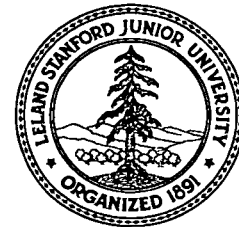


# B STANFORD TECHNOLOGY BRAINSTORM



THE NEWSLETTER OF STANFORD UNIVERSITY'S OFFICE OF TECHNOLOGY LICENSING (OTL)

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## INSIDE THIS ISSUE

When Stanford  
Retains Copyright/  
Select Copyright  
Licenses

2

Using Copyright,  
Patents, &  
Trademarks

IF

Celebrating  
Innovation:  
Fogarty, Scott &  
Gold Honored

OF

IF = Inside Flap  
OF = Outside Flap



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## Special Edition: Copyright Primer

by Stefani Shek and Rich Scholes

Intellectual property (IP) rights give different kinds of protection to different aspects of creativity. Copyright covers expression – the forms in which creators express their ideas.

Article 1, Section 8 of the U.S. Constitution gives Congress the power “To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” The U.S. Copyright Act provides, “Copyright protection subsists... in original works

of authorship fixed in any tangible medium of expression” (17 USC Section 102[a]). Literary works, photographs, maps, plays, videos, advertisements, and sculptures are all, at the very moment of their creation, covered by copyright. More importantly to technological disciplines, copyright also covers computer programs and the creative aspects of databases (but not necessarily the factual information they contain).

In a book, a copyright covers the combination of words the author used to convey ideas, but not the ideas themselves. In a painting, a copyright covers the combination of colors used to convey the images, but not what the images represent. In a computer program, a copyright covers the program’s instructions, its code, but not its function or use.

### Rights of the copyright owner:

1. To reproduce the work. Only the owner of a copyrighted work can make, or allow others to

make, copies of the work.

2. To prepare derivatives of the work. Derivatives include expansions, abridgements, or other modified forms of a preexisting work. Derivatives may also include translations, movie versions, and any other form in which an original work may be recast.

3. To distribute or disseminate copies. Distribution can be made via printed or electronic publication.

4. To perform the work publicly. This right usually applies to performing arts, and it includes the right to stage a ballet or a play.

5. To display the work. This right usually applies to works of art, but can also be construed to include display of a copyrighted work on a website.

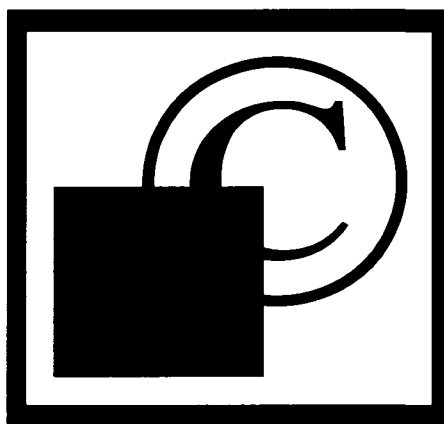
### Breadth of Protection

Stanford creations exemplify the breadth of works that are copyrighted, as shown below:

- Human Biology for Middle Schools Project curriculum.
- Interactive CD-ROM for learning about neurobiology.
- Software for synthesizing sound.
- Databases of genomic information and gene expression data.
- Brochures that provide healthcare education and medical information.

### What Copyright Isn't

Though copyright and other forms of intellectual property (IP) protection—patents, trade-



*Continued on page 2*



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## COPYRIGHTS... Continued from page 1

marks, and service marks—can be used to protect the same creation, copyright alone protects the way a creator expresses his creation, but not its use or association.

In comparison, a patent protects an idea or concept. Patents come in several flavors: a utility patent protects an invention's use; a design patent protects an invention's aesthetic factors; and a plant patent protects new asexually reproduced plants. For additional information go to <http://www.uspto.gov/>.

Trademarks protect names and marks that businesses associate with their trade. Service marks protect marks that businesses associate with the services they offer. "Using Copyright, Patents, & Trademarks," within the Inside Flap of this newsletter, offers actual examples of how these three forms of IP protection can protect parts of various creations.

