

# **Workshop on Digital Image Processing of SPM(AFM,SEM) data using ImageJ and Gwyddion**

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12.05.2016

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# Topics

- Basics of SPM(AFM, SEM) Image Processing in ImageJ and Gwyddion
- Preparation of publication ready figures in LibreOffice Draw
- Data denoising techniques and their comparison
- Automatic and manual Particle Analysis
- Advanced Data Filtering (FFT)
- AFM Tip deconvolution

# Timetable

- 10:15-12:00 Examples, Exercises, Questions
- 12:00-12:30 Coffee Break
- 12:30-14:15 Examples, Exercises, Questions

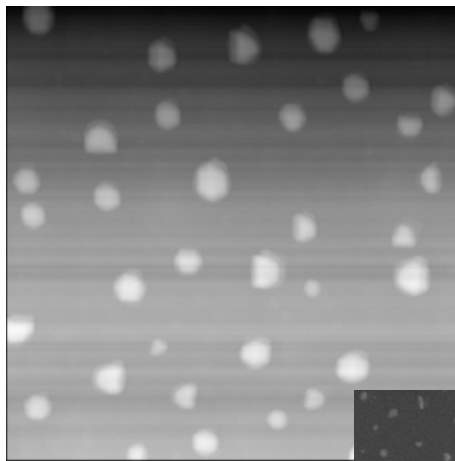
# Example 01 - Basics

**Gwyddion**  
<http://gwyddion.net/>

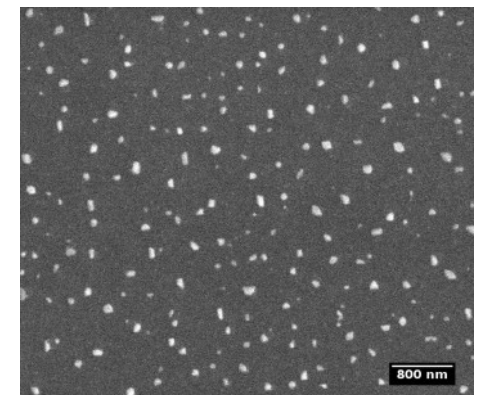
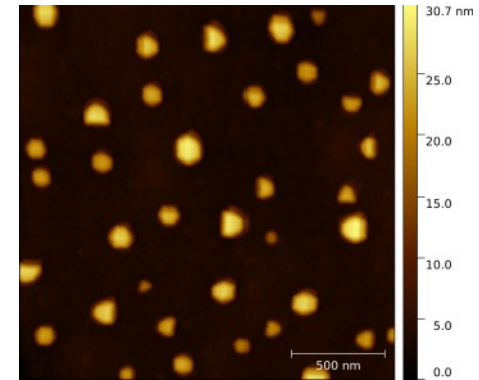
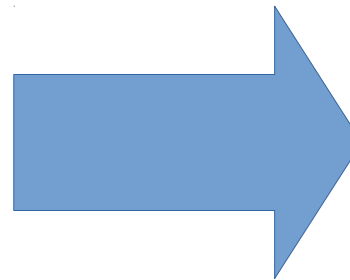
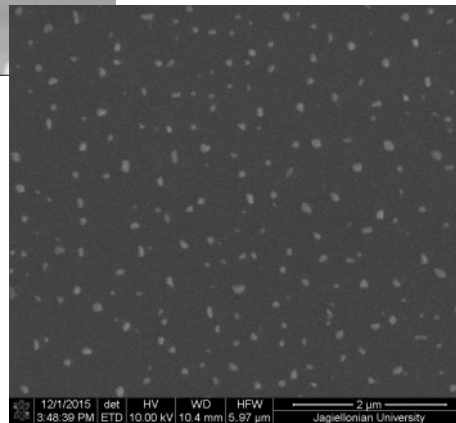
**Free Software**

