Intellectual Property and Federal Awards

Sponsored Research Services - Texas A&M University Division of Research

What is Intellectual Property?

- Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.
- The most well-known types are copyrights, patents, trademarks, and trade secrets.

Types of Intellectual Property

Types of intellectual property typically encountered in academic research and teaching:

- Patents – inventions
- Copyrights – expression of ideas
- Trademarks/service marks – identify source of product or services
- Trade secrets – secret information with commercial value

What is a Patent?

- A patent is a legal right granted by the government to **exclude** others from making, using, offering for sale, selling, or importing an invention – a limited monopoly.
- Does not give the right to practice your invention

The Patent System

- Purposes of the patent system:
  - Provide incentives to inventors
  - Spur innovation through publication of inventions
- U.S. patents
  - Granted by the U.S. Patent and Trademark Office
  - Only enforceable in the U.S.
- No “international patent” – must get a patent in each country where you want protection

Patentability Criteria

- **Subject matter** (not patentable)
  - Laws of nature
  - Physical phenomena
  - Abstract ideas
  - Naturally-occurring articles
  - Computer-implemented business methods

Patentability Criteria (continued)

- **Useful**: Operable and capable of satisfying some function
- **Novel**: Not known or used by others in the US or described in any printed publication
- **Nonobvious**: Not obvious to “one skilled in the art” of the invention

Steps of Invention

- **Conception**
  - Create the invention in general terms
  - Complete when one perceives a specific result and a particular means of accomplishing the result, so that reduction to practice is obvious to one of ordinary skill
  - Still room for inventive contribution in determining preferred embodiment
- **Reduction to practice**
  - Actual
    - Implement by physical act of making and using a prototype to demonstrate usefulness for intended purposes
  - Constructive (virtual)
    - File a patent application

Common Pitfalls

- If the inventor allows other people to know about the invention before a patent application is filed, the inventor may lose his/her opportunity to obtain patent rights.
- Do not disclose the invention without an executed confidentiality or non-disclosure agreement.
- General rule: No public disclosure until a patent application is filed.

Obtaining a Patent

- A U.S. patent application must be filed within one year of when the invention is first:
  - Described in a printed publication anywhere in the world;
  - Patented in any country;
  - On sale in the U.S.; or
  - In public use in the U.S.
- If pressed for time, a provisional application can be filed as a placeholder, but a full patent application must be filed within one year.
- If more than one inventor (or groups of inventors) independently file patent applications for the same invention, the first to file wins.
- In all other countries, a patent application must be filed before the invention is first disclosed or offered for sale.

Provisional Patent Application

- Provides filing date – A “placeholder”
- No patent rights—not examined
- Abandoned automatically after one year
- Has simpler filing requirements – Claims are not required
- Lower filing fees
- Patent pending once application is filed

Types of Patents

- **Utility** (how it works)
  - Machine, (article of) manufacture, process, composition of matter, and improvements thereof
  - 20 year term (from filing)
- **Design** (how it looks)
  - Ornamental (non-useful) articles of manufacture
  - 15 year term (from issue)
- **Plant** (asexually reproduced)
  - 20 year term (from filing)

Functions of the United States Patent and Trademark Office (USPTO)

- is an agency of the U.S. Department of Commerce
- grant patents for the protection of inventions
- register trademarks
- advises and assists the President and the Department of Commerce, and other agencies

Inventorship

- An inventor is anyone who contributed to the conception of the invention in a way that was beyond routine skill
- A person is not an inventor if he or she only:
  - Posed a problem to be solved
  - Made minor contributions or suggestions
  - Built or tested the embodiment of the invention
  - Discovered its novelty or distinguishing features
- A patent that names a person as an inventor who is not qualified to be one is invalid (although correction of inventorship may be allowed in some circumstances)

Ownership

- General rule: ownership follows inventorship
- An employer owns its employee's inventions made in the course of his or her employment if:
  - The employee contractually agreed to assign his or her rights to the employer; or
  - The employer specifically hired the employee for his or her inventing skills
- A non-employer that sponsors the work is not entitled to rights in an invention unless the inventor(s) or his or her employer has contractually agreed to that

Joint Ownership

- Unless they agree otherwise, each owner may do whatever it wants with an invention
  - Each can license or assign its rights without the permission of the other owner(s)
  - No requirement to share revenue
- But no one owner, acting independently, is able to grant an exclusive license to all of the owners' rights.

What is a Copyright?

- A copyright is an exclusive legal right to determine whether, and under what conditions, a work of authorship may be used, copied, displayed, performed, or distributed by others.
- Copyright protects the original works of authorship (e.g., expression of a concept or idea), but not the concept or idea itself.

