

Otsu thresholding 7/6

The best blurs?

Grouped by histogram appearance

Going forward

They're still not perfect, but there is improvement

Adaptive thresholding is still an option, but the range will be necessary for that, too

Fixing otsu: is there a correlation between the 'optimal' blurriness and the histograms? I think I'm going to look at the histograms and find the color ranges and see if there's a pattern

Also I need to start looking at the regionprops function

I'm going to group these by appearance/histogram appearance as well as how well they work

'Problem' pictures: 6, 10 ,13, 16, 18

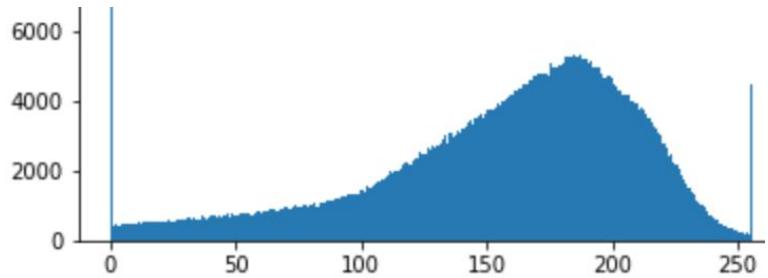
Observations:

The pathways are darker or the same color as than the dot-filled areas (it works if the pathways are lighter)

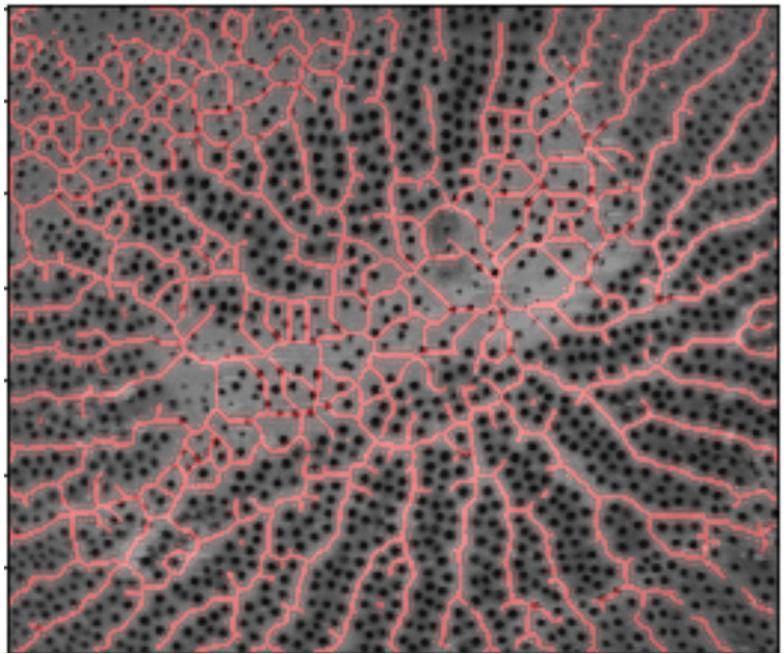
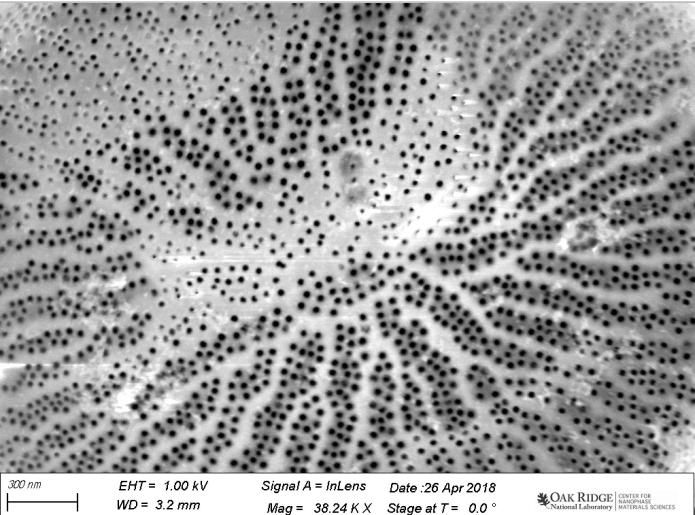
There isn't a whole lot of color variation

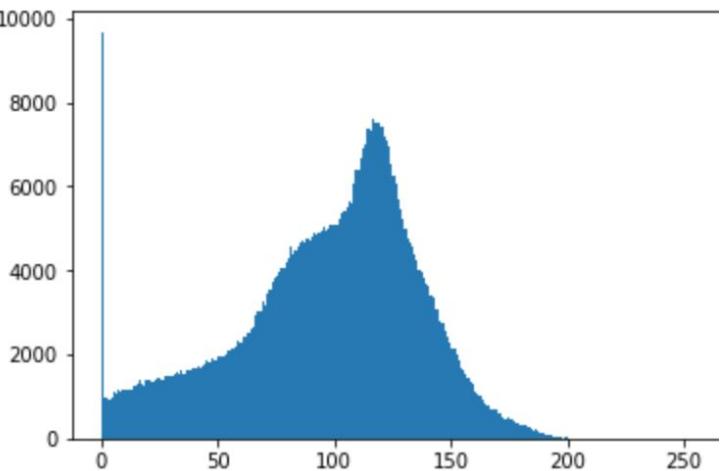
They have one big peak--maybe use standard deviation? (a deviation under some number means use adaptive or whatever else)

