welcome

Intellectual Property 101
What do we mean when we talk about “intellectual property”?

- **Intangible property established and recognized by law** that, with limited exceptions:
  - allows the rights holder the **exclusive right to use the intellectual property** and grants the rights holder the ability to exclude use by others;
  - Allows the rights holder the ability to seek and, potentially, obtain, **remedies for infringement of its rights by others.**
What do we mean when we talk about “intellectual property”?

• In the context of college and university activities, when we talk about “intellectual property” we should recognize that this is, generally, a discussion about risk management intended to maximize the ability of an institution to fulfill its mission.

• In this sense, “intellectual property” is a shared responsibility, requiring cooperation across various institutional units.
Intellectual property: why?

Freedom for University Researchers to Innovate

Freedom for University Researchers to Educate

Freedom for Third Parties to Operate

IP
Intellectual property: what and how?

**Intellectual Property** describes a category of *property rights*:

- Trade Secrets
- Copyrights
- Trademarks
- Contracts
- Patent Rights
Remember the previous definition:

**Intellectual Property is...**

- **Intangible property established and recognized by law** that, with limited exceptions:
  
  - allows the rights holder the **exclusive right to use the intellectual property** and grants the rights holder the ability to exclude use by others;
  - Allows the rights holder the ability to seek and, potentially, obtain, **remedies for infringement of its rights by others**.
Intellectual property: what and how?

Intellectual Property describes a category of property rights:

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DIFFICULTY TO OBTAIN
Intellectual Property describes a category of property rights:

Creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. IP is protected in law and enables people to earn recognition or financial benefit from what they invent or create. By striking the right balance between the interests of innovators and wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish. (World Intellectual Property Organization - WIPO.)
Trade Secrets cover a broad range of intellectual property:

1. A trade secret is information that has value by virtue of not being generally known.
2. The information has value to others who cannot legitimately obtain the information.
3. The information is subject to reasonable efforts to maintain its secrecy.
   (USPTO.gov.)
cover a broad range of intellectual property:
Terms of art:

• **Trade Secret** – *information*, including a formula, pattern, compilation, program, computer program, device, method, technique, or process, that:
  
  (a) Derives *independent economic value, actual or potential, from not being generally known to*, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and

  (b) Is the *subject of efforts* that are reasonable under the circumstances to **maintain its secrecy**. See e.g. Idaho Code § 48-801
Trade Secrets

**terms of art:**

**Misappropriation—**

(a) **Acquisition of a trade secret** of another by a person who knows or has reason to know that the trade secret was **acquired by improper means**; or

(b) **Disclosure or use of a trade secret of another without express or implied consent** by a person who:

   (A) Used improper means to acquire knowledge of the trade secret; or

   (B) At the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was:

      (i) Derived from or through a person who had utilized improper means to acquire it;

      (ii) Acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or

      (iii) Derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or

   (C) Before a material change of his position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake.

See e.g. Idaho Code § 48-801
Copyrights can be used to protect a variety of creative work:

The US Copyright Act protects “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.” 17 USC. § 102(a).

Copyrights are used to protect authors’ rights in software and websites, underlying code, video and pictures, music, literary works, architectural works, sculptures, and more.
Copyrights can be used to protect a variety of creative work:

- Protects the expression of an original work of authorship, and elements of that expression.
- Does not protect your underlying ideas, only the particular expression of those ideas.
- Rights affix at the time the expression is “fixed in a tangible medium.”
- Federal registry is available, provides enhanced protection in the event of a dispute.
- Put others on notice by using the symbol with the date: © 2017.
Intellectual Property terms of art:

- **Author** – the creator of the original expression in a work.
  - The author is also the owner, unless there is a written agreement assigning the work to another or the work is a work made for hire.

- **Work of Authorship (or Work)** – an original expression fixed in a tangible medium
  - 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.
Copyrights terms of art:

- **Work Made for Hire** –
  - (1) a work prepared by an employee within the scope of his or her employment; or
  - (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire.

