Life of a Stanford Invention

Luis Mejia
Associate Director
Notable Stanford Inventions

Functional Antibodies

FM Sound Synthesis

Recombinant DNA

Google
Timeline of Stanford Inventions

• 1970 – OTL Established
• 1971 – FM Sound Synthesis ($22.9M)
• 1974 – Recombinant DNA ($255M)
• 1981 – Phycobiliproteins ($46.4M), Fiber Optic Amplifier ($48.4M), MINOS ($4.2M)
• 1984 – Functional Antibodies ($425.7M)
• 1987 – Selective Amplification of Polynucleotides ($28.1M)
• 1990-1992 – Discrete Multi-tone technologies for DSL ($29.7M)
• 1993 – Microarrays ($2.1M), MIMO for Wireless Broadcast ($1.6M)
• 1994 – In vivo Bioluminescent Imaging ($9.4M)
• 1996 – Improved Hypertext Searching - Google™ ($339.2M)
• 2001-2003 – Data Visualization Software
• 2004 – Refocus Photography ($324.6K)
• 2014 – the next big thing ???
Stanford inventions begin as nascent ideas supported by over $1 billion per year of funding for research across 7 schools and SLAC.
Most research is transferred through...

graduate students, publications, seminars, faculty consulting, industry sponsored research and industrial affiliate programs.
Background:
Stanford Intellectual Property Policies

**SU18** – Stanford University Patent and Copyright Agreement

**Patent policy** - University takes title to all inventions created with more than incidental use of university resources

**Copyright policy** - University takes title to copyrightable works created with significant university resources
The Office of Technology Licensing (OTL) is responsible for the formal transfer of patents, copyrights and other technology through license agreements.
OTL’s Mission:

To promote the transfer of Stanford technology for society’s use and benefit while generating unrestricted income to support research and education.
How Does OTL Decide?

Licensing teams try to decide which inventions can make an impact.
*Licensing Associate and Liaison teams have technical degrees and are market focused.
OTL Markets Broadly to Find the Best Fit for the Technology
Recombinant DNA:
Many Companies of All Sizes

**ISOLATION OF GENES FROM COMPLEX CHROMOSOMES BY DNA CLONING**

1. **Mammalian cell DNA**
2. **Endonuclease cleavage**
3. **Transformation into bacterial cells**
4. **Ligation into plasmid vectors**

**Cloning of bacterial cells**

Colony containing plasmids carrying a single mammalian DNA fragment and its genes
FM Sound: One Big Company
Functional Antibodies: One Mid-Sized Company
Google: One Start-Up Company
What is in a License?*

Financial terms can include:

• License issue fee
• Annual minimum payments
• Earned royalties
• Equity (if appropriate)
• Reimbursement of patent costs

Non-financial terms can include:

• Field of Use
• Non-exclusive or exclusive rights
• Development milestones and diligence provisions

*Sample Agreement: http://otl.stanford.edu/industry/resources/industry_res.html?headerbar=2
Licensed Inventions Can Develop into Products that generate income for the company and royalty returns to Stanford.
Since 1970, Stanford inventions have generated ~$1.6 Billion in licensing income, **BUT**

**only 3 out of 10,000** inventions was a big winner and **only 75** have generated over $1 million.
OTL Shares the Royalties

After deductions for overhead (15%) and expenses, the net cash royalties are divided:

1/3 to inventors
1/3 to inventors’ departments
1/3 to inventors’ school
OTL Helps Find a Home for Stanford Inventions...

to grow, develop and provide opportunities for the future.
~83% of research at Stanford is funded by the U.S. government

Bayh-Dole Act: Federal law that created uniform patent policy regarding inventions made under federally-funded research program. (Council on Governmental Relations publications on intellectual property)
More Information on OTL Website

“The path from discovery to invention to marketplace is rarely a straight line, but more like a puzzle, with dozens of pieces that must come together in just the right configuration for success,” OTL Annual Report 2013.

http://otl.stanford.edu/

Search for new technologies on Techfinder

Search our database for opportunities and submit requests for additional information.