Wild 004
Blur: 15

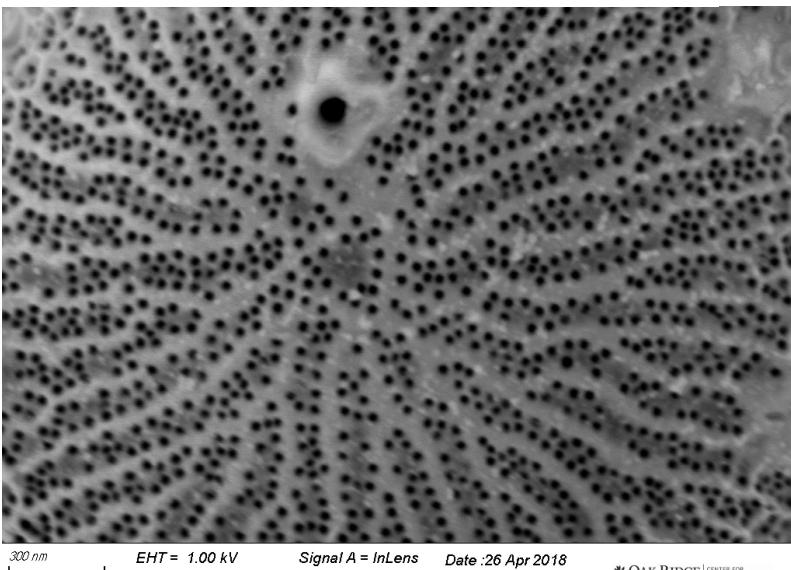


Mean: 153.887
Max:
Standard deviation: 56.736

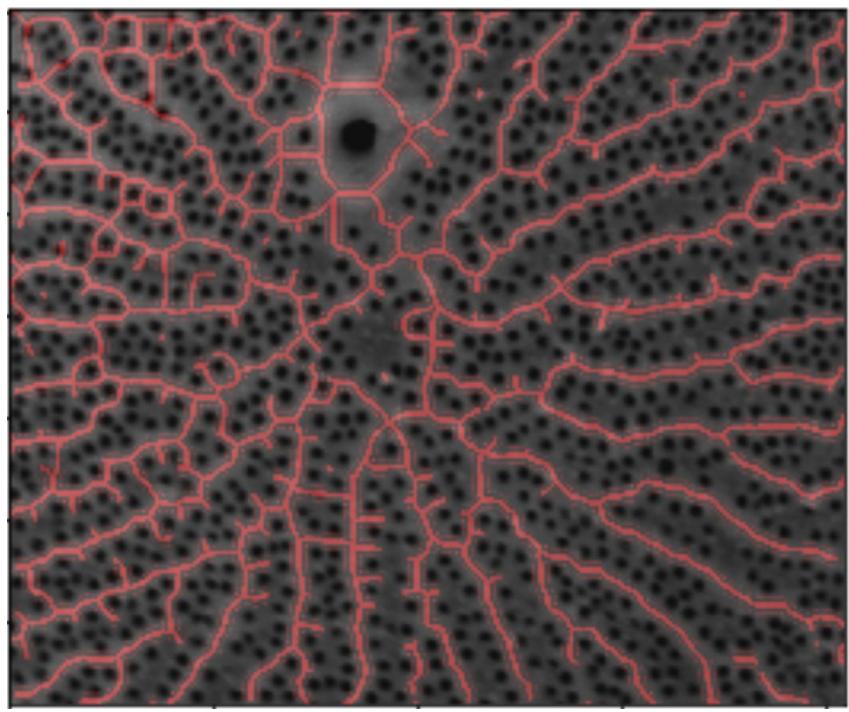


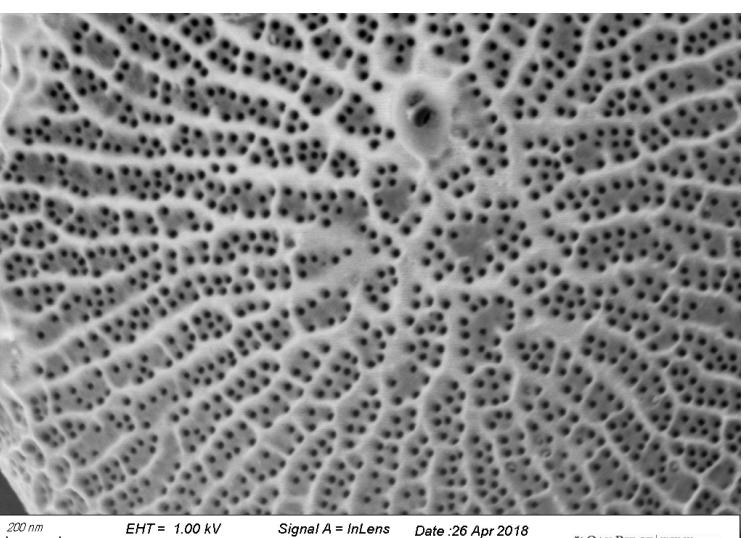
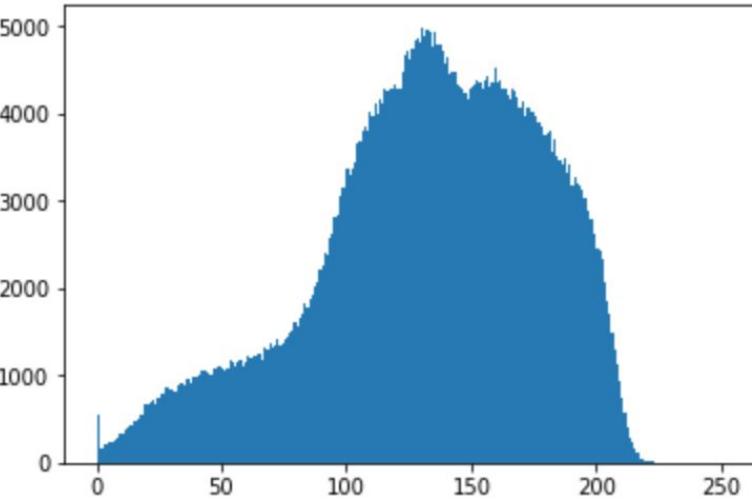


Mean: 96.084
Max:
Standard deviation: 39.711



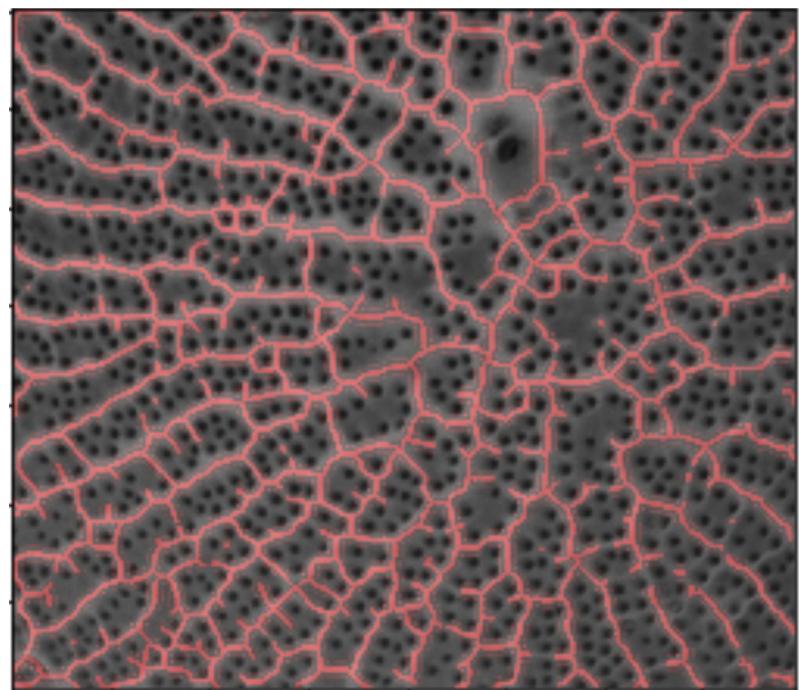
Wild 008
Blur: 19





Mean: 131.886
Max:
Standard deviation: 45.371

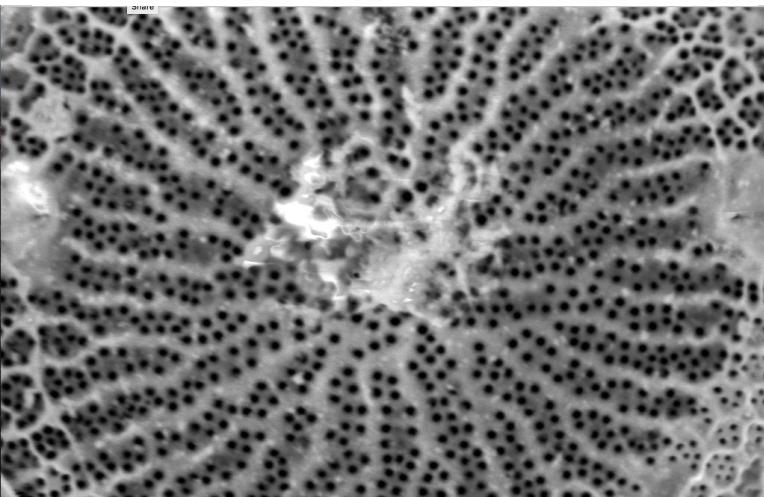
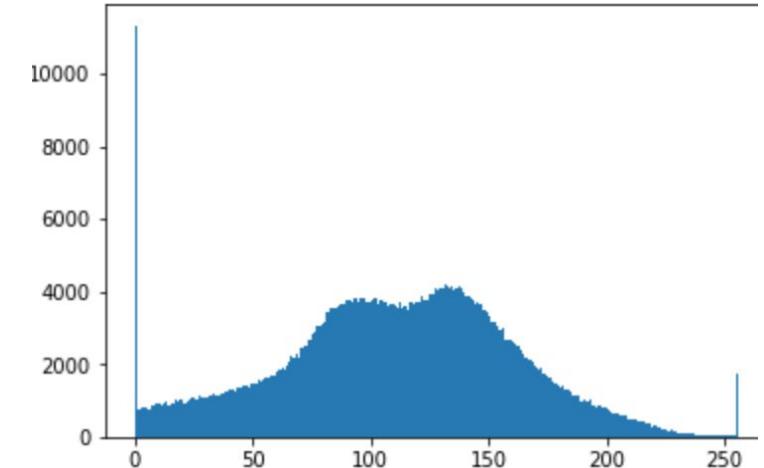
Wild 021
Blur: 15



