

Application Note

Developing a fast-track science career

PART ONE: THE CHEMIST

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TECHNICAL CAREER tracks are often compared to roller coasters—“up” times can suddenly change without notice due to the economy or due to changes in the technology itself. Those who are working in the R&D pipeline feel the effects of these rapid changes first because cutbacks occur most often in research. This up-and-down nature of employment in the sciences means that it is critical for those who work in these jobs to pay a good deal of attention to career management.

This is the first in a series of articles in *American Biotechnology Laboratory* in which we will discuss four major job categories in the biotechnology industry. Our goal will be to illuminate what makes for success in each one of these unique career choices through extensive interviews with professionals in the field and with executive recruiters who work in that area of expertise.

This month's focus is on chemistry, a field which has gone through a tremendous renaissance due in great measure to the genome project and the fact that so many young biotechnology companies have focused their efforts on small molecule drug development. But even if you aren't a chemist, please keep reading. The career advice that we've discovered in our research is transferable across many disciplines.

Chemistry: A career track on the upswing

“It seems like just a few years ago that I was reading about how poor the job prospects were for chemists,” one woman recently told us. “Most industry journals painted a very bleak picture about job cuts, the loss of R&D dollars in chemical development, and early retirements. It certainly wasn't a great motivation for me, as I was just coming out of grad school at the time and I was very worried about landing a job in industry.”

That's not the case today. In fact, a recent survey of executive recruiters done nationally found that several chemistry niches were consistently mentioned in the top ten fields for science recruitment. Recruiters are excellent barometers of their fields, because they tend to gravitate toward those markets in which there are more open jobs and fewer available candidates.

Ms. Kemberlyn Morris of **Kelly Scientific Resources** (San Diego, CA) describes the need on the West Coast in this way: “Everyone in this region wants to hire an organic chemist with medicinal experience. We can't find enough of them.” Things are much the same on the opposite coast. Mr. Joe Tringali of **Tringali Associates** (Portsmouth, NH) says, “Supply and demand is the tough issue here. There are consistently less industry-experienced chemists than there are jobs. It's hard to recruit because good chemists with some industry experience are getting several calls a day from headhunters.” Tringali believes that the job market for chemists in his region has expanded because biotech firms are synthesizing proteins, adding a whole new dimension to the job market.

Getting the right start

Career success, whether in analytical, organic, or structural chemistry, is on the forefront of every chemist's mind. But don't make the mistake of thinking that just because the market is “hot” you

can simply post your resume on a job board and land your dream job within days. Besides, good career management means much more than landing a “dream job”—it's an ongoing process that requires strategic planning.

For many scientists, their success began when they chose to start off with the right post-doc after completing their Ph.D.

Dr. Dave Matthews of **Pfizer** (La Jolla, CA) says, “My post-doc was critical for me. My academic studies developed into a paradigm for discovering new drugs.” It was this technology that led to the founding of **Agouron Pharmaceuticals**, now a part of **Pfizer**, where Dr. Matthews is a Research Fellow and Head of X-Ray Crystallography.

Dr. Kim Albizati, Group Director of Chemical R&D (**Pfizer**), believes that the right start means adding something to your expertise. “I think it really helps to do post-doctoral research outside of the area of your Ph.D. This can really help to broaden you.”

Dr. Jennifer Brooks, Assistant Director of Analytical Chemistry at **Biota** (Carlsbad, CA), added that being selective and choosing a post-doc that applies to industry is key to starting off on the right foot. “I waited six months before choosing mine. I had other opportunities, but I didn't think they were as good,” she said.

For others, the key is finding the right lab with a good mentor, someone who can be a valuable resource for career guidance throughout the years. Dr. Jeff Whitten, VP of Chemistry for **Cyternex** (San Diego, CA), suggests: “Join a chemistry lab with a good mentor to get an understanding of good approaches to your field. Consider your first 5–6 years as a learning experience. . . your post-doc is not the end of your education, but the beginning.”

Broaden your experience base and develop collaborative skills

Dr. Ved Srivastava, Scientific Investigator for **Amylin Pharmaceuticals** (San Diego, CA), believes that chemists need more than their core expertise to succeed: “Chemistry is now more integrated with other disciplines. Chemists must not be exclusively focused. They need to have knowledge in other complementary areas as well. For example, in drug discovery we value a familiarity with biochemistry and medicinal chemistry.”

Two often-mentioned areas of expertise are computers and what are called “soft skills”—those which are required for collaboration with others. Dr. John Kiely, VP of Chemistry for **Lion Bioscience** (San Diego, CA), says, “Chemists must be fearless when it comes to computers. Along with computer skills, today's chemist needs a strong fundamental science background and specialty, great math skills, and the ability to collaborate with several groups to be successful.” This ability to collaborate rings true as one of the major skills for success mentioned by all whom we spoke with for this article.

These interpersonal skills aren't necessarily taught in school. Dr. Kiely adds, “Many grad students are encouraged to work alone on their research. In industry, however, they are quickly put on a project team and once they are successful there, they are given a subor-

dinate. Not having any supervisory training, they must figure out how to supervise and motivate employees. Soon they are dealing with interpersonal relationships between subordinates. While some larger companies have training courses, getting up to speed on interpersonal skills is the employee's responsibility in order to ensure career success. Many companies will reimburse the cost of any outside training, and my advice is that chemists add this to their skill base.”

Taking a few business management, research management, or communications courses may help provide the interpersonal skills that chemists need to separate themselves as management material. Dr. Matthews suggests that this collaborative ability can complement strong technical skills: “Learn to interact with people who have a totally different background and way of thinking than you do. A molecular biologist will approach a problem differently than an analytical chemist will, and learning to interact with these different styles will help further your career.”

Having strong interpersonal skills also means the ability to communicate well with those who are of different cultures. Dr. Shichang Miao, Associate Director of Analytical Chemistry for **Tularik** (San Francisco, CA), feels that this is particularly important for international chemists: “Coming from a different country with a different language and culture, I have seen that communication skills are very important. In graduate school you spend all of your time in the lab working independently, but in industry you deal with a collaborative team effort and work with people from different cultures. If you want to be recognized for your successes, you must communicate well with everyone on the team.”

Conclusion

A career is a lot like a necklace. Each bead on that necklace is one particular job or learning experience. While you can string together any series of jobs and call it a career forty years later, most successful chemists have discovered how important it is to make each one of those steps on that career necklace as meaningful as possible in order to increase the value of the whole.

When you retire many years from now, will you consider your career to be a necklace made of beautiful jewels—something of tremendous value—or will it seem more like one made of Cracker Jacks? The answer depends on your ability to plan and manage your career development.

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