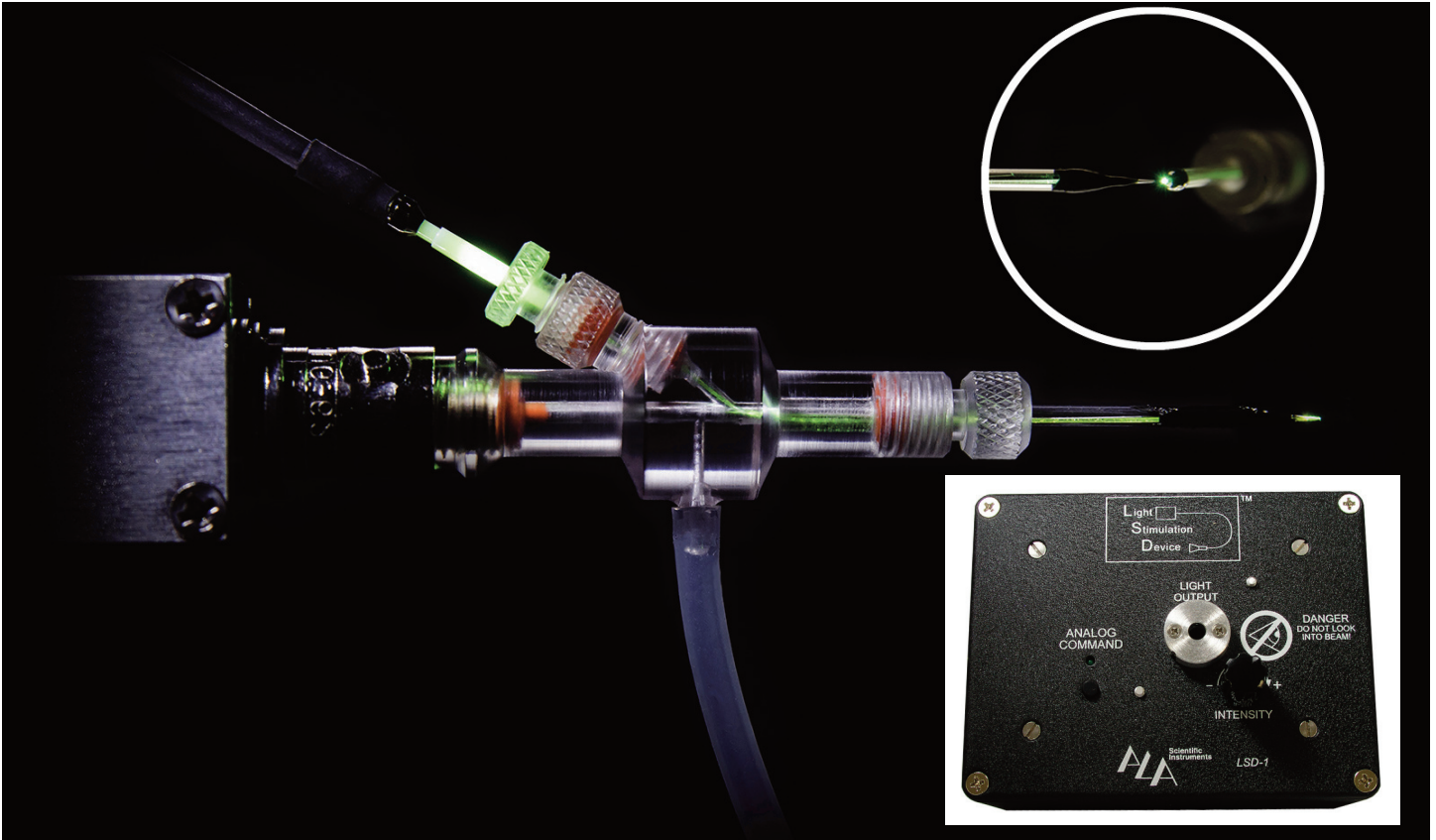


OptoPatcher System



The Optopatcher is a new micropipette holder with integrated optical fiber to allow simultaneous patch-clamp recording and optogenetic activation. The design eliminates the need for a separate manipulator for optical stimulation. When combined with ALA's **LSD Light Stimulation Device** a complete economical optogenetics system is formed.

The optopatcher was developed by A-M Systems under the guidance of its inventors, Dr. Ilan Llampl, Dr. Yonatan Katz and Dr. Ofer Yizhar of the Weizmann Institute of Science in Israel, and Dr. Jochen Staiger of the Georg-August University in Germany.

Dr. Katz et al. hope the optopatcher's compatibility with recording equipment will facilitate the use of optogenetics in neuroscience research. In the paper published in the Journal of Neuroscience Methods earlier this year, they concluded:

"we designed an electrode holder for simultaneous intracellular patch-clamp recording and optical stimulation, and showed examples of recorded cortical neurons in anesthetized mice. The optopatcher prevents the need for a second manipulator and for insertion of the optical fiber into the tissue. It can be also used for any other type of recordings that make use of glass capillaries, such as LFP recording and single unit recording. Without any modifications, the optopatcher can be utilized for in vitro recordings in brain slices or organotypic cultures and can be also used for discrete or concurrent photolysis of caged compounds."

The optopatcher is available with the most common connectors used on patch clamps:

Axon's Threaded Collar or universal headstage connector and standard BNC used by Heka, np1 and others.

It can accept just about any capillary glass diameter between 1.2 mm and 2.0 mm O.D.; and custom diameters can be ordered.