Gradual slope, multiple peaks

These ones seem to be the best fit for otsu, which makes sense because otsu is optimal for 2 peak histograms

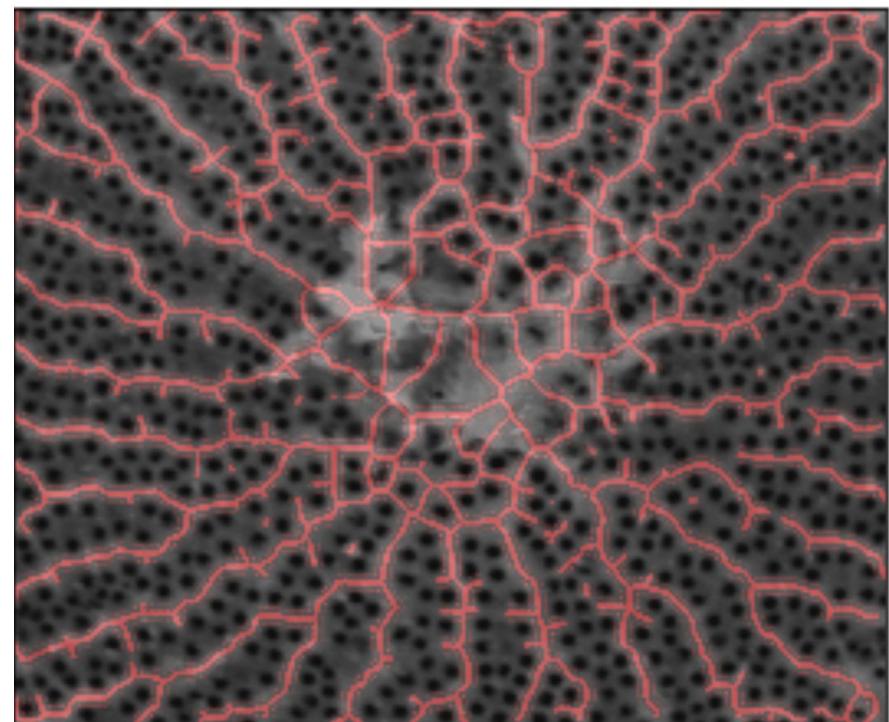
Anywhere between blur 13 and 15 is pretty good, but I left the first 2 at 13 so some parts of the skeleton would be more connected

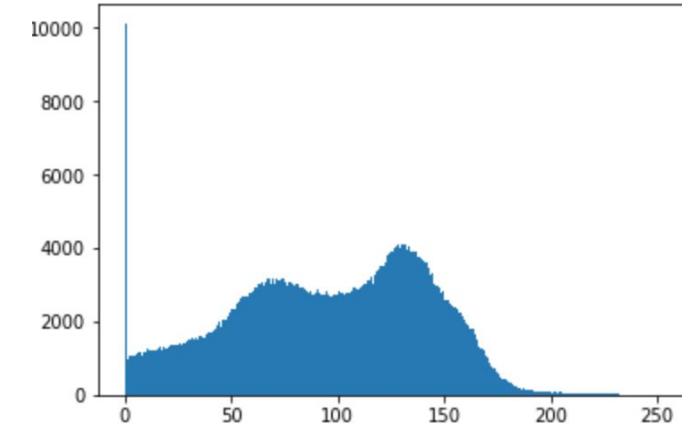


200 nm EHT = 1.00 kV Signal A = InLens Date :26 Apr 2018
WD = 3.2 mm Mag = 44.70 KX Stage at T = 0.0 °
OAK RIDGE NATIONAL LABORATORY CENTER FOR NANOSCALE MATERIALS SCIENCES

Mean: 109.840
Max:
Standard deviation: 50.266

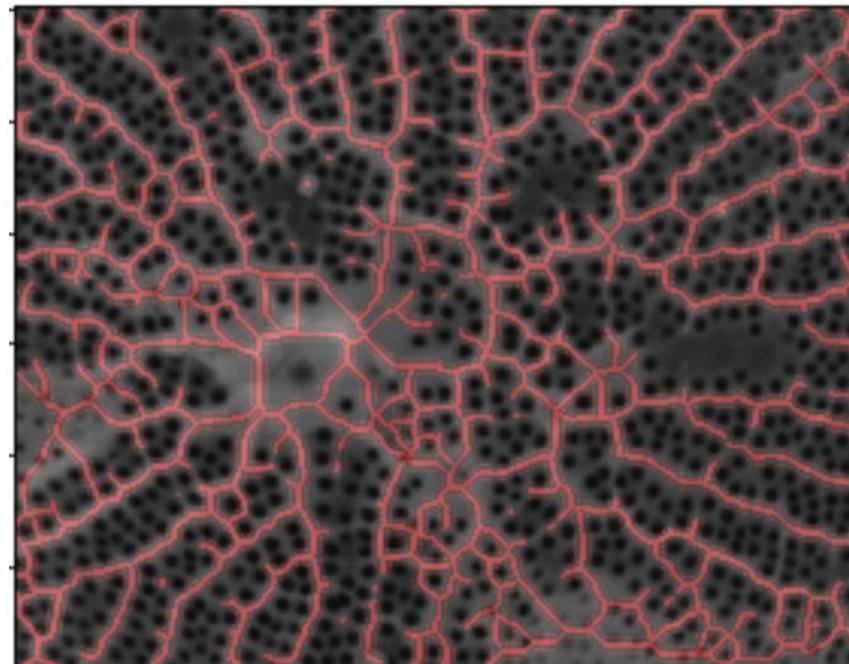
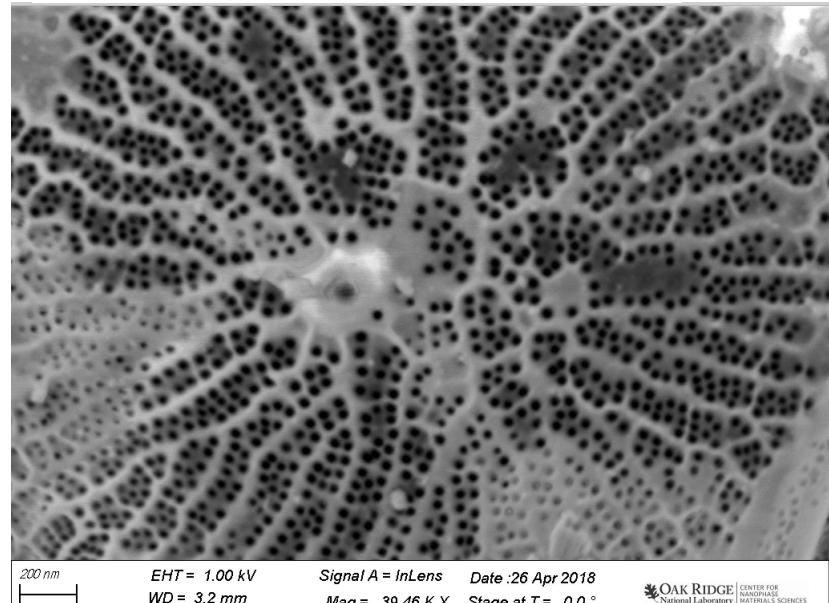
Wild 007
Blur: 13

