Defending Open Science from Patent Infringement

What Does the Future Hold for University Research?

Minna H. Ahn
December 9, 2004
6.901
Professor Rines

DEFENDING OPEN SCIENCE FROM PATENT INFRINGEMENT:
WHAT THE FUTURE HOLDS FOR UNIVERSITY RESEARCH

MINNA H. AHN

For more than a century, some scientists were allowed to use the "experimental use exemption" when charged with patent infringement. The courts recognized then that they should not prevent all uses of patented items, especially when major research universities use them to accomplish noncommercial objectives. This document discusses the ambiguous scope of the experimental use exemption which is now subject to an avid debate after the Federal Circuit's decision in favor of Madey in John Madey v Duke University. *It also examines the reasons for the case's controversy and what consequences the court's rulings will bring to the scientific community as well as the general public. It then provides possible solutions in defending universities to freely conduct valuable research using patented items.*

INTRODUCTION

John Madey, then a professor in the physics department at Stanford University, obtained two patents on free electron laser (FEL). In 1988, Madey accepted an offer for a tenured position at Duke's physics department, to which he moved his FEL research laboratory from Stanford. After Madey's departure to University of Hawaii, Duke continued to use some of his equipment in the lab, and Madey immediately filed suit, alleging patent infringement. Duke asserted that while it did not obtain a license from Madey to use his inventions, it should be protected under the experimental use exemption and that Madey's equipment was being used for academic purposes, including instruction and research, which did not have commercial purposes. Madey responded that Duke "had not used the

equipment at issue 'solely for an experimental or non-profit purpose'" and that its "use of the equipment had 'definite, cognizable, and not insubstantial commercial purposes.'" [1] Experimental use, according to the Federal Circuit, is "very narrow and strictly limited."[2] The court explained:

> [R]egardless of whether a particular institution or entity is engaged in an endeavor for commercial gain, so long as the act is furtherance of the alleged infringer's legitimate business and is not solely for *amusement, to satisfy idle curiosity, or for strictly philosophical inquiry*, the act does not qualify for the very narrow and strictly limited experimental use defense. Moreover, the profit or nonprofit status of the use is not determinative. (Italics mine)[3]

Under the Federal Circuit's decision, Duke, as any other research institutions, would not be entitled to rely on the experimental use defense because its use of the patented materials with business objectives of educating and enlightening students and faculty, increasing the status of the institution, and attracting profitable research grants. Thus, to determine whether the experimental use exception applies, the court considered not simply the legitimate business of Duke, but the specific uses to which the patented inventions at issue were put. The courts do not have any records that detail such uses, and that provides the ultimate reason for the

---

1 The court cited Duke's Policy on Inventions, Patents, and Technology Transfer, which states:
Duke University is dedicated to teaching, research, and the expansion of knowledge. Although the University does not undertake research or development work principally for the purpose of developing patents and commercial applications, patentable inventions sometimes result from the research activities carried out wholly or in part with University funds and facilities.

2 Madey v. Duke, F.3d, 2002 WL 31190842 (Fed. Cir. October 3, 2002)

3 *Id.* At 1362.

Federal Circuit to deny Duke's request to reverse the district's decision in favor of Madey.

WHAT ARE THE CONSEQUENCES OF THE COURT RULING?

Predictably, the Federal Circuit's narrow interpretation of the experimental use defense will have a "chilling impact" on university research. This rule leads to the impediment of academic research not just at Duke, but at universities around the country. Access to patented materials is crucial in promoting rapid scientific progress, and the unauthorized use of them can serve several socially beneficial purposes, such a facilitating new research, and maintaining the scientific community's historical dedication to communal ownership of research materials. Unrestricted access to patented materials also allows the scientific community to scrutinize the claims of prior researchers effectively via "peer review system" so that new discoveries are tested and replicated before they gain acceptance. Therefore, ability to withhold patented materials from other researchers serves as a barrier to unrestricted evaluation of scientific theories and can result in tainted and biased scientific studies.[4]

Every American should have the right to freely use a patented invention to test it, to see how it works, and to try to make new improvements. The right to experiment on

[4] Weschler, C. (2004). The Informal Experimental Use Exception: University Research after Madey v. Duke University. *New York University Law Review*, Vol 79, No 4.

patented inventions without infringing on local patents already exists outside the U.S. In Europe and Asia, for example, research is encouraged by liberal research exemption. If the current interpretation of recent court cases does not change, it may drive research offshore, away from our homeland, where research is now very limited. Researchers will continually take their research offshore because they can have these experiments done, free from infringement, and this increase in offshore research will cause a terrible brain drain. In this respect, the absence of experimental use exception causes major damage to scientific world as well as the public.

