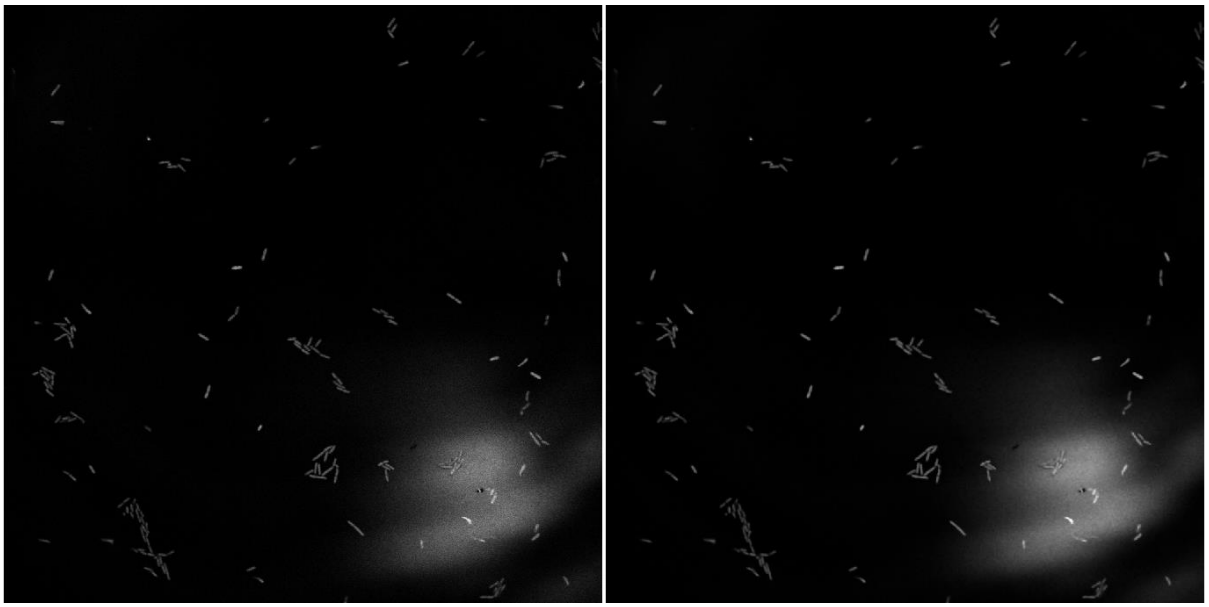
Project: study of gene expression in biofilms of *E. coli* from light sheet microscopy

Protocol

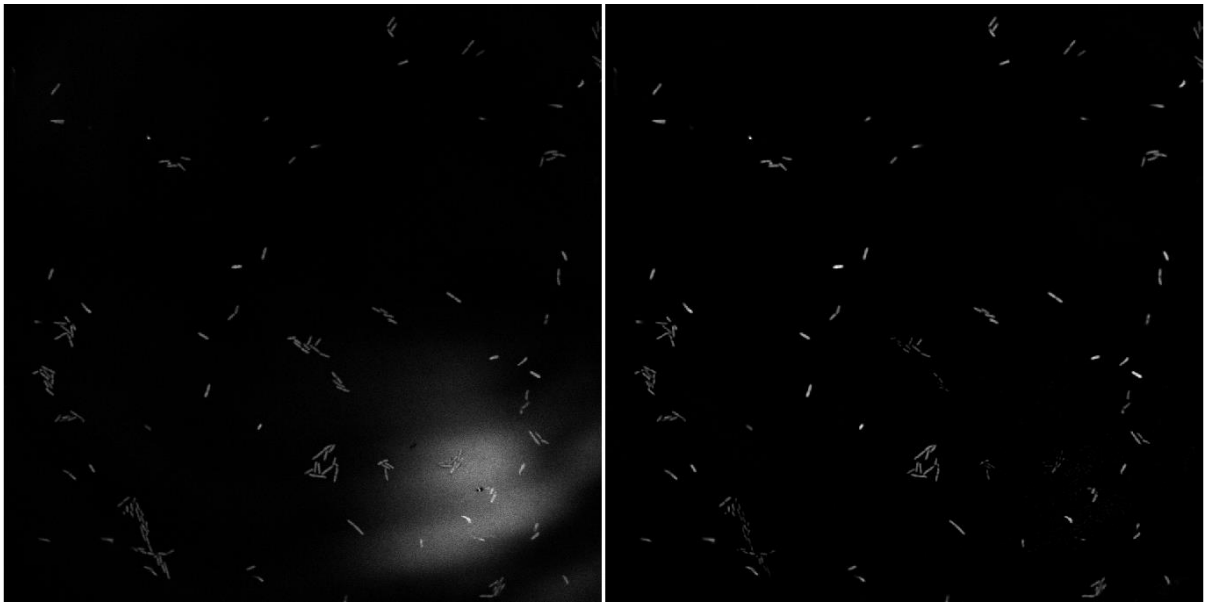
Graphic Explanation

Confocal Microscopy

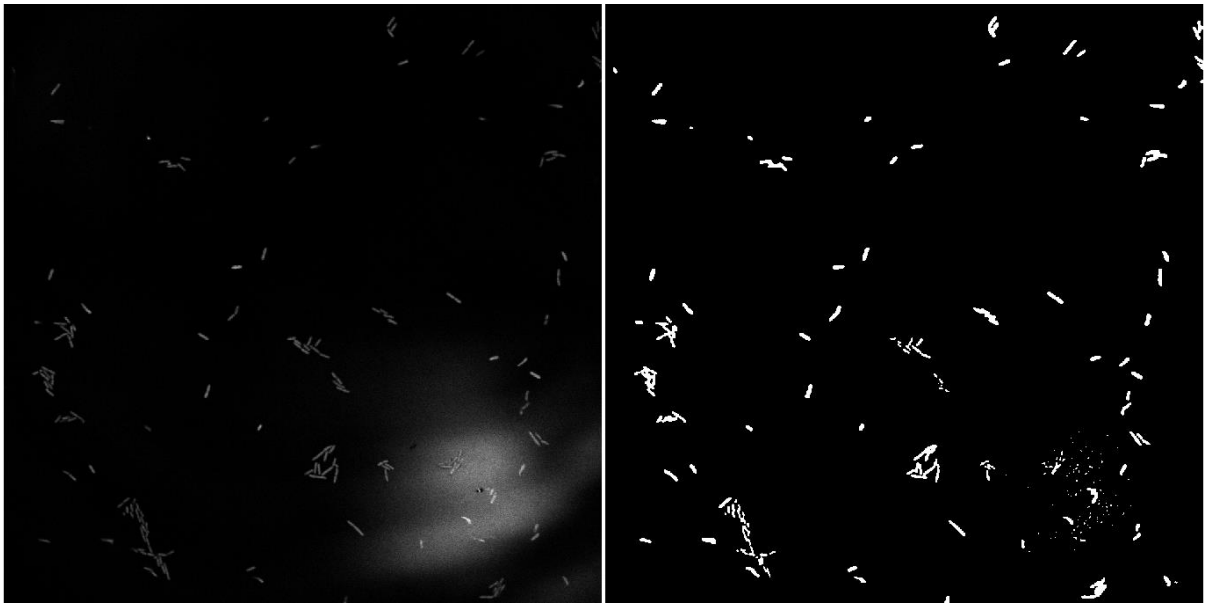
1. Filter the images using a median filter