### Obtaining, Registering & Enforcing Copyright

When a work is created, its copyright is automatically secured. The copyright can be indicated on the work by noting "Copyright © [year] [name of owner]." However, even without a notice, the copyright exists.

A copyright remains in effect for its creator's

## A Selection of Copyright Licenses Granted by OTL

Docket(s)	Title(s)	Uses	Licensed	Total Income
S73-061	"Mediphor™"	Database of drug information	Starting mid-1970's; 3 licensees	Over \$750,000
S80-133/ S86-064	"PISCES™/SUPREM™"	Semiconductor manufacturability modeling	Starting mid-1980's; 7 licensees	Over \$1.8M
S81-035	"MINOS™"	Large-scale optimization	Starting mid-1980's; 40 licensees	Over \$2.5M
S91-007	"Human Biology for Middle Schools Project"	Health education	Late-90's; exclusively	Under \$4,000
S97-072	"Genscan™"	Genomic sequence prediction	Over 50 licensees	Over \$735,000
S97-217	"Workstation Ergo. Training CD"	Health education	Four licensees	Over \$20,000

entire life plus seventy years, or, if it is a work-for-hire, a copyright endures for the shorter of 95 years from publication or 120 years from creation.

A copyright can be registered with the U.S. Copyright Office (<http://lcweb.loc.gov/copyright>). Registration is easy and costs a mere \$30. A work must be registered before the copyright can be legally enforced against an infringer who copies, sells, or distributes the work, or any reasonably large part of the work, without authorization from the copyright owner.

Once a copyright is registered, legal action can be taken to stop an infringement of the copyright and to recover damages.

### Stanford's Copyright Policy

Stanford's Copyright Policy is enunciated in the Research Policy Handbook (RPH) and can be found at <http://www.stanford.edu/dept/DoR/Chpt5.htm>. In brief, copyright remains with a work's creator, unless the work is created under certain conditions. "When Stanford Retains Copyright" below articulates some of these

conditions, including works-for-hire. (See "Copyright Policy, As It Reads" box at right for a descript quote from the Policy.) Also contained in the Policy is a provision which states that Stanford resources should be used solely for University purposes and not for personal gain or personal commercial advantage, nor for any other non-University purposes.

### Public Domain

Even though a work does not have a copyright notice, the work may not be in the public domain. The copyright exists with or without a copyright notice and one should assume a copyright exists. The only way to be certain that a contemporary work is in the public domain is to get confirmation in writing from its creator.

### Licensing Copyright

Copyright owners can license any of the rights listed previously. Stanford's Office of Technology Licensing (OTL) handles the licensing of Stanford's intellectual property, including copyrighted works. Many copyrighted works may not have commercial potential or commercial applications; others are of interest to industry, either as a product to sell or as a tool to use.

Works that can be widely used by many companies are often licensed non-exclusively. Works that require significant further development are often licensed exclusively to provide an incentive for a company to invest in commercializing the work. Licensed copyrighted works have the potential to provide royalty streams for many years if the copyrighted work retains its value overtime. Several Stanford computer programs, including MEDIPHOR™, PISCES/SUPREM™, MINOS™, and others mentioned below have generated

## When Stanford Retains Copyright

In general, Stanford does not claim copyright to textbooks created by Stanford faculty or staff. However, Stanford does claim copyright in certain situations, briefly described below. For a more thorough understanding of Stanford's Copyright policy, please read the policy found at: <http://www.stanford.edu/dept/DoR/Chpt5.html>.

### Work-for-hire:

If an employee of Stanford creates a work in the course of his or her job responsibilities, Stanford owns the copyright. For example, if a Stanford librarian writes a preservation handbook as part of her job, Stanford owns the copyright. Likewise, if a member of the Stanford staff is paid to write code for a computer program, Stanford owns the copyright.

### Supported by a direct allocation of funds:

If Stanford makes direct payment for the creation of

a copyrighted work, Stanford will own the copyright. For example, a faculty member would like to embody one of her novel teaching methods in a CD-Rom. If Stanford were to provide funds to enable her to do so, Stanford would own the resulting copyrighted work. Likewise, the University retains ownership of works created as institutional works that are created at the direction of the University for a specific University purpose.

