MeasureSpindles

This ImageJ plugins measures mitotic spindle size (area and perimeter) and spindle shape (roundness, compactness, aspect ratio, circularity, fit ellipse) in fluorescence microscopy images with labelled microtubules or labelled microtubules and centrosomes.

The assay uses a combination of fluorescence intensity, tubeness and edge detections to faithfully identify spindles.

Image requirements:

Images must be single channel (for microtubules only) or dual channel (for microtubules and centrosomes), projected grayscale images and a single time-point (if you are interested in a measurement through individual optical slices or through time, do not hesitate to contact me to make those modifications).

Here is a short description of the provided plugins:

1) MeasureSpindles_.ijm
   - Runs through a folder of images and saves the measurements in a user defined folder
   - Runs on single channel, projected, single time point image
   - Measures spindle size and shape based on microtubule label and a centrosome label
   - Saves measurements as a .xls file
   - Can easily be expanded to run across optical sections and/or time points
2) MeasureSpindles_TS_.ijm
   - Runs on single channel, projected, single time point image
   - Measures spindle size and shape based on microtubule label and a centrosome label
   - Allows you to quickly see what is being segmented and see how changing different parameters in the code change the shape of the identified object
3) 4) MeasureTubulin_.ijm and MeasureTubulin_TS_.ijm
   - Same as 1) and 2), expect these plugins run on spindles stained for tubulin only

REFERENCES:
If you use this plugin, please cite:

TBA

ImageJ macro installation:

https://imagej.nih.gov/ij/docs/guide/146-31.html