qualifications in the context of the business and social skills demanded of the job. The remainder of the resume provides specific examples from your educational, professional, and outside experiences that demonstrate that you have these skills. Whenever possible, these experiences should indicate specific accomplishments that demonstrate you have successfully mastered these skills. For example, the statement “mentored graduate students” would become much more powerful if it was re-stated as “mentored five graduate students, resulting in five peer reviewed publications, and two completed thesis programs.”

Similarly, “experienced with collaborations” is made much more powerful as: “managed multiple collaborations both within and outside the institution resulting in two peer reviewed publications, an international patent filing and invitations to present at an international meeting.”

Developing the Summary of Qualifications

Use the language of the job ad as input to constructing your summary of qualifications, combining the most important business and social skills in the context of your technical abilities.

Goal	Statement
Modifier describing technical skill	Self-motivated highly productive cancer biologist
Detailed description	experience in developing animal models of immune-based tumor suppression.
Additional core or operational skill	Project management skills, prioritize activities, effectively communicate with diverse team members
Close <ul style="list-style-type: none"> • strong business statement with an accomplishment • Strong social statement with an accomplishment • Unique value to the enterprise that you bring 	I stay focused on strategic goals, manage the energy of my group and led high performing teams that succeed.

Note how the following Summary of Qualifications examples map to the major requirements from the job ad and borrow language from the actual job ad itself.

Summary of Qualifications

Self-motivated highly productive cancer biologist with experience in developing and studying models of immune-based tumor suppression. Independently and collaborative research teams as liaison between departments and applied my project management skills in order to keep projects on time, on budget, and meeting objectives. Effectively prioritized multiple research activities, effectively communicated with diverse team members with varying backgrounds and manage teams with diverse personalities and skill sets. My past performance demonstrates an ability to keep focused on strategic goals and manage the energy of my group to develop high performing teams that succeed!

Senior Scientist, Cancer Biology – Immune Oncology
 AbbVie is committed to the discovery and development of innovative first-in-class therapies to help patients in the fight against cancer. AbbVie is at the forefront of cancer research in discovering and developing novel treatments that offer a new approach to cancer therapy. The Oncology Discovery team has an exciting opportunity available for a highly motivated and skilled Senior Scientist Immune Oncologist/Immunologist III or II (depending on experience) with a proven track record of accomplishments to help lead research efforts driving our small molecule immune oncology programs.

Key Responsibilities:

- Independently conceive, execute and communicate novel multi-disciplinary research strategies that encompass target discovery/validation, late stage discovery programs as well as early development agents engaging immune oncology (I-O) mechanisms
- Effectively lead efforts in building strong technical expertise and innovative infrastructure to support small molecule I-O programs
- Interact with cross-functional teams to establish productive collaborations within and outside of AbbVie
- Develop compelling scientific presentations and reports for internal review meetings and external scientific conferences and journals

Position will be hired based on level of experience

Basic:

- Extensive laboratory research experience and a desire to continue in a laboratory-focused role
- Demonstrated record of creativity and scientific achievements, i.e., strong publication and/or patent record
- Broad training in immune oncology and a deep understanding of current trends in I-O therapeutics
- Comprehensive technical expertise and knowledge in innate and adaptive immune response
- Experience in small molecule drug discovery from target discovery/validation to candidate nomination
- Proficiency in standard biochemical, cellular and molecular techniques and in vivo/ex vivo/in vitro immunology approaches
- Ability to operate in a fast-paced multi-disciplinary environment, interacting with diverse groups of experts within or outside of his/her scientific discipline
- Ability to prioritize and manage multiple research activities
- Experience in communicating technical information to a broad scientific audience through presentations and written reports

Innovative Cellular Immunologist with a focus on respiratory, inflammation and autoimmune mechanisms and an established record of operating highly efficient research laboratory. Experienced in developing and optimizing cell-based assays to elucidate T-cell pathways using innovative approaches. Successfully led highly productive collaborative teams that generate high quality data and patents by instilling self-awareness and accountability in individual team members while recognizing team contributions. Foster agile approach to effectively monitor progress and adjust approaches strategically to ensure success of the plan.

