

Careers in Technology Transfer

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Careers in Technology Transfer

- Background
- Profession
- RFMH
- Resources - handout



Background

- Technology transfer
 - What is technology transfer?
 - Why do we transfer technology?
- Bayh-Dole Act
- Intellectual Property (IP)
- Types of agreements



Background: Technology transfer

What is technology transfer?

- Movement of information, materials and technologies from research laboratories to commercial enterprises for the purpose of further development and commercialization.
- Patented inventions
- Research tools and reagents
- Computer software
- Diagnostic tests, vaccines and therapeutic compounds



Background: Technology transfer

Process:

- Identifying new technologies
- Protecting technologies – patents and copyrights
- Forming commercialization strategies
 - marketing and licensing to existing companies
 - creating new start-up companies



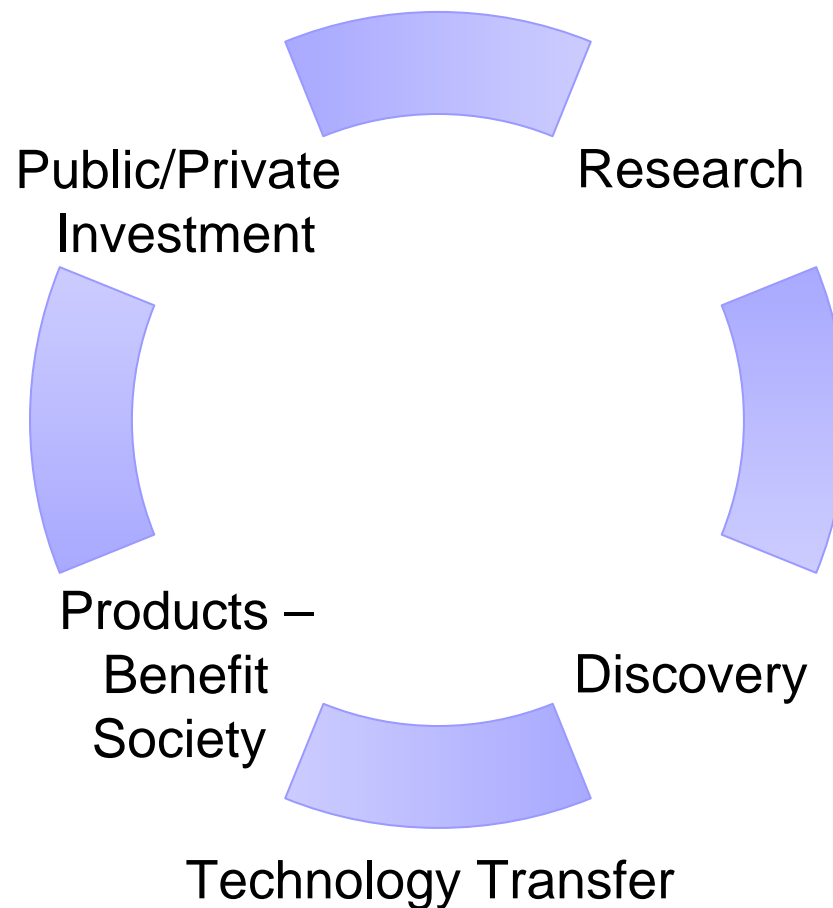
Background: Technology transfer

Why do we transfer technology?

- To support further research and develop new products to improve society and public health.
- Recognition for discoveries
- Attraction and retention of talented faculty
- \$ Local economic development
- \$ JOBS, JOBS, JOBS
- \$ Attraction of corporate research support
- \$ Licensing revenue to support further research and education
- Public benefits derived from the products that reach the market

