easy Cell CLEM: eC-CLEM a plugin to register correlative data

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Correlative light and electron microscopy (CLEM) is taking an increasing part in imaging for electron microscopy laboratories. Many approaches are developed to address a large variety of biological specimen and phenotypes. Yet, aligning the light microscopy images with the electron micrographs remains common to all CLEM approaches. We have developed easy Cell CLEM (eC-CLEM) as a new and intuitive plugin to allow any biologist to align its CLEM images without any image processing prerequisite or mathematical background. We rely on the user expertise to identify corresponding landmarks between the different images to align them. Our plugin functions for two or three dimension datasets and contains some internal routines to pre-process the data and improve the signal to noise ratio, thereby facilitating the user's task.

Combining our global CLEM method to eC-CLEM, we address the formation of pigment granule in skin melanocytes and reconstructed epidermis.