40 Years Experience of Technology Licensing

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STANFORD UNIVERSITY

Philosophy

- **Do what's "best for the technology"**
- **Foster good industrial relations**
- **Be reasonable**
- **Be flexible**
- **Be action/results oriented**

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History

- **Started in 1970**
- **Approx. 8,300 cumulative disclosures**
- **Approx. 3,000 active cases**
- **Executed over 3500 licenses**
- **Approx. 1200 active licenses**

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Notable Stanford Inventions

1970 – OTL Established

1971- FM Sound Synthesis ($22.9M)

1974 – Recombinant DNA ($255M)

1981 – Phycobiliproteins ($46.4M), Fiber Optic Amplifier ($48M), MINOS ($3.9M)

1982 – Amplification of Genes ($30M)

1984 – Functional Antibodies ($279M)

1986 – CHEF Electrophoresis ($2.38M)

1990-1992 – DSL ($29.4M)

1996 – Improved Hypertext Searching (Google™) ($337M)

2011 – the next big thing ???

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The upside...

- **OTL has generated ~$1.3B in cumulative gross royalties**
- **$870M were three big inventions**
- **Over $1.2 billion stayed at Stanford/inventors**
- **OTL has given $45.2M to the Research Incentive Fund**

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Sobering Statistics

- **3/8300 is a BIG WINNER (these three inventions generated 67% of the cumulative income)**
- **20 cases generated $5M or more**
- **68 cases generated $1M or more in cumulative royalties**
- **$17.6M in unlicensed inventory**
- **The University cannot count on royalties for university operating expenses**

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FY2010

- **$65.5M Royalty Revenue**
  - **$17.8M to Schools**
  - **$16.3M to Departments**
  - **$17.7M to Inventors**
- **553 inventions generated income**
  - **Only 32 brought in royalties of $100,000 or more**
  - **2 cases brought in $1M or more**
- **$7.1M in Legal Expenses**

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General Stats

- **We do about 80-120 new licenses a year**
- **½ -2/3 are non-exclusive license**
- **About 10% of agreements are with start-ups**
- **10-20% of licenses are "biological material" agreements**
- **Equity is not a big factor in revenue**

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It costs a lot of money…

- **Budget $5M**
- **Spend about $7-9M+ a year on patents**
- **$17.6M in unlicensed inventory**
- **34 people**
  - **Industrial contracts (5)**
- **It took us 15 years to break even**

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OTL's Success is a numbers game

- Early stage inventions
- Royalties reflect early stage
- We are looking for broad patents
  - revolutionary v. evolutionary products
- 5-10 years patience

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Technology Transfer is Complex

- **"Technology Champion" is the most important factor**
- **Patents are only a small part of the picture**
- **Commercialization of university research is high risk and success depends on receptiveness of industry/entrepreneurs**

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Factors that affect Licensing

- Environment
- Critical mass of inventions
- "planting seeds" vs. nurturing seedlings
- University Culture
  - Administration
  - Inventors

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Challenge #1

- **Managing Expectations**
  - **University Culture**
  - **Inventors**
  - **Companies**
  - **The invention**
  - **The Patent Office**

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Challenge #2

- **Balancing interests**
  - **Faculty**
  - **Students**
  - **Administration**
  - **Companies**
    - **Physical**
    - **Life Sciences**
  - **Start-ups**
  - **The Community**

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Observations

- **Age of the office is important**
  - **20-25 year proposition**
- **Metrics are not (always) meaningful!**
- **Each deal is different**
  - **Flexible**
  - **Reasonable**
  - **Precedence**

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National Academy of Sciences

- **Technology transfer within the mission of a university**
  - **Leadership must be clear**
- **It's not about the money**
  - **maximize technology transfer**
- **Measure and Evaluate**
  - **Everyone should try to improve**

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Stanford "Best Practices"

- **Stay centered**
  - **Education and research come first**
- **Do what's best for the technology**
  - **Don't chase the $$$**
    - **The dollars will come if you do a good job**
- **Plant as many seeds as possible**
  - **Some will bear fruit**

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