**Single colony segmentation pipeline**

1. **Find colony centers**

Using ColTapp. Save in the D3 folder. First image is empty!

Make sure to save also the scale on each picture (across 148000 µm for square plates), apply to all.

1. **Extracting and sorting individual pics to a folder**

**Using the script:**

automatic\_Analysis201213.m

And later

automatic\_Analysis210729.m

Registration, and extraction for all folders.

1. **Run a training session**
   1. **Run the first colony extraction**
      1. **Select some random pics for training set**

The original training set is in /Ilastik\_colvsAgar

Exp11D12p24c2.tif ; Exp9D12p14c4.tif ; Exp9D3p23c2.tif ; Exp9D3p17c1.tif ; Exp8D10p15c3.tif ; Exp7D10p12c4.tif ; Exp5D12p15c1.tif ; Exp5D12p2c5.tif ; Exp5D3p5c1.tif ; Exp4D14p45c6.tif ; Exp3D7p3c3.tif ; Exp2D17p33c4.tif ; Exp2D17p7c4.tif ; Exp2D17p5c4.tif ; Exp2D12p2c3.tif ; Exp2D10p1c6.tif ; Exp2D5p11c3.tif ; Exp2D3p3c5.tif ; Exp1D14p15c5.tif ; Exp1D12p11c1.tif ; Exp1D10p18c5.tif ; Exp1D10p15c1.tif ; Exp1D10p9c6.tif ; Exp1D5p42c1.tif ; Exp1D5p34c4.tif ; Exp1D3p1c2.tif ;

**A picture containing chocolate, wire, decorated, rack

Description automatically generated**

* + 1. **Training a first Ilastik recongnition model**

The goal is to recognize only between agar and colonies. More inclusive than exclusive.

The model is in /Ilastik\_colvsAgar

**Background pattern

Description automatically generated**

* 1. **Extract masked images**

Original set is there: / 210901\_ColVsAgar\_small

Using Matlab script readingResults.m

Summary:

Read Original Pic

Read Binarized Seg. Keep the central centroid. Dilate image. Close image. Fill holes.

Final image is Original, with nans outside colonies.

Saved set at /Ilastik\_segondsegmentation

**A picture containing green, painted

Description automatically generated**

Here there was a mistake in extracting some centers => objects found within big center.

* 1. **Run a second colony extraction**

**A picture containing company name

Description automatically generated**

**On ilastik, using the training from; /Ilastik\_segondsegmentation**

**ii) running the whole set**

1. **First colony extraction**

**/210901\_ColVsAgar**

1. **Extract masked images**

2) Small Images: /MasterOriginals210927

=> /Ilastik\_colvsAgar\_MyProject.ilp

3) Col vs Agar masks: / /210930\_ColVsAgar\_YPD1

/readingResults.m

4) Masked Images:

/210930\_MaskedImages

=> /CheckMaskedImages.m

=> Ilastik\_segondsegmentation/MyProject.ilp

5) Extract to alldatalong in

/Extract\_secondSeg211005.m