Background: Technology transfer

Completing the Circle



Background: Bayh-Dole Act



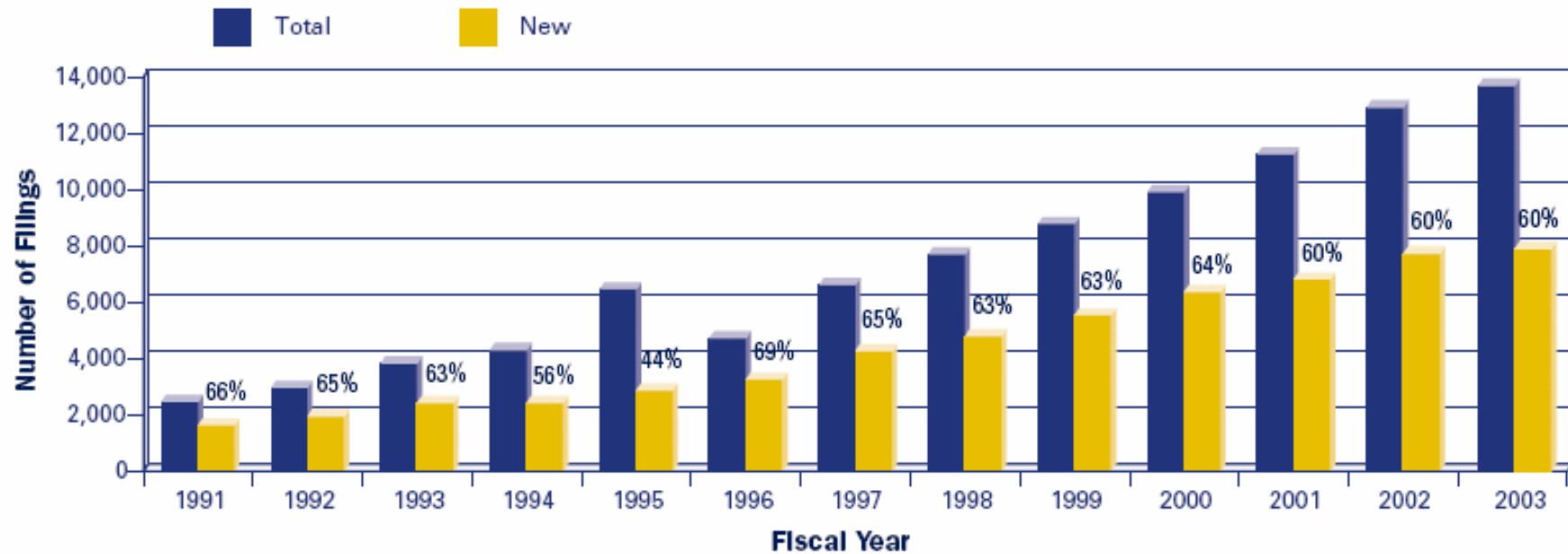


Background: Bayh-Dole Act

- Bayh-Dole Act (Patent and Trademark Amendment Act of 1980) created a uniform patent policy among the many federal agencies that fund research, enabling small businesses and non-profit organizations, including universities, to retain title to inventions made under federally funded research programs.
- Senators Birch Bayh (Indiana) and Robert Dole (Kansas)
- The Act is "perhaps the most inspired piece of legislation to be enacted in America over the past half century," according to The Economist. "Innovation's Golden Goose," an opinion piece published in the Dec. 12, 2002,

Background: Bayh-Dole Act

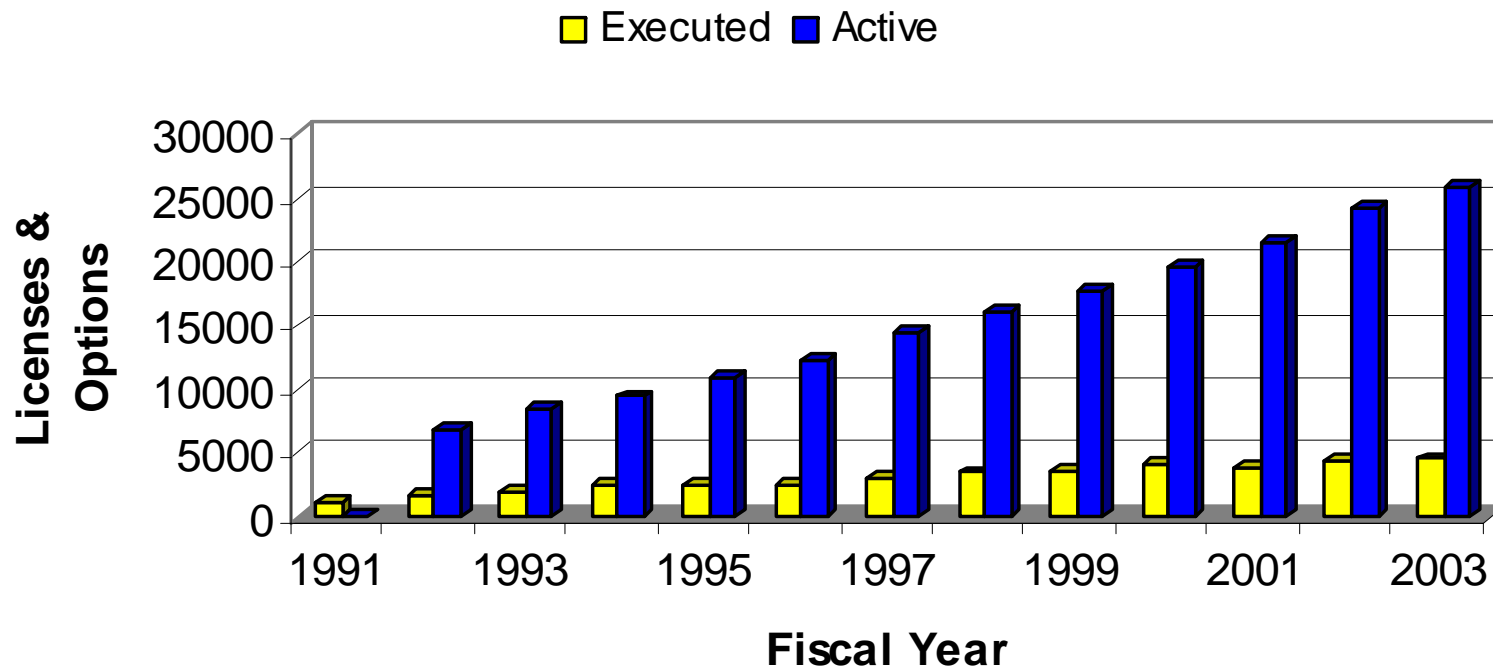
Figure US-13: New U.S. Patent Filings and Total U.S. Patent Filings, All Respondents, 1991 – 2003



