

From bench to bar: careers in patent law for molecular biologists

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ABSTRACT Leaving science to pursue a career in patent law requires a considerable investment of time and energy, and possibly money, with no guarantee of finding a job or of returning to science should the decision prove infelicitous. Yet the large number of former scientists now practicing patent law shows that it can be done. I provide suggestions for investigating the potential opportunities, costs, risks, and rewards of this career path.

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The molecular biologist wishing to retool herself or himself as a patent law professional has a number of specific career options to choose from.

CAREERS FOR NONATTORNEYS

One need not become an attorney before beginning a career in patent law. Some patent law firms hire scientists or engineers with advanced degrees or training in a technical field to train as *patent agents* (sometimes using other names, such as *patent scientist* or *technical specialist*). Patent agents must take and pass the same U.S. Patent and Trademark Office (USPTO) registration exam (informally called the patent bar exam; discussed below in *Careers for Attorneys*) as patent attorneys, and they perform many of the same duties as a patent attorney, but with certain important limitations. Patent agents are, by definition, not attorneys, and so are legally prohibited from practicing law beyond those “tasks which are incident to the preparation and prosecution of patent applications before the Patent Office” (*Sperry v. Florida*, 1963). This limits the activities they can engage in without attorney supervision. Also, in the United States, nonattorneys are prohibited from becoming partners in the law firms in which they work, except in Washington, DC, although the American Bar Association is considering whether to urge the state bar associations to follow the District of Columbia’s example (American Bar Association, 2011). But many patent agents are quite satisfied with their careers and are highly valued by their employers, and should an agent wish to become an attorney, matriculation at a part-time law school program might be possible.

Patent examiners work for the USPTO or the patent office of another country or region. Patent examiners are tasked with determining whether the patent applications assigned to them meet the requirements for patentability. The examination of a patent application often goes through multiple rounds of review, with the examiner rejecting it and the applicant (or, more typically, the applicant’s patent attorney or patent agent) amending the application and/or rebutting the grounds for rejection until either the application is allowed to issue as a patent or is abandoned by the applicant.

USPTO employees must be U.S. citizens (USPTO, 2013). The USPTO hires new examiners for their technical expertise and communication skills but does not expect them to know patent law, so every new examiner receives a considerable amount of paid on-the-job training. Traditionally, examiners were required to work at the USPTO’s headquarters outside Washington, DC, but the USPTO is opening satellite offices in other cities and expanding its telecommuting options. The USPTO also allows for a range of creative alternatives to the traditional nine-to-five, Monday-through-Friday work schedule.

CAREERS FOR ATTORNEYS

A *patent prosecutor*, like a patent agent, spends most of his or her time engaged in activities related to the procurement of patents. This includes talking to clients about their potentially patentable inventions, drafting and filing patent applications, and taking patent applications through the USPTO’s examination process. Ideally, this is done as part of an overarching patent strategy that the patent attorney has developed with his or her client. Patent prosecutors also analyze third-party patents to determine whether they present potential obstacles to their clients’ business plans; evaluate third-party patent assets that might be bought, in-licensed, or acquired through a merger or acquisition; and assist in the out-licensing and sale of their clients’ assets.

A *patent litigator* specializes in asserting his or her clients’ patent rights against alleged infringers and defending clients who are being sued for patent infringement. In patent litigation, as in civil litigation generally, the actual arguing of a case to a judge or jury is the

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Abbreviation used: USPTO, U.S. Patent and Trademark Office.

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relatively short end of a long and complicated process (and many cases are settled or dismissed before they even reach trial). Thus, for any given case, a patent litigator will spend most of his or her time identifying and analyzing the relevant provisions of law, collecting evidence, building a litigation strategy, making or assessing settlement offers, and much else besides.

The line between the duties of a patent prosecutor and those of a patent litigator is not always clearly drawn. The patent prosecutor who shepherded an application through the USPTO might be asked to assist or join a litigation team preparing to assert it against an infringer. Patent litigators sometimes help patent prosecutors to obtain patents that will be easier to successfully enforce against an infringer. Prosecutors and litigators might work together to challenge the validity of a third party's patent using certain quasi-judicial administrative procedures that are available at the USPTO and other patent offices.

Patent agents and attorneys alike must pass the patent bar exam in order to practice before the USPTO. The aspiring patent agent who has passed the patent bar exam will have an advantage over job-seekers who have not, but it is a difficult test that requires considerable preparation. While the exam itself tests one's knowledge of patent law, in order to sit for the exam, an applicant must satisfy the USPTO that he or she has the requisite technical background. Possession of a bachelor's degree in molecular biology, biology, or biochemistry (among many other fields), will suffice (see *General Requirements Bulletin* [USPTO, 2012]). The USPTO also puts important restrictions on the registration of non-U.S. citizens (USPTO, 2012). Patent attorneys, but not patent agents, also must be admitted to practice law in one or more of the states or in the District of Columbia, and so will have to have taken and passed a state bar exam and satisfied several other criteria. For example, practicing attorneys, unlike scientists, must possess good moral character (Committee of Bar Examiners, 2012). Most states administer the bar exam only to law school graduates, although some allow for an apprenticeship instead.