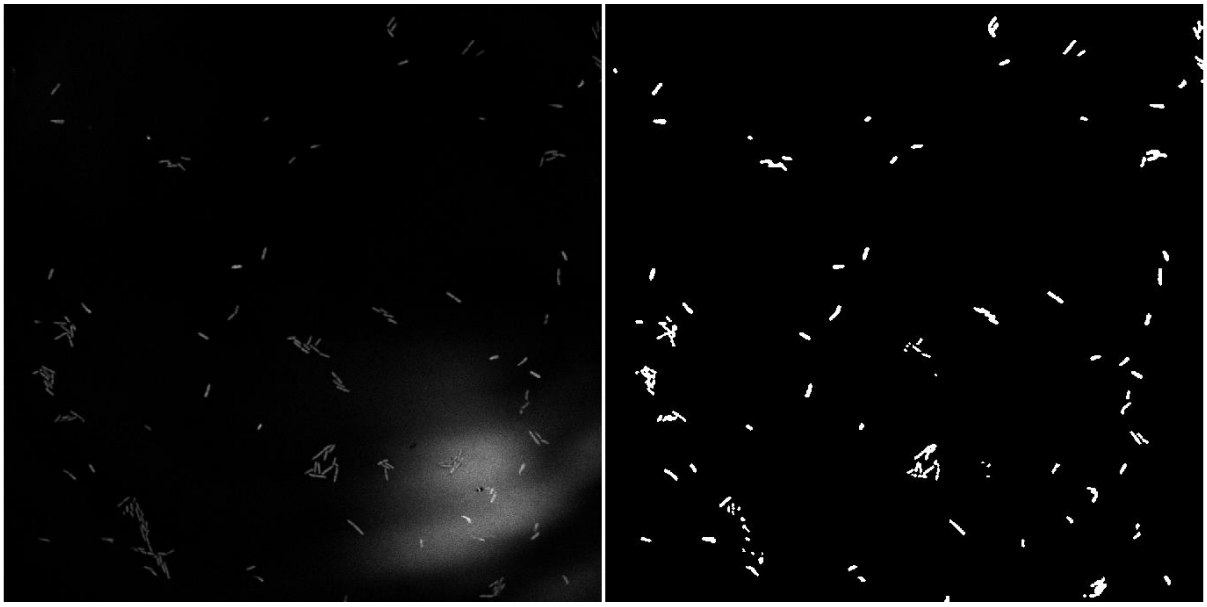
2. Make a Morphological Grayscale Reconstruction



3. Binarize the image using a triangle threshold to create a mask

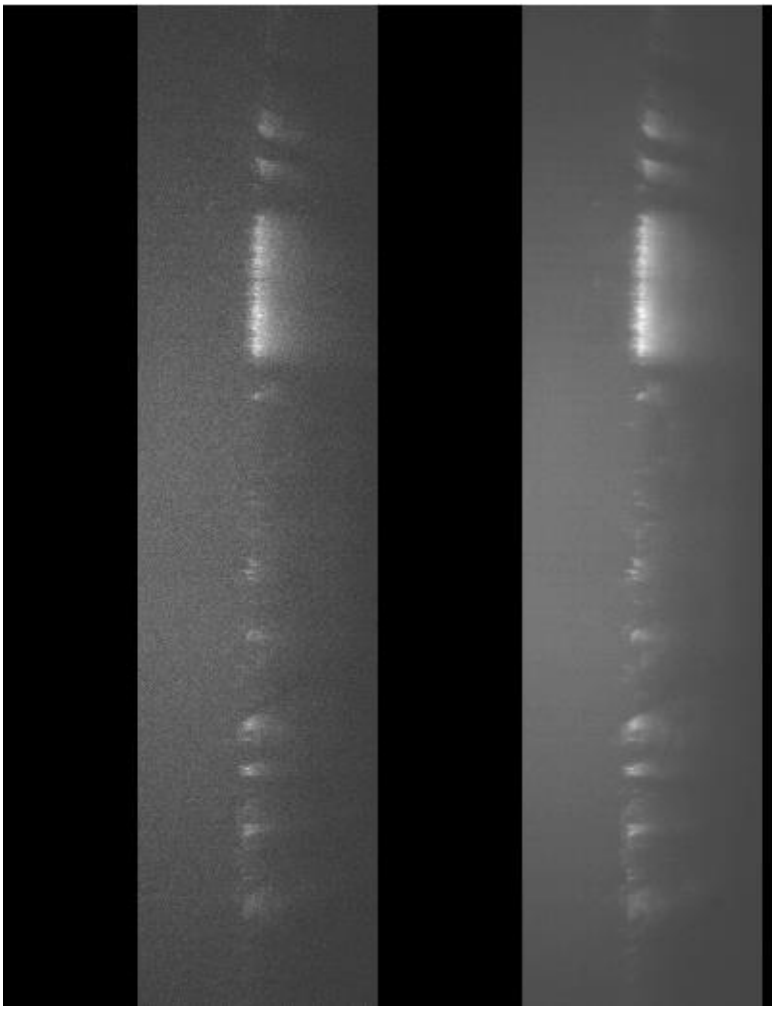


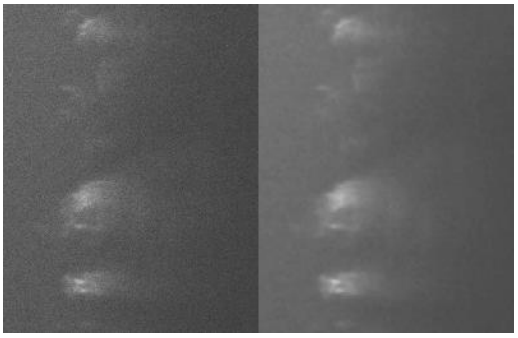
4. Open the mask, to remove small artifacts