The Copyright System

- Purpose is to promote progress of science by providing incentives to authors, subject to limitations considered to be in the public interest
- Generally governed by federal law
- No “international copyright,” but most countries recognize the copyrights of others via multilateral treaties

Duration

- Sole author: life of author + 70 years
- Joint authors: life of last surviving author + 70 years
- Work for hire, anonymous, and pseudonymous works: lesser of
  - 95 years from publication
  - 120 years from creation
- But the law has changed several times over the years, and the validity of a copyright remains subject to the law in effect when the work was created

Copyrightable Subject Matter

- Literary works
- Musical works, including any accompanying words
- Dramatic works, including any accompanying music
- Pantomimes and choreographic works
- Pictorial, graphic, and sculptural works
- Motion pictures and other audiovisual works
- Sound recordings
- Architectural works

Not Copyrightable

- Titles, names, individual words, short phrases, slogans
- Ideas, procedures, methods, systems, processes, concepts
- Facts (although creative selection and arrangement of facts is protected)
- Works consisting of public domain information and contains no original authorship (tables and blank forms)
- Works of the federal government

Copyright Requirements

- Fixation: the work exists in a medium from which the author's expression can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine
- Originality: independently created (not copied)
- Minimal creativity

Creation

- Copyright automatically created upon fixation of the work – no formal steps necessary
- Marking with a copyright notice is recommended (puts the public on notice) but not required
- Registration with the U.S. Copyright Office is not required until the owner wants to sue for infringement, but if done early provides advantages to the owner in an infringement suit

Exclusive Rights of a Copyright Owner

- Reproduce the work
- Prepare derivative works based on the work (new works based on the original work that would otherwise be infringements – translations, adaptations, etc.)
- Distribute copies of the work
- Perform the work publicly
- Display the work publicly
- Perform the work publicly by means of digital audio transmission (sound recordings only)

Authorship

- General rule: ownership follows authorship
- The creator of a copyrighted work is considered the author
- Two or more people are considered joint authors if both contributed copyrightable subject matter "with the intention that their contributions be merged into inseparable or interdependent parts of a unitary whole"
  - An editor or typist is not an author
  - A person who contributes only ideas or direction is not an author
- Unless they agree otherwise, each owner may do whatever it wants with the work but must share any profits with the other owners

Works for Hire

- The employer/commissioning party is considered the author of a work for hire
- A work will be a work for hire only if:
  - the work is prepared by an employee within the scope of his or her employment; or
  - the parties agree in writing that the work will be a work for hire, and the work is specially ordered or commissioned for use as:
    - A contribution to a collective work;
    - A part of a motion picture or other audiovisual work;
    - A translation;
    - A supplementary work;
    - A compilation;
    - An instructional text;
    - A test;
    - Answer material for a test; or
    - An atlas

Copyrights – Uniform Guidance

- The non-Federal entity may copyright any work that is subject to copyright and was developed, or for which ownership was acquired, under a Federal award.
- The Federal awarding agency reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.

Copyrights – FAR 52.227-14

- Generally, the contractor must obtain permission of the contracting officer prior to asserting rights in any copyrighted work containing data first produced in the performance of a contract.
- Alternate IV of the clause grants permission for contractors to assert copyright without having to ask.

What Is a Trademark or Service Mark?

- **Trademarks:** Used to indicate the quality and source of goods
- **Service Marks:** Used to indicate the quality and source of a service
- Rights are acquired by the use of the mark in connection with services or goods in commerce
- Used to protect the perception of the owner and to prevent others from trading on the goodwill or misleading consumers
- Does not mean that the trademark owner can control the use of the word, phrase, etc. in all contexts
- Lasts as long as the owner continues to use it

What is a Trade Secret?

- a type of intellectual property that comprise formulas, practices, processes, designs, instruments, patterns, or compilations of information that have inherent economic value because they are not generally known or readily ascertainable by others
- and which the owner takes reasonable measures to keep secret.
- In some jurisdictions, such secrets are referred to as confidential information.

Trade secrets (continued)

- Trade secret has to be kept secret
  - Once disclosed, it is no longer a trade secret
- No time limit for protection as long as it remains a secret
- May be more valuable than patented technology
- Information must be treated as confidential and not available beyond those who have a “need to know”

Trade secrets (continued)

Six factors to be considered in determining whether information constitutes a trade secret:

1) The extent to which the information is known outside the claimant's business
2) The extent to which it is known by employees and others involved in the business
3) The extent of measures taken by the claimant to guard the secrecy of the information
4) The value of the information to the business and its competitors
5) The amount of effort or money expended by the business in developing the information
6) The ease or difficulty with which the information could be properly acquired or duplicated by others

IP in Industry Sponsored Contracts

- Typically, an industry sponsor is provided a time-limited first option to negotiate a license to any System IP created under the project for commercial use.
  - The idea is that the sponsor is paying for the research project to be conducted, but this does not include full compensation for IP that may be unexpectedly generated during the project.
- Commercial rights in IP developed under the sponsored research are more appropriately conveyed through a subsequent license negotiated with the System.