TYPES OF EMPLOYERS

Patent examiners work for a government-run patent office, as already mentioned, but other patent professionals typically begin their careers with a private law firm. Such employers range from small, specialized patent law firms to enormous international firms that practice every sort of law. At a law firm, one works for several, and perhaps many, different clients. Whether one is an attorney or agent, under the traditional law firm model, one's time is billed out by the tenth of an hour. Many firms require their attorneys to bill at least a certain number of hours per year. This creates pressure to efficiently use one's time so as to maximize the amount of one's workday that can be billed to the client. This pressure has only increased during the lingering global recession, as clients scrutinize their legal bills ever more closely. Consequently, some firms are exploring alternatives to by-the-hour billing, such as prenegotiated fees for specific projects (Zahorsky, 2012).

Most medium-sized or larger biotech and pharmaceutical companies have their own "in-house" patent attorneys and patent agents. In-house legal staff are free of the tyranny of the billable hour (as their employers are their only clients), although their time might be tracked, and they certainly are expected to be productive and efficient. In-house positions are typically available only to attorneys and agents with at least a few years of law firm experience.

The technology transfer offices of many universities and of government research organizations like the National Institutes of Health also employ patent professionals to identify, protect, and license intellectual property generated at their institutions, but their hiring criteria and job descriptions vary widely.

FINISHING A PH.D.

The graduate student contemplating a career in patent law will have to make another important decision: whether to finish his or her degree. There are good reasons to stick it out. For nonattorney patent law positions, an employer may require a Ph.D. Even if it is not a job requirement, a Ph.D. will impress potential employers and clients. The years of experience behind the degree ensure technical expertise. And there are intangible personal benefits to finishing a degree program in which one has invested so substantially. But many excellent biotech patent attorneys (and all but a few biotech patent litigators) have limited or no postbaccalaureate scientific training, and the opportunity costs of advanced degrees have been well documented (Chemjobber, 2012). Those costs increase substantially when finishing one's dissertation delays starting a potentially lucrative legal career. Thus the aspiring patent attorney who does a coldly rational cost-benefit analysis might elect to start his or her legal career as soon as possible rather than finish his or her Ph.D.

FIRST STEPS

There is no substitute for talking with a number of patent professionals, preferably including some who themselves made the leap from science to patent law. The best such contacts will be people you share some connection or commonality with: a friend, a friend of a friend, a graduate of your degree program, someone whose dissertation was in the same field as yours—anything that establishes a frame of reference for your discussion. The technology transfer office at your institution might be able to direct you to the patent law firms they work with, or you can find patent professionals online. Ask whether they would be willing to schedule a short appointment for an informational interview about careers in patent law. (Your success rate might increase if you mention that you will not be asking them for a job.) If you are invited to an in-person interview, be sure to wear business-appropriate attire. Be prepared with specific questions for your interviewee: How did he or she decide to enter patent law? What other careers did he or she consider? What information did he or she find helpful in making his or her decision? Why did he or she decide to go, or not, to law school? How does law school compare with graduate school? Does he or she recommend finishing your degree before leaving science? What is a typical day like for him or her? What does he or she find most satisfying and most challenging about his or her work? How would he or she compare his or her patent law career to his or her previous life in science? If his or her professional biography is posted on his or her firm's website, use this information to select appropriate questions.

These contacts also can provide some insight into the current state of the job market for patent agents or attorneys. Legal recruiters in the geographical region where you wish to practice can be found online and should have an even better sense of this. Note that not all recruiters work with patent agents.

Anyone considering enrolling in a full-time law school program should give this decision very careful thought. Law school graduates can accrue six-figure student loan debts and face uncertain job prospects (Carrns, 2012), especially in the current economic climate. An alternative that might be available is to work for a law firm that allows its patent agents to attend law school in the evenings. But squeezing a full-time job and several hours of law school classes and homework into a single day is a challenge, to say the least (Schwab, 2009). And it usually takes four years to earn a law degree this way, rather than the three years needed for a full-time program of study.

SUMMARY

Reinventing oneself professionally is difficult and should not be attempted casually. Only you can determine whether a career in patent law is right for you. But many molecular biologists have found their scientific training to be a good preparation for a legal career. The law requires an ability to make and analyze arguments, weigh evidence, and communicate clearly in writing and orally—skills that are developed in writing and analyzing scientific papers and presenting results at lab meetings and scientific conferences. One wanting to leave science but still interested in making full use of his or her scientific training would do well to consider a career in patent law.

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