

Granule Analyzer

Short click guide

1. Start the program by double clicking the Granule-Analyzer.exe file
2. "Open file" calls a system dialog, then open and load the image to be analysed
3. program window changes and shows chosen image with file name above
4. enter the length of the reference in micrometres and pixels for conversion
5. choose the right image mode with the radio buttons
 - a. if needed, enter percentages to be cut off the image sides and click "Cut out area"
 - b. "Intensity distribution" opens a separate window to show a histogram of pixel intensities of the chosen image (clear bimodality is desired)
 - c. "Open file" calls the dialog again to open another image if needed
 - d. "Help" opens a separate window with reference measures to enter
6. Click "Process image" to start first rough analysis, then three new windows will pop up
 - a. diagram window showing the distribution of granule measures visually
 - b. feedback image window with included contours (yellow) and excluded contours (blue) depending on parameters set
 - c. refinement window with descriptive statistics of the recent analysis
 - d. the second window under point 3 can be minimized now
7. refining analysis parameters
 - a. entry fields for min-/max average granule size, lower and upper threshold value, number of bins in a diagram and L/W-ratio must be all filled in
 - b. "Threshold tool" opens a new window to help finding threshold values leading to a satisfying edge and contour detection (white lines on black background)
 - c. "Refine" applies the parameters set and reanalyses the image resulting in overwriting the three windows and their statistics
 - d. "Create excel" opens a dialog window to save the excel workbook to be created (enter "your_file_name.xlsx")
 - e. "Help" opens an information window explaining shortly aspects of the refinement step
8. adjust parameters and click "Refine" each time until satisfied and save your final data to an excel workbook ("your_file_name.xlsx")
9. close all windows with "X" except the minimized window under point 3 and click "Open file" to start over with the next image, otherwise close it as well