  • "**supplementary work**" is a work prepared for publication as a secondary adjunct to a work by another author for the purpose of introducing, concluding, illustrating, explaining, revising, commenting upon, or assisting in the use of the other work, such as forewords, afterwords, pictorial illustrations, maps, charts, tables, editorial notes, musical arrangements, answer material for tests, bibliographies, appendixes, and indexes, and an "**instructional text**" is a literary, pictorial, or graphic work prepared for publication and with the purpose of use in systematic instructional activities. 17 USC § 101
Copyrights terms of art:

- **Derivative Work** – work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications which, as a whole, represent an original work of authorship, is a "derivative work". 17 USC § 101.
Copyrights basics:

- The owner of copyright has the exclusive rights to do and to authorise any of the following:
  1. To reproduce the copyrighted work in copies or phonorecords;
  2. To prepare derivative works based upon the copyrighted work;
  3. To distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
  4. In the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;
  5. In the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly; and
  6. In the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission. 17 USC § 106
Copyrights basics:

- The **fair use** of a copyrighted work... 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--
  (1) the **purpose and character of the use**, including whether such use is of a commercial nature or is for nonprofit educational purposes;
  (2) the **nature of the copyrighted work**;
  (3) the **amount and substantiality of the portion used** in relation to the copyrighted work as a whole; and
  (4) the **effect of the use upon the potential market** for or value of the copyrighted work. 17 USC § 107.
Copyrights can be used to protect a variety of creative work:
Trademarks identify the source of a product or service:

- Trade Secrets
- Copyrights
- Contracts
- Patent Rights

Intellectual Property 101
Trademarks identify the source of a product or service:

- Rights affix as soon as you use the mark to identify you as the source of goods or services;
- Using the TM symbol puts others on notice that you intend to use the mark as an identifier;
- Filing a registration with the state or federal office establishes a place in time for your claim;
- State and federal registries provide enhanced protection in the event of a dispute;
- Using the circle-R symbol indicates that you have obtained a registration for the mark.
Trademarks identify the source of a product or service:

- Trademarks
- Trade Secrets
- Copyrights
- Contracts
- Patent Rights

Intellectual Property 101
Intellectual Property 101

Contracts 
formalize an agreement:

Trade Secrets 
Copyrights 
Trademarks 
Patent Rights

Intellectual Property
Contracts formalize an agreement between parties:

- Set the rights and obligations of parties relative to one another;
- Set restrictions on how your assets, including intellectual property, are used by third parties;
- Usually require advice, understanding, and negotiation to complete;
- Provide evidence and enhanced protections in the event of a dispute.
Intellectual property: what and how?

Intellectual Property describes a category of property rights:

- Trade Secrets
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- Patent Rights

DIFFICULTY TO OBTAIN
Patent Rights protect novel, useful, non-obvious creations:

- The right to exclude others from making, using, offering for sale, or selling the invention throughout the United States. Provide protections in the event of a dispute.
- The right to exclude is a time-limited reward for public disclosure of the invention (patents are an enabling disclosure).
- This is a property right, it can be bought, traded, and sold.
  - Owners must enforce their own right to exclude using dispute resolution mechanisms, including the PTAB and the courts.
  - Inventors are forever recognized on the patent application and certificate.
**Intellectual Property**

**Trade Secrets**

**Copyrights**

**Trademarks**

**Contracts**

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**Patent Rights**

**Terms of art:**

**Invention** – “invention or discovery” 35 USC § 100(a).

**Inventor** - “the individual or, if a joint invention, the individuals collectively who invented or discovered the subject matter of the invention.” 35 USC § 100(f).

**Joint Inventor or Co-inventor** – “any 1 of the individuals who invented or discovered the subject matter of a joint invention.” 35 USC § 100(g).

**Subject Invention** – “any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement: Provided, That in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act (7 U.S.C. 2401(d))) must also occur during the period of contract performance. 35 USC § 201(e)
Conception – “formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice…” MPEP 2138.04, citing Townsend v. Smith, 36 F.2d 292, 295, (CCPA 1929).

Actual Reduction to Practice – reduction of an idea to a tangible thing that actually works for its intended purpose. See Corona Cord Tire Co. v. Dovan Chem. Corp., 276 U.S. 358, 382-83 (1928); See also Cooper v. Goldfarb, 154 F.3d 1321, 1327 (Fed. Cir. 1998).

Constructive Reduction to Practice - description of the conceived invention by means of a patent application that satisfies the 35 U.S.C. 112 (a), i.e disclosure of the invention that satisfies the “how to use” and how to make requirements of Section 112(a).
Patent Rights

**terms of art:**

**“Conceived and Reduced to Practice”** – Typically the operative portion of a contract provision that conditions ownership of an invention upon its conception and reduction to practice by a party during the term of the contract.

**“Conceived or Reduced to Practice”** – Typically the operative portion of a contract provision that grants ownership of an invention to a party either conceiving or reducing an invention to practice during the term of the contract.

**Enabling Disclosure** - The requirement of 35 U.S.C. 112(a) or pre-AIA 35 U.S.C. 112, that the specification describe how to make and how to use the invention. The invention that one skilled in the art must be enabled to make and use is that defined by the claim(s) of the particular application or patent. (USPTO.gov.)

