

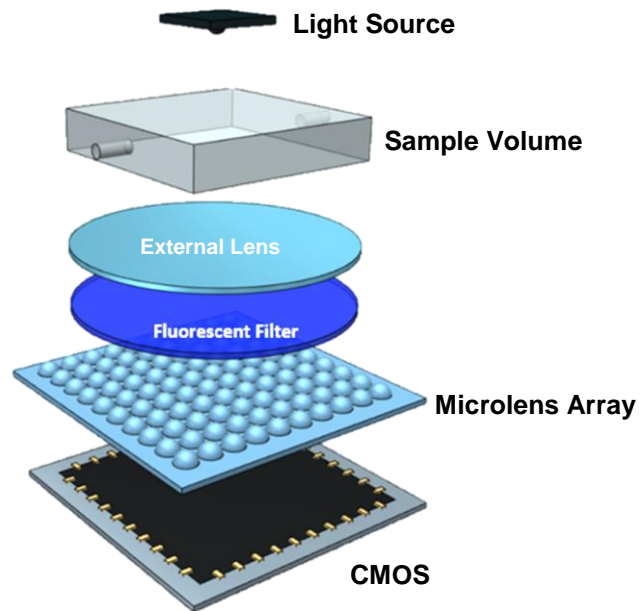
Sensing of particles, micro-organisms and biomarkers using the camera of a mobile phone

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By exploiting full field of view CMOS or CCD image sensor array (ISA) at the highest resolution, we have designed and developed low cost and portable devices for measuring light scattering, reading microarrays, as well as detecting and counting microorganisms, cells and particles [1,2]. In addition to CMOS-ISA, the devices are made of other off-the-shelf components, including a light emitting diode (LED) source, and are based on proprietary geometries that allow the processing of large sample areas or volumes. The devices are also portable and affordable, which allows for the extension of traditionally lab-based solutions towards point-of-care applications. Such applications are numerous, from bedside diagnostics to quality control of pharmaceutical powders and testing of drinking water sources in areas lacking accessibility to laboratory infrastructures.



[1] J. M. Pérez et al., *Analyst* 140, 7734-7741 (2015)

[2] R. Terborg et al., *Science Advances* 2, e1600077 (2016)