

The Role of Your Technology Transfer Office (TTO)

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Bayh-Dole Act

- In 1980 Congress passed the Bayh-Dole Act to facilitate the transfer of inventions from federally funded academic institutions to the public
- Gave institutions the right to own and control intellectual property (IP) generated from federally funded research

University Obligations Under Bayh-Dole

- Must file patents on inventions they elect to own and report on utilization
- Preference for small businesses
- Licensed products to be manufactured in U.S. for the U.S. market
- Royalties must be shared with inventors and re-invested in research
- Government retains non-exclusive right

Who Owns the Invention?

- Most universities require faculty members, graduate students, staff, employees, visiting professors, and the like, to assign inventions to the institution if the invention falls into any one of the following categories:
 - (i) the invention relates to that individual's employment responsibility, or
 - (ii) the invention results from an activity performed on University time and/or using University facilities or resources, or
 - (iii) the activity leading to the invention was supported by a grant or contract to the University.

Who Owns the Patent?

- The University owns the patent and, in return, provides professional services to prosecute the patent and license it, without charge to the inventor.

Technology Transfer's Mission

- Facilitate the commercialization of university discoveries for the public good;
- Reward faculty and students for their commercializable discoveries;
- Forge closer ties to industry;
- Promote economic growth in the region and Commonwealth; and
- Generate income for education and research.

What is an Invention?

- A novel and useful process, composition of matter, method of production, device or any improvements to these.
- The invention is “non-obvious” to a person skilled in the art.

Patentable Inventions

- Devices
- Targets for diagnostics or therapeutics
- Molecules for therapeutics
- Uses/applications for existing products (drugs, devices, etc.)
- Materials

What About Research Tools?

- Usually do not want to restrict usage
- Generally not worth patenting
- Can be licensed non-exclusively as Tangible Research Materials without patent protection
 - Examples: cell line, viral vectors, cloned DNA, knock-out mice, tissues, organisms

Invention Process

- Conception – “The Idea!!!”
- Reduction to Practice
 - Descriptive: filing a patent in which the invention isn’t yet physically reduced to practice but describing how a person skilled in the art should be able to make and use the invention.
 - Actual: working model demonstrating that the invention works as described.

Information Inventors Should Know

- Policies: intellectual property, sponsored research, and conflict of interest
- Royalty-sharing formula
- How to disclose a new technology
- Impact of publishing on patent rights
- How the technology transfer process works

The Technology Transfer Process

- Discussion with the TTO (determine whether invention is ready for disclosure)
- Disclosure: Inventor reports the invention to the TTO using the standard form
- Evaluation: The TTO assesses the invention for patentability and commercial potential
 - TTO may request that the inventor do further work prior to proceeding
 - TTO may waive rights if commercialization potential is low

The Technology Transfer Process

- Patent filing: This can be an expensive and time consuming process
 - Inventor works with patent counsel to define invention and claims
- Marketing: The TTO will contact potential licensees or work with potential start-ups to transfer the technology
- Licensing: TTO will negotiate and manage licenses to companies

What to expect?

- Less than 30% of inventions disclosed to the TTO will eventually be licensed.
- The average time from invention disclosure to license is 3-7 years.
- Most significant revenue comes from equity and royalties which can take from 4-15 years to realize.

TTO Responsibilities

- Manage the expectations of faculty inventors by providing the principal investigator with a summary of the prerogatives and responsibilities of each partner;
- Exercise due diligence in evaluating each technology for protectability and commercial potential;
- Keep the principal investigator fully informed of the status of evaluation, patenting and licensing activities; and
- Maintain momentum throughout the process.

TTO Commercialization Role

- Determine the strategies for patenting and selecting and instructing patent attorneys;
- Develop strategies for commercialization;
- Determine the optimal approach for commercialization; and
- Negotiate and execute the license agreement.

Faculty Responsibilities

- Assigning to the University all right, title and interest in the invention;
- Being available for consultation with TTO as needed;
- Participating in discussions with patent attorneys, potential licensees, and others involved on the pathway to licensure as requested by TTO; and
- Acceptance of the role of the TTO staff in the patenting and licensure process.

Importance of Inventor Input

- To define the invention
- To suggest potential applications
- To help draft and prosecute patent applications
- To identify potential licensees and help market the invention
- Work with companies on proof-of-concept, technology development and commercial applications through SRAs

However:

- In order to avoid unmanageable conflict of interest issues inventors should probably not be involved in:
 - Final decisions on patent filings
 - Negotiation of licenses, especially financial terms
 - License administration

Other Services From Your TTO

- Confidentiality Agreements
- Material Transfer Agreements
- Consulting Agreements
- Sponsored Research Agreements
- Tangible Materials Agreements
- New Venture formation (Start-ups)

Challenges to Technology Transfer

- Building valuable IP portfolios
- Making academic discoveries licensable
 - Funding translational research
- Securing investors and recruiting entrepreneurs
- Simplifying legal affairs
- Managing conflicts of interest/commitment
- Setting realistic expectations among political, business and academic leaders