**Prior Art** – all information that is publicly available before someone claims to invent something. Patents are only allowed for things that are novel and nonobvious. If the prior art contained a description of the supposed invention, it usually cannot be novel. If the prior art contained enough information that the invention would have been obvious to someone of ordinary skill in the relevant field, a patent also cannot issue. See 35 U.S.C. §§ 102(a), 103(a). (Cornell Law – Legal Information Institute.)
Patent Rights protect novel, useful, non-obvious creations:

- Trade Secrets
- Copyrights
- Trademarks
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Intellectual Property 101
Registered patents provide a time-limited monopoly on a novel creation, in exchange for a fully enabling public disclosure. US Patents come in three types.

**Utility patents** may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof.

**Design patents** may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture.

**Plant patents** may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant.
Patent Rights protect novel, useful, non-obvious creations:

- **Public disclosures** – 1-year grace period to file patent in the USA (and *maybe* Canada, Australia, or Japan):
  - Non-confidential communication (including photos) which an inventor or invention owner makes available to one or more members of the public.
- Patent applications are reviewed by examining attorneys for **novelty** and **non-obviousness** compared to “prior art”:
  - printed publications included in definition of “prior art” = can destroy patentability;
  - “enabling disclosure” requirement of the patent application.
Patent Rights can be protected internationally:

- Filing a PCT application with the World Intellectual Property Organization (WIPO) can extend the priority date of the application for approximately 30 months from the time of filing.
Patent Rights can be protected internationally:

- **Patent Cooperative Treaty** allows a single patent application in over 150 Contracting States.
• Patent Rights can be protected internationally:

• This single application must be translated and transformed into a registered patent in select Contracting States.
Patent Rights require three basic elements:

1. Utility;
2. Novelty;
3. Non-obviousness.
Patent-eligible? Prosecution Basics
35 U.S.C. §101

<table>
<thead>
<tr>
<th>Yes:</th>
<th>No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>Discoveries, Natural Laws, Scientific Principles, Natural Phenomena, Mathematics</td>
</tr>
<tr>
<td>Machine</td>
<td>Abstract ideas, ideas in general</td>
</tr>
<tr>
<td>[article of] Manufacture</td>
<td>Atomic Weapons</td>
</tr>
<tr>
<td>Composition of matter</td>
<td>Naturally Occurring things (except plants)</td>
</tr>
<tr>
<td></td>
<td>Anything encompassing a human being</td>
</tr>
<tr>
<td></td>
<td>Anything that has been publicly disclosed</td>
</tr>
</tbody>
</table>
1. Utility

35 U.S.C. §101:

- “utility” requirement
- Must have some application for beneficial use
- “the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society” – Justice Story.
2. Novelty

35 U.S.C. §102:
• The invention must be demonstrably different from what is publicly available.
• “Prior art” references
• Anticipation: a patent can be denied where it claims each and every element of a single prior art reference
3. Non-obviousness

35 U.S.C. §103:

- The invention cannot be “obvious” to a person having ordinary skill in the art.
  - Broad definition
- Teaching-Suggestion-Motivation (TSM) test:
  - Was it taught by prior art?
  - Was it suggested by prior art?
  - Was it motivated by prior art?

If “yes” to any, the patent could be denied.
Patent-eligible? Prosecution Basics

35 U.S.C. §101

Yes:
- proteins, nucleic acids
- tools for the manipulation or use of DNA or proteins in the laboratory or in medicine,
- diagnostic kits, Pharmaceuticals, microarrays,
- software for bioinformatics analysis
- industrial-scale processes for the production of food or medicine.

No:
- Discoveries, Natural Laws, Scientific Principles, Natural Phenomena, Mathematics
- Abstract ideas, ideas in general
- Naturally Occurring things (except plants)
- Anything encompassing a human being
- Anything that has been publicly disclosed
What does the university technology transfer office assess?
Patent-worthy Factor 1: Patentability

- To what extent has the invention already been disclosed to the public? (i.e. is it novel)
- Obviousness - TSM test, an invention is obvious (and therefore un-patentable) only if there is a teaching, suggestion or motivation to combine prior art references.
- Anticipated scope of claims? How useful is this patent? Does the patent rely upon others?

Rate: Broad or Narrow
Patent-worthy Factor 2: Marketability

- Nature of the technology in the market: breakthrough or incremental improvement?
- Competitive products: currently available in the market?
- Market Assessment: size, fields of use, company players?
- Value Proposition: Does the added value exceed the cost of development?