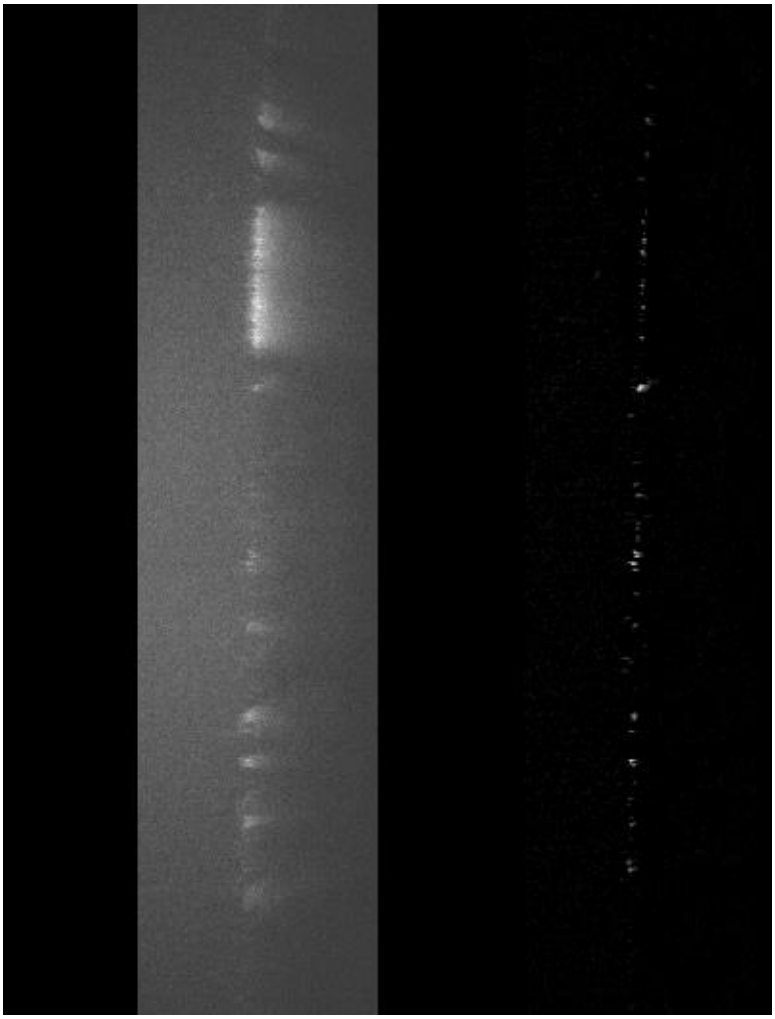
SPIM Microscopy

1. Filter the images using a median filter

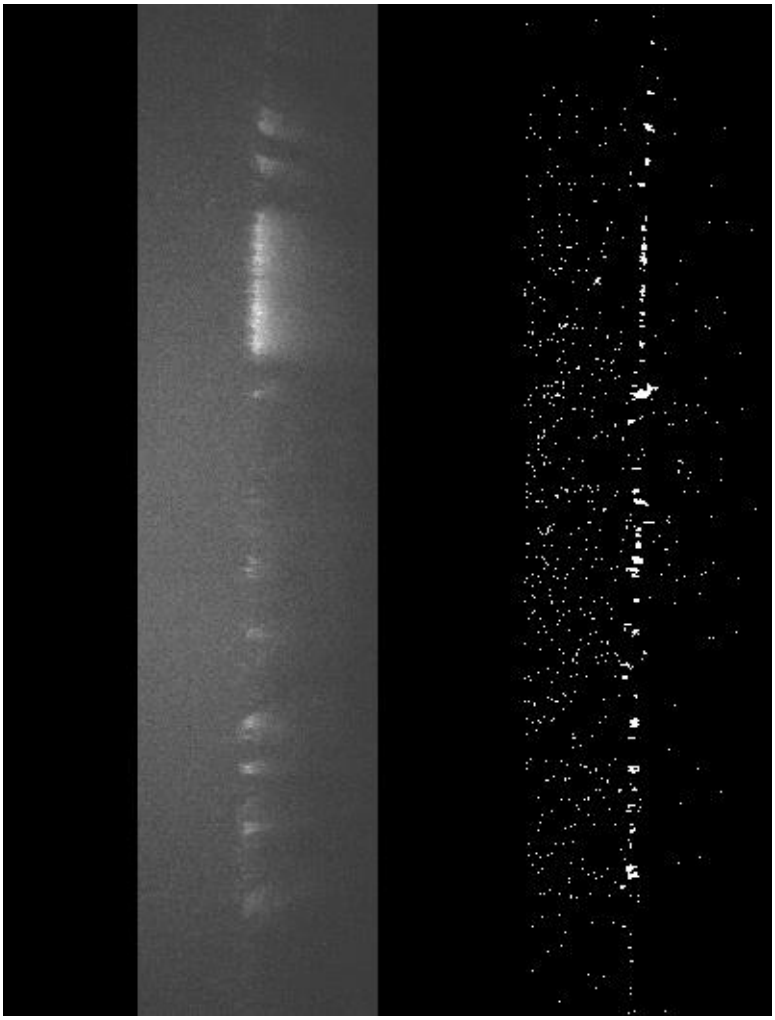




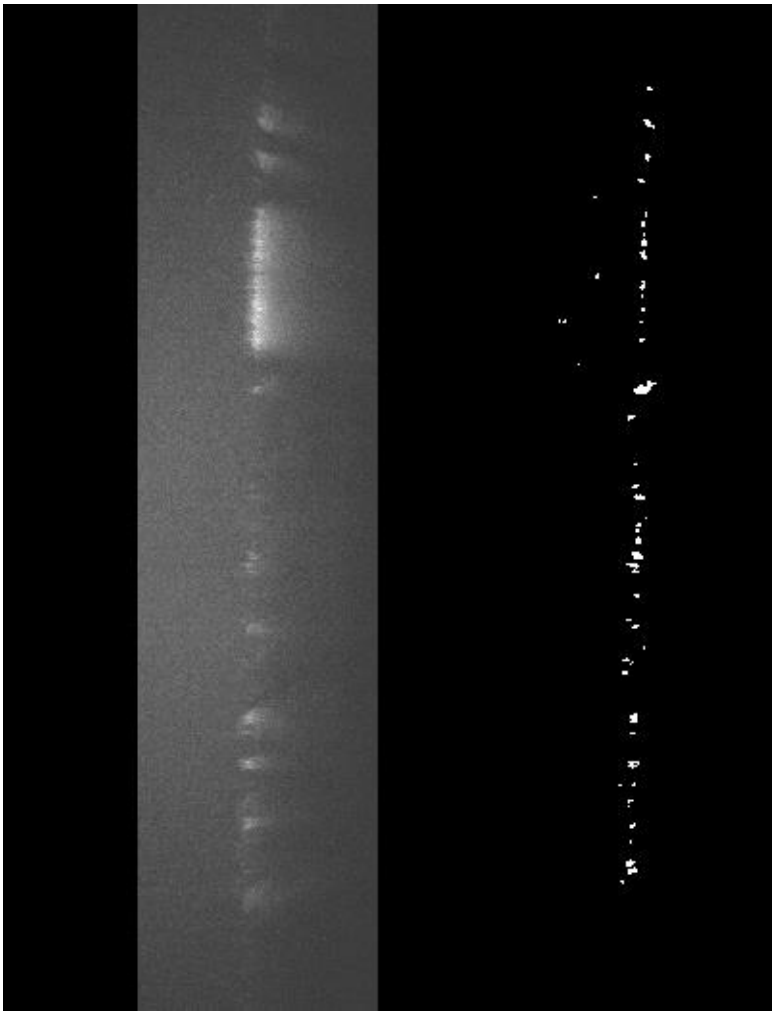
2. Make a Morphological Grayscale Reconstruction



