CIMA is specifically designed for researchers developing the next generation of nanomaterials, such as upconverting nanoparticles for cellular imaging.

Our unique platform provides excellent spectral resolution between 400 nm and 1700 nm: below 0.2 nm in the visible range and less than 0.6 nm in the infrared. Paired with one of the fastest and most sensitive cameras on the market, the galvanometer scanning head boasts an acquisition rate of more than 300 spectra per second.

CIMA provides three acquisition modes: confocal hyperspectral imaging, multispectral fluorescence imaging, and emission spectroscopy of a sample in cuvette.
Microwave-Assisted Solvothermal Synthesis of Upconverting and Downshifting Rare-Earth-Doped LiYF₄ Microparticles

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Single-particle photoluminescence studies on (A) Yb³⁺/Tm³⁺- and (B) Yb³⁺/Er³⁺-codoped LiYF₄ microparticles: (1) upconversion emission spectra extracted from hyperspectral cubes (corresponding images are shown in (2)) at two selected regions of interest (ROIs) exhibiting brighter or dimmer emission from RE³⁺-doped LiYF₄ microparticles (selected ROIs are marked with bright and dark blue and green arrows, respectively, in (2) and (3)); (2) false-color hyperspectral images of the characteristic blue Tm³⁺ (440-500 nm) and green Er³⁺ (510-570 nm) emissions (color code: dark colors indicate low emission intensity, bright colors indicate high emission intensity); (3) SEM micrographs of the same microparticles subjected to optical investigation. Scale bars: 5 μm.