

Technology Transfer in Academia

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Bayh-Dole Act

- The Bayh-Dole Act enacted in 1980, P.L. 96-517
- Amendments are included in P.L. 98-620, passed in 1984
- Procedures implementing legislative and executive patent and licensing policy are codified in 37 CFR Part 401



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ASSOCIATION OF UNIVERSITY TECHNOLOGY MANAGERS SURVEY DATA

- Over 1,500 patents a year have been issued to non-profit research institutions since Bayh-Dole Act was passed by Congress in 1980. Fewer than 250 patents were issued to U.S. universities annually before Bayh-Dole. Since 2001, over 3000 patents a year have issued.
- In Fiscal Year 2006, commercialization of academic research in the United States resulted in:
 - \$45 billion in R&D expenditures were received by academic centers
 - 697 new products introduced into the market in 2006 – 4,350 introduced from FY98 through FY06
 - 553 new start-up companies. - 5,724 new spinouts from FY80 through FY06



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Bayh-Dole Act: Major Issues

- Title to Invention
- Written Agreements with Inventors
- Reports to Federal Government
- Non-exclusive, royalty-free license to U.S. Government
- Substantial manufacture in the U.S. of any product sold in the U.S.
- Sharing royalties with Inventors
- Preference for a small business



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Invention Evaluation

- Patentability
 - Non-obviousness
 - Novelty
 - Utility
- Reduction to Practice
- Patent enforceability
- Scope of coverage
- Commercial Potential Determination



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Marketing Tools

- Networking
- Worldwide Web
- Direct mailings to targeted groups of companies
- Technology Transfer Publications
- Technology Transfer Brokers
- Trade Shows
- Conferences



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Industry vs. Academia

- | Industry | Academia |
|--|--|
| <ul style="list-style-type: none">• Short time frame• Applications orientated• Proprietary interests | <ul style="list-style-type: none">• Long time frame• Interest driven• "Publish or Perish" mentality• Academic Freedom• Public Disclosure• Knowledge for knowledge's sake• Different university constituencies often have inconsistent priorities |



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Why We Need Each Other

- Businesses that collaborate with universities on projects report 59% higher productivity than competitors. (Coopers & Lybrand Study in 2/6/95 Investors Business Daily)
- "Collaboration between industry and academia will continue to play an increasingly central role in helping us deliver on our shared vision for the future of technology." . . . "Microsoft is constantly deepening its partnership with academia, and is committed to jointly developing new ideas and solving many of the key challenges in computing. . . (Bill Gates, speaking July, 2001 at conference devoted to Industry-Academia Collaborations)



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Why We Need Each Other

- For companies, it is cheaper to support university research and gain access to government funded basic research, than setting up resources in-house
- Universities gain research money, job possibilities for graduates, potential for royalties
- Common goal - commercialization of new technology



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Major types of Agreements handled by the TTO

- License Agreements
- Sponsored Research Agreements
- Agreements with Private Foundations
- Material Transfer Agreements
- Confidentiality Agreements
- Interinstitutional Agreements
- Agreements for Government Sponsored programs
 - SBIR
 - STTR
 - NHIRC



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General Considerations for all Agreements with Industry

- Compliance with Bayh-Dole provisions
- Academic Freedom to publish is preserved
- Indemnification
- Disclaimers
- Compliance with Conflict of Interest policies



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Sobering Statistics

Stanford's Analysis of invention disclosures:

- 47% - 50% of all cases produce less than \$10K
- 1 in 4600 is a BIG WINNER
- Through FY2000, 36 cases generated \$1M or more in cumulative royalties



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Public Good

"First and foremost, technology transfer must serve our core mission: sharing ideas and innovations in the service of society's well-being."

-Mary Sue Coleman,
President University of Michigan,
2005 AUTM Annual Meeting

To meet the public benefit aspect of our mission, Dartmouth's TTO often takes risks in protecting technologies in an embryonic state, so as not to forfeit their future potential.



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Dartmouth's Technology Transfer Office Mission Statement

The Technology Transfer Office serves as a focal point of interaction between industry and the academic research on Dartmouth campus by transferring technology, originated in the College and its professional schools, to the private sector for the benefit of the general public and by contributing to the educational, research and public service missions of Dartmouth College.



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