3. Binarize the image using a triangle threshold to create a mask

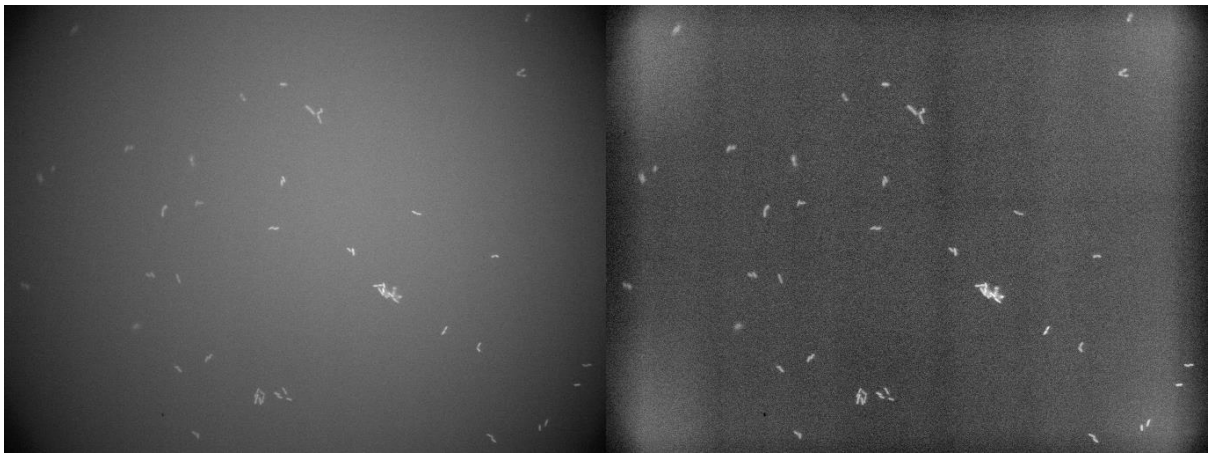


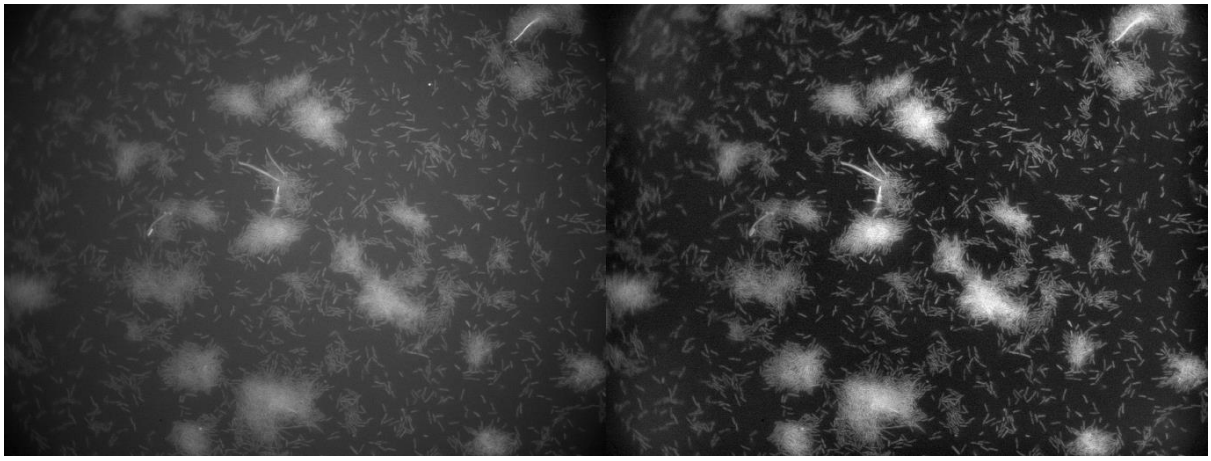
4. Open the mask, to remove small artifacts