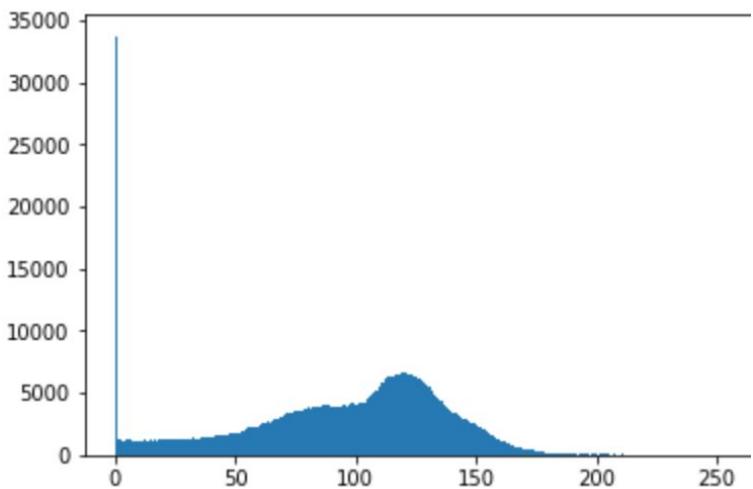




Mean: 94.678
Max:
Standard deviation: 46.095

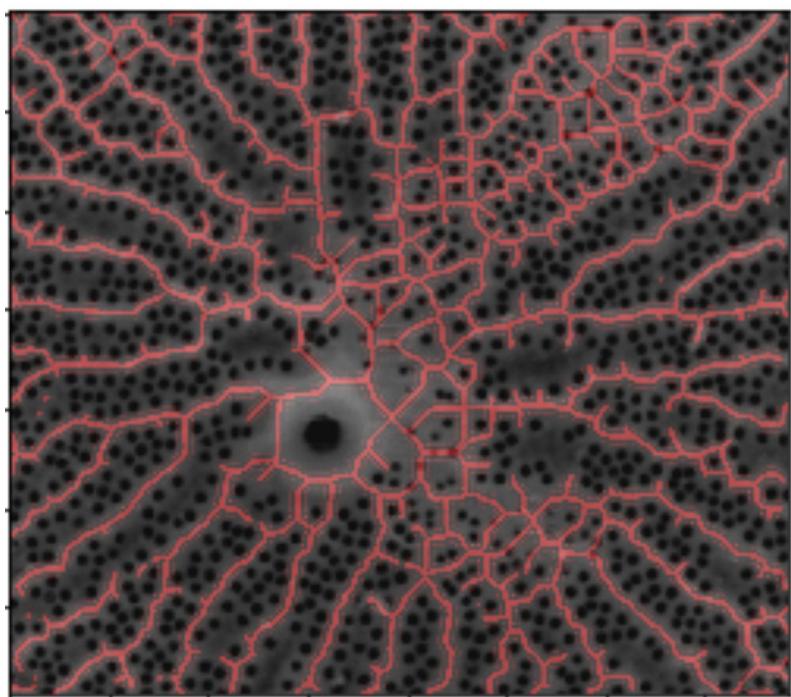
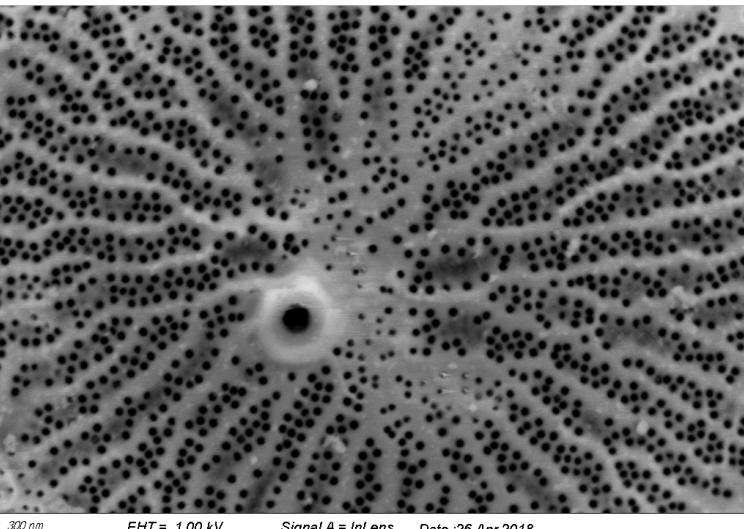
Wild 012
Blur: 13

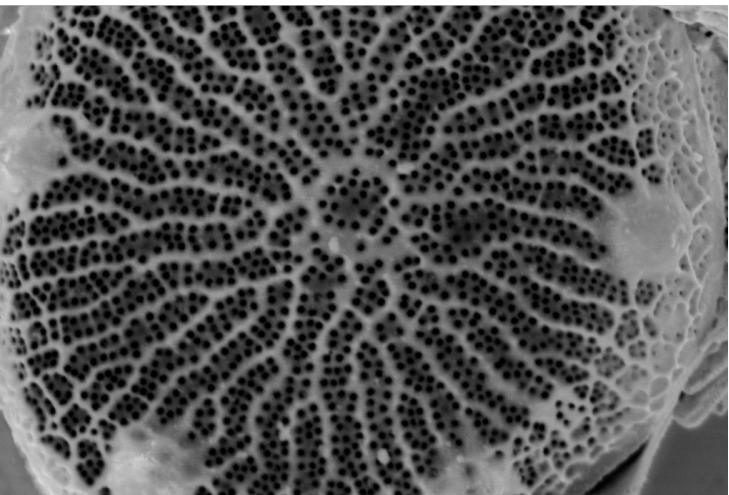
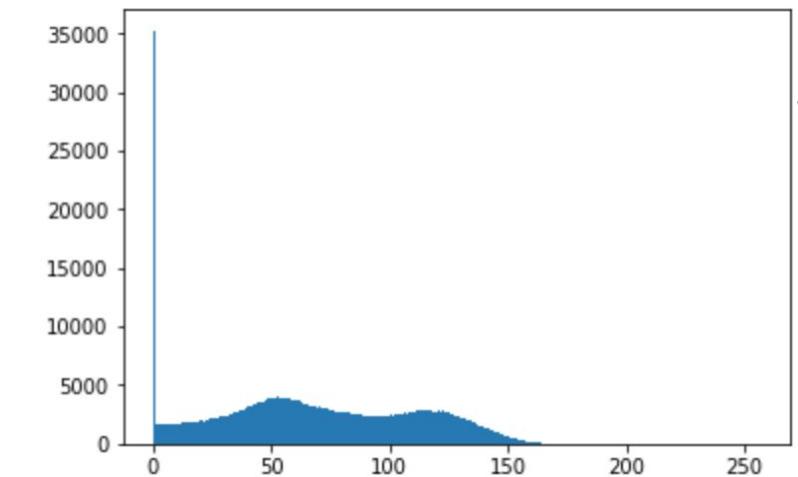




Mean: 91.936
Max:
Standard deviation: 44.533

Wild 023
Blur: 15





300 nm
EHT = 1.00 kV
WIP = 0.0

Signal A = InLens Date :25 Apr 2018

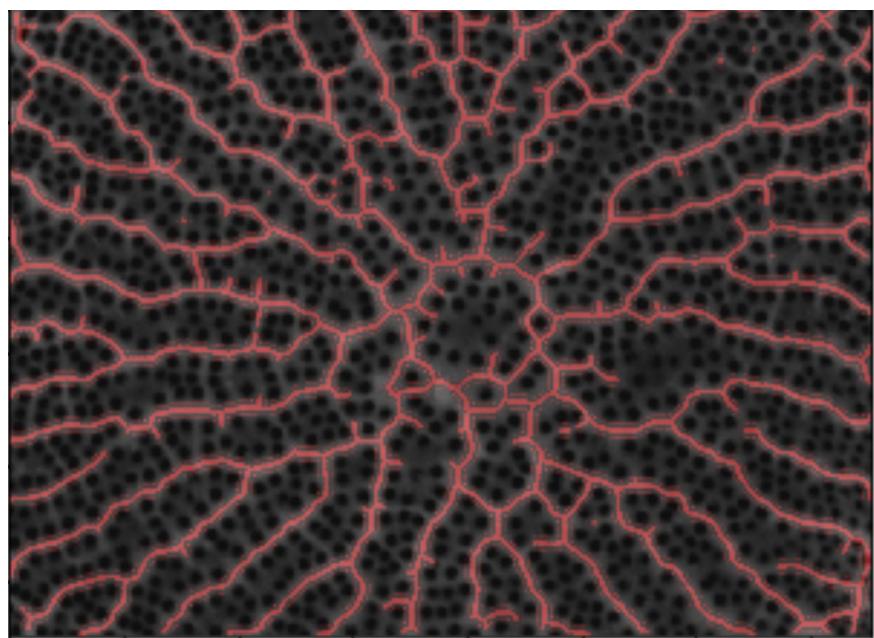
OAK RIDGE CENTER FOR

Mean: 67.171

Max:

