The Inventor’s Role: Understanding the Technology Transfer Process

Phillip Owh, Associate Director for Technology Licensing in Life Science
Martin Teschl, Associate Director for Technology Licensing in Physical Science
Topics

• University Technology Transfer – What & Why?
• CTL – Overview & Process
• IP Primer
• Marketing and Evaluating Your Invention
University Technology Transfer – What & Why?
University Technology Transfer – What & Why?

- Process by which a discovery is brought to the marketplace for the benefit of the general public
- The Center for Technology Licensing at Cornell University is the office engaged in technology transfer on behalf of Cornell University
- Almost every University that receives federal research funding has a technology transfer office to assist faculty and staff

  - University priorities
  - Bayh-Dole Act - 1980
Bayh-Dole Act

Commercialization of US-funded Research in Late 1970s

- U.S. government policy claimed title to inventions made with federal funding
  - Had accumulated 28,000 patents;
  - ~5% of those patents were commercially licensed;
  - Lots of red tape, and anti-corruption policy of licensing only nonexclusively

- On occasion, had allowed funding recipient to retain title
  - ~25% percent of those had been licensed

- Bayh-Dole was intended to increase trend
  - IP developed by a university using federal funding is owned by the university; if the university will try to commercialize
Bayh-Dole Act

• Proposal arose in late 1970s in response to stagflation, development of the Rust Belt, and lack of US competitiveness/innovation

  – Senators Bayh and Dole looked at fruits of government funding of basic research, because that funding had always been intended to fuel US economy

  – Bayh and Dole asked – where are the new technologies, why are we behind?
Bayh-Dole Act Results

The Economist (2002):

Possibly the most inspired piece of legislation to be enacted in America over the past half-century was the Bayh–Dole act of 1980

- 1996-2013: University licensing increased U.S. gross industry output by $1.1 trillion
- Since 1980
  - 3.8 million new jobs created
  - almost 5,000 start-up companies
- In 2014 alone:
  - 914 new companies
  - 965 new products
- Model for other countries worldwide
- Not without controversy!
Bayh-Dole Act Requirements

1. Must try to commercialize
2. Preference for licenses to US companies
3. Preference for small business over large
4. US manufacturing requirements
5. Distribution of $ to inventors

NOTE -- University must also:
1. Grant non-exclusive rights to US Gov’t
2. Allow “march-in” rights (never used)

By understanding Bayh-Dole, you understand what drives CTL
CTL – Overview & Process
Cornell Policies and Priorities

Cornell claims ownership of its employee’s inventions and most other forms of intellectual property and seeks to develop them:

• for the public good – NY State is first priority
• to get a reasonable return – licensing

As with other universities, licensing is a tool to:

• recruit and retain best faculty and students
• increase research sponsorship
• create closer ties to industry

http://www.ctl.cornell.edu/inventors/cornell-policies.php
Enter CTL - www.ctl.cornell.edu
Cornell’s Technology Transfer Process

Tangible (potential) benefits to working with CTL:

- No financial risk to you
- 1/3 of any net revenues generated by CTL goes to the inventor(s)
- Commercial and/or career perspective
Patent Primer
Patents – Items to Be Mindful of

Keys to better patents:

• What distinguishes your invention from the prior art – clear understanding is critical

• Detailed description of your invention & documentation (invention disclosure form)

• Proactive assistance during patent prosecution (3-5 yr. period)

• Variations, modifications and alternatives
  • Review your invention as if you were reading someone else’s
  • How would you design around your own invention? (Different embodiments)

Disclose early and often & stay in communication with CTL
Patent 101

Keys issues to be aware of:

- **Invention vs. innovation** – a patentable invention is defined by law and must meet the 3 criteria of utility, novelty, and nonobviousness

- **Inventorship vs. Scientific Authorship** – inventorship defined under US law

- **Prior Art** – anything known publicly anywhere before the date your patent was first filed (“priority date”)

- **New America Invents Act** (March 2013) – first inventor to file

- Publicly disclosing your invention before filing a patent application can limit where or if we can file at all
Patent 101 cont’d

Keys issues to be aware of:

• During prosecution the patent office examiner will issue ‘Office Actions’ – invention (as claimed) will likely be deemed not patentable under one or more of the 3 criteria for patentability
  • Need for inventor’s technical expertise is usually critical to overcome rejections
  • Do not discard or dismiss negative data
• Patents exclude others from being able to practice your invention (a negative right) and expire 20 years from the date of filing a utility or PCT application
• Be aware of length of time & cost to issuance: 3-5 years; >$20K for US patent alone
Patent Process Timeline

If CTL proceeds with filing a patent application on your disclosure we will in most cases start by filing a **provisional application**

- Provides for one year period to decide to convert to a full (utility) or PCT application (PCT application allows filing in most major countries in the world)
- Allows for 12 additional months of patent pending status (makes life of patent 21 years)
- If we do not “convert”, application is abandoned and it will never be published
  - If we convert to a utility or PCT application, the application will be published and in the public domain (even if later abandoned)
Marketing and Evaluating Your Invention
Working with CTL: The Process and Your Role

• We don’t scrutinize your science

• We assess technologies through a different lens as follows:
  – What problem(s) does your invention solve?
  – What are potential commercial applications?
  – Platform technology or improvement to an existing solution?
  – What is the potential market size? Is there an existing market?
  – Are there competing technologies?
  – What are the next steps in developing the technology?
  – Startup vs. licensing to established company?
  – What businesses may be good industry partners to commercialize your invention?
  – Can your invention be ‘policed’?
CTL Tools

• In concert with inventors CTL will:
  – Generate marketing materials (Value Proposition!)
  – Identify target companies, entrepreneurs, investors

• Web postings, cold calls, email campaigns

• Network, network, network!

• CTL Technology Showcase Events
  – Partnership and Venture Forum events
  – New Business & Emerging Technology Showcase™ – April

• “Friends of Cornell”
  – Individuals with various backgrounds and experiences working in industry
  – Provide recommendations, information, referrals
The Inventor’s Role

• Inventors – do not underestimate your role in marketing success!
  – Make industry contacts at conferences and let CTL know about them
  – You are not “just” a scientist at the conference; you are also “selling” your invention