=Basics=

CellCounter is a cell detection algorithm designed to work on images with both non-uniform background and low signal-to-noise ratio. It accomplishes this by first dividing the image into subregions with the Watershed algorithm. Each watershed is by definition a contiguous group of pixels with only one local minimum. If the local minimum within a watershed is significantly darker than the brightest pixels, that local minimum is deemed a cell. This algorithm works both on brightfield images of colorimetric stains as well as fluorescence images (the pixel intensities are simply inverted prior to running the algorithm).

=Functions=

Type help followed by the functions name to learn more about how each function works.

\* CellCounter.m – this is the main cell detection algorithm.

\* gradient\_find\_parameters.m – this runs a gradient ascent to find the set of parameter values for CellCounter that minimizes the difference between cells identified manually and those identified by CellCounter.

\* compare\_cellids - this computes the match between two binary matrixes identifying cells from the same image. Usually one matrix contains the pixels that were manually identified as belonging to cells while the other matrix is the output from an automated cell identification algorithm.

=Downloads=

CellCounter – Download