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Patents and IP Protection: Why They Matter to Us

- Session T210
- Tuesday, October 22, 2019
- 10:30AM – 11:30AM
What is Intellectual Property?
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
  - World Intellectual Property Organization (WIPO)
  - [https://www.wipo.int/about-ip/en/](https://www.wipo.int/about-ip/en/)
- In general terms, intellectual property is any product of the human intellect that the law protects from unauthorized use by others. The ownership of intellectual property inherently creates a limited monopoly in the protected property. Intellectual property is traditionally comprised of four categories: patent, copyright, trademark, and trade secrets
  - Legal Information Institute, Cornell Law School
  - [https://www.law.cornell.edu/wex/intellectual_property](https://www.law.cornell.edu/wex/intellectual_property)
Intellectual Property – Why Bother?

● Comp. advantage/Create barriers for others to enter market

● Protection against technology theft

● An “intangible asset” for the university- impacts university and ability to attract funding and recruitment

● May be collateral for lenders

● Generate a revenue stream
  ○ Product sales/Royalties/Sublicensing
Intellectual Property – Why Universities Bother?

- May generate start-ups
- Compliance with Bayh-Dole
- Part of educational experience
- Metric by which univ./faculty productivity measured
Patents
What is a Patent? See www.uspto.gov

- A grant from the federal Government that conveys and secures to an inventor the exclusive right to make, use and sell an invention for a period of time

- Under U.S. patent law, a patent is given to the first person to FILE, not to the first person to INVENT (US previously took this approach)

- A patent grants a monopoly (can block others use) for a limited time
  - Serves to encourage innovation
  - Enables the public to use when the patent term expires
Requirements for a Patent

- An invention, discovery or design must meet 4 criteria for patentability:
  - Sufficiently described in writing
  - Novel (not in prior art)
  - Useful
  - Not obvious to a person skilled in the art at the time of invention when viewing prior art
Patent Basics

- Utility (Most common), Design, Plant patents
- Examples:
  - Processes/methods
  - Machines
  - Articles of manufacture
  - Compositions of matter
  - Software*
- Term = 20 years from the date of filing
- Function = exclude others from making, using, selling, etc., without inventor’s permission
- Patents can prevent reverse engineering from becoming competition
- Initial filing fees: $75, $150, $300 + costs for claims > 3
  - See https://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule
Real Patents Filed

Urinal Forehead Rest
Real Patents Filed
Real Patents Filed
Presumption of Patent Validity

- USPTO issuance provides more assurance than copyright registration

- USPTO patent examiners search database for prior patents and prior art
  - Process more elaborate than for copyright

- Once issued by USPTO, patent is presumed valid

- Burden of proof shifts to entity claiming the patent is invalid
  - Though 2011 America Invents Act revisions to patent law offer more opportunities to challenge validity
Patent Infringement

- Making, using or selling another’s patented design, product or process without the patent owner’s permission

- The owner may obtain an injunction, damages, destruction of all infringing copies, attorneys’ fees and court costs
Cases Institutions Have Brought

● UC developed large patent portfolio for LED bulbs
  ○ filed a case against retailers for use of LED technology
  ○ Seeking claims against an entire industry (Amazon, Ikea, Target, Walmart, BBB)

● Apple ordered to pay over $500M to Univ. of WI

● Marvel Technologies ordered to pay $750M to CMU
Larger Mission of Academic Institutions

- Economic growth
- Job creation
- Competitiveness
- Responsive to market forces
- Entrepreneurial
- Industry needs
The Patent Push

• Supreme Court expanded what is patenable

• Stronger patent protection

• Right of the university to take title to patents
  • Pvt sector will not invest if govt keeps title
IP and Federal Funding
Bayh-Dole is implemented by policies, procedures and contract clauses prescribed in FAR and DFARS 27 and 227 (35 USC 200-212 and 37 CFR 401) 1980

Bayh-Dole drives many negotiations with private companies, as part or all of the research was federally funded

Bayh-Dole requires universities to report to each federal agency the patents/inventions made with federal funding
Stanford v. Roche, 563 U.S. ____ (Sup.Ct. 2011)

- The Bayh-Dole Act does not vest title to federally funded inventions automatically in federal contractors
- For title to vest, effective assignments of invention rights from inventors to institutions are necessary
- To be effective, assignments must use “magic” language of “hereby assign” or “hereby grant”
  - Need for “present” assignment
Some Bayh-Dole Recent Changes

- Newly funded awards after May 14, 2018 impacted (if older ones amended after this date agency decides if impacted)
- Required disclosure of inventions to federal agency within 2 months of when inventor discloses to university
- Universities must elect title within 2 years after disclosure to federal agency unless there is a publication, or sale or public use
- Federal agency has option of filing initial patent application if a co-inventor is their employee
- Contractors must have written agreement requiring employees to assign inventions to Contractor
Some Bayh-Dole Implications for Research Administration

- If a proposal is funded by federal agency:
  - the abstract is posted to the web
  - the application itself and the progress reports are accessible via FOIA
  - RPPR Results section is posted on the web
- These become prior art and impact the patentability of the invention
- Contact your Tech Transfer office to protect information at JIT stage
- Patent costs are allowable as indirect costs but not as direct costs unless negotiated in the Notice of Grant Award (NGA)
- NIH Training grants and fellowships are exempt from Bayh-Dole
Technology Transfer Offices

• Emphasis on licensing

• Only a few generate significant $

• Most operating expense
Winners of Licensing Lottery

- Gene splicing tech. – Stanford/UCSF - $255M
- Contransformation – Columbia - $790M
- Taxol – FSU
- Cisplatin – MSU
- Vaccine for Hep. B – UCSF
- Antiviral Zerit – Yale
- Gatorade – U of F
Funding and Accountability

- Rising Above the Gathering Storm – ↑ STEM funding
- Research Univ. and the Future of America – focus on closer relationship between univ. and industry
- Univ. presidents to Obama on public investment in research and higher ed. for competitive US economy
Univ. Oversight

- US research – govt., univ., industry
- Why univ. > accountable
  - Focus on research – basic/applied
  - Presumption of practical use
    - Industry ready to use
    - Less than 2% in academia
  - Academy more reliant on funds
TTO Tensions

- Revenue – 1/3
- Costs – staff and legal
- Public mission (humanitarian vs profit)
- IP lawyers
- VC funds
- Compensation based on revenue
March In Rights and Drug Costs

- Under Bayh-Dole- Gov’t retains some rights to federally funded research
- Gov’t can take back
- Tried to use for Cellpro, FISH tests, HIV drugs, etc.
- Pressure now to use march-in rights to control drug costs
- NIH says march-in to ensure inventions made available, not control costs
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Other Questions?

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