Standard deviation: 42.365

Wild 052
Blur: 15



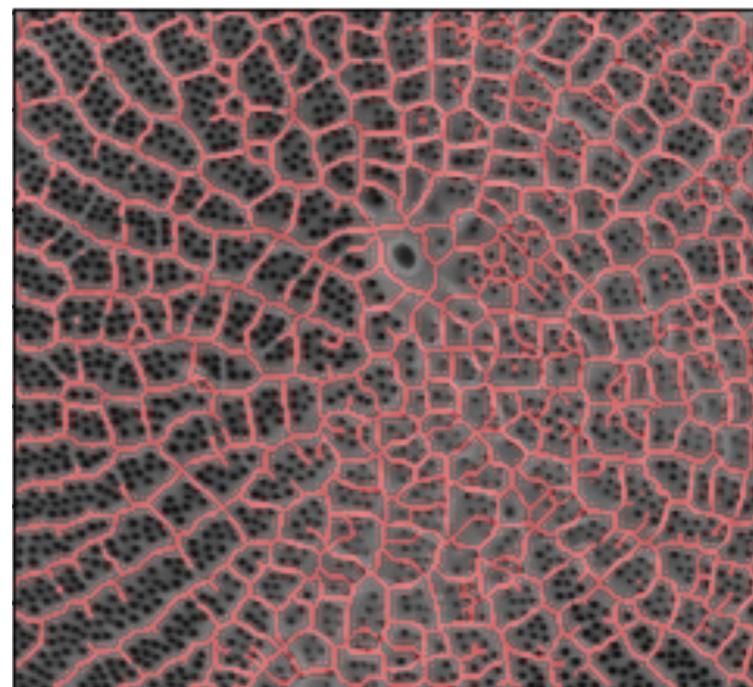
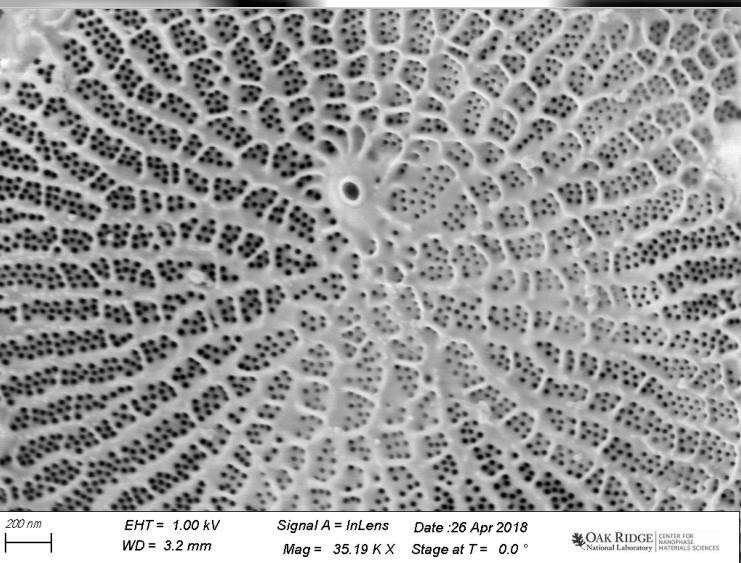
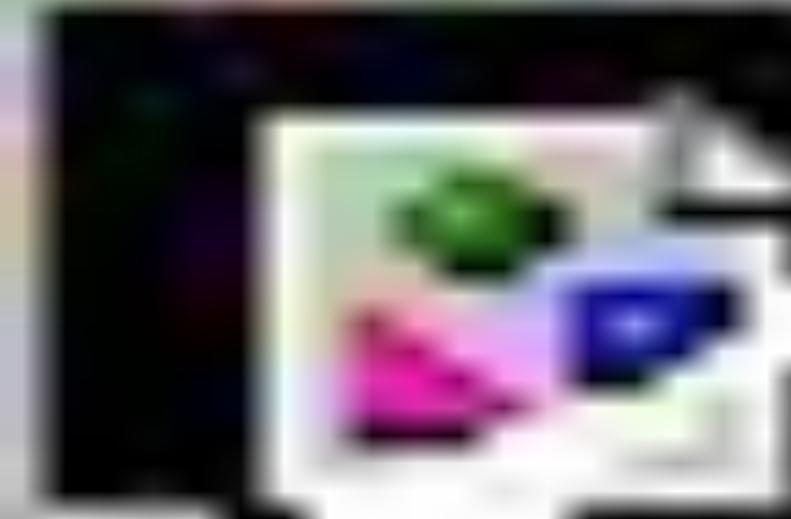
Steep, 1 main peak (not at 0 or 255)

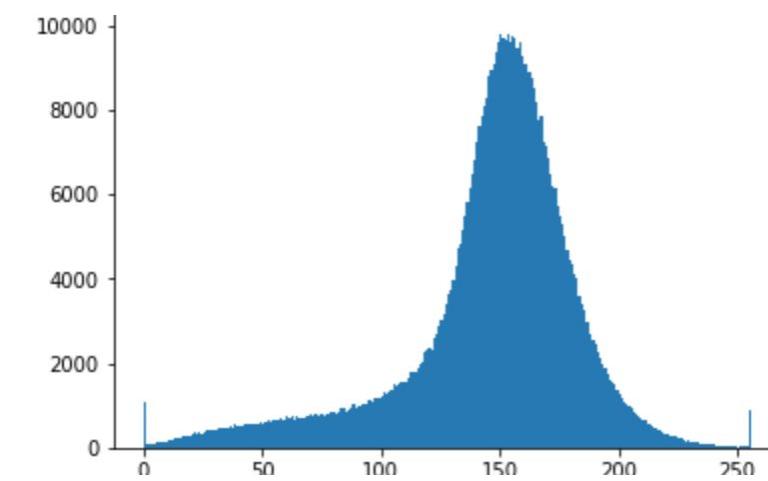
These are all ‘problem pictures’ other than 002 and 015 (those skeletons are acceptable, however, the adaptive worked pretty well on 7/5 for 002)

When finding the ‘optimal’ blur, I labeled 006, 010, 013, 016, and 018 ‘try adaptive’ (or some other technique)

