

# **GPDQ Documentation**

***Release 0.0.0***

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GPDQ (Gold Particle Detection and Quantification) is a tool for the analysis of images obtained by immunogold labeling. It is written in Matlab, and provides a set of functionalities that allow:

- Managing projects and experimental series
- Automatic and semiautomatic labeling of images
- Basic image processing
- Data analysis
- Generating and exporting reports.

The Matlab APP covers the whole analysis process, and the objects and functions use a transparent representation of the information (data structures, images and csv files) so that they can be used as a complement in the work with other tools or statistical packages.

### **Requirements**

GPDQ v1.0.0 has been written on Matlab R2018b. It requires these toolboxes:

- Image Processing Toolbox (Version 10.3)
  - Parallel Computing Toolbox (Version 6.13)
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## Quickstart: GUI App

GPDQ (Gold Particle Detection and Quantification) is a tool for the analysis of images obtained by immunogold labeling. It is written in Matlab, and provides a set of functionalities that allow:

- Managing projects and experimental series
  - Automatic and semiautomatic labeling of images
  - Basic image processing
  - Analyzing data
  - Generating and exporting reports.

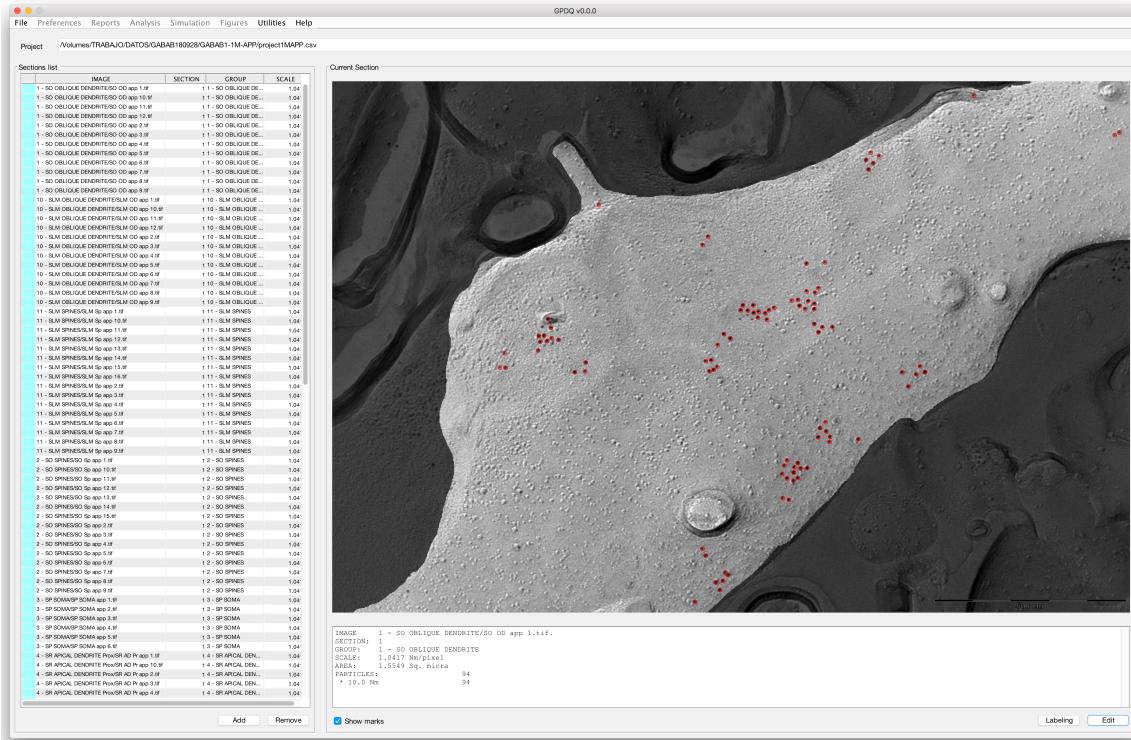


Figure 1.1. Main application for project management.

The Matlab APP covers the whole analysis process, and uses a transparent representation of the information.

tion (structures, images and csv files) so that it can be used as well as a set of objects and functions that complement the work with other tools or statistical packages.

```
project = GPDQProject.readFromFile('DATA/GABAB1-6M-WT/', 'project.csv');
report = reportNNStats(project.getProjectData(), 2);
report.save('GABAB1-6M-WT.csv');
```

## **Projects**

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Description of a project, how it is structured here we will see *Creating new projects*



### Utility Functions

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How to use each function separately *Creating new projects*

### 3.1 Creating new projects

