Intellectual Property Basics and Disclosure at UW Madison

Laura M. Heisler, Ph.D.
Director of Programming
WARF

Outline
• Background on WARF
• Background on IP

WARF Overview
• Established in 1925 by Professor Harry Steenbock
• A tax exempt, not-for-profit corporation
• Over $1 billion of products are sold each year under license from WARF
The WARF Mission
To support scientific research at the University of Wisconsin Madison by:

- Moving inventions arising from UW-Madison research to the marketplace, for the benefit of the UW-Madison, the inventor and society as a whole
- Investing licensing proceeds to fund further research at UW-Madison

WARF Home Runs

- 1925 Vitamin D by Irradiation, Steenbock
- 1952 Blood Anticoagulants, Link
- 1953 Pharmaceutical Coating Process, Wurster
- 1971 Vitamin D Derivatives, DeLuca
- 1980 Digital Subtraction Angioplasty, Mistretta
- 1985 MRI Imaging Techniques, Moran
- 1989 Organ Transplant Solution, Belzer/Southard
- 1993 EXO-Poly Seq./Gene Therapy, Wolff
- 1995 Tomotherapy, Mackie
- 1997 Human Embryonic Stem Cells, Thomson
- 2000 Maskless DNA Chips, Cerrina/Blattner/Sussman
- 2001 MRI TRICKS, Mistretta
- 2010 ???:, UW Faculty

Outline

- Background on WARF
  - Background on IP
What is Intellectual Property?
Can be any product of the human intellect, such as an idea, invention, expression, unique name, business method, industrial process, or chemical formula, which the courts are willing to protect against unauthorized use by others.

IP law is the collection of legal rules, procedures, and remedies that are available to owners of IP for the purpose of obtaining such protection. IP rights are identifiable, protectable, enforceable, and licensable.

Which window do you pick?

**Patents**
- Machines
- Processes or methods
- Compounds & compositions of matter
- Articles of manufacture
- Improvements on any of these

**Copyrights**
- Literary, Musical and Dramatic Works
- Pictorial, Graphical and Sculptural Works
- Webpages
- Software and computer programs
- Audio and Motion Picture works
- Derivatives of any of these

**Trademarks**
- Words and Phrases
- Colors, pictures, sounds
- Goods and services

What are you protecting?
Trademarks & Service marks

- Marks can be just about anything
- Must identify the source and quality of goods or services
- Rights last indefinitely
Trademark Rights
- Can last forever with appropriate renewal registrations.
- The owner of a trademark can prevent others from using the mark for similar goods or services.
- Standard for enforcement: competitors whose marks may cause a likelihood of confusion with the consumer about the source of the goods or services.

Trademark weaknesses
- Protection does not prevent misappropriation of the underlying product
- Must maintain some control over the quality of good or service
- Can lose the right to enforce a trademark by not enforcing the mark or through “genericising”

COPYRIGHTS
Copyrights

- Copyrights protect an **EXPRESSION** of an idea
- Copyright encourages creative efforts by securing the exclusive right to reproduce works and derive income from them

Copyright Protection

- Copyright is created automatically once an original effort has begun and it has been fixed in a tangible medium
- Registration is not required (but highly recommended)
  - Additional protection and notice to potential infringers
  - Simple and inexpensive ($30)
- Must separately copyright each work

PATENTS VS. TRADESECRETS
Necessity?

- **US04344424**
  Anti-eating face mask | simple and inexpensive in construction, which does not interfere with transmission of speech or breathing by the user and which may be locked in place.

---

Necessity?

**Marshmallow System**

patent#: US 6800312

---

Patents

- Patents are **commercial** tools
- Generally, patents protect new, useful, and non-obvious:
  - Machines
  - Processes or methods (including algorithms)
  - Compounds or compositions of matter
  - Articles of manufacture
  - Improvements on technologies listed above
Patent Rights

• The right to exclude others from “practicing” the invention
• The nationwide right to exclude others from:
  – Making
  – Using
  – Selling
  – Offering to Sell
  – Importing
  • … a patented invention

Patent term

• For a limited time
  – 20 years from filing
  • subject to certain adjustments, extensions for FDA review, PTO delay, interferences, etc.
• In exchange for complete disclosure
  – Useful
  – Novel
  – Non-obvious
  – Legal
  – Practicable

Trade Secrets

• Information not generally known to competitors
• Business advantage
• Revolves around secrecy
Covered Intellectual Assets

**Patent**
- New and useful inventions
- Processes for manufacturing
- Methods of doing business
- Non-human life forms
- Plant varieties
- Ornamental designs

**Trade Secret**
- Almost anything a business maintains as secret that is not generally known to competitors that gives it a competitive advantage in the marketplace such as:
  - Manufacturing processes
  - Software
  - Customer lists
  - Marketing and other business data

---

**Covered Intellectual Assets**
- Pick one, not both.
- Patent and trade secret protection are mutually exclusive because:
  - A patent requires full disclosure of the invention including the best mode of practicing the invention
  - A trade secret requires secrecy

---

**Statutory Definition**
- Uniform Trade Secret Act:
  - “Trade secret” means information, including a formula, pattern, compilation, program, device, method, technique, or process, that:
    1. 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
    2. is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.
### Differences Between Patents and Trade Secrets