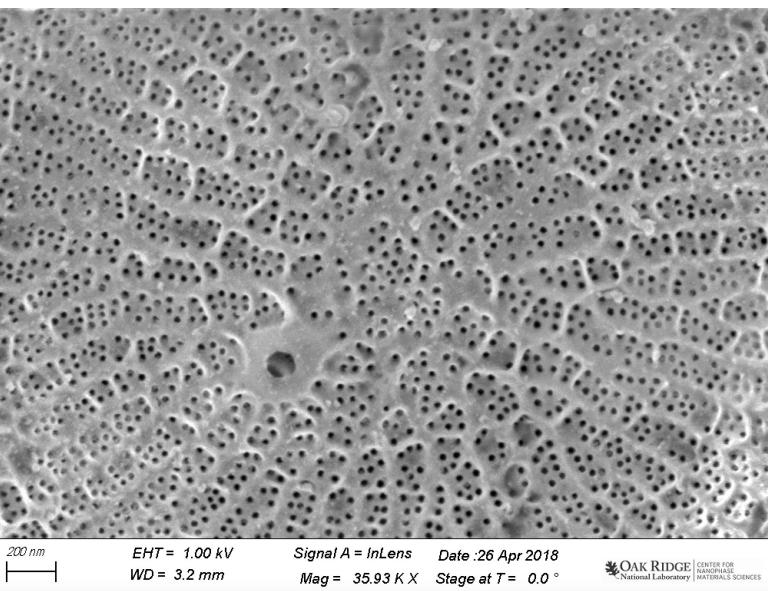
Wild 002
Blur:12

Mean: 146.318
Max:
Standard deviation: 48.050

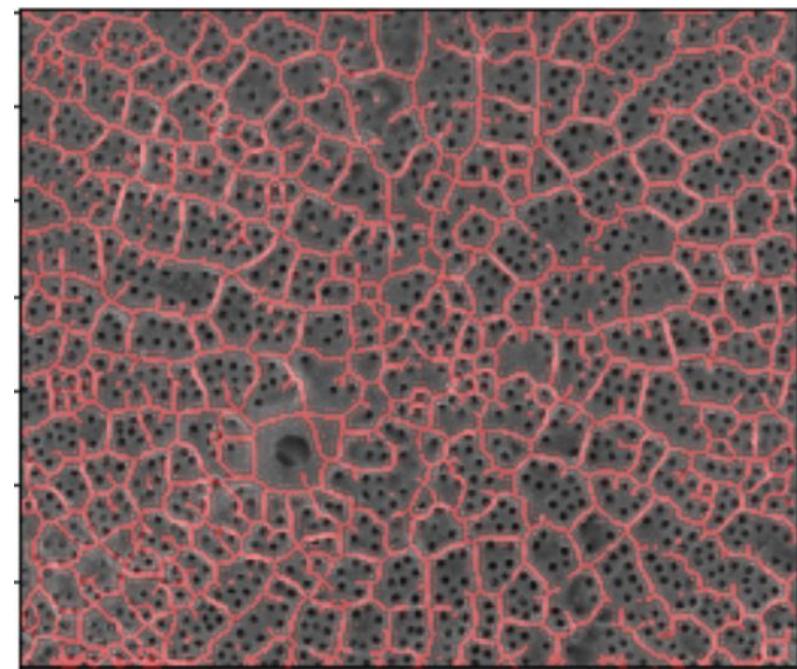


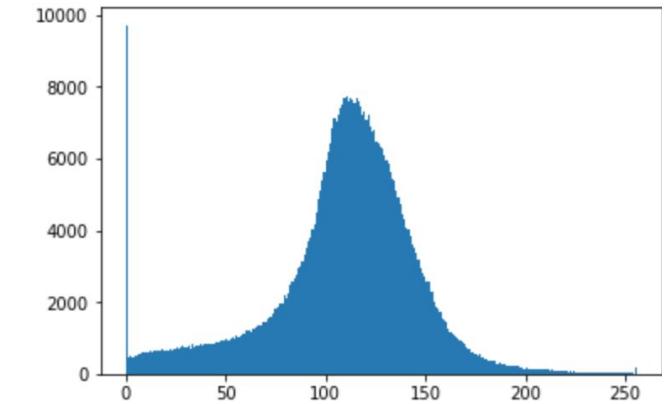


Mean: 145.816
Max:
Standard deviation: 37.211

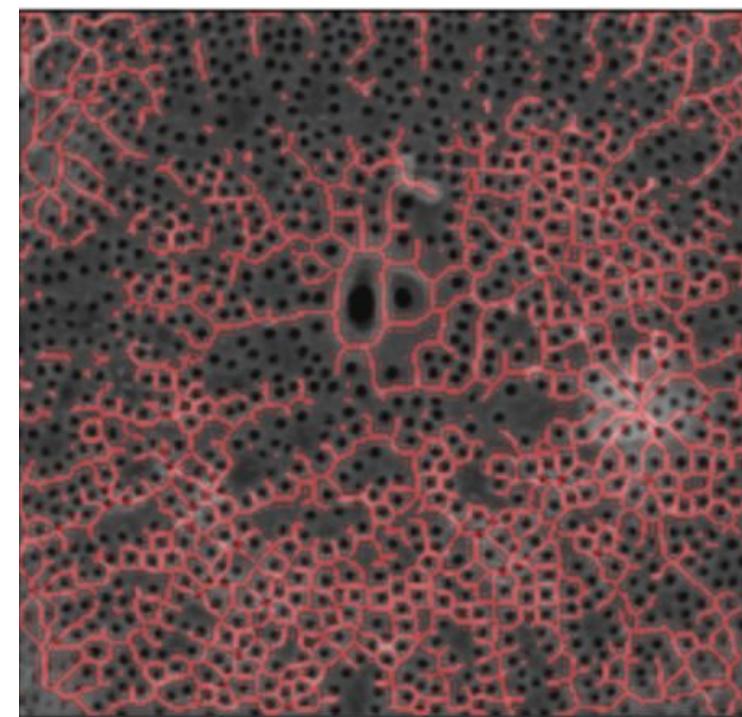
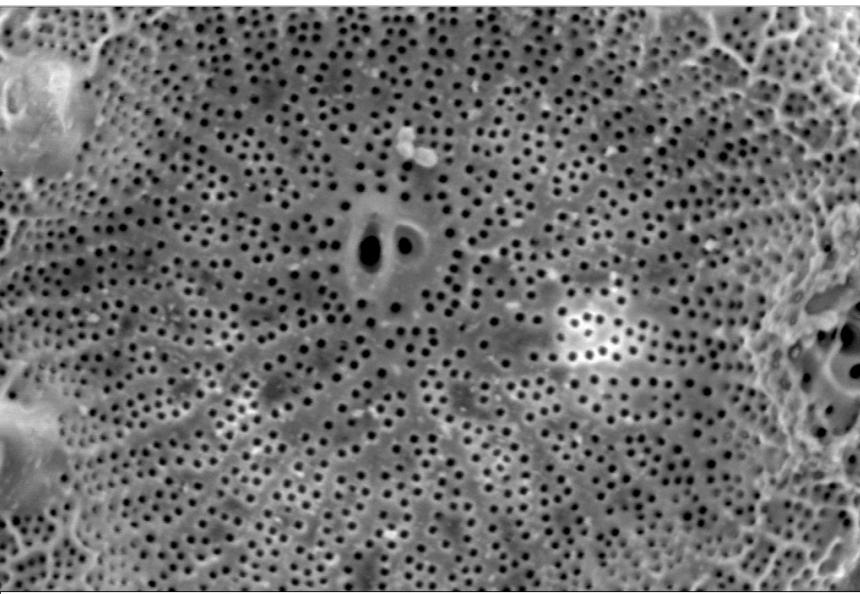


