

UC Berkeley News

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An intellectual-property primer

The role of IP in transferring technology to benefit society

By Sarah Yang, Public Affairs | 12 April 2007

The proposed Energy Biosciences Institute is expected to produce discoveries that, like many others made at Berkeley, help solve society's toughest problems. But it can easily take a decade or more, and millions of dollars, to translate early-stage research results into a product or service that people can use. The University of California's tech-transfer program helps to bridge the gap between early-stage results and practical applications and is "based on ensuring that the public benefits from the university's research," says Carol Mimura, assistant vice chancellor of the campus's Office of Intellectual Property and Industry Research Alliances (IPIRA).

The program enables UC campuses to license their patent rights and certain copyrights to companies for commercial development. Patents and copyrights fall under the umbrella of intellectual property (IP), which Mimura helps explore in the primer below.

Who owns IP rights?

Getting a discovery to market begins with determining who owns it. In general, the university owns IP rights when a UC employee makes a discovery or invention as part of his or her university duties, including when industry-sponsored research is involved.

When an invention arises from collaborative work with an institution or company, the IP may be jointly owned if at least one employee of each institution is legally determined to be an inventor. In the case of BP-funded EBI research, inventions made by at least one BP employee and one employee from Berkeley, LBNL, and/or the University of Illinois at Urbana-Champaign will be jointly owned.

IP rights to inventions made solely by BP employees in their rented space on campus will belong to BP.

Patenting the invention

Having the right to IP doesn't automatically mean a patent will be filed. A patent can cost up to \$30,000 and take three to four years to be issued. "We patent an invention if we think something is commercially viable and if patenting will enhance the prospects for commercialization," says Veronica Lanier, acting director of Berkeley's Office of Technology Licensing.

In the 2006 fiscal year, for instance, Berkeley received 155 disclosures of inventions. That same year, the campus filed patents on 68 inventions, some disclosed in prior years.

If an invention is fully described publicly before a patent application has been filed, it is not eligible for patent protection in most countries outside the United States. Within the United States, patents are protected if filed within one year of public disclosure.

For this reason, corporate-sponsored research agreements typically give sponsors like BP the right to review publications and presentations before they go public. This preview enables a sponsor to request that the university file a patent application and to check for inadvertent disclosure of the sponsor's confidential proprietary information.

Licensing IP rights

IP rights to inventions under corporate-sponsored research may be licensed to the sponsor for commercial development.

Corporate-sponsored research agreements at Berkeley, and at most U.S. research universities, grant the sponsor a first right to negotiate a commercial license to patents from the funded project. In the EBI agreement, the sponsor's option to exercise this first right will likely be limited to 90 days, after which the university is free to negotiate with other companies if the sponsor declines to obtain license rights. During this 90-day period, BP may choose to obtain either a non-exclusive, royalty-free license to IP rights or an exclusive license. "An exclusive license to a patent right provides a company with the protection and incentive it needs to invest in a long, expensive, and risky research-and-development process," says Mimura. "A company would have no incentive to make such large investments if its competitors could obtain the same license to the same IP rights."

In the fiscal year ending June 30, 2006, the campus entered into 30 license agreements, only one of which was with the research sponsor. Fifteen included some elements of exclusivity, such as exclusive use for a limited period of time or for a particular market sector.

If BP pursues an exclusive license, Berkeley, LBNL, and/or the University of Illinois would receive revenue from commercial products or services sold under the license.

As is standard with corporate-sponsored agreements, BP could claim an option to receive an exclusive license to IP rights in the future instead of immediately. Such option agreements are common when additional research is required to determine the commercial potential of an invention.

Non-exclusive, royalty-free licenses are most commonly granted when the inventions may provide an incremental improvement to existing technology, or when early and widespread dissemination of the discovery is a goal.

When the university licenses IP rights, it always reserves certain rights for itself. "We expressly reserve the right to practice the rights for our own purposes," says Mimura, "and the right to allow others in the nonprofit sector to use them for their own education and research purposes. Ultimately, we want innovations stemming from university research that have practical applications to solve societal problems. Technology transfer plays a crucial role in that goal."

A glossary of IP terms

Copyright: A bundle of intellectual property rights that **protects an owner's exclusive right** to make copies and to license or otherwise exploit a literary, musical or artistic work, such as a software code, books, songs, or video.

Exclusive license: A contract in which a copyright or patent owner authorizes another entity (the licensee) **to exercise exclusively one or more of the rights** (or portion of such rights) that belong to the copyright or patent owner.

Intellectual property: A creation of the mind that can be an original product, discovery, or invention that has commercial value and includes patents, copyrights, trademarks, or trade secrets.

Patent: An exclusive property right granted to an inventor by a government to manufacture, offer for sale, or import an invention for a certain number of years.

Royalty: A type of payment to the holder of a patent, copyright, or other property, often in consideration of the right to use or to commercialize products under the property right.

Trademark: Any name, symbol, figure, letter, word, or mark adopted and used by a manufacturer or merchant in order to designate his or her goods and to distinguish them from those manufactured or sold by others.