Exercise

Segmentation Quality Assessment

BIO-410 □ BIOIMAGE INFORMATICS
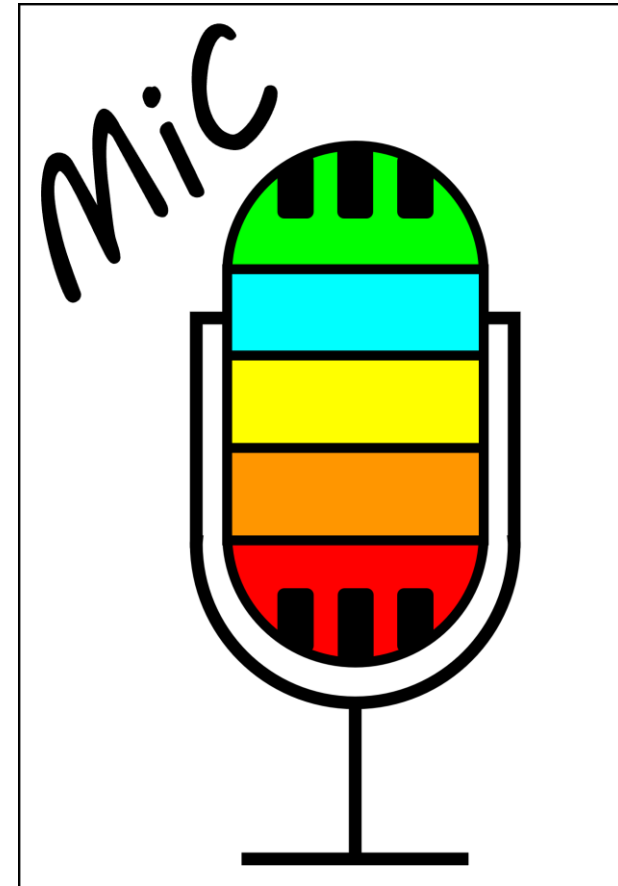
Mask Instant Comparator

- Install the Mask Instant Comparator in Fiji
- Installation guidelines can be found here: https://github.com/Multimodal ImagingCenter/MiC
- Images can be found on Omero (Week 6)
  source:
  https://bbbc.broadinstitute.org/BBBC038

Task

- You are working as a Bioimage Analyst in a research group. Your PI is about to leave for a conference and as always super busy. He has written some code (ImageJ Macro) that he wants to present at the conference. Unsurprisingly, the code is not commented as he is so busy.
He rushes into your office and asks you **to comment on each line of the code** within the next 30 minutes because the deadline for uploading the code is then. As usual, the example data can be found on OMERO.
Good luck!

Questions

- How is the Jaccard Index calculated from the output of the macro: JaccardIndex.ijm

- Modify both macros to loop over Fiji's different Thresholding methods.

- What is the optimal thresholding method for the individual images?

- Which method works best for all of the images? Justify your choice.

- What is the difference between pixel-based and object-based calculations? Which of the methods are you considering as the most suitable one?