Wild 015
Blur: 14

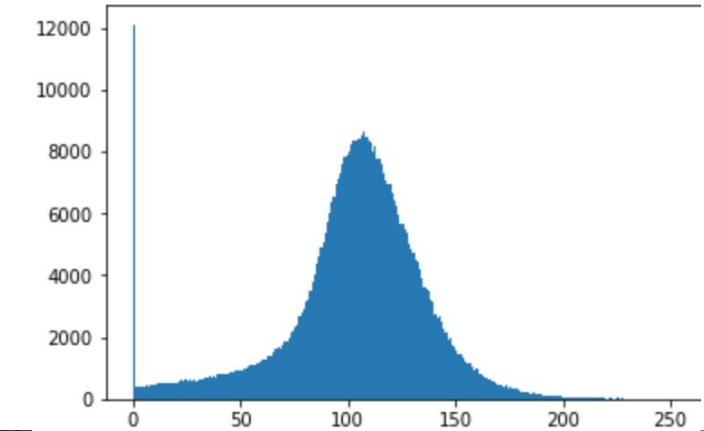




Mean: 107.857
Max:
Standard deviation: 38.210

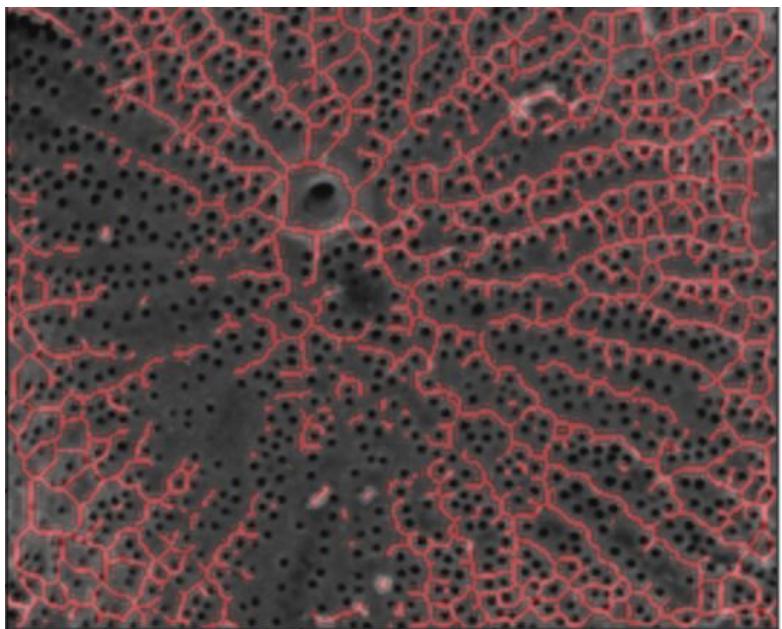
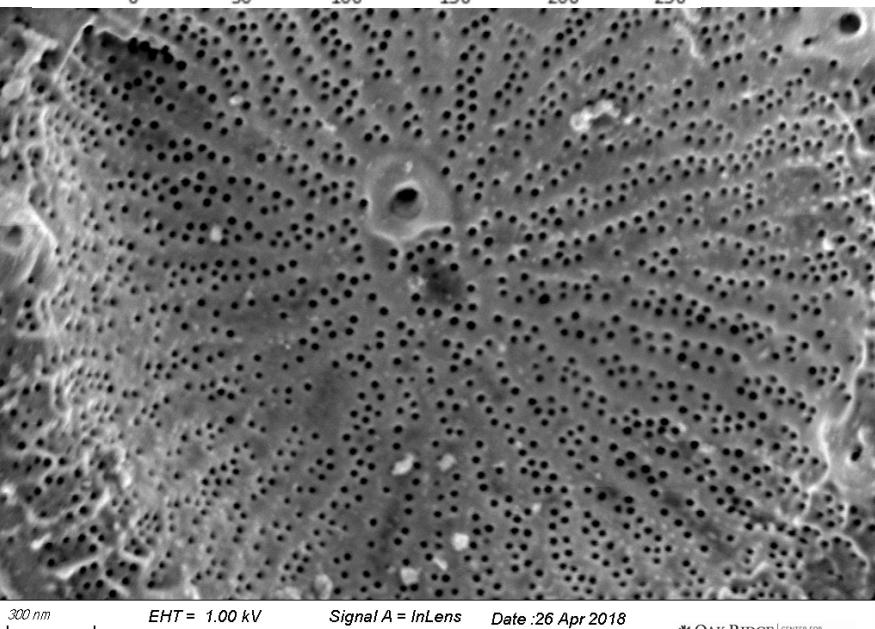


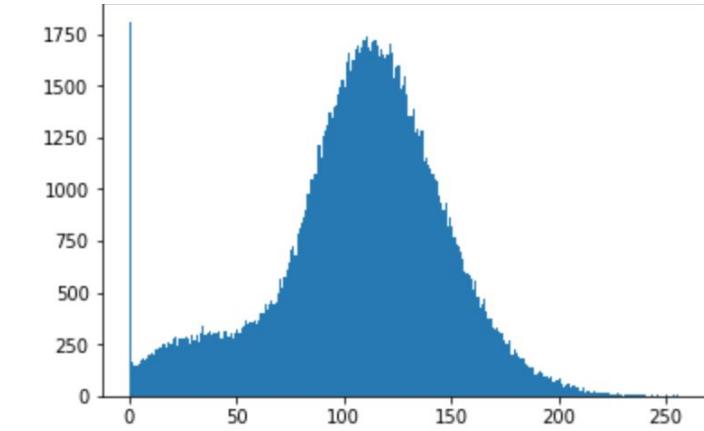
Wild 006
Blur: 13



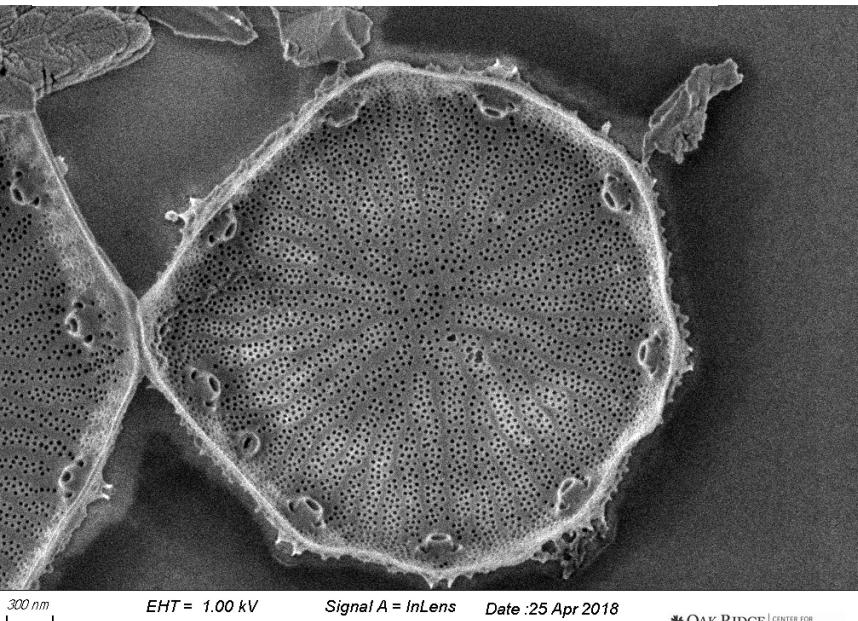
Mean: 101.902
Max:
Standard deviation: 34.695

