



UNIVERSITÀ DI PARMA

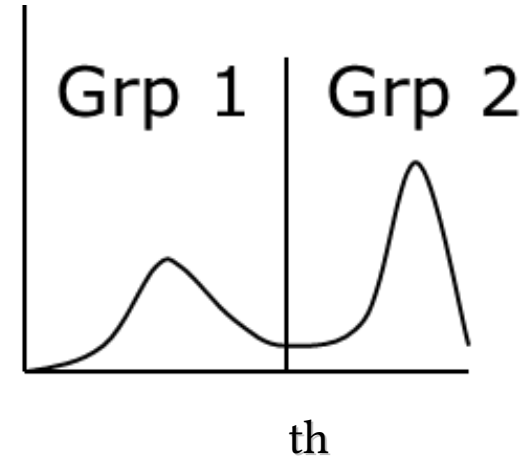
LABORATORY #3

- Thresholding
- Mathematic Morphology

- Load organs.pgm and
 - Test random thresholds in the $[0,255]$ interval
 - Compute the minimization of the weighted sum of variances of the two over and under threshold groups

$$\sigma^2(th) = \sigma_0^2(th)w_0(th) + \sigma_1^2(th)w_1(th)$$

$$\sigma^2 = \frac{\sum_{i=1}^N (x_i - \mu)^2}{N}$$



- Hints
 - Image features 3 levels (at least)
 - Use a very low threshold to exclude black pixels (<50)

- On the binary image obtained during the previous step apply the following processes:
 - Dilation
 - Erosion
 - Closing
 - Opening
- Use the following SE
 - Red value is the origin

1	1	1
1	1	1
1	1	1