

**Which camera suits your research? Understanding the key differences between CCD, sCMOS and EMCCD cameras.**

Since the inception of digital microscopy, scientific grade CCD cameras have been the gold standard for imaging due to their sensitivity, linear response to light and low noise characteristics.

In recent years, cell biology has emphasized live cell dynamics, mechanisms and electrochemical signaling. As this research probes deeper into investigating rapidly changing phenomenon, the need for measuring fast events at low light is constantly increasing.

To meet these challenges alternative technologies including EMCCD and Scientific CMOS have become available offering higher speeds with better resolution and greater sensitivity.

The aim of this talk is to outline the advantages and disadvantages of the current 3 main sensor choices and how these affect suitability for different applications.