Wild 010
Blur: 13

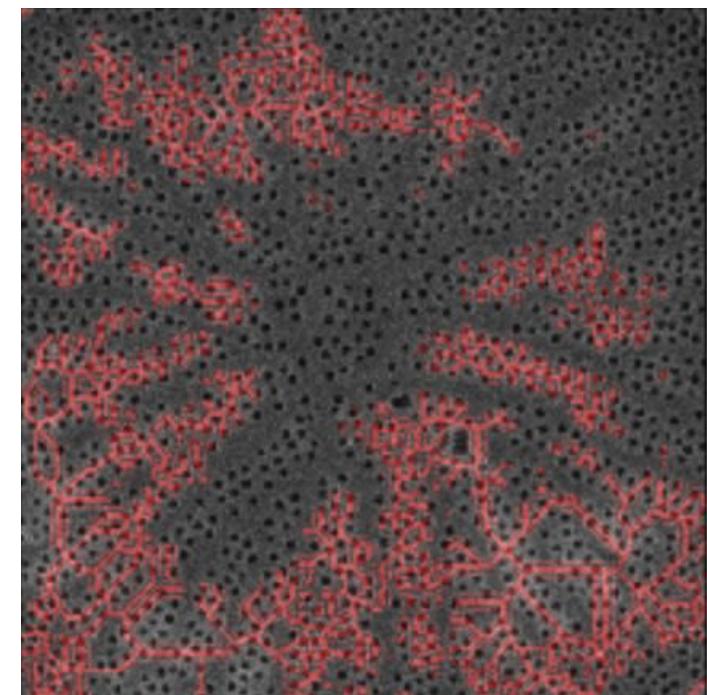


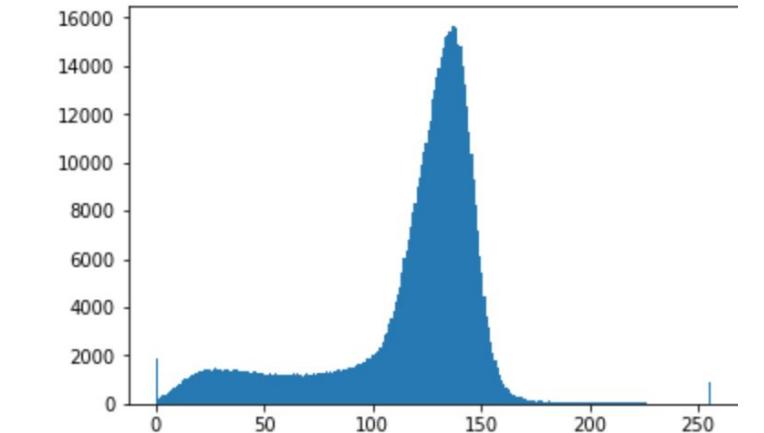


Mean: 106.633
Max:
Standard deviation: 40.475



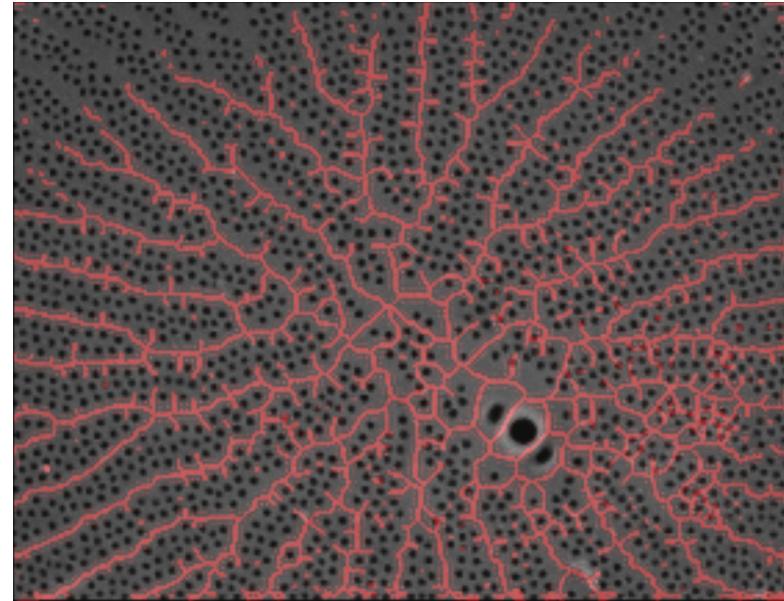
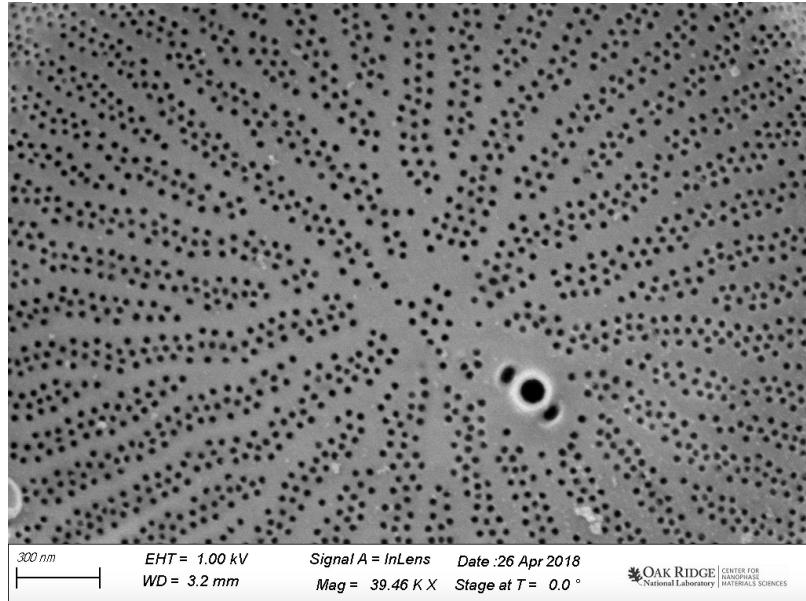
Wild 013
Blur: 13

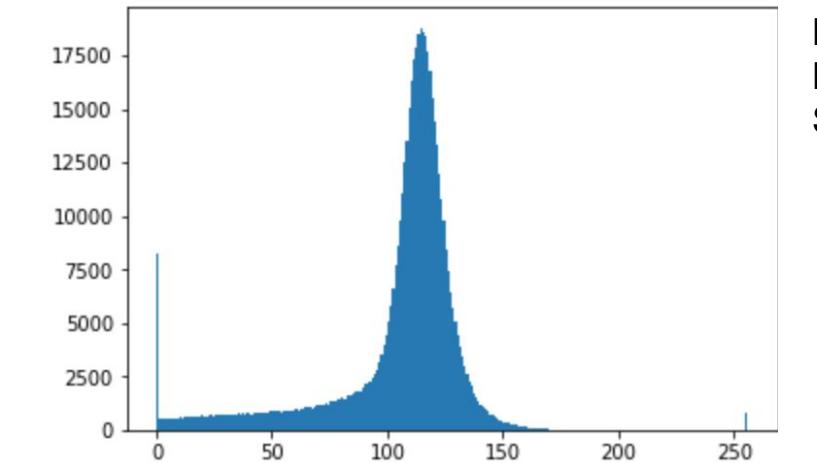




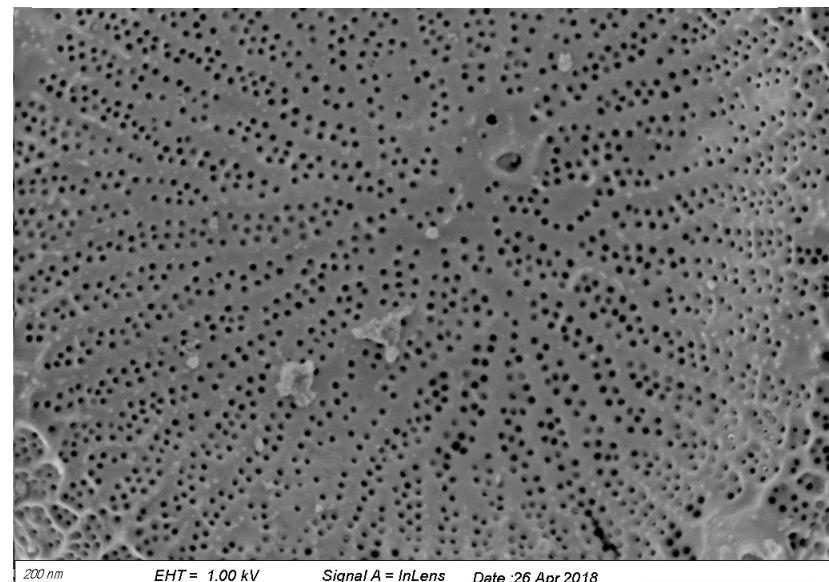
Mean: 116.312
Max:
Standard deviation: 36.284

Wild 016
Blur: 16





Mean: 103.923
Max:
Standard deviation: 29.991



Wild 018
Blur: 16