**ImageJ/FIJI**  
<http://fiji.sc/>

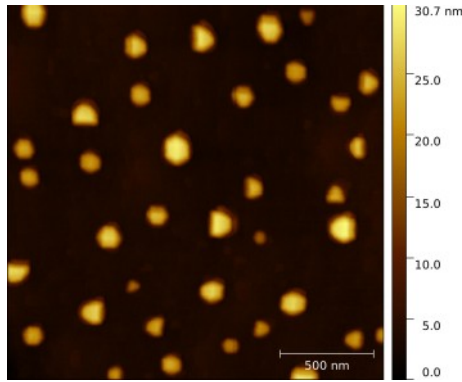
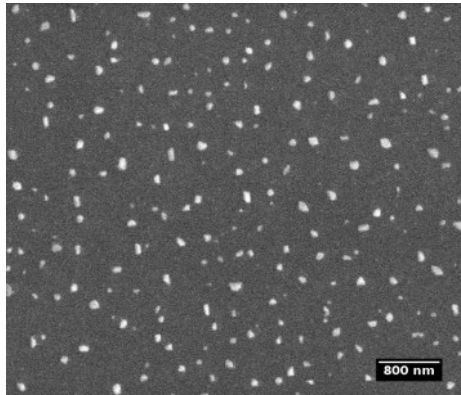
AFM



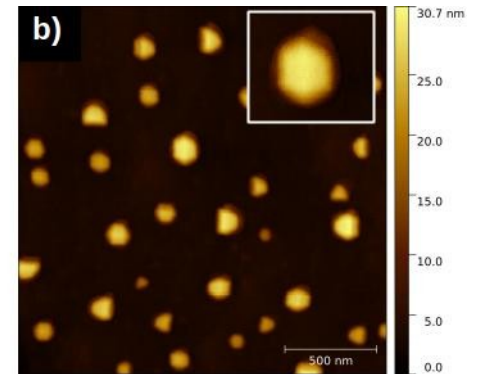
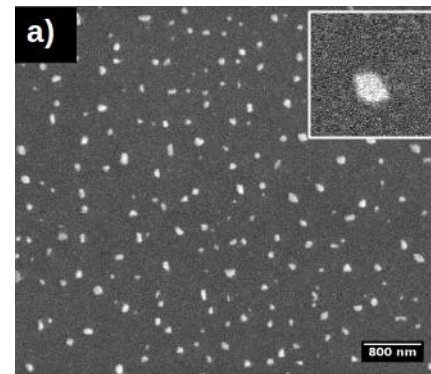
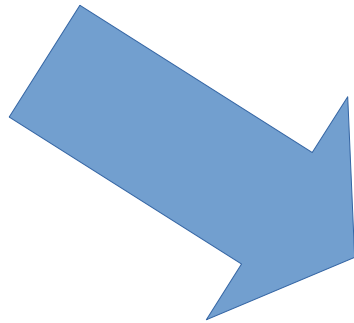
SEM



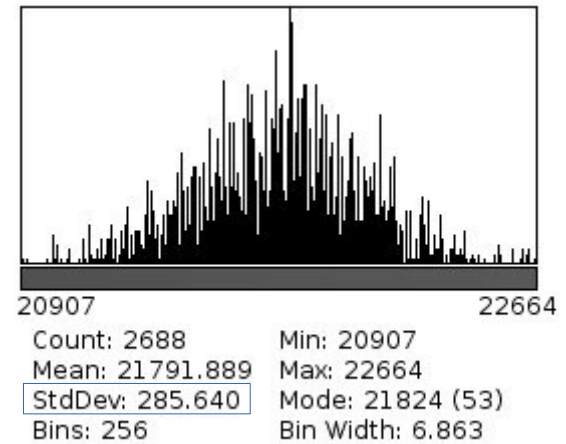
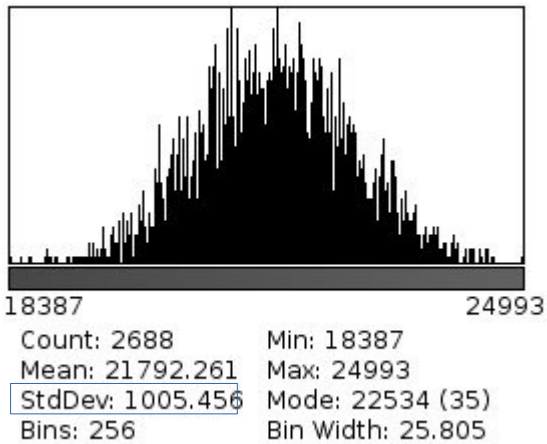
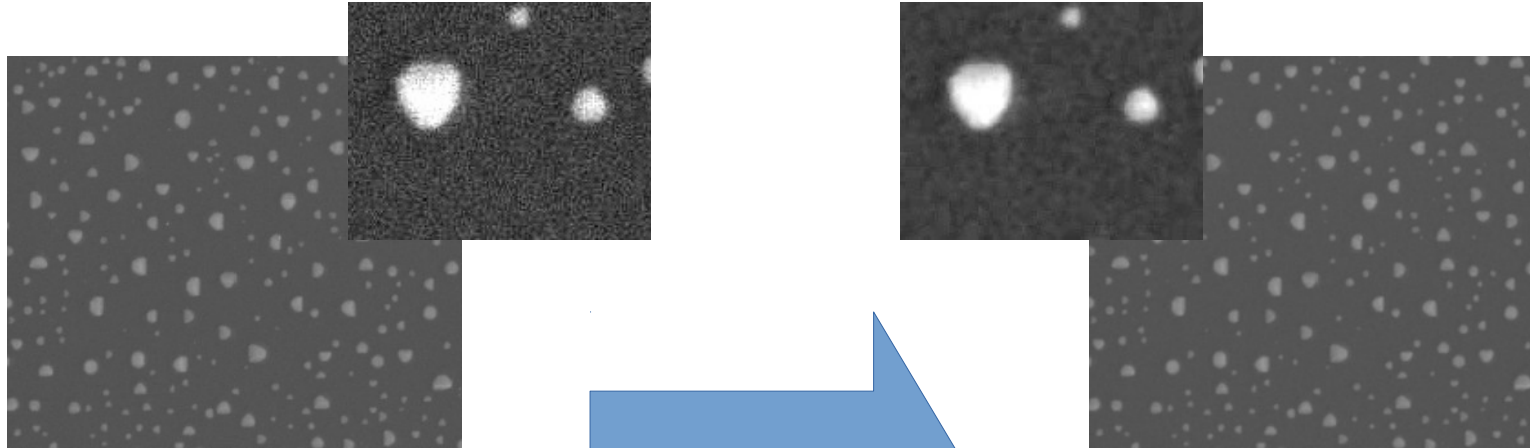
# Example 02 – LibreOffice Draw



