Volume 22 | Issue 6 | Page 78

The Scientist
http://www.the-scientist.com/2008/6/1/78/1/

http://www.the-scientist.com/article/display/54689/

By Toby Freedman

The Industry Roads Less Taken

Four high-paying, in-demand, industry jobs scientists often overlook, and tips on how to get in.

Joe Carlino obtained his first position as a project manager in 1988 after only one year as a bench scientist at Collagen Corporation. He spent his first year at Collagen characterizing the effects of transforming growth factor-β2, a bovine growth factor that scientists had stumbled on while deriving collagen from cow hides for their antiwrinkle products. When the company decided to take the compound to the clinic, Carlino was asked to help oversee the project.

At first, Carlino balanced his own research with his management duties, but over time he moved solely into project management. Today he works as a successful independent project management consultant. "I found that I was good at translating the technical aspects of drug development for the nonscientists, and the drug development aspects for the scientists," he says.

As a recruiter in the life sciences, I have seen many discovery researchers like Carlino move into areas that offer increased job security, better pay, or a more diverse professional challenge. The recent layoffs in drug discovery departments, uncertainty of academic funding, and the simple laws of supply and demand are pushing more scientists to plan for life after bench science.

There are plenty of interesting jobs in industry, but not all are obvious. Currently in-demand careers tend to be more applied and require expertise in cross-functional areas, which is not generally taught in academia. Based on my survey of more than 200 interviews with industry executives for my book, Career Opportunities in Biotechnology and Drug Development, the following four career areas represent some of the highest paying, most in-demand jobs in industry. Here's what you need to know to get in.

Toby Freedman is a recruiter at Synapsis Search in California and author of the book, *Career Opportunities in Biotechnology and Drug Development*. Visit www.careersbiotech.com, where these and more than 100 other careers are described in more detail.

Regulatory Affairs

Personality test
• How good are your writing skills? This is a communication-intensive role where you will be writing to the Food and Drug Administration and editing large documents that team members generate.
• Can you keep up with changing regulations and apply them consistently?
• Are you a team player? Excellent diplomacy as well as tact for managing company and government interactions is required.

Pros
• **High pay, excellent security.** There simply are not enough experienced regulatory affairs professionals to meet the demand. As the FDA continues to increase its requirements, the number of regulatory jobs is expected to increase.
• **Tangible end result.** As a team leader in regulatory affairs, you can help bring a safe and efficacious product to the market that could improve people's lives.

• **Plenty of job variety and science.** You will be responsible for resolving many novel issues stemming from the scientific, operational, and governmental aspects of drug development.

Cons
• **Pressure.** Because regulatory affairs is the last step before submitting the filings to health authorities, you'll likely work overtime, putting out fires and managing crises during deadlines.
• **Experience required.** The job requires intimate knowledge of the drug-approval process and GxP (good practices) regulations. It's not for someone fresh out of academia, at least not without a regulatory affairs certificate.

How to get in
Join a project team working on a section of a regulatory filing. Serving as a product reviewer at the FDA isn't as lucrative as working in industry, but it gives an inside perspective that will make you highly marketable. You can also get a certificate or a master's degree in regulatory affairs.

What's next?
Most regulatory affairs professionals stay in the profession, and many go on to serve as highly paid consultants. However, career moves can include working in clinical development or medical affairs, project management, marketing, or business development.

Preclinical Research

Personality test
• Do you like working on the practical side of drug discovery? This area requires creative-minded scientists capable of innovative thought, yet capable of working in a more directed and collaborative environment.
• Are you a meticulous record keeper? Your results could become part of regulatory filings.
• Are you able to speak the language of in vitro and in vivo scientists, and clinicians? All are important in this role.

Pros
• **Still scientific.** Even though it's a bit more applied, the science is still the biggest part of the job, and you are relied on as the expert in your area.
• **More than discovery.** As a preclinical scientist, you will be more tuned into what's happening in clinical, manufacturing, and regulatory areas - exposure that discovery scientists rarely have.
• **Focus on best ideas.** You will be working on only those drugs that have passed the initial hurdles in discovery research.

Cons
• **Standardized procedures.** As the drug candidates get closer to human clinical trials, there can be more FDA requirements, and work needs to be clearly documented.
• **Degree needed.** If you want to progress to the vice president level, you'll need an advanced degree.

How to get in
Discovery research scientists seeking greater job security find an attractive home in preclinical research. Additionally, people who have backgrounds in pharmacology, toxicology, bioanalytical chemistry, pathology, biology, or biochemistry are hired straight out of academia.

What's next?
Careers in preclinical research can lead to work in consulting as a preclinical expert, translational medicine, project management, regulatory affairs, business development, and patent law.

Project Management

Personality test
• Do you like the limelight? This job can be highly visible, but most of the time you are working behind the scenes.
• Are your people skills topnotch? The role involves extensive motivational skills and tact. You will need to be able to resolve problems with diplomacy and identify problems before they occur.
• How organized are you? You need to be highly efficient in your time and organizational skills.

Pros
• **Visibility.** You'll interact with every department of the company, as well as senior management and corporate partners.
• **No dull moments.** From managing egos to resolving technical issues, the problems you'll need to solve will be various and sundry.
• **Global and microscopic.** Attention to detail is a must, but you also need to hold on to the big-picture perspective of what it takes for a project to succeed.

Cons
• **Management without authority.** Team members report to their own supervisors, not to the project manager. One of the greatest challenges in this role is managing team members using influence and conviction.
• **Catching the blame.** When things go wrong, the project manager often gets the blame. However, when things go well, you also will receive praise and recognition.

How to get in
If you work in industry, serve on a cross-functional project team and actively contribute. Once you're familiar with how teams work, you can make a lateral move into project management. Courses and certificate programs can provide some of the basics, and candidates without experience, such as academics, can apply for entry-level positions as project coordinators.

What's next?
This is a wildcard job. You can make a lateral move to almost any area in the company, or move up the ranks to a vice president level of project management or consultant. Business development, portfolio management, and alliance management are just a few areas you could pursue.

Process Development

Personality test
• Do you enjoy the art of mass production? You will develop synthetic routes or bioprocessing steps for drug production.
• Can you do high-quality science, reproducibly, and under a deadline? Timelines are often tight.
• How well can you prioritize? In this job, the goal is to design a safe, quick and efficient manufacturing process.

Pros
• **Tangible results.** Process scientists find satisfaction in seeing their work directly translated into high-quality drugs.
• **Creative work.** You invent methods that may lead to patents, journal articles, or trade secrets.

• **Focused, friendly science.** Here, science is like a craft, with a tangible goal, and an atmosphere that is collaborative.

Cons

• **Occasional long nights.** Due to the processes inherent in the manufacture of drugs, you can spend nights and weekends getting the work done during deadlines.
• **Under the radar.** Most of the glory (and also the failure) in drug development lies in clinical trial results. Your work, though critical to the drug development process, may not be visible to senior management unless it delays the start of a trial.

How to get in

You can apply for a job directly from academia if you have a background in chemistry (of any type), microbiology, or molecular biology. Try a contract manufacturing organization.

What's next?

Experience in process science can funnel into consulting, manufacturing project management, outsourcing management, or even discovery research positions.