<table>
<thead>
<tr>
<th>Patents</th>
<th>Trade Secrets</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ 20 year term of protection</td>
<td>✓ Indefinitely as long as its secrecy is maintained</td>
</tr>
<tr>
<td>✓ Exclusive right</td>
<td>✓ Non-exclusive right (reverse engineering or independent development)</td>
</tr>
<tr>
<td>✓ Limited subject matter is patentable</td>
<td>✓ Broad subject matter as long as secrecy is maintained</td>
</tr>
<tr>
<td>Cost of single patent $10K to $30K</td>
<td>✓ Costs related to maintaining secrecy</td>
</tr>
<tr>
<td>✓ Average 25 months between filing and issuance</td>
<td>✓ Immediate</td>
</tr>
</tbody>
</table>

### Enforcement

<table>
<thead>
<tr>
<th>Patents</th>
<th>Trade Secrets</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Federal Courts ONLY</td>
<td>✓ State Courts and Federal only if diversity requirements are met (may be fed. crime if disclosed to a foreign govt)</td>
</tr>
<tr>
<td>✓ Presumption of Validity of plaintiff’s patent</td>
<td>✓ Plaintiff must prove secrecy, competitive advantage, improper means of appropriation</td>
</tr>
<tr>
<td>✓ Temporary injunctions against infringing activity available at onset of litigation but not always granted</td>
<td>✓ Injunctions more often granted at onset of litigation because of risk of secrecy being lost</td>
</tr>
</tbody>
</table>
Enforcement

**Patents**
- Expert Witness intensive
- Damages: May include Plaintiff’s lost profits, the amount of an established royalty or a reasonable royalty
- 3X damages enhancer in case of willful infringement

**Trade Secrets**
- Not as Expert Witness intensive
- Damages: Plaintiff’s actual losses and Defendant’s unjust enrichment if not duplicative
- 2X damages enhancer for “willful and malicious” misappropriation

Enforcement

**Patents**
- Attorneys’ fees in the “exceptional case”
- Median cost of litigation in Central Region*:  
  - $975,000 ($1-25 million at risk)
  - $1,350,000 (>25 million at risk)

**Trade Secrets**
- Attorneys’ Fees if violation is willful and deliberate
- Cost of Litigation in Central Region*:  
  - $425,000 ($1-25 million at risk)
  - $800,000 (>25 million at risk)


Business Considerations

- Can the invention be easily determined through reverse engineering?
- Likelihood that the invention will be independently invented, e.g., R & D expenditures in industry.
- Number of competitors and customers.
- “Shelf-life” of the invention.
- Ability to fund the patent application and enforcement process.
- How many people internally have access to the invention?
Business Considerations

- Organizational discipline to maintain secrecy
- Mobility of work force
- Likelihood of “inventing around the technology”
- Is licensing a significant component of the business model?

How to protect?

- Patent
  - Method claims
  - Composition claims
  - Device claims
- Trade Secret
- Trademark
- Copyright

Things to bear in mind

- Cost of different forms of protection
- Time required to obtain and enforce protection
- Barriers to patenting, e.g. need to present/publish, cost, transparency to competitors, etc.
- Ability to enforce (cost, time)
Which Form(s) of IP Protection Would YOU Choose?

- What is your commercial objective?
- How might your marketing plans affect your decision?
- Is there more than one type of IP protection that might be worthwhile?

Leahy-Smith America Invents Act (AIA)

- The U.S. will move from a “first to invent” to a “first inventor to file” system for applications filed on or after March 16, 2013.
- Actions and prior art that bar patentability will include public use, sales, publications, and other disclosures available to the public anywhere in the world as of the filing date, other than publications by the inventor within one year of filing
  – Intervening publications based on the inventor’s publication may be an issue
- The U.S. still has the grace period for the inventor’s own work; many countries have a requirement of “absolute novelty”
- Public participation in examination process more typical internationally and new provisions in U.S. law allow this as well

Discovery Challenge
What is the Discovery Challenge?
A UW campus-wide, three-part event for graduate students and post-docs

Part I: Seminar series
- November 2012 – April 2013 at the Institutes for Discovery

Part II: Research symposium in May at the Institutes for Discovery
- May 20th, 2013 at the Institutes for Discovery

Part III: $5,000 Mini-grant competition
- proposals due September 2013 date TBA

Discovery Challenge, Part I: Seminar Series
Topics targeted to prepare participants for Parts II and III

Intellectual Property Forum, Dec 10, 4pm @ WID

Presenting your research to public audiences, Feb 27, 2013
- Presented by Tim Miller
- Hosted in collaboration with MRSEC

Other topics in spring semester 2013:
- Technology commercialization – February 5, 2013
- Entering an interdisciplinary collaboration – March 18, 2013

Discovery Challenge, Part II: Research Symposium
Free to Attend
Research abstracts due March 1, 2013
- May 20, 2013 at the Institutes for Discovery
- For graduate students and post-docs across the UW-Madison campus

Goals:
- Present your work
- Find collaborators to facilitate interdisciplinary research and potentially enter phase three grant competition
- All research welcome – focus on impactful work, desire to advance some aspect of project through collaboration
- Four $500 prizes for best presenters
Discovery Challenge, Part III: Mini-Grant Competition

Goal: To provide seed money ($5000) for collaborative, interdisciplinary research

Eligibility
- Must be graduate students or post-docs at UW-Madison
- Must work in teams of at least 2, representing at least 2 different departments
- At least one team member must have participated in Part II: Research symposium
- Must propose a collaborative, interdisciplinary project

*All submissions due by September 2013 TBD
3 mini-grants of up to $5000 will be awarded

How to Find Out More

Website: www.warf.org/discoverychallenge

Contact: DiscoveryChallenge@warf.org

Deadline for Abstracts: March 1, 2013

Symposium: May 20, 2013

Questions?