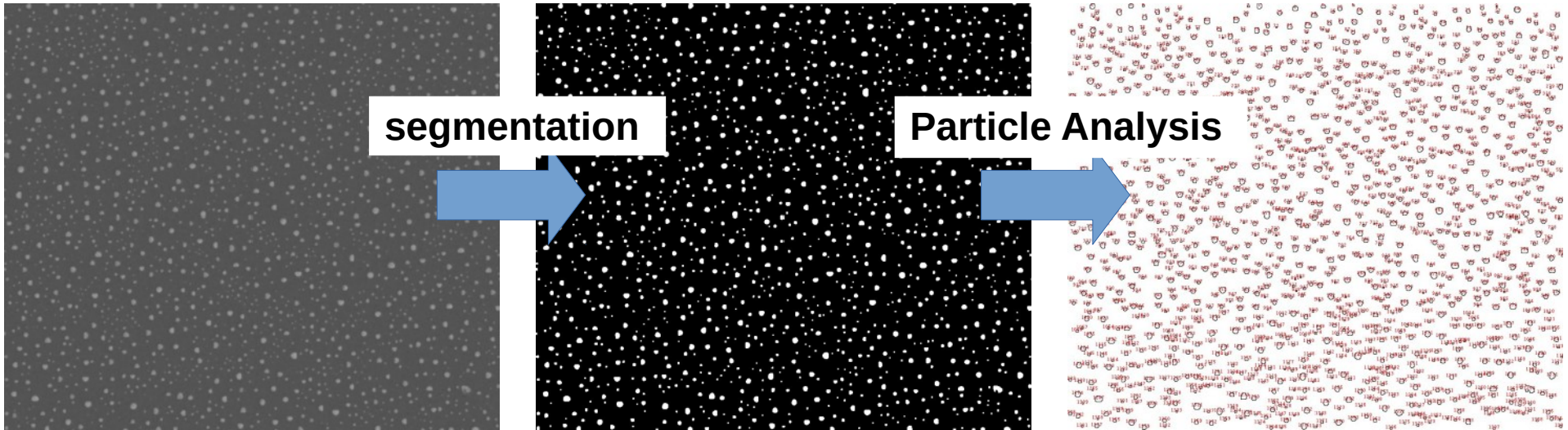
**LibreOffice Free Software**  
<https://www.libreoffice.org/>



