



The birthplace of new ideas.



**Annual Report**  
**1999-2000**

## INVENTION UPDATES

### SONDIUS - XG

The Sondius-XG Program continues to be developed by our licensees, Yamaha and Staccato Systems. Yamaha's innovative keyboard, the EX5, and the Electone organ incorporate physical modeling technology to take music synthesis to a higher level of expressivity, control, and realism. Staccato Systems continues to pursue software development with the hope of bringing quality audio to video games and personal computers. Interesting developments have arisen from a partnership between Staccato and Analog Devices (ADI), a leader in high-performance analog, digital, and mixed-signal processing technologies. The partnership will allow ADI to provide increased features and greatly improved audio experience for both the PC and non-PC markets.

### LITTON

The fiber optics research sponsored by Litton has been underway for over 20 years, producing 150 inventions and over 300 scientific publications. A fiber optic amplifier, invented in 1980, now offers great commercial potential (\$2 billion annual market) and has been sublicensed by our exclusive licensee, Litton, to 5 large Japanese companies. Further sublicensing negotiations have begun with 12 other large U.S. and European companies after Litton filed a complaint for patent infringement in a California court.

### PHYCOBILIPROTEIN CONJUGATES

Since its invention in 1981, this technology has been licensed to over 50 companies worldwide, and new companies are still signing up. Annual royalties exceeded \$4.6M this year, and are expected to remain strong until the patents expire in 2002. One of Stanford's oldest licensed inventions, total royalties to date are \$25M.

### AMPLIFICATION OF EUKARYOTIC GENES

This 1982 invention is a method (using the dihydrofolate reductase (DHFR) gene) of optimizing the manufacturing yield in the production of therapeutic proteins such as Herceptin from Genentech or Epogen from Amgen. Our broad nonexclusive licensing program brings in over \$1M per year and is expected to continue to do so until the patent expires in 2004.

### DIGITAL SUBSCRIBER LINE

Growth in the digital subscriber line (DSL) market has been strong. According to Telechoice Inc., a telecommunications market research firm, DSL lines in service in North America will be over 2 million by the end of 2000. The companies offering DSL products for both ends of the DSL line, from the service provider's central office equipment to the consumer's PC modem, include Texas Instruments, Alcatel, Analog Devices, and Motorola. The royalties received by Stanford from product sales by the exclusive licensee and its sublicensees increased tenfold in FY1999-2000 as compared to FY1998-1999. Royalties are expected to grow as the DSL deployment continues its rapid pace.

## LOOKING AHEAD