Description
 MedImmune has a new opportunity for a scientist in the Respiratory, Inflammation, and Autoimmunity group within the Translational Strategy group in the Department of Translational Sciences. This position can be filled at the Scientist I or Scientist II level. The research focus for this position will be in respiratory diseases, including asthma and COPD, but may extend into other inflammation and autoimmunity disease indications as needed. The successful candidate will work with a team of scientists in the development of translational science strategies to define the link between drug target pathways and disease mechanisms. The candidate will take a lead role in the delivery of supporting scientific data to guide patient stratification, proof-of-principle assessments, including the evaluation of predictive and pharmacodynamic markers that can be evaluated clinically, and provide clinical trial support for drug candidates in early development. The successful candidate will also be integrally involved in the outsourcing of analyses, evaluation of novel translational technologies and in the establishment of external collaborations to support project-related translational objectives. -BSP

Requirements
 This position can be filled at the Scientist I or Scientist II level. For the Scientist I, we require a MS with 8 - 10 years of overall experience or a Ph.D. with 0 - 3 years of overall experience. For the Scientist II level, we require a MS with 10 - 13 years of overall experience or a Ph.D. with 3 - 7 years of overall experience.
 In addition we require the following experience:
 Research experience in respiratory or inflammatory diseases.* A record of scientific innovation, robust experimental design and interpretation of data that has resulted in project advancement and scientific publication.* Experience in the development and implementation of new methods, technologies, and processes.* Previous experience interrogating human disease samples for evidence of target pathway expression/activation.* Ability to multi-task to meet aggressive goals under tight timelines.* Experience working on complex projects and the ability to work well in a cross-functional, team-oriented environment.* Ability to integrate work seamlessly from lab-based hands-on research, to computer based data analysis and project team participation.*

Summary of Qualifications maps to most emphasized (and likely significant) job requirements, ensuring that resume is focused on the most important needs for the position.

Characteristics of the Summary of Qualifications

- ~5 sentences or bullets
- Highlight the most important technical, business and social competencies from the job mapping
- Express competencies in the context of your own personal accomplishments
- Body of the resume validates claims made in the Summary of Qualifications

Summary of Qualifications Guidelines

- Lead with the highest ranked business and social skill and use it to modify the primary science domain.
 - “Collaborative multilingual biochemist with...”
 - “Entrepreneurial molecular immunologist...”
 - “Performance driven engineer...”
 - “Financially literate immunologist...”
- Follow with detailed science experience related to the job
- Include at least one quantification
- End with strong business or social result/accomplishment
- Not more than 6-7 lines

SOQ Example 1

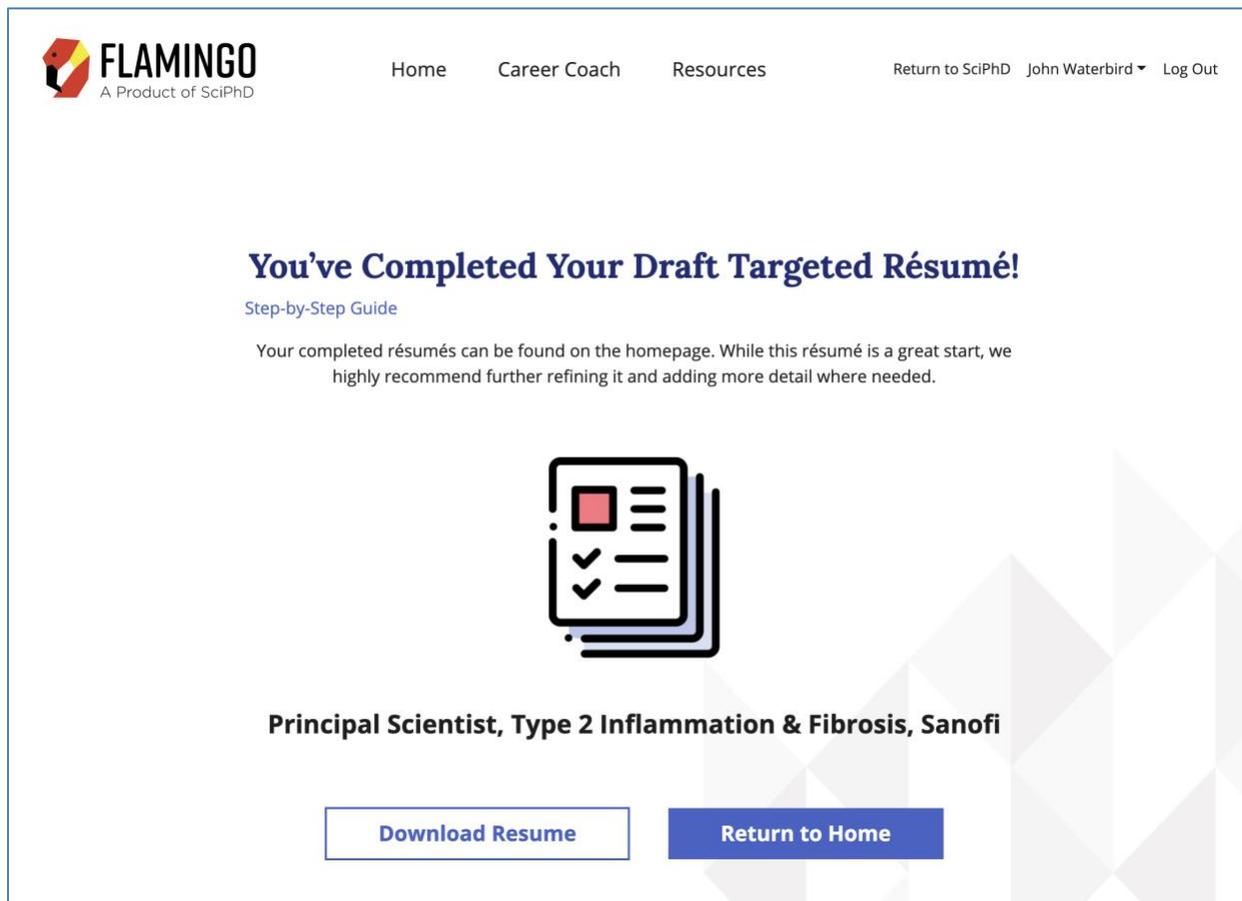
Proven collaborative leader in initiating and executing functional protein expression laboratory research in both industry and academia. Experienced in getting projects completed on time, on budget, and meeting deliverables and milestones. Particularly effective at enabling individuals with diverse cultural and professional backgrounds by assisting them with emphasizing their skills and ideas, particularly when they have language and cultural barriers. By possessing a strong work ethic and desire for perfection, I inspire others to exceed expectations and have been the “Go To” person for getting things done.

