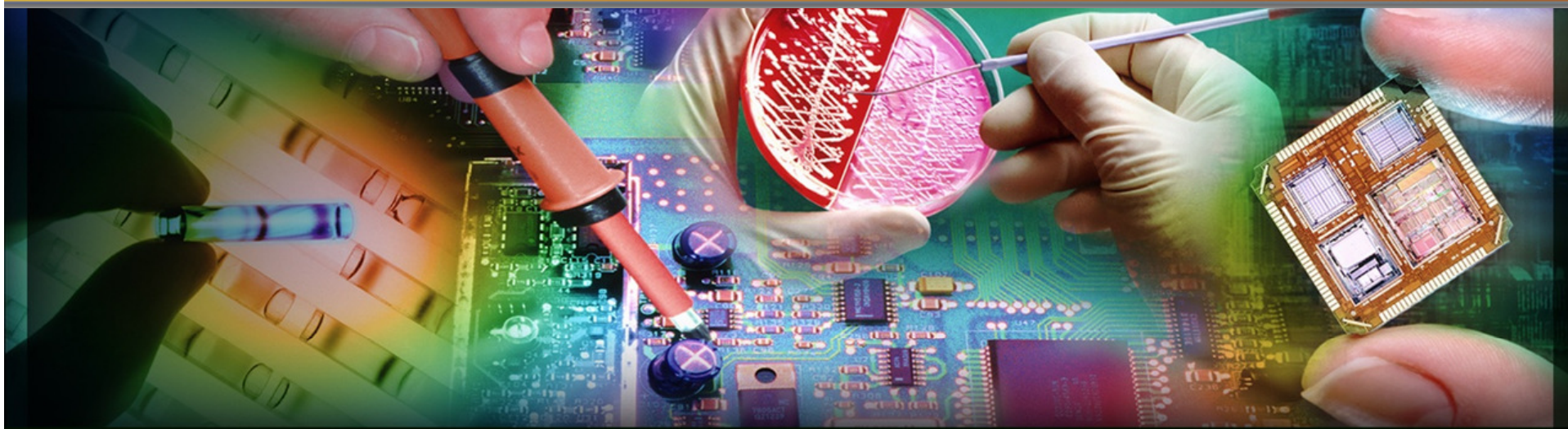


CSURF

Colorado State University Research Foundation

Technology Transfer Office - [www.csurf.org/tto](http://www.csurf.org/tto)



# Introduction to Intellectual Property

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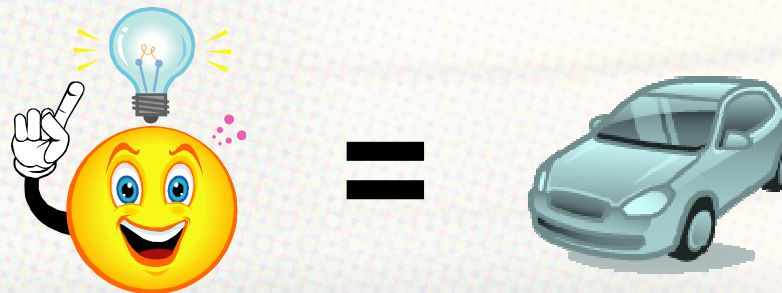
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## What is “intellectual property”?

- ❖ “Any product of the human intellect that is unique, novel and unobvious, and has some value in the marketplace.”
- ❖ Intellectual property may be bought and sold like any other property (house, car, etc.).





## What is “intellectual property”?

- ❖ Intellectual property includes:
  - **Patents**
    - Utility: machines, manufactures, processes, compositions of matter
    - Plant: distinctive new variety of asexually reproduced plant
    - Design: original and ornamental designs (not their utility)
  - **Copyrights:** the right to distribute a work of authorship
  - **Trademarks:** symbols, slogans, etc., that identify a product/company
  - **Trade secrets** – not common in university setting
  - **Ideas:** both conceived and reduced to practice





## U.S. patent law

- ❖ Patents are only granted by the Federal Government
  - State measures are preempted.
  - Each country has its own patent system.
  - No “worldwide” patent is possible, although PCT application is a common first step.
  
- ❖ The United States utilizes a “first-to-invent” system
  - Most other countries are “first-to-file.”
  
- ❖ Length of protection
  - 20 years from filing date for Utility and Plant patents
    - Eligible for a term extension for Patent Office delays.
    - Pharmaceutical patents are often extended for delays related to regulatory approval processes.





## What can be patented?

- ❖ A patent may be obtained for “the discovery or creation of a new material, a new process, a new use for an existing material, or an improvement of any of these.”
  - Utility patent: machines, manufactures, processes, compositions of matter
  
- ❖ Laws of Nature are not eligible for protection, but their application may be.





## What does a patent do?

- ❖ A patent is an exclusionary right
  - Granted by the national government.
  - Prevents others from making, using, selling, importing or offering to sell the invention in that country.
  
- ❖ Obtaining a patent does not ensure that the patent owner can practice the invention
  - Even with your own patent, infringement on another patent is possible.
  - A bit counterintuitive, but true.
  - Arises when patents overlap.



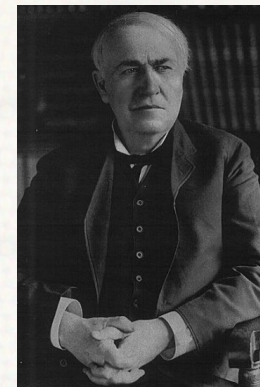


## Why would a public university want patents?

- ❖ Why would a public university seek to exclude the public from using the knowledge it creates??
  - University and its research often funded by taxpayers
  - University requires publication of research results
  
- ❖ “The value of an idea lies in the using of it.”
 

