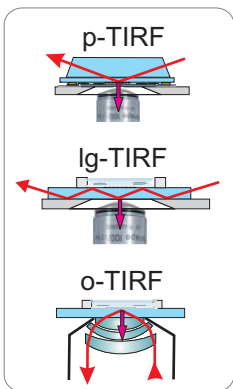




uTIRF - Ultimate TIRF Microscopy Station

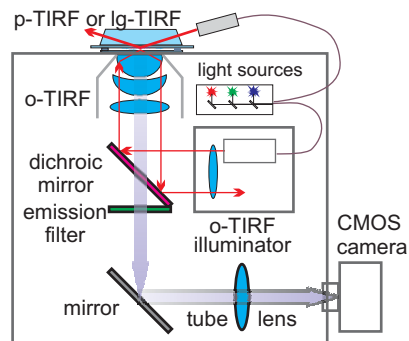
uTIRF consists of prism-, lightguide-, and objective-based TIRF; infinity objectives 20X, 40X, 60X or 100X, low light CMOS camera; and a multicolor fiber-coupled illuminator. uTIRF is available in several configurations with open perfusion and closed flow chambers, optional electrochemical and dielectrophoretic control. Prism-, lightguide-, and objective-TIRF units can be used as add-on accessories for fluorescence microscopes.



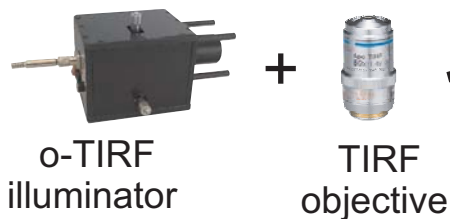
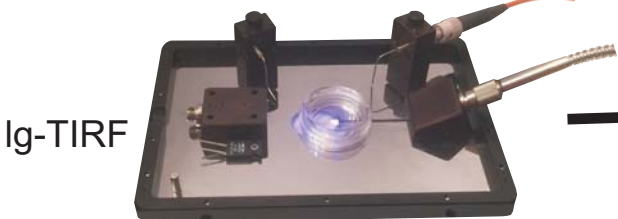
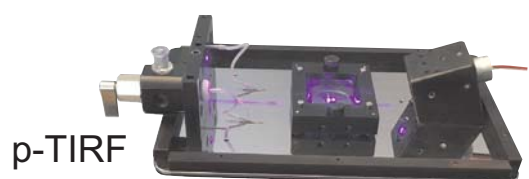
Applications

- Single molecule detection, sm-FRET
- Super resolution microscopies
- Plasma membrane studies
- Bioassay development
- Real-time microarrays
- Electro-Chemi-Luminescence (ECL)
- TIRF-ElectroChemistry (TIRF-EC)
- TIRF-DiElectroPhoresis (TIRF-DEP)

uTIRF optical scheme



Use the uTIRF as a turnkey station, or take prism-, lightguide-, or objective-TIRF units to use as add-on accessories for your microscope



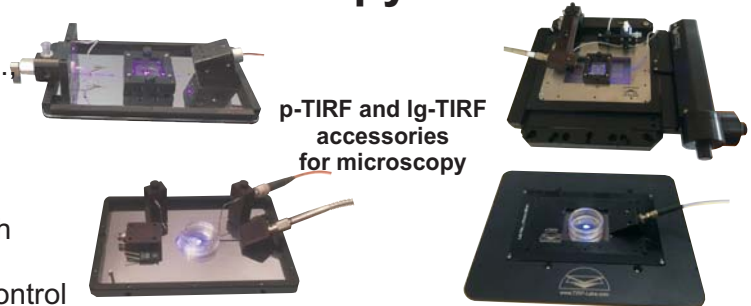
See application notes at TIRF-Labs.com and TIRFMicroscopy.com





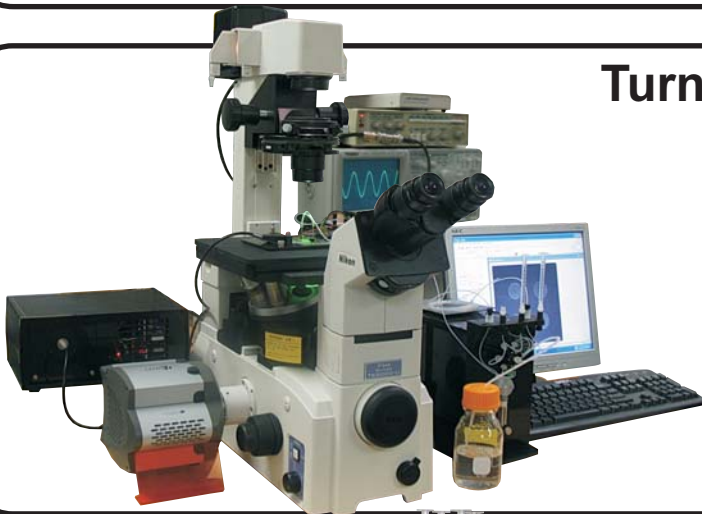
Prism- and Lightguide-based TIRF Microscopy Accessories

- Single molecule detection
- Super-resolution microscopy: STED, PALM, STORM, ...
- Minimal stray light, crisp, high-contrast TIRF images
- Work with dry, water-, and oil-immersion objectives
- Use UV or visible excitation light 190-900 nm
- Use Petri-dish, open perfusion, or closed flow chamber
- Nested design - fits inside 96-well plate, K-frame, 4-inch round, or manual XY stages
- Optional temperature, dielectrophoresis, electric field control



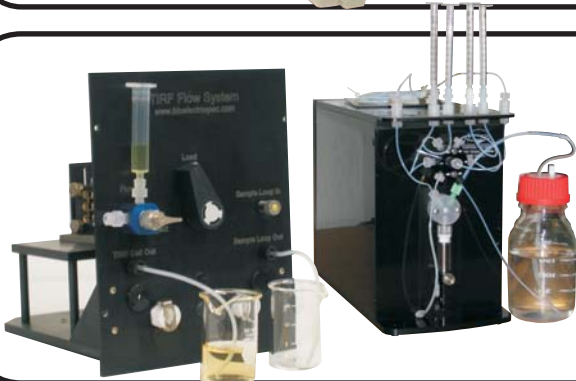
p-TIRF and Ig-TIRF accessories for microscopy

Turnkey Single Molecule Detection TIRF Microscopy Station



- Modular TIRFM stations include:**
- Fluorescence microscope
 - Ig-, p-, or/and o-TIRF microscopy flow systems
 - Low light EM CCD or sCMOS camera
 - Multi-color computer-controlled illuminator
 - Digital fluidics SmartFlow
 - Optional temperature and electric field control
 - Software for instrument control and data analysis

TIRF Accessories for Fluorometers



- **TIRF Accessory TA-1004** transforms a spectrofluorometer into a super-sensitive TIRF biosensor instrument
- Optional electrochemical, DEP and temperature control
- **SmartFlow** Fluidic System allows to run unattended TIRF experiments, measure sensograms to derive k_{on} and k_{off}
- Microfluidic system allows for handling nanoliter volumes

Single ion Channel Single Molecule Detection

fluorescence excitation

patch clamp pipette as light-guide

cell membrane

ion channel

pipette tip transmittance and excitation

pipette tip excitation only

1 micron

SC-SMD on microscope stage

Patch clamp technique combined with fluorescence single molecule detection

iDiagnostics

cellphone based molecular diagnostics

Real-time TIRF microarrays:
 Parallel supersensitive detection of protein, nucleic acid, and metabolite biomarkers



We extended TIRF into the 3rd dimension and invented iDiagnostics
Now you can hold a hospital laboratory in the palm of your hand