SOQ Example 2

Highly focused research advocate of innovative solutions applying recombinant protein engineering to manipulate immune responses. Applied unique knowledge of protein structure-function relationships to develop novel, recombinant protein-based commercially practical vaccine development methods for tumors and viruses resulting in international patent filings. Disciplined in constant awareness of competitive vaccine development via international network. Lab group leader for 5 years with history of results as evident in 7 peer reviewed publications. Trainer and collaborator in lab metrics, lab process improvement tools and communication skills. Local participant in STEM outreach and requested presenter of “interdisciplinary approaches for technology integration in agile lab processes.”

Step 6: Export and Edit Your Draft Targeted Resume

Once you complete your summary of qualifications, Flamingo® will offer for you to download your draft targeted resume as a Word document (.docx). You should open that document and then edit it as necessary. Your goal is to get your resume to 1-2 pages, remove redundancies, and make the case that you should receive an invitation to interview for the job.



The screenshot shows the Flamingo website interface. At the top left is the Flamingo logo with the text "A Product of SciPhD". The navigation menu includes "Home", "Career Coach", "Resources", "Return to SciPhD", "John Waterbird", and "Log Out". The main heading reads "You've Completed Your Draft Targeted Résumé!" followed by a "Step-by-Step Guide" link. A message states: "Your completed résumés can be found on the homepage. While this résumé is a great start, we highly recommend further refining it and adding more detail where needed." Below this is an icon of a document with a checklist. The job title "Principal Scientist, Type 2 Inflammation & Fibrosis, Sanofi" is displayed. At the bottom are two buttons: "Download Resume" and "Return to Home".

Completion Page in Flamingo after successfully completing all steps provides link to download draft resume as Word document.

The NIH Office of Training and Education Guide to Resumes & Curricula Vitae is an excellent reference. It describes resume formats, construction of a Summary of Qualifications, suggestions for appropriate descriptive words, and pitfalls to avoid.

The guide can be downloaded free of charge. Either “google” “Guide to resumes & curricula vitae” or just go to:

https://www.training.nih.gov/assets/Guide_to_Resumes_&_Curricula_Vitae.pdf

Guide to Résumés & Curricula Vitae



DISCLAIMER

This guide is to be used as a general overview and cannot take each reader's own unique experiences into account. It is intended to be used as a starting point for more in-depth discussions with mentors, career counselors, and others in your network. Please bear in mind that, in actuality, there are very few rules and many different opinions regarding CVs and résumés.