AUTM Licensing Survey™: FY 2003

Background: Bayh-Dole Act

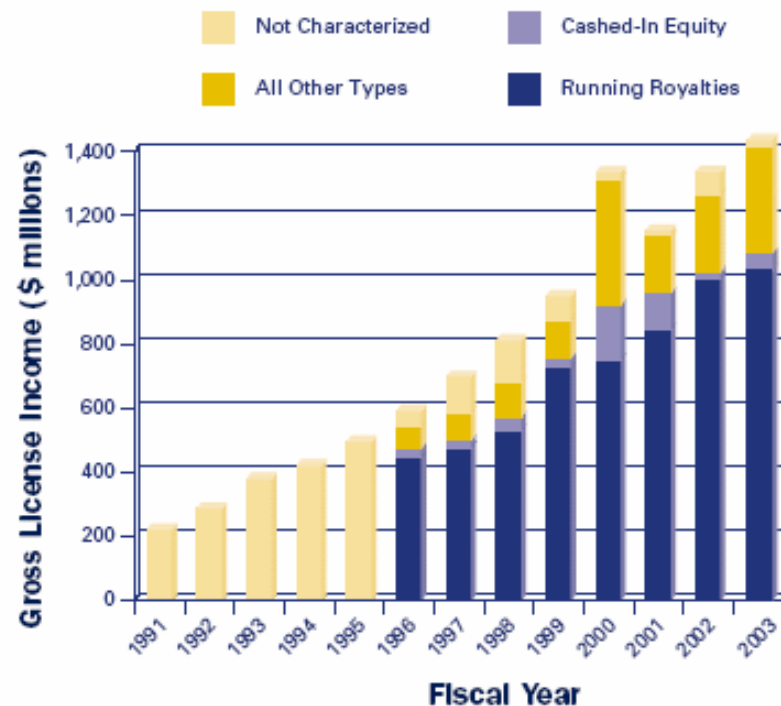
Licenses and Options Executed and Active, 1991 - 2003



AUTM Licensing Survey™: FY 2003

Background: Bayh-Dole Act

Figure US-27: Gross Income Received by Income Type, All Respondents, 2003



AUTM Licensing Survey™: FY 2003



Background: Intellectual Property

- Patent
- Copyright
- Trademark
- Trade secret



Background: Types of Agreements

- Material Transfer Agreement (MTA)
- Confidentiality Agreement
- Sponsored Research Agreement
- License Agreement
 - Exclusive
 - Nonexclusive
- Inter-Institutional Agreement
- Consulting Agreement
- Publishing Agreement



Profession

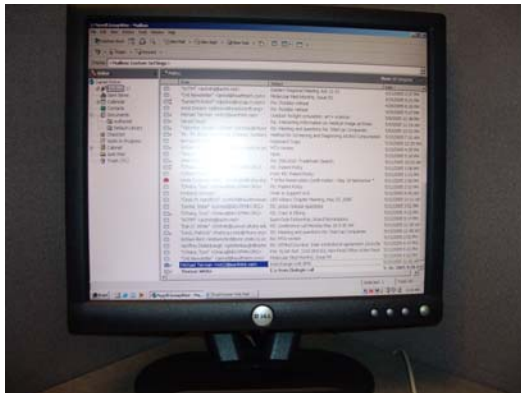
- Day-to-day work
- Positive aspects and challenges
- Skills
- How to find a job

Profession: Day-to-day work

- Technical
- Administrative
- Legal/Business
- Outreach



Profession: Day-to-day work





Profession: Positive aspects and challenges

- Something new everyday!
- Intellectually stimulating
- Meet smart & exciting people
- Concrete results
- Combines science, law, business, education and policy



Profession: Positive aspects and challenges

- Too many bosses!
- Patience
- Diplomacy
- Lost in translation



Profession: Skills

- Communication – verbal and written
- Diplomacy
- Salesmanship
- Multi-tasking
- Scientific knowledge
- Analytical and research



Profession: Skills

Qualifications:

- Position requires a graduate degree in life sciences and has a strong understanding of biotechnology industry.
- Candidate will have at least two years of technology transfer, intellectual property, and/or industry technology assessment/development experience.
- Candidate should be able to display knowledge of patent and licensing law and practices.
- Candidate must display excellent verbal and written communication skills.
- An MBA as well as some business experience is highly desirable.



