

[0021] In one aspect, the emission light comprises fluorescence radiation from one or more excited fluorescent labels.

[0022] In one aspect, the system additionally includes a plurality of emission apertures, wherein each emission aperture is associated with a respective emission lens of the plurality of emission lenses, and wherein each emission aperture is aligned in the third direction and defines an area through which emission light is received from the sample receptacle by the respective emission lens. In one aspect, a center point of the emission aperture is aligned with an optical center of the respective emission lens.

[0023] Embodiments of the present disclosure additionally include biological analysis systems having (i) at least two excitation light sources emitting different excitation wavelengths; (ii) a collimator element configured to receive excitation light from the at least two excitation light sources and to transmit collimated excitation light along an excitation light path in a first direction; (iii) a plurality of excitation mirrors ~~arrayed in a staggered, diagonal pattern along the excitation light path, wherein each excitation mirror is~~ disposed at an acute angle relative to the first direction and configured to reflect ~~a respective beam of the~~ collimated excitation light into a plurality of reflected beams of excitation light along a second direction of the excitation light path; (iv) a plurality of excitation lenses positioned in the second direction of the excitation light path and ~~is~~ configured to focus respective, reflected beam of collimated light into corresponding focused beams of excitation light; (v) a sample block forming a plurality of sample receptacles, wherein the plurality of sample receptacles are positioned to receive the corresponding focused beams of excitation light; and (vi) for each respective sample receptacle, the biological analysis system includes at least the following components aligned in a third direction, which in one aspect is transverse to the second direction: (a) an emission window defining an area through which emission light is transmitted in the third direction, (b) a curved emission lens configured to focus the emission light passing through the emission window, (c) a dual bandpass filter ~~for configured to~~ substantially blocking stray excitation light, ~~and~~ (d) an emission filter configured to allow the emission light to pass through the emission filter and to substantially block stray excitation light, and (e) a photodetector configured to receive the focused, filtered emission light.

[0024] This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the detailed description. This summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an indication of the scope of the claimed subject matter.