

1980s

COMING OF AGE

The mass-market availability of personal computers and mobile phones with access to the Global Positioning System (GPS) had a dramatic effect on every aspect of society. A new tool for measuring DNA called polymerase chain reaction (PCR) would revolutionize molecular biology, medical diagnostics, and even ecology as it helped scientists better understand Earth's genetic biodiversity. Magnetic resonance imaging (MRI) was introduced, providing a way to generate images of soft tissue without the use of radiation.



I have worked with OTL on numerous inventions during my career at Stanford and have valued their expertise and friendly support throughout this time."

—PROF. MICHELLE CALOS



Fiber Optic Amplifier

In the early 1980s, Prof. **Michel Digonnet** invented the fiber optic amplifier, a component that amplifies a light signal inside a fiber. The fiber optic amplifier played a crucial role in the telecommunications revolution of the mid-1990s, including development of the high-speed Internet. During the eighties and beyond, Prof. Digonnet disclosed dozens of photonics and fiber optics inventions to OTL.

Fluorescent Phycobiliproteins

Phycobiliproteins are highly fluorescent proteins that occur naturally in certain types of bacteria and algae. Profs. **Lubert Stryer** and Alexander Glazer (UC Berkeley) with postdoc fellow **Vernon Oi** developed Fluorescent Tandem Phycobiliprotein Conjugates, a powerful class of reagents for sorting and identifying cells, including cancer cells. Multidimensional fluorescence analysis has enabled a better understanding of interactive cellular systems, and is still used extensively by biotech researchers all over the world.

Selective Amplification of Target Polynucleotide Sequences

Prof. **John Boothroyd** and postdoc fellows **Larry Burg** and **Philippe Pouletty** developed an alternative to Polymerase Chain Reaction for multiplying the number of copies of a target polynucleotide sequence. This method of nucleic acid testing is rapid, highly specific and extremely sensitive, with the added benefit that the amplification is all performed at 37°C. The technology is currently being used to detect Zika virus and SARS-CoV-2.

1981



Prof. Ronald Levy develops mAb therapy for cancer.



Prof. Bruce Reitz performs the first heart-lung transplant in the U.S.

1982



Sun Microsystems is founded by electrical engineering doctoral student Andreas Bechtolsheim, along with Scott McNealy, Vinod Khosla, Bill Joy.



Silicon Graphics is founded by Prof. James Clark.



Knowledge Systems Labs is founded by Profs. Ed Feigenbaum and Bruce Buchanan.