

# innovations

from The University of Vermont

**TITLE:** DISPOSABLE FIBER OPTIC TIR LAUNCHING SYSTEM

**INVENTORS:** Guy Kennedy and David Warshaw

**DESCRIPTION:** Totally internal reflected fluorescence microscopy (TIRFM) has a fast growing user group in the scientific community anxious to use its high spatial resolution imaging of objects and reduction of background fluorescence.

This invention provides for a microscope slide based TIRFM platform. Using a fiber optic light guide to launch laser light into a microscope slide, the light totally internally reflects and produces an evanescent energy gradient suitable for TIRFM. The slide based TIRFM platform can be used on nearly any microscope with very little or no special modifications needed. In addition, the simple design provides for simple, rapid product development, refinement and manufacturing scale-up with low overhead.

**ADVANTAGES:** The ability to grow the current user group for TIRFM is limited by the high costs of the high numerical aperture objective lenses and highly processed set of associated optics currently needed to do TIRFM. This simple, inexpensive, disposable microscope slide approach provides a low cost alternative, as well as the possibility of a disposable component for current TIRFM flow chambers eliminating difficult and time consuming cleaning processes.

**PATENT STATUS:** Patent pending

**LICENSING STATUS:** Worldwide rights available

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