(Thomas Edison)

  - Majority of university inventions require significant further development before they are ready to be used
  - Universities are not well-suited for commercial activities
  - Corporations need a reason to take the risk
  
- ❖ Patents offer temporary monopoly and allow corporations to recoup their development costs





## The Bayh-Dole Act

- ❖ Congress recognized that federally funded research was failing to benefit public
  - Thus, Bayh-Dole was enacted on December 12, 1980.
  - Shifted ownership of resulting inventions to universities
  
- ❖ Universities required to report inventions and promote their commercialization
  - From 1996-2007, products utilizing federally funded inventions have had \$187 billion impact on US GNP, created >279,000 jobs.
    - Final Report to the Biotechnology Industry Organization, September 3, 2009

The Act is “perhaps the most inspired piece of legislation to be enacted in America over the past half-century...Innovation’s Golden Goose.”

- The Economist (December 12, 2002 Edition)





## The patenting process

- ❖ Begins with an invention disclosure to the university TTO
  - Provides basic information on invention
  - Initiates action on the part of the TTO
  
- ❖ TTO will assess and discuss options with inventors
  - May file a provisional patent application (often in-house)
  - May file a nonprovisional patent application (outside counsel)
  - May decide to wait for further development / progress
  - May decide that patent is not warranted





## Bars to patentability

- ❖ An otherwise patentable invention may be barred from patent protection under several circumstances.
  
- ❖ A patent application cannot be filed in the U.S. if:
  - The invention was publicly disclosed more than one year prior to filing the application.
  - The invention was offered for sale more than one year prior to filing the application.
  - The invention was used in public more than one year prior to filing the application.
  
- ❖ Most foreign countries do not allow the one year grace period
  - Patent applications must be filed prior to any of the events described above or most foreign rights are lost!



## What is public disclosure?

- ❖ For our purposes, public disclosure occurs when previously undisclosed (i.e., secret) information is made available to individuals not in the employ of the university (or other EUV members).
  - It is not necessary that the public actually receives the information.
  - Dissertations in library, poster sessions on campus.



## What is public disclosure?

- ❖ Typical public disclosures
  - Written publications and journal articles.
  - Oral presentations, collegial meetings.
- ❖ An enabling public disclosure constitutes a bar to patentability.
- ❖ Sale, offer for sale, or public use will bar patent even if not enabling.
- ❖ The U.S. offers a one year grace period after public disclosure in which to file a patent, but few other countries do.



## How can public disclosure issues be avoided?

- ❖ Clearly a balance required at academic institutions
  - CSURF will never interfere with scholarly activities.
  - Timely notification to CSURF can prevent most problems.
  
- ❖ Provisional patent applications (PPAs)
  - Easy and inexpensive to file.
  - Protect IP rights (including foreign – if timely).
  - Only valid for 1 year.
  
- ❖ Other mechanisms possible
  - CDA/NDA/PIDs – useful for discussions outside of CSU.
  - Joint research agreements, IIAs, MTAs, etc.



## Lab notebooks

- ❖ Lab notebooks can be vital in patent litigation
  - U.S. is first-to-invent system.
  
- ❖ Aside from experimental details, also include:
  - Ideas (when conceived and by whom),
  - In-line deletions only (no white out),
  - Signature of co-worker/advisor (every so often).
  
- ❖ Also a good idea to keep:
  - Emails and other correspondence (with dates),
  - Original draft of grant proposals, source code, etc.,
  - Napkins, scratch paper, computer files, etc.



## Inventorship

- ❖ Difference between “inventorship” and “ownership”
  - Inventors: those persons that conceived of the IP.
  - Owners: those persons (or an entity) that own the rights to the IP.
  
- ❖ Transferral of ownership possible
  - Inventorship cannot be changed.



## Inventorship at CSU

- ❖ Universities have rights to IP generated through university activities
- ❖ Inventors treated better here than industry
  - University inventors are entitled to receive royalties.
  - Not usually the case in industry!
  - IP may also attract industrial interest/sponsorship.





## Inventorship

- ❖ Inventorship is NOT equal to authorship!
  - Patent law requires that an inventor must have contributed to the conception of the idea.
  - Those that performed the work (reduction to practice) are not necessarily inventors.
- ❖ Errors in inventorship can invalidate a patent.



Franklin

≠



Shakespeare





## Take-home messages

- ❖ Patents (IP) often greatly increase impact of university research on public
- ❖ Public disclosure can obliterate all chances of a patent.
  - Must be managed before seeking a patent.
  - If in doubt, consult with CSURF!
- ❖ Lab notebooks are not just for graduate students.
- ❖ CSURF is happy to help at all stages of research.
  - Finding industrial sponsorship, during research & development, IP protection, commercialization.





## Freedom to operate (FTO)

- ❖ Refers to the ability to use materials, methods, etc. without illegally infringing on another's IP.
- ❖ Universities do not have special status regarding FTO
  - There is no formal research exemption in U.S. patent law.
- ❖ Litigation against universities is uncommon
  - Strong social norms.
  - Benefits of university research widely recognized.
  - Reluctance to set legal precedent.
- ❖ Thus, a *de facto* FTO exists for most universities
  - But, there is no guarantee that legal actions will not be taken against you!