Profession: How to find a job

- Speak the language
- Look the part
- Network
- Experience

Profession: How to find a job

Network

- Biotechnology Management and Entrepreneurship Seminar Series – Rensselaer's Lally School



New York Biotechnology Association



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Profession: How to find a job

Experience

- Internship
- File an invention disclosure
- Work with a start-up
- Attend the AUTM annual meeting or Basic Licensing Course
- Business or law classes



Research Foundation for Mental Hygiene, Inc (RFMH)

- Background
- Successful Technologies
- Available Technologies



RFMH: Background

- Private, not-for-profit corporation
- Organized in 1952, for the purpose of assisting and enhancing the research and training objectives of the New York State Department of Mental Hygiene and its component agencies:
 - Office of Mental Health
 - Office of Mental Retardation and Developmental Disabilities
 - Office of Alcoholism and Substance Abuse Services
- 100 million in annual sponsored research

RFMH: Background

IBR



Institute for Basic Research in Developmental Disabilities
Staten Island, NY

RFMH: Background

NYSPI



New York State Psychiatric Institute
New York, NY

RFMH: Background



Nathan S. Kline Institute for Psychiatric Research
Orangeburg, NY



RFMH: Successful Technologies

- Introduction of pharmacologic treatment for **depression** and **psychotic disorders**
- First mental health information systems
- Discovery of the genetic defect that leads to **Phenylketonuria**
 - Newborn screening programs to detect PKU
- Tests for **Fragile X Syndrome** and **Batten Disease**



RFMH: Successful Technologies

- **Taurine** – a compound present in human milk essential for normal brain development
 - All government-approved infant formulas contain taurine.
- Beta-amyloid monoclonal antibodies
- Travil™ – FDA-approved medical food for treatment of **tardive dyskinesia**



RFMH: Available Technologies

- Method of amplifying RNA
- Human tau transgenic mice
- Method for diagnosis of progeria
- Behavioral survey for autism
- Neurotransmitter re-uptake inhibitors for treatment of schizophrenia

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TECHNOLOGY TRANSFER: RESOURCES

Intellectual Property

- U.S. Patent and Trademark Office (USPTO) <http://www.uspto.gov>
- World Intellectual Property Organization <http://www.wipo.int>
- European Patent Office <http://www.european-patent-office.org>
- U.S. Copyright Office <http://www.copyright.gov>
- Patent Fetcher <http://free.patentfetcher.com>
 - Download free PDF copies of published patents and patent applications

Newspapers and magazines

- BusinessReview <http://www.bizjournals.com/albany/>
- BusinessWeek <http://www.businessweek.com/>
- Economist <http://www.economist.com>
- Genetic Engineering News <http://www.genengnews.com/>
- Fast Company <http://www.fastcompany.com>
- Financial Times <http://news.ft.com/home/us>
- Nature Biotechnology <http://www.nature.com/nbt/index.html>
- Wall Street Journal <http://online.wsj.com/public/us>

Local colleges

- Albany Law <http://www.als.edu/>
 - Science and Technology Law Center
- Lally School of Management and Technology <http://lallyschool.rpi.edu/>

Local tech transfer offices

- Health Research, Inc. <http://www.hrinet.org/>
- Research Foundation for Mental Hygiene, Inc. <http://corporate.rfmh.org>
- Rensselaer <http://www.rpotechnology.com>
- Research Foundation SUNY <http://www.rfsuny.org/tto>

Organizations

- Association of University Technology Managers (AUTM) <http://www.autm.net>
- Biotechnology Management and Entrepreneurship Seminar Series
<http://lallyschool.rpi.edu/programs/index.cfm?p=5&c=2&inc=severino-program-detail&progID=1>
- Bioconnex <http://www.bioconnex.org>
- Center for Economic Growth <http://www.ceg.org>
- Licensing Executives Society <http://www.usa-canada.les.org>
- New York Biotechnology Association <http://www.nyba.org>
- NYSTAR <http://www.nystar.state.ny.us>
- Techno-L <http://www.techno-l.org/process.cfm?pageID=1>
 - technology transfer list server