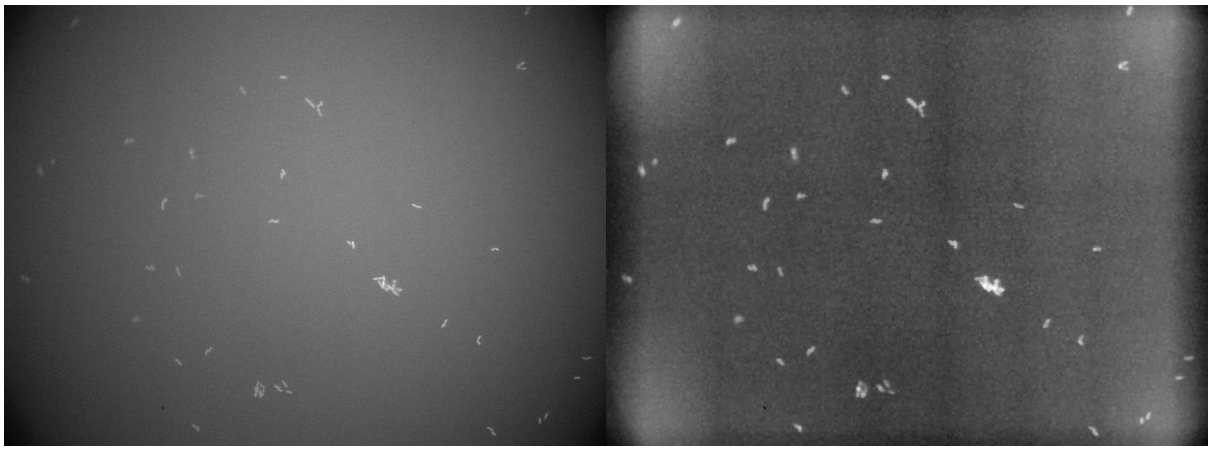
Nikon Microscopy

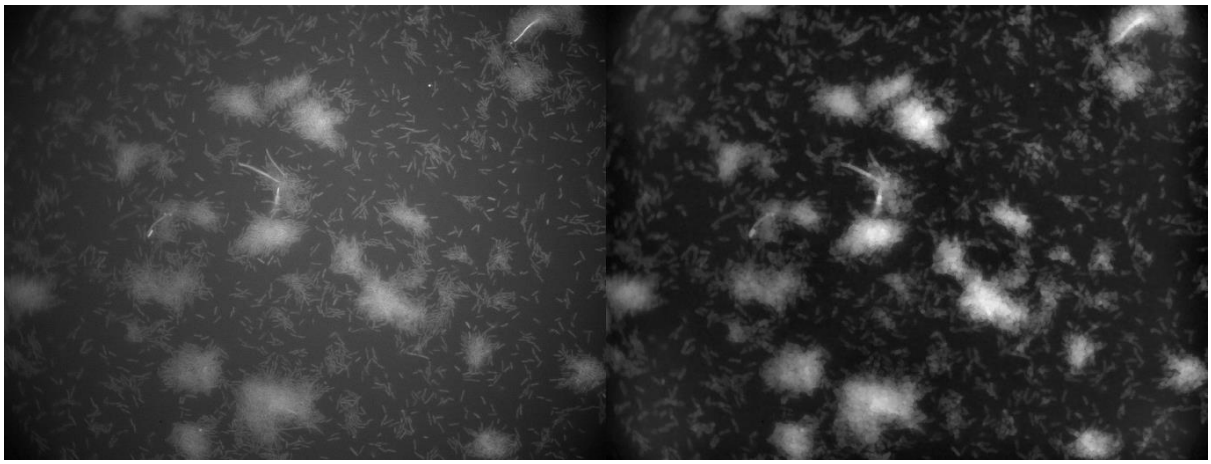
1. Make an adaptative contrast equalization



