Dr. E. Michael Campbell and the First Plasmadynamic Laser

Dr. E. Michael Campbell, Logos Technologies’ director of energy systems, has been working on cutting-edge research projects since his days as a graduate student in the 1970s. At Logos, he oversees all energy-related research and development.

One of Dr. E. Michael Campbell’s first achievements was the successful lab demonstration of the world’s first plasmadynamic steady laser in 1976. While the theoretical underpinnings of the laser had been laid out by Russian scientists well before Dr. Campbell’s success, no lab had been able to construct one previously.

The [laser](http://en.wikipedia.org/wiki/Laser%E2%80%8E) heated a mixture of free electrons and ionized argon gas to 36,000 degrees Fahrenheit, then cooled it. During cooling, electrons rejoined atoms and gave off radiation, emitting a tightly focused beam of light.

Dr. Campbell completed his research at Princeton University’s Department of Aerospace and Mechanical Sciences in the plasma propulsion lab with funding from the U.S. government. He worked under several Princeton faculty members and received assistance from two undergraduate students on the project.