Rate: High or Low
Patent-worthy Factor 3: Maturity

- Level of reduction to practice?
- Anticipated time to license?
- Anticipated time to marketable product or service (royalty)?

Rate: Early or Late
Patent-worthy Factors: Decision Matrix

<table>
<thead>
<tr>
<th>Category</th>
<th>Patentability</th>
<th>Marketability</th>
<th>Maturity Stage</th>
<th>Go/No-Go</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Narrow</td>
<td>Low</td>
<td>Early or Late</td>
<td>No-Go</td>
<td>Abandon or Assign rights back to inventors</td>
</tr>
<tr>
<td>2</td>
<td>Broad</td>
<td>Low</td>
<td>Early or Late</td>
<td>No-Go</td>
<td>Abandon or Assign rights back to inventors</td>
</tr>
<tr>
<td>3</td>
<td>Narrow</td>
<td>High</td>
<td>Early</td>
<td>Further diligence required</td>
<td>Seek collaborators for sponsored research</td>
</tr>
<tr>
<td>4</td>
<td>Narrow</td>
<td>High</td>
<td>Late</td>
<td>Go</td>
<td>Seek Licensee with non-exclusivity terms</td>
</tr>
<tr>
<td>5</td>
<td>Broad</td>
<td>High</td>
<td>Early</td>
<td>Go</td>
<td>Actively seek licensee with option terms</td>
</tr>
<tr>
<td>6</td>
<td>Broad</td>
<td>High</td>
<td>Late</td>
<td>Go</td>
<td>Actively seek licensee for exclusivity</td>
</tr>
</tbody>
</table>

Intellectual Property 101
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- Trade Secrets
- Copyrights
- Trademarks
- Contracts
- Patent Rights

DIFFICULTY TO OBTAIN
Thank you!

Intellectual Property 101
What do we mean when we talk about “intellectual property”?

• **Intangible property established and recognized by law** that, with limited exceptions:
  
  • allows the rights holder the **exclusive right to use the intellectual property** and grants the rights holder the ability to exclude use by others;
  
  • Allows the rights holder the ability to seek and, potentially, obtain, **remedies for infringement of its rights by others**.
What do we mean when we talk about “intellectual property”?

- **Common forms** of intangible property rights established and recognized by law:
  - Patent
  - Copyright
  - Plant Variety Protection
  - Trademark
  - Trade Secret
What do we mean when we talk about “intellectual property”?

• Most often, in the context of college and university activities, these forms of intellectual property are understood (particularly by parties outside the institution) in connection with “commercialization” (i.e. direct or indirect introduction of rights into the commercial market, ideally with revenue generated returned to the college or university.)

• Such commercialization may occur through the institution’s:
  • Technology transfer or technology commercialization office,
  • Trademark licensing office,
  • Or, less often (at the moment), the office of sponsored programs
What do we mean when we talk about “intellectual property”?

• Commercialization of institutional intellectual property is a crucial component of intellectual property-related activity

  *BUT...*

• Narrowly focusing on the commercialization of intellectual property neglects the broader impact of intellectual property on and its importance to the basic mission of higher educational institutions.
What do we mean when we talk about “intellectual property”?

- Broadly considered, institutional efforts to identify and secure intellectual property rights are central to preserving the institution’s (and other’s):
  - Freedom to INNOVATE, and
  - Freedom to EDUCATE.
What do we mean when we talk about “intellectual property”?

- This is similar to “freedom to operate” (FTO) analyses commonly undertaken by private sector entities considering introducing a product into the market.
- FTO is a risk management tool that relies on collaboration across subject matter areas (including intellectual property) and operations units (such as R&D, legal, business development) to achieve a company’s goals.
What do we mean when we talk about “intellectual property”?

• **Freedom to INNOVATE**
  - *Ex.* License agreement with company includes term expressly permitting institution to practice licensed patent rights for its research and educational purposes, including research sponsored by commercial entities.
  - *Ex.* Sponsored research agreement limits potential sponsor license rights to inventions “conceived and reduced to practice” by the institution through performance of the scope of work.
  - *Ex.* Office of Technology Transfer, in consultation with inventor/author, release source code under an open source license.
What do we mean when we talk about “intellectual property”?

- **Freedom to EDUCATE**
  - *Ex.* Sponsored research agreement includes the ability of the institution, or its researchers, to publish the results of the sponsored research, subject to limited prior review (for sponsor identification of sponsor confidential information and delay of publication for protection of any invention for which the sponsor has the right to negotiate for a license.)
What do we mean when we talk about “intellectual property”? 

• Intellectual property *also* plays an important part in the protection and advancement of an institution’s reputation.