WITH NARROW EXCEPTION,

WHY DON'T FIRMS SUE UNIVERSITIES MORE OFTEN?

Infringement of research tool patents, especially by university researchers, is common. Many faculty members at universities acknowledged occasionally using patented research tools without a license.[5] University researchers, to the extent they are doing noncommercial work, are largely left alone. In some circumstances, firms that are eager to discover new uses for their patents may even encourage unlicensed use of their technology. Then, with this "very narrow and strictly limited" experimental use exemption rule, why don't patent holders sue universities more often? The primary reason is that it's in the best

5 Arora, A, Cohen, W.M. & Walsh, J.P. (2003). Working through the patent problem. Science Magazine, Vol 299.

interest of the patent holder to allow universities to use their patented materials without a license. University research can add value to patented technology, and this cooperative relationship between firms and universities serve as a basis for extralegal solutions (which will be discussed in detail in the following section) for the "narrow and strictly limited" experimental use defense. The unbreakable tie between firms and universities is also linked to the greater scientific community. Firms generally refrain from asserting against universities because there's little to gain and reputation to lose for suing a university. Patent infringement suit is very costly and infringement of research tool patents is very hard to detect.

HOW CAN NONCOMMERCIAL UNIVERISTY RESEARCH BE PROTECTED?

As an alternative to litigation, many firms allow universities to purchase licenses on their patented materials at drastically discounted rates, providing them with the opportunity to take advantage of the firms' patented materials. This price discrimination, however, is balanced by requiring the researchers to consent to license agreements that prevent them from using the patented technologies to make profit. Therefore, universities, as long as they're conducting "noncommercial" research, could obtain access to patented materials at significantly reduced rates.

So, why does this informal arrangement exist? Many firms are highly dependent on

university research. They rely heavily on universities to expand their internal research capabilities. Evidence suggests that firms with better cooperative opportunities may have strong, successive growth while lowering development costs. In tightly knit research communities, such as this one, companies consider the ability to maintain connections with universities as a competitive advantage. The undeniable benefits that firms receive from their affiliations with academic institutions allow universities to join together and to pose a credible threat to firms that attempt to file suit against them or enforce strenuous licensing requirements. Therefore, reputation among the scientific community is a key factor in choosing a partner for a collaborative enterprise.

Another factor that prevents companies from aggressively asserting their patent rights against universities is the necessity for maintaining a good reputation with the public. Suing a university is unlikely to win a large pharmaceutical company much goodwill among consumers or government officials, regardless of merits of the case. The public may view firms' filing suit as greedy. Thus, companies will spend substantial amount of money in an effort to develop and maintain a positive image with the public.

Because of the nature of the connections between universities and industry, it is extremely costly to bring a patent infringement suit against a university. Therefore, this document concludes that when a university is engaged in noncommercial research, it is often worthwhile for the patent holder to choose a mutually beneficial solution by, for example,

allowing unauthorized use to go unchallenged or offering a license o

CONCLUSION

University research is certainly developing to be more ef
connections becoming progressively more common. While ma
connections as a threat to the objectivity in university science, these
protect noncommercial university science, including basic research,]
activities, from litigation. Recent court ruling in Madey v. Du
experimental use defense so narrowly so that it provides no officia
charged with patent infringement, even when their research is co
Thus, this informal research exemption, although not perfect, (
noncommercial university which essential to our nation's advance
science.

BIBLIOGRAPHY

Arora, A, Cohen, W.M. & Walsh, J.P. (2003). Working through the patent problem. *Science Magazine*, Vol 299.

Madey v. Duke, F.3d, 2002 WL 31190842 (Fed. Cir. October 3, 2002)

Morrissey, S.R. (2003). Academic Immunity. *Chemical & Engineering New,* Vol 81, No 21. Retrieved November 28, 2004, from http://pubs.acs.org/cen/government/8121/8121gov1.html

Weschler, C. (2004). The Informal Experimental Use Exception: University Research after Madey v. Duke University. *New York University Law Review*, Vol 79, No 4. Retrieved November 28, 2004, from http://www.law.nyu.edu/journals/lawreview/issues/vol79/no4/NYU406.pdf