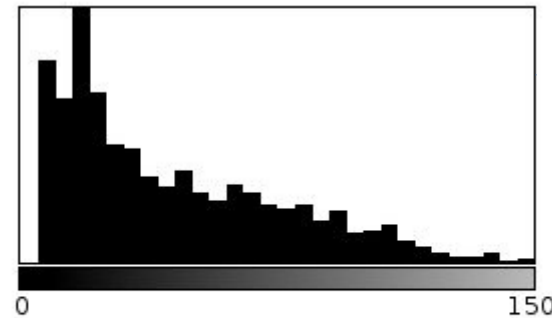
# Example 03 – Image Denoise



# Example 04 – Particle Analysis

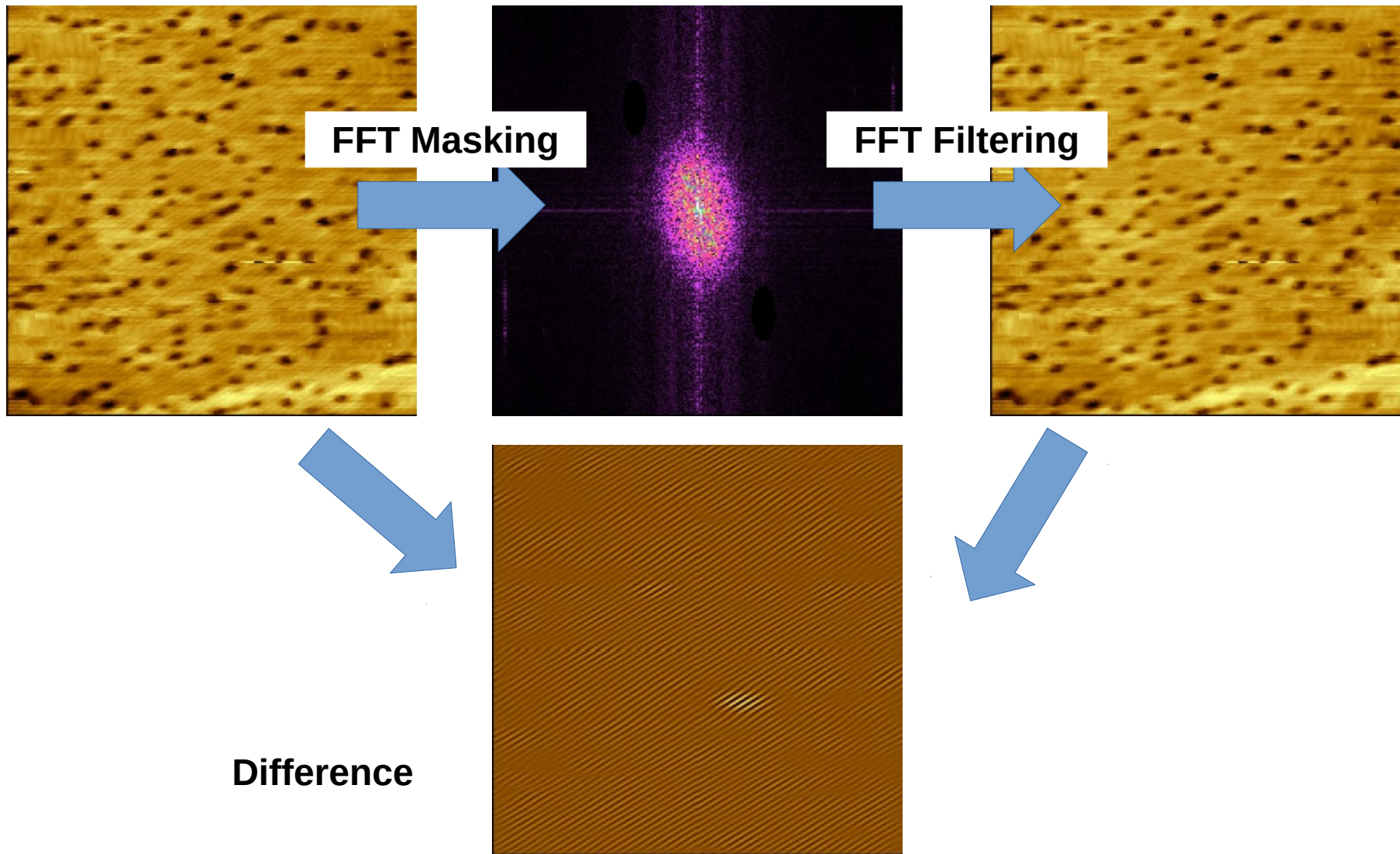


Size Distributions



Count: 1381  
Mean: 43.960  
StdDev: 32.315  
Bins: 30  
Min: 9  
Max: 150  
Mode: 15 (175)  
Bin Width: 5

# Example 05 – Advanced Filtering





# Example 06 – AFM Tip deconvolution