### Commissioned works:

By policy, Stanford retains the copyright to commissioned works. For example, if a department at Stanford commissions an independent contractor to create its logo, Stanford would obtain the copyright to the work through a written agreement between the commissioned contractor and Stanford. If no agreement is in place, the contractor will own the work's copyright.

### Otherwise subject to contractual obligations:

Stanford owns copyright to works created under sponsored research and other contracts. If such work is done by someone who is not an employee, there should be a written agreement by which the copyright is assigned to Stanford.

### Significant Use of Resources Stanford:

If significant Stanford resources (staff, equipment etc.) have been used to develop a copyrighted work, Stanford also retains title. For example, if Mediaworks or SCPD's video resources have been used to create the work, Stanford will likely own the work. The use of desktop computers and library resources are not considered "significant use."

## Copyright Policy, As It Reads

Below is a summary of Stanford's copyright policy as found in the Research Policy Handbook at <http://www.stanford.edu/dept/DoR/rph/5-2.html>:

"It is the policy of the University that all rights in copyright shall remain with the creator unless the work is a work-for-hire (and copyright vests in the University under copyright law), is supported by a direct allocation of funds through the University for the pursuit of a specific project, is commissioned by the University, makes significant use of University resources or personnel, or is otherwise subject to contractual obligations."

## Using Copyright, Patents & Trademarks

CREATION	Copyright?	Patent?	Trademark?
<p>"Genscant™" software program which predicts complete genetic sequences (Dr. Chris Burge, School of Humanities and Sciences)</p>	Yes	No	Yes (name)
<p>sprouty gene involved in respiratory development (Dr. Mark Krasnow, Dr. Nir Hacohen, HHMI, School of Medicine)</p>	No	Yes	No
<p>SUTECH™ database of tumor subtype data (Dr. David Botstein and Dr. Patrick Brown, et al, School of Medicine)</p>	Yes	No	Yes (name)
<p>GI SCORE algorithm for determining drug-induced gastrointestinal distress (Dr. Gurkirpal Singh, School of Medicine)</p>	Yes (written form)	Yes (algorithm)	No
<p>"PARAXIA™" software program for designing optical systems (Drs. Anthony Siegman, Paul Mussche, and Jean-luc Doumont, School of Engineering)</p>	Yes	No	Yes (name)
<p>American Indian Life Skills curriculum (Terese LaFramboise, School of Education)</p>	Yes	No	No



## Got Feedback?

We welcome your input. Just email the editor at [rich.scholes@stanford.edu](mailto:rich.scholes@stanford.edu).

## **Celebrating Innovation: Fogarty Wins MIT-Lemelson Award; Scott, Gold Win Stanford Invention Challenge**

On June 5, 2000 the Stanford Medical Device Network (MDN) (<http://mdn.stanford.edu>) and the Department of Surgery (<http://surgeons.stanford.edu>) held an award ceremony honoring veteran and up-and-coming inventors alike. The celebration centered around Dr. Thomas J. Fogarty's receipt of the prestigious 2000 Lemelson-MIT Award for Invention and Innovation (<http://web.mit.edu/invent/>), which he recently received in New York. Also celebrated were the winners of the second Stanford Medical Device Invention Challenge, up-and-coming inventors Drs. Garry Gold and Greig Scott. Their surgical solution for treating the arthritic knee applies electrode probe coils to improve magnetic resonance imaging (MRI) of articular cartilage lesions. Gold and Scott received the \$2,500 award and, more importantly, exposure to the vast congregation of investors in attendance.

Fogarty was presented this year's Lemelson-MIT Award for his groundbreaking and prolific inventiveness in the field of less-invasive surgery. Fogarty has founded or co-founded 25 medical and surgical companies. He holds 63 US patents, covering landmark innovations such as the Fogarty Embolectomy Catheter, the first medically applied balloon catheter.

Joining Fogarty in "Celebrating a Lifetime of Innovation" were over 400 members of the Stanford and local communities. Speakers included Dr. John Hennessy, Stanford Provost & President-Elect, and Dr. Christopher Zarins, Chief of Vascular Surgery, who praised Fogarty's ability to succeed in the surgical industry while remaining an excellent and personable physician.