IP Rights Under Federal Awards

- Grants
- Cooperative Agreements
- Federal Procurement Contracts per FAR 27.303 insert a patent rights clause in all solicitations and contracts for experimental, developmental, or research work (Standard Clause 52.227-11)
- Other Transactions Authority (OTA)

Bayh-Dole Act - 37 C.F.R. 401

- Implemented by 37 C.F.R. 401 “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Awards, Contracts and Cooperative Agreements.”
- Permits these entities to retain ownership of inventions made under contract and which they have acquired, provided that each invention is timely disclosed and the contractor elects to retain ownership in that invention

Federal Sponsor Requirements to Report Intellectual Property

- Invention Report - Within **2 months** of inventor's initial report to the grantee / contractor organization.
- Election or Nonelection of title to invention - within **2 years** of the initial reporting of the invention to the lead federal agency sponsor. (Earlier, if disclosed publicly or if patent application filed)
- Patent Application - Within **1 year** after election of title, unless there is an extension.
- Changes in Patent Application Status
- Invention Utilization Reports – annually when required
- Annual and Final Invention Statement
- Use of *iEdison*

Bayh-Dole Act – Allocation of Rights

- The *Contractor* may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause
- With respect to any subject invention in which the *Contractor* retains title, the Federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

Bayh-Dole Act, continued

- Include the patent rights clause in any subcontracts;
- Report subject inventions to the sponsoring agency;
- Elect in writing whether or not to retain title;
- Conduct a program of education for employees regarding the importance of timely disclosure; and
- Require certain employees to make a written agreement to protect the government's interest in subject inventions.

Bayh-Dole Act, continued

- Convey to the Federal agency, upon written request, title to any subject invention if the organization fails to file, does not continue a prosecution, or will allow a patent to lapse;
- In each patent include a statement that identifies the contract under which the invention was made and notice of the government's rights in the invention;
- Report on the utilization of subject inventions;

Bayh-Dole Act, continued

- Require in exclusive licenses to use or sell in the United States that products will be manufactured substantially in the United States; and
- Agree to allow the government to "march in" and require licenses to be granted, or to grant licenses, in certain circumstances, such as if the organization has not taken effective steps to achieve practical application of the invention.

March-In Rights

- (right of USG to require award recipient (or an assignee or exclusive licensee) to grant a nonexclusive, exclusive, or partially exclusive license to third party or to assign ownership of the patent or subject invention to USG

Restrictions – Subcontracts

- 37 CFR 401.14(g)(1) – In subcontracts for experimental, developmental or research work to be performed by a subcontractor, the subcontractor retains all rights provided for the contractor in this clause, and the recipient cannot, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions (but the subcontractor must grant a license to USG).

Data

- Broader in scope than protectable intellectual property.
- Copyright-compilation of data, software
- Patent-data contain information on machines, processes, manufactures, improvements
- Trade secret-data contain a commercial advantage
- Some must remain confidential and are protected under HIPPA, FERPA or IRB.

Data Rights – Uniform Guidance

- The Federal Government has the right to:
- **(1)** Obtain, reproduce, publish, or otherwise use the data produced under a Federal award; and
- **(2)** Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

Data Rights – FAR

- Data rights" refer to the Government's nonexclusive license rights in two categories of valuable intellectual property, "technical data" and "computer software" delivered by contractors under the FAR.
- Contractors generally retain copyright ownership of the noncommercial technical data and noncommercial computer software that they develop and deliver.

Technology Transfer and Commercialization

AUTM – Nonprofit for the education of technology transfer professionals

Technology transfer is the process of transferring scientific findings from one organization to another for development and commercialization. The process typically includes:

- **identifying and evaluating** new technologies
- **protecting** technologies through patents, copyrights and other forms of intellectual property protection
- **assisting** with commercialization strategies, such as marketing to existing private sector companies, creating new start-up companies, and negotiating licensing agreements.

Academic and Research Institutions Engage in Technology Transfer:

- for the institutional recognition of discoveries
- to further disseminate knowledge gained through academic research
- to comply with federal regulations
- to attract and retain talented faculty
- to develop the local economy
- to attract corporate research support
- to obtain licensing revenue to support further research and education

Commercialization - Licensing

- License can be exclusive or nonexclusive
- License can include all or some of the patent rights: make, have made, use, sell, offer to sell, import
- License can be limited as to the field of use and/or geographic locations