Larry's Resume Rules

- Two pages – if requested, key publications are attached
- All your time since High School should be accounted for
- Usually a chronological resume format
- Summary of Qualifications
- Integrate business, social and technical skills
- Relevant Experience
- Educational
- Work
- Technical
- Volunteer or other ...
- Distinctive Experience
- MUST INCLUDE ACCOMPLISHMENTS – THINK STAR

The resume must demonstrate that you meet critical job requirements and you bring more value to the enterprise:

Technical – assume all candidates can do the technical

Business – how you get work done with accomplishments

Social – how you work with people with accomplishments

The resume gets you an interview- phone and/or live

The resume will frame interview discussions!

Structuring Your Resume

One convenient way to generate a well-structured resume is to create a three-column table in your word processing software. Individual rows can have the cells merged in order to create a section such as the “Summary of Qualifications” shown in the example below. Because each cell can be formatted separately (left justified, end-justified, right justified), it makes structuring the resume simpler. Make sure that you set the table’s cell borders to not print, except for the borders that you want to show up (e.g. the top and bottom borders of section titles).

Notice that in the “Education” and “Educational Development” sections, two of the three cells are merged together so that there is ample space for the descriptions, while the right-side cell is right-justified so that the dates all line up properly.

The specific skills that are listed in the individual sections should represent the skills relevant for the job, not every skill you possess. Remember, the purpose of the resume is to get an interview, not get the job. Keep it short and easy to read for the reviewer.

Table Formatted Resume Template

(215) 555-1212	James Biglow, PhD Chester Springs, PA 19425	jbiggs@nyu.edu www.linkedin.com/in/jbiglow
Summary of Qualifications		
Self-motivated highly productive developmental biologist with experience in designing and manipulating animal models using in vivo imaging and in vitro studies including cell culture, immunoassays, and statistical analyses to elucidate pathways underlying the pathophysiology of inherited diseases. Led collaborative research teams as liaison between departments and applied my project management skills in order to keep projects on time, on budget, and meeting objectives. I effectively communicate clinical and pre-clinical concepts to team members with varying backgrounds and manage teams with diverse personalities and skill sets. My past performance demonstrates an ability to keep focused on strategic goals and manage the energy of my group to develop high performing teams that succeed!		
Education		
McGill University , Montreal, Quebec, <i>Ph.D., Microbiology & Molecular Genetics</i>		2010
University of Connecticut , Storrs, CT, <i>B.S., Biochemistry</i>		2003
Relevant Technical Skills		
<ul style="list-style-type: none"> • Mouse handling • Tissue preparation • Tissue culture • Laser capture micro-dissection 	<ul style="list-style-type: none"> • Transgenic technologies • Immunolabeling • Multiplex ELISA • Transcript profiling 	<ul style="list-style-type: none"> • In vivo imaging • In vitro imaging • Electron microscopy • Computational bioinformatics
Relevant Business and Social Skills		
<ul style="list-style-type: none"> • Led collaborative teams • Rigorous statistical analytics 	<ul style="list-style-type: none"> • Project management • Mentoring students 	<ul style="list-style-type: none"> • Oral communications • Written communications
Educational and Professional Development		
Postdoctoral Fellow , Mentor: Dr. James Keisenberg <i>College of Dentistry, Rutgers University, New Brunswick, NJ</i> Identification of mis-regulated pathways during ocular development in rat models using in vivo imaging, laser micro-dissection and molecular analysis of large datasets resulting in 2 peer-reviewed publications.		2011 - Present
Adjunct Faculty <i>Ramapo Community College, NJ</i> Developed and taught "Principles of Biology"		2011
Graduate Assistant , Mentor, Dr. Janice Bellances <i>Salk Institute, Jefferson University, Philadelphia, PA</i> Development of transgenic mice, mastered immunofluorescence microscopy, micro-dissection, development of animal models and molecular techniques, resulting in 3 peer-reviewed publications		2005 - 2011