Fogarty warmly received the honor but expressed that many other members of the commercial development continuum were integral to his successes (including patients, engineers, patent attorneys, business people, and VCs). Fogarty plans to donate the \$500,000 he receives from the Lemelson-MIT award to fund future clinical innovators at Stanford.



Left to Right: Presenters Paul Yock (MDN) and Katharine Ku (OTL) and innovators Thomas Fogarty, Greig Scott, and Garry Gold

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The third Stanford Medical Device Challenge, a competition focused on development of medical devices that interface with the Internet, begins at the outset of the 2000 fall quarter. For more information on the challenge, go to <http://mdn.stanford.edu>.



### COPYRIGHTS... Continued from page 3

work to others with a simple one-page license agreement, if the creator and OTL would like to maintain copyright protection. Alternatively, many people distribute Stanford software over the Internet, using clickwrap agreements to retain control over distribution. These clickwrap agreements are generally accepted as legally binding, and they allow the creators to set guidelines for the use of the software. Check out [www-stat.stanford.edu/%7Eowen/clickwrap/plaid.html](http://www-stat.stanford.edu/%7Eowen/clickwrap/plaid.html) for a clear and succinct clickwrap agreement drafted by Balasubramanian Narasimhan for Art Owen and Laura Lazzaroni's Plaid Software for analysis of gene expression data.

#### Examples of Licensed Software

In the past several years, Stanford creators have developed software for bioinformatics (the study of biological information). For example, former mathematics graduate student Chris Burge created Genscan™ genomic analysis software for predicting complete genetic sequences; the software has been licensed by over fifty companies and has generated over \$735,000 in royalties. Similarly, Doug Brutlag et al's eMOTIF™ and eMATRIX™ suites of software have been licensed to over sixteen companies. More recently, Michael Eisen created ScanAlyze™, Cluster™, and TreeView™ and Gavin Sherlock created XCluster™.

Additional software created at Stanford and licensed by industry include:

- Mark Levoy et al's Polysurf for image modification; licensed by famous movie studio, who used it in their moviemaking
- Anoop Gupta et al's method for streaming video over the internet, licensed to Vxtreme, which was acquired by Microsoft

All four programs, which between them are already licensed to nine companies, analyze data generated from microarrays (solid substrates attached to genetic sequences or proteins; used for analyzing the components of biological systems).

OTL has also out-licensed many software programs arising out of the physical sciences. In the late 1960's, staff in the Stanford Computer Center created one of the earliest software programs to be distributed independent of computer hardware. OTL out-licensed this productivity tool, WYLBUR™, exclusively for commercial distribution, and during the next 20 years it generated over \$950,000 in royalties to Stanford.

Other commercial successes in the long line of Stanford software include Robert Dutton et al's creation of PISCES™ and SUPREM™, software

for modeling manufacturability and designing semiconductor chip circuitry; since their 1980's creation, these two programs have generated over \$1.8 million. Similarly successful, Drs. Michael A. Saunders, Bruce A. Murtagh, and Walter Murray's MINOS™, software for solving large-scale optimization problems, was created in the early 1980's and has been used by over thirty-nine companies and the World Bank. MINOS™ is still licensed by over twenty royalty-paying companies.

#### Educational Works Protected by Copyright

OTL also licenses copyrighted content in the form of educational materials. For example, Dr. Kate Lorig in the School of Medicine has produced the Self Management Programs to teach patients with chronic diseases, such as arthritis, how to better manage their conditions. Human Biology for Middle Schools Project is a biology curriculum for middle school students relating biology to learning about the human body. The School of Law created the Interactive Video Disks for Legal Education, which was non-exclusively licensed by a company dedicated to continuing legal education. These materials are not patented but are licensable as copyrighted works.

Copyright law is complex. For more information on U.S. Copyright Law and Procedure see <http://lcweb.loc.gov/copyright/>. Also, many questions of copyright ownership based on Stanford's Copyright policy will require a case by case determination. If you have questions, please contact the Office of Technology Licensing or the Office of the Dean of Research.



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