



Technology Transfer: The Portal to University Innovation

Office of Technology Transfer

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What is Technology Transfer?

- It generally is the formal process whereby new scientific discoveries and/or inventions made at a universities are transferred to the commercial sector.



ARTI's Office of Technology Transfer

- Responsible for the appropriate protection of applicable IU intellectual property assets.
- Technology evaluation of commercial potential and patentability.
- Negotiate and manage commercial agreements for technology development.



The University Perspective: Why Protect and Commercialize Intellectual Property?

- Induce development
 - ...for the public good
 - ...encouraged by the US government
 - ...economic benefits
- Attract Industrial Research Sponsorship.
- Faculty gains the satisfaction of knowing that their work has been utilized to help people.
- Faculty shares in the revenues.



The Bayh-Dole Act - 1980

- Created uniform federal patent policy.
- Allowed universities and small businesses to own federally funded inventions.
- Permitted exclusive licensing.



Bayh-Dole Requirements

- Universities must disclose each new invention to govt.
- Universities must file patents on inventions they elect to own.
- Govt. retains non-exclusive license to practice invention and can “march-in” if they think the technology is not being handled properly or for reasons of national security.



Requirements cont.

- Preference must be given to small businesses.
- Universities must share income with inventors, remaining income must be used to support scientific research or education.
- Any company that holds exclusive license for sales in US must substantially manufacture the product in US.



University Technologies in the Marketplace

- Hepatitis B Vaccine
- AIDS treatments such as protease inhibitors
- Taxol, Cisplatin, Targretin
- DNA cloning technology
- Stannous Fluoride (IU)
- Lycos
- Gatorade
- Netscape
- Yahoo
- Sun Microsystems



Copyrights and Bayh-Dole

- Does not cover copyright protected material
- Leads to confusion when managing software...many potential contributors
- Challenges most universities' IP policy which is tailored around Bayh-Dole



ARTI and Copyright Management

- ARTI input at start of a project
- Early disclosure
- Student assignments
- Proper documentation
- University retention of copyrights
- Importance of commercial partners





What, Exactly, is a Patent?

- A grant from a government that confers upon an inventor the right to exclude others from making, using, selling, importing or offering for sale what is covered by one or more claims of the patent for a limited period of time.....provided that **ALL** governmental fees are paid!



Bare-bones Definition:

- A patent is a **'Right to exclude'**
- A patent is not:
 - Right to practice
 - Obligation to practice
 - Obligation to exclude

It is not a crime to infringe a patent in the US...rather it is a tort, like libel or negligence!

Patent Requirements – All must be met!

- Statutory class – invention must be composition, process, article or machine
- Utility – invention must be **useful**
 - historically not a difficult requirement
- Novelty – invention must be **new**
 - relative to ALL “prior art”
 - publication of “invention” may bar patentability
- Nonobviousness – invention must **not be obvious** to a “person having ordinary skill in the art”
 - subjective determination
 - “nonobviousness” can be troublesome area and is most frequent reason why applications are rejected





Patent Protection

■ Securing Patent Protection

- file application for patent within the United States Patent & Trademark Office (USPTO)
- requires patent agent or patent attorney with specialized knowledge in area of invention
- USPTO “examiner” assesses application based on statutory class, utility, novelty, and non-obviousness requirements
- time to issuance – generally 1 to 3 years, sometimes more, not often less
- anticipated costs – \$10 to \$30 K for U.S. filing
- United States Patent & Trademark Office
 - <http://www.uspto.gov/>

Why Patent?

- Provide commercial advantage
 - right to exclude competitors from making, using, selling, importing or offering for sale an invention
- Generate licensing income
 - benefits to inventor, IU and dept.
- Provide 'offense' to infringement



Timing is Everything – First to Invent

- Documentation is key!
- A concise lab notebook that is countersigned/witnessed is best.
- Records must establish when “invention” was conceived and/or reduced to practice.



Timing is Everything – Public Disclosure

- A published abstract that contains enabling content.
- A verbal presentation that contains enabling content.
- Enabling content published in print or via an Internet website.
- Discussion of details without a confidentiality or non-disclosure agreement.





Effects of Disclosure

■ U.S. Patent Protection

- Valid patent application can still be filed within U.S. up to 12 months after first public disclosure

■ Foreign Patent Protection

- Lose all (very few exceptions) foreign filing rights upon public disclosure without prior filing of patent application



How Can You Help the Patenting Process?

- Realize that patenting and publishing are not mutually exclusive!
- Discuss your new “invention” with ARTI in advance of any public disclosure
- Complete an ARTI Invention Disclosure Form and submit it to ARTI.

What is an invention disclosure?

- A written record that completely describes the IP
- IP to include:
 - Inventions
 - Publications
 - Videotapes
 - Computer programs
 - Websites
 - Electronic materials



What are the elements of an invention disclosure?

- Complete description of the invention, software or copyrightable material
- Inventor's dated signature



What role does the invention disclosure play?

- An official record to establish the date of conception and/or reduction to practice
- Aids the evaluation of the invention or software by ARTI to determine the course of action



When should an invention disclosure be submitted?

- ASAP (the early bird does get the worm)
- Does not have to be scientifically complete



ARTI Appraises Technologies the Same Way that Industry Does

- Technology must be strong and adequately protected
- There must be a current market or trends that indicate one
- Market size sufficient to support product development & investment costs





ARTI's Approach to Marketing

- Write executive summary
- Calls to industry contacts
- Mailings to target companies
- Web based marketing
 - TTO web site
 - Tech Exchange & other TTO focused sites
- Networking/Trade Shows
- Publicity/Media articles

Scope of Activities

- **382 technologies reported since 1997**
- **224 technologies currently available for licensing**
- **121 technologies with active licenses**
 - **84 technologies exclusively licensed or optioned**
 - **24 technologies licensed non-exclusively**
 - **10 technologies with paid up licenses**
- **56 on hold awaiting further development**
- **61 disclosures in the current FY/goal is 90**



Long Road to Technology Success

- 9158 – Surgical device, \$5,019,549
- 9112 – Gene therapy vector, \$2,131,173
- 9404 – Instrument for molecular analysis, \$1,599,428
- 9513 – Compound for treating cancer, \$1,053,185
- 9518 – Compound for treating eye disease, \$800,000
- 9107 – Compound for tartar reduction, \$728,664
- 9156 – Diabetic Fatty Rat, \$594,221
- 9148 – Target for cancer treatment, \$557,245



ARTI's Track Record

	FY99	FY00	FY01	FY02	(FY03)
Disclosure	59	66	57	81	69
Licenses	13	17	10	42	63
US filed	38	59	40	50	26
Foreign	37	35	39	46	13
US Issued	18	15	21	27	7
Foreign	7	9	8	8	4
Start ups	1	1	1	5	0
License Income	\$1,357,838	\$3,578,630	\$4,010,240	\$3,847,212	\$1,815,981