**FACILE, EXCITATION-BASED SPECTRAL MICROSCOPY FOR FAST MULTICOLOR IMAGING AND QUANTITATIVE BIOSENSING**

Tech ID: 32240 / UC Case 2021-085-0

**PATENT STATUS**

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<th>Country</th>
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<td>United States Of America</td>
<td>Published Application</td>
<td>20240085328</td>
<td>03/14/2024</td>
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Additional Patent Pending

**BRIEF DESCRIPTION**

The number of color channels that can be concurrently probed in fluorescence microscopy is severely limited by the broad fluorescence spectral width. Spectral imaging offers potential solutions, yet typical approaches to disperse the local emission spectra notably impede the attainable throughput.

UC Berkeley researchers have discovered methods and systems for simultaneously imaging up to 6 subcellular targets, labeled by common fluorophores of substantial spectral overlap, in live cells at low (~1%) crosstalks and high temporal resolutions (down to ~10 ms), using a single, fixed fluorescence emission detection band.

**SUGGESTED USES**

spectral microscopy of highly multiplexed fluorescence imaging

**ADVANTAGES**

The ability to quantify the abundances of different fluorophores in the same sample through unmixing the excitation spectra enables us to devise quantitative imaging schemes for both bi-state and FRET fluorescent biosensors in live cells.

Achieve high sensitivities and spatiotemporal resolutions

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**OTHER INFORMATION**

**CATEGORIZED AS**

» Imaging
  » Molecular
  » Materials & Chemicals
  » Chemicals
  » Medical
  » Imaging
  » Research Tools
  » Reagents

**RELATED CASES**

2021-085-0

**ADDITIONAL TECHNOLOGIES BY THESE INVENTORS**

» Superresolution Microscopy And Ultrahigh-Throughput Spectroscopy
» Direct Optical Visualization Of Graphene On Transparent Substrates