Fluorescent Microscope & Method for Detecting Surface and Intracellular Phenomena

**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.

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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)

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