Medical Education Consultant , Mentor, Dr. David Germally Developed project management skills resulting in successful coordination of multiple simultaneous projects	2003 - 2005
Clinical Biostatistician Intern <i>Dept. of Neonatology, UMDNJ & St. Peter's Univ. Hospital, New Brunswick, NJ</i> Organized and condensed large data samples and applied wide range of statistical analyses.	2001
Business and Management Experience	
SciPhD, The Business of Science for Scientists <i>New York University, New York, NY</i> <ul style="list-style-type: none"> • Focus: the core business competencies necessary for the transition from academia to industry. 	2014
From Idea to IPO: Technology Venture Course <i>New York Academy of Sciences, New York, NY,</i> Focus: the development of intellectual property into a marketable product	2011
Research Commercialization Introductory Course <i>National Council of Entrepreneurial Tech Transfer, Washington, DC</i> <ul style="list-style-type: none"> • Focus: the principals of entrepreneurship, including the management and investment strategies 	2010
Mentoring Experience	
As a graduate student and postdoctoral fellow, I managed and mentored 3 undergraduates, a graduate student, two dental students, and a orthodontic resident resulting in: <ul style="list-style-type: none"> • A thesis award for physical sciences • Acceptance into highly competitive MD, MD/PhD, and orthodontic residency programs • NYU College of Dentistry Research Day Awards • Multiple publications in peer-reviewed journals 	
Selected Publications	
<ul style="list-style-type: none"> • Deletion of Md1 leads to secondary immunosuppression with impaired shelf elevation. Bernice A*, Biglow J*, Bandine Walt A, Chao M, Gearmal N, Cjan V, Jelong J. <i>BMC Developmental Biology</i>, 2014. *Co-first authors • Developmental defect of D1/2-/- mutant mice is caused by lack of vertical outgrowth in the posterior spur. Bandine W, Biglow J, Chao M, Bens L, Wessmith H, Hunstein RK. <i>Developmental Dynamics</i>, 2012. • Rantes has a non-essential role in acentrosomal suppression assembly in <i>helmynth</i> oocytes. Biglow J, McKnight BS. <i>Journal of Cell Science</i> 2011. 	

Note: Flamingo® will generate a draft targeted resume using the above table formatting that can then be edited to its final form.

Cover Letters

Cover letters are not always read, and often do not remain associated with the resume. In other cases, cover letters can have a significant positive or negative impact on the initial review of the resume. Some hiring agencies actually use the cover letter in their initial screening process. The only way to determine the importance of the cover letter for a particular job is through specifics of the job posting, leveraging your network, and online research through sites such as glassdoor.com.

Assuming that the cover letter is required and important, there are two approaches that can be used.

Cover Letter Style 1: “Applying For...”

In this approach, the cover letter alerts the reviewer to what they will find in the resume itself rather than re-stating the resume. Below is an example:

Dear Hiring Manager,

Attached is my targeted resume in response to your job posting for Scientist I (job ID 36794) that was listed on Biospace.com. My resume details not only the relevant technical skills I bring to this position as a molecular/cellular immunologist, but also the significant business and social skills that are highlighted in your job description. I feel that my combined experience in all three areas (scientific, business, social) make me extremely well suited for this position.

I would welcome the opportunity to further discuss my skills and this position. If you have questions or would like to schedule an interview, please contact me by phone at 867-555-1212 or by e-mail at jbiggs@nyu.edu. I have enclosed my resume for your review. I look forward to hearing from you.

Sincerely,
James Biglow, PhD

Cover Letter Style 2: “My Introduction”

In this style, the cover letter is essentially an abridged version of the Summary of Qualifications and lays out the candidates’ specific scientific/technical, business and social skills specific to the job. An example of this style of cover letter is below.

Dear Hiring Manager:

June 18, 2014

I am a cellular/molecular immunologist with a high level of expertise in pulmonary inflammation and respiratory disease. I have developed animal models for pulmonary inflammation as well as the in vivo and in vitro assays to evaluate progression and treatment of those conditions, both with respect to metabolic pathways as well as pharmacodynamics evaluations. As such, I believe that I am a strong candidate for the scientist job posting (Job ID: 36794), studying pulmonary disease. I have read two papers published by your group (ref) that reinforce my confidence that I am an excellent candidate for this position. I am highly proficient in numerous techniques employed within both papers. These techniques include:

- designing and manipulating animal models
- rodent handling and microinjections
- tissue dissection for use in histology and cell or tissue culture
- immunolabeling and histopathology
- genome wide transcriptional profiling
- elucidating pathways underlying the pathophysiology of pulmonary diseases

In addition to my scientific/technical skills I also bring well developed business and social experience that will ensure quick integration into your team environments. These include leading collaborative efforts, project management training, successful mentoring of students, and strong statistical analytical skills.

I would welcome the opportunity to further discuss my skills and this position. If you have questions or would like to schedule an interview, please contact me by phone at 867-555-1212 or by e-mail at jbiggs@nyu.edu. I have enclosed my resume for your review. I look forward to hearing from you.

Sincerely,
James Biglow, PhD