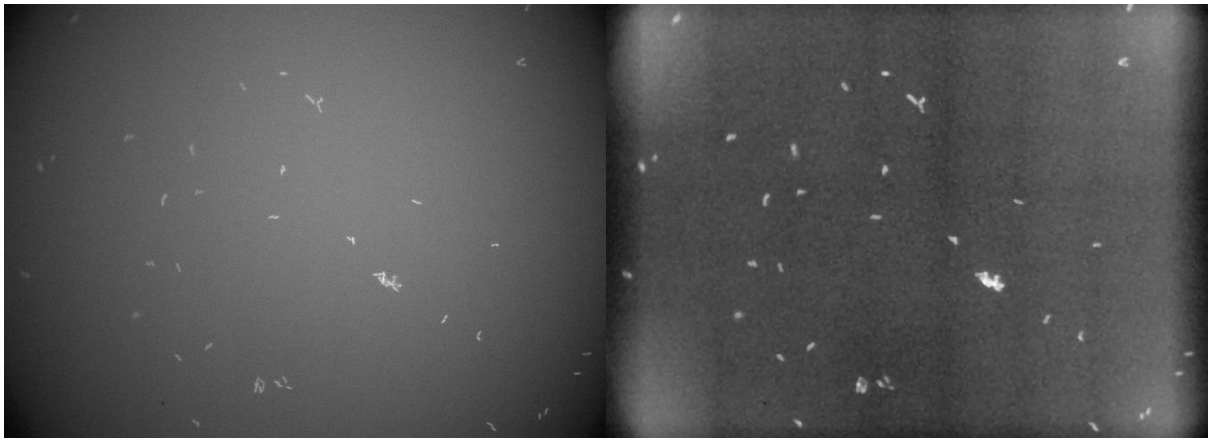


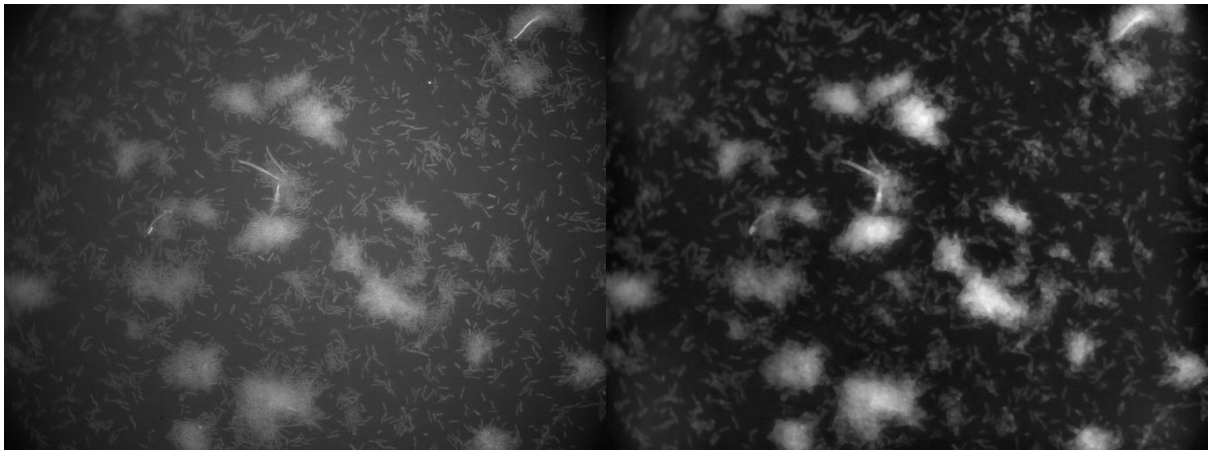
2. Open to remove salt noise



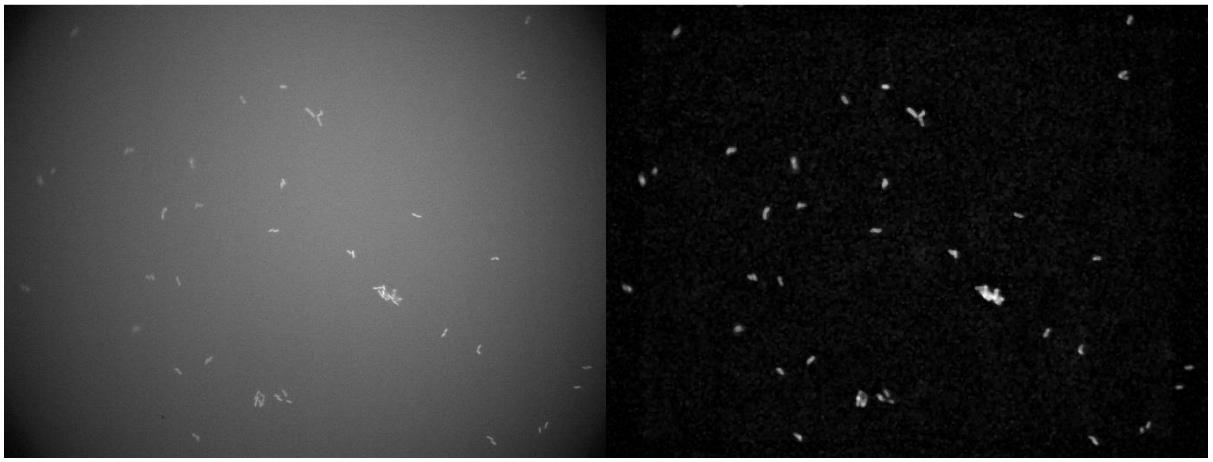


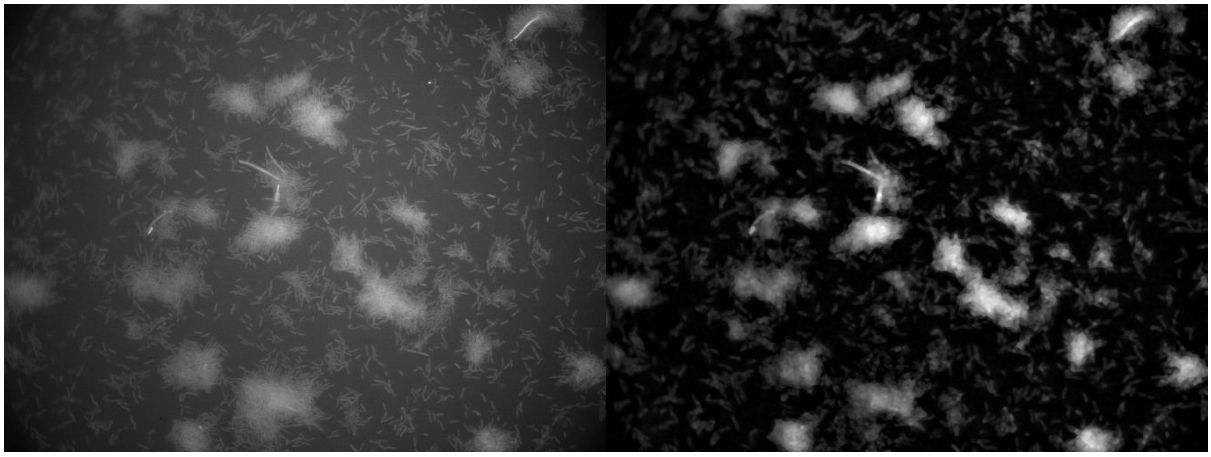
3. Use a median filter



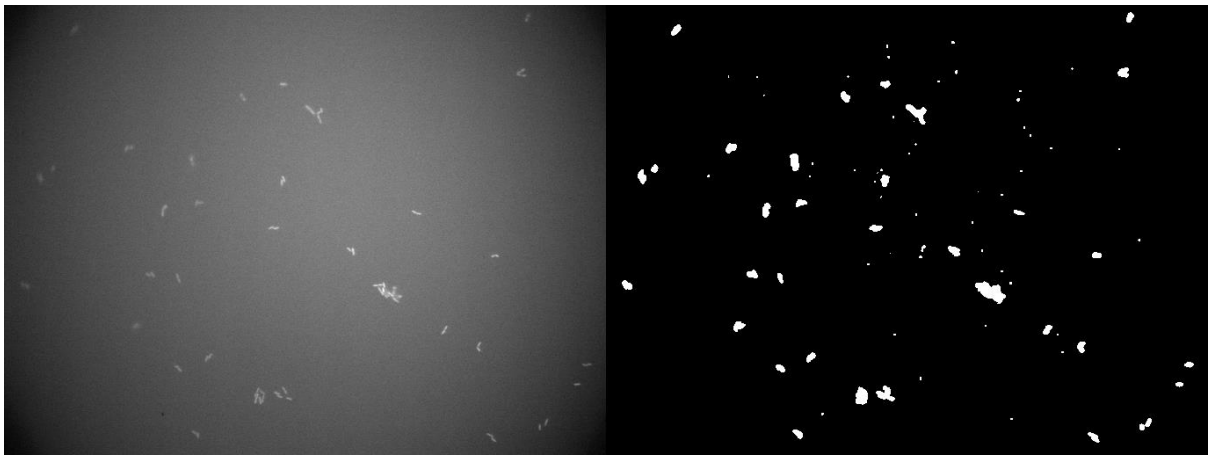


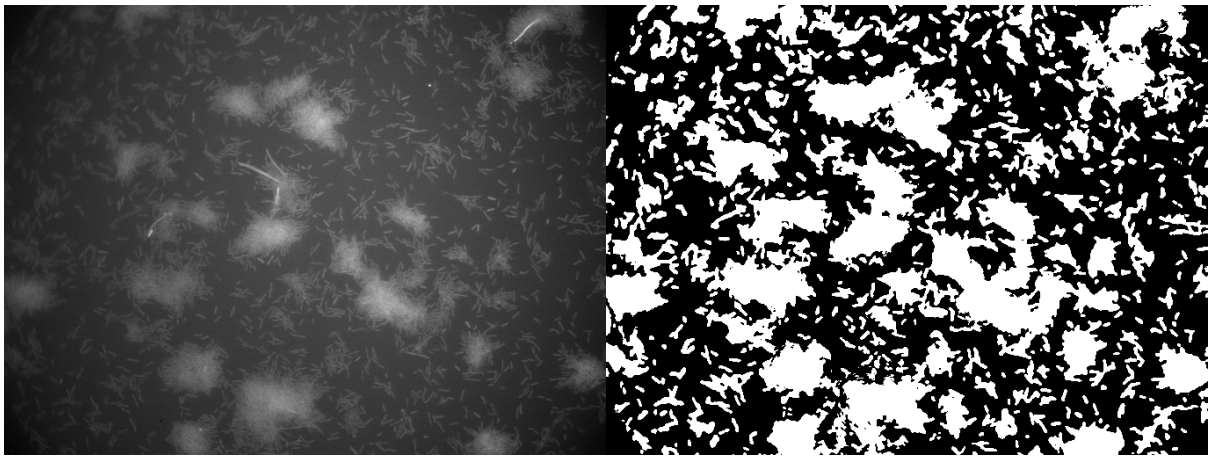
4. Use a White top hat filter



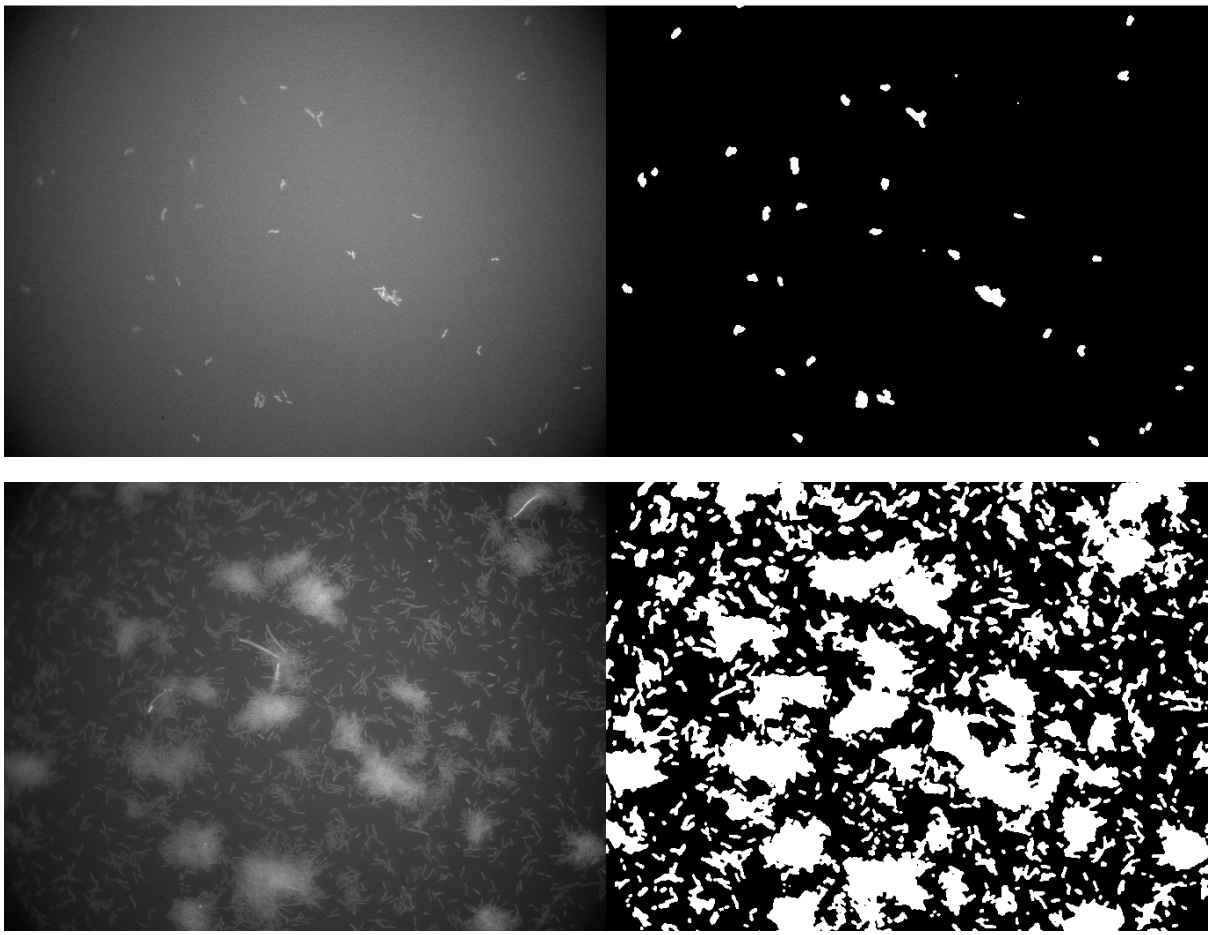


5. Binarize using Triangle Threshold





6. Open the mask to remove small artifacts



Paragraph

Confocal Microscopy

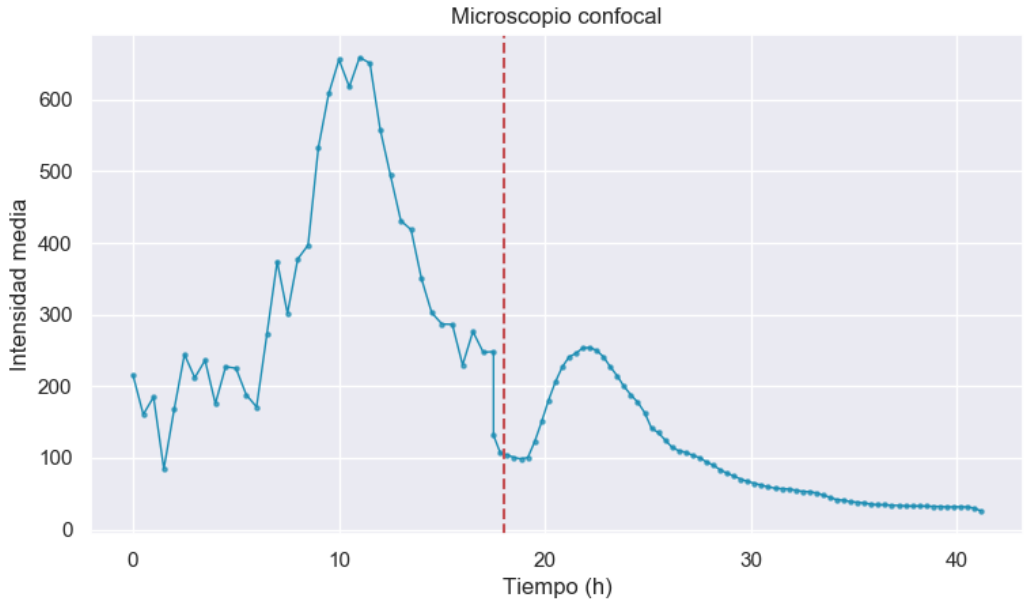
Nikon Microscopy

SPIM Microscopy

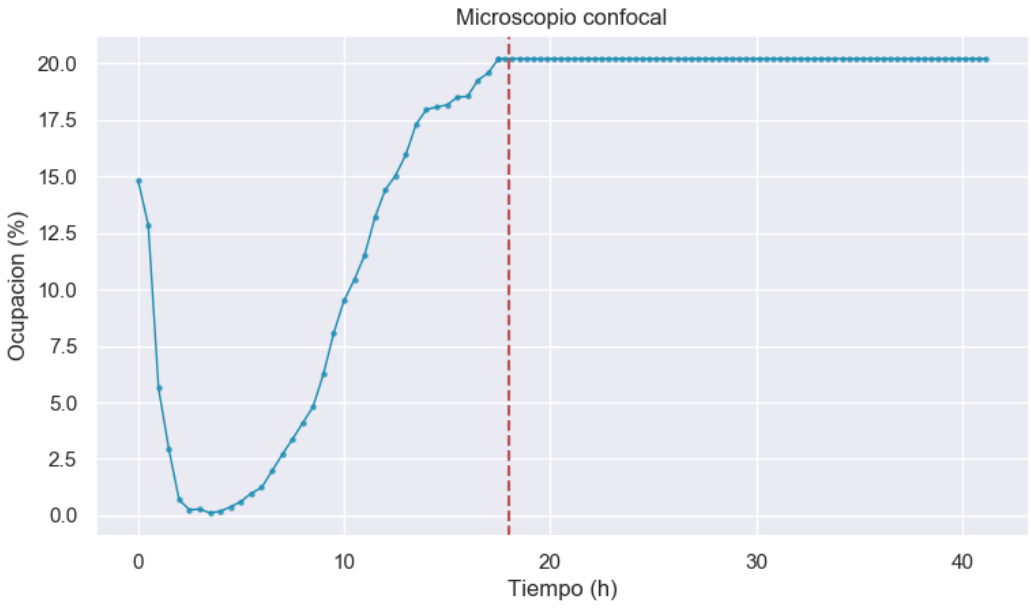
Results

Confocal Microscopy

Average intensity

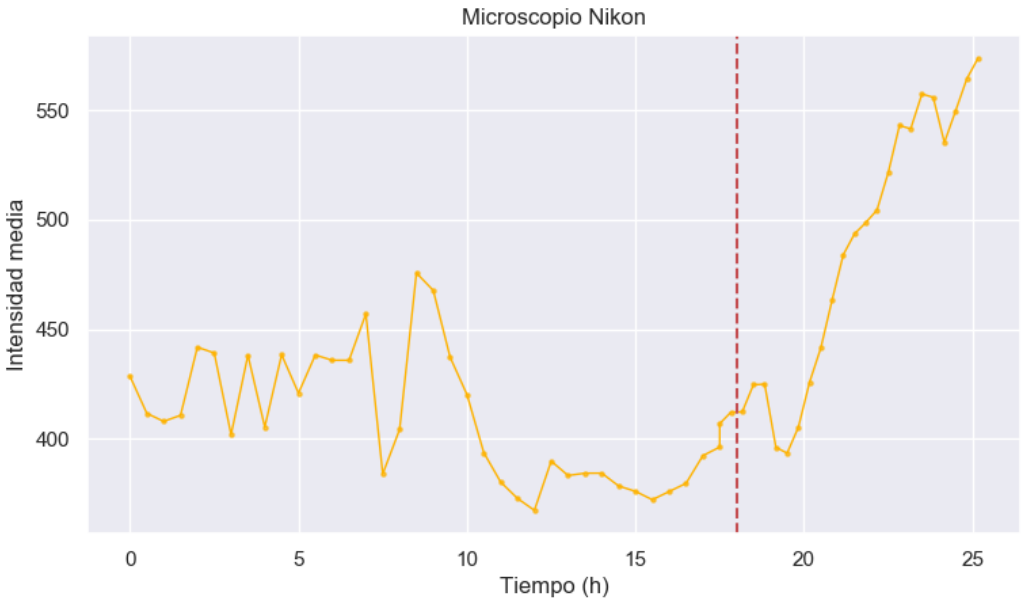


Grow

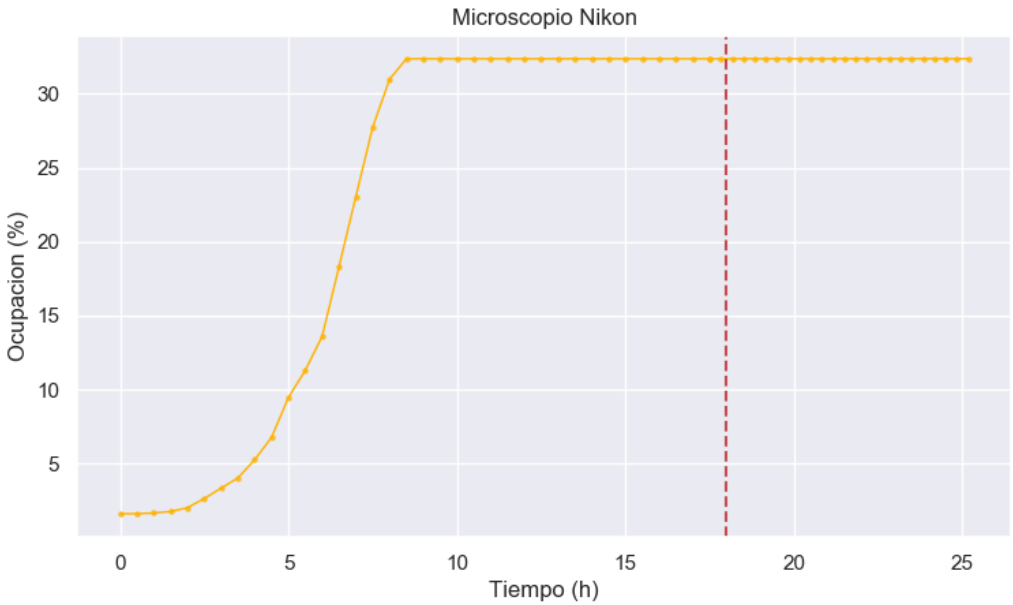


Nikon Microscopy

Average intensity

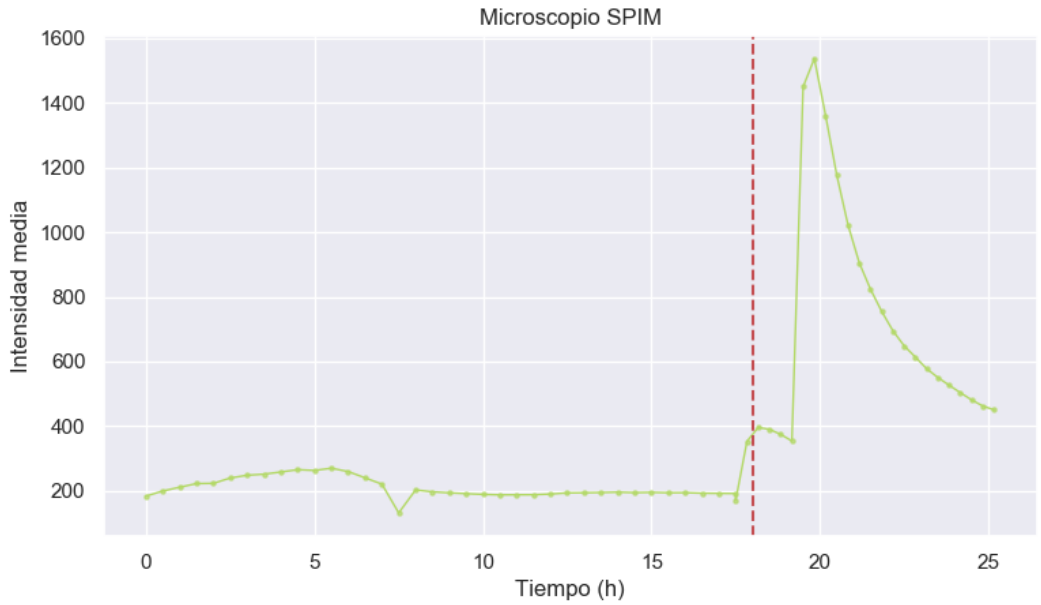


Grow



SPIM Microscopy

Average intensity



Grow