UNT HEALTH SCIENCE CENTER

Fluorescent Microscope & Method for Detecting Surface and Intracellular Phenomena

Learn more!
Robert McClain, PhD
Associate Vice President
robert.mcclain@unthsc.edu
817-735-2618

Technology Case
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Our Inventors
Zygmunt Gryczynski, PhD
zygmunt.gryczynski@unthsc.edu

Ignacy Gryczynski, PhD
ignacy.gryczynski@unthsc.edu

Julian Borejdo, PhD
julian.borejdo@unthsc.edu

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Publications

Fluorescence correlation spectroscopy in a reverse Kretchmann surface plasmon assisted microscope Optics Express 16(17) 13381 (2008)

Application of surface plasmon coupled emission to study of muscle Biophysical Journal 91(7), 2626 (2006)

Minimization of detection volume by surface-plasmon-coupled emission Analytical Biochemistry 356(1), 125 (2006)

Discovery

- Surface Plasmon Coupled Emission (SPCE) microscopes allow for thin volume fluorescence detection of surface phenomena and single molecules.

Features

- Small detection volumes – at least 2x smaller than in TIRF
- Detection phenomena is sensitive to molecular transitions
- Reduced photobleaching
- SPCE is a directional and highly polarized process

Benefits

- Enables intracellular detection of near-surface activities.
- Provides for observation of changes in molecular conformation.
- Requires less excitation power
- Enhances suppression of background noise

Opportunities

- Platforms technology for the detection of biological macromolecules.

3500 Camp Bowie Blvd
Fort Worth, TX 76107
Phone: 817-735-5147
FAX: 817-735-5485
techtransfer@unthsc.edu