Intellectual Property Basics for Scientists

VIBHU SACHDEV – TECHNOLOGY LICENSING OFFICER, CTL
Intellectual Property

Foundation in the U.S. Constitution

"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."

U.S. Const art. I § 8
Copyright

“works of authorship”

(a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:

(1) literary works;
(2) musical works, including any accompanying words;
(3) dramatic works, including any accompanying music;
(4) pantomimes and choreographic works;
(5) pictorial, graphic, and sculptural works;
(6) motion pictures and other audiovisual works;
(7) sound recordings; and
(8) architectural works.

(b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

17 U.S. Code § 102
When is copyright protection obtained?

Upon fixation

Registration is no longer a requirement but can be helpful in proving the existence of actual copyright protection in court.
Enforcement of Copyright

Fair Use

“the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include:

the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;

the nature of the copyrighted work;

the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

the effect of the use upon the potential market for or value of the copyrighted work.

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.”

17 U.S.C. § 107
Fair Use

Substantially similar?

Newton v. Diamond, F.3d 1189, 73 U.S.P.Q.2d (BNA) 1152 (9th Cir. 2004)

Beastie Boys – “Pass the Mic”
Fair Use or Derivative Work?
Open Source Licensing – “Contaminating Code”

There are many different types of open source licenses, many of which require the “open sourcing” of software that contains or incorporates the code.

Example: GNU General Public License (GPL-3.0)

This “contamination” can result in loss of exclusive rights.
Patents

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

35 U.S. Code § 101
Patentable vs Patent Eligible

Patent Eligible – The types of inventions/discoveries for which a patent may be granted
Exceptions include: laws of nature, physical phenomena, and abstract ideas

Patentable – An invention that is new and for which a patent is warranted
Patentability: novel and non-obvious

Novel – The invention has already been disclosed as a whole

Non-obvious – The different parts have been disclosed separately but it would be “obvious” to combine them

WE WILL RETURN TO THIS IDEA
Anatomy of a patent

Specification – written description of the invention must enable a person of ordinary skill in the art to practice the invention.

Claims – the functional unit of the patent... what is protected
- Claims can only be one sentence each
- Claims contain a series of “limitations”
- Independent vs Dependent claims – dependent claims add limitations to an independent claim
- Each claim must be patentable
Example

The Chair
A system for supporting a sitting human, comprising:

- a flat surface for supporting the sitting human;  
- a support structure for supporting the back of the sitting human; and 
- a plurality of legs to support the flat surface and the support
Broad vs Narrow claims

A system for supporting a sitting human, comprising:

- a surface for supporting the sitting human, wherein
  - the surface is a flat surface, and
  - the surface is parallel to the ground;
- a support structure for supporting the back of the sitting human, wherein
  - the support structure is flat, and
  - the support structure is perpendicular to the ground; and
- four legs to support the flat surface and the support, wherein the four legs are each coupled to the surface.

A system for supporting a subject, comprising:

- a subject support structure for supporting the subject; and
- at least one system support structure for supporting the subject support structure.
Patent Prosecution

The process of arguing back and forth with the USPTO

The patent examiner presents rejections in “office actions.” The attorney replies to office actions with arguments/rationale/claim amendments.

A system for supporting a subject, comprising:

- a subject support structure for supporting the subject; and
- at least one system support structure for supporting the subject support structure.

A system for supporting a sitting human, comprising:

- a surface for supporting the sitting human, wherein
  - the surface is a flat surface, and
  - the surface is parallel to the ground;
- a support structure for supporting the back of the sitting human, wherein
  - the support structure is flat, and
  - the support structure is perpendicular to the ground; and
- four legs to support the flat surface and the support, wherein
  the four legs are each coupled to the surface.
Patentability: novel and non-obvious

Novel – The invention has already been disclosed as a whole

Non-obvious – The different parts have been disclosed separately but it would be “obvious” to combine them
Novel vs Nonobvious

Invention          Novelty Rejection          Obviousness Rejection

A
B
C

A
B
C

A
B
C
Infringement

Claims are most often interpreted by a court in an infringement action. Prior to such an analysis, there is no concrete interpretation of a claim.

The written description, prosecution records and industry standards are used by courts to interpret claims.
Trade secrets/Know-how

The intellectual property rights associated with trade secrets and know how are dissolved upon publication.

“secret sauce” - buffers
unpublished protocols
company lists, customer lists
Disclosing Inventions at Cornell
Tech Transfer Process

Research, scholarly, or other university activities yield a novel discovery, tangible article, idea, or creative expression.

Researcher(s) submit a Disclosure Form to CTL* describing the work and providing sponsorship information.

CTL creates a docket for the disclosure.

Licensing Officer conducts initial review of the disclosure to determine if additional information is needed from the researcher(s). Licensing Officer performs market and landscape research and assesses marketability and commercial potential.

Licensing Officer formulates marketing and protection strategy.

CTL and the researchers(s) work together to add further detail, as necessary.
What to disclose...

Inventions
◦ “Discoveries”
◦ Gadgets
◦ Methods

Works of Authorship
◦ Programs, scripts
◦ Manuals

Tangible materials
◦ Cells
◦ Plasmids
◦ animals
When to disclose...

The Continuum of Enablement

Idea → Blueprint → Proof of Concept → Prototype

Disclosing prior to public disclosure is best!
When to disclose...

Disclosing prior to public disclosure is best!

Publication
Poster Presentations
Talks
Abstracts
Online Posts
Other Media
How to disclose...

Disclosing Inventions
Invention is the first formal step in the commercialization process. All inventions made by faculty, staff, and students must be disclosed to the Center for Technology Licensing at Cornell University (CTL). When you disclose the invention to CTL, a licensing professional will be assigned to manage the invention and will be in contact with you shortly.

Material Transfers
Tangible research materials are tangible items produced during the course of academic activities and includes, among other things, biological materials such as clones, plasmids, gene fragments, DNA probes, hybridomas or other cell lines, transgenic animals and plant breeding materials.

Cornell Tech Transfer Process >
Disclosing Inventions to CTL >
Disclosure Form

Completed form should be submitted via:

USPS:
  Ithaca: CTL, 395 Pine Tree Road, Suite 310, Ithaca, NY 14850
  WCM: CTL, 413 East 69th Street, Room 612, Box 4, New York, NY 10021
Campus Mail:
  Ithaca: CTL, 395 Pine Tree Road, Suite 310
  WCM: Box 4
Fax:
  Ithaca: 607.254.5454 (original signature copy must be sent separately)
  WCM: 646.962.7045 (original signature copy must be sent separately)
E-mail: ctl-patents@cornell.edu (original signature copy must be sent separately)

1. Title of Invention

2. Brief Description of Invention*
III. Funding and/or Sponsorship: Please include all outside agencies, foundations, organizations, or companies and the applicable contract or grant number(s) that provided funding to any inventor for the research that led to the invention. Please also include any companies that have supplied materials in exchange for intellectual property rights. (If there is no funding or sponsorship, then mark None.)

<table>
<thead>
<tr>
<th>Name of Sponsor</th>
<th>US Government</th>
<th>Commercial/Private</th>
<th>Cornell University</th>
<th>Proposal</th>
<th>Other</th>
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<td>OSF No./RASF No.</td>
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V. Publication(s): Please provide a copy of all materials disclosed or anticipated to be disclosed in the near future in any of the following forms. (If no information is available or no plan for disclosure in the near future, please state “None.”)

<table>
<thead>
<tr>
<th>Article Submitted</th>
<th>Date</th>
<th>Journal</th>
<th>Publication Date</th>
<th>Estimated</th>
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<tr>
<td>U.S. Disclosure</td>
<td>Date</td>
<td>Occasion</td>
<td>Handout?</td>
<td>N</td>
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<td>Thesis</td>
<td>Date</td>
<td>Shelved</td>
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<td>News Release</td>
<td>Date</td>
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<td>Web Site</td>
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<td>Discussion with Industry Representatives</td>
<td>Date</td>
<td>Venue</td>
<td></td>
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<tr>
<td>Poster Presentation</td>
<td>Date</td>
<td>Occasion</td>
<td>Published Abstract</td>
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VI. Commercial Interest: Please list the specific contacts if you have them, or simply list some companies that are the type of company that you think might be interested in this invention. (If no information is available, then mark None.)

<table>
<thead>
<tr>
<th>Company</th>
<th>City/State</th>
<th>Contact Person</th>
<th>Title of Contact Person</th>
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Disclosure Form

VHA. Cornell Inventors:

Name of Primary Contact for CTL regarding this invention: ______________________

Please note that the Primary Contact is the person who will provide information to and interact with CTL regarding the invention, related patent applications, and potential licenses. The Primary Contact can be modified when the circumstance changes in the future.

Cornell Inventor Data (1) (Lead Inventor)

<table>
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<td>Home Address:</td>
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Question?

Thanks!

Vibhu Sachdev, JD
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Center for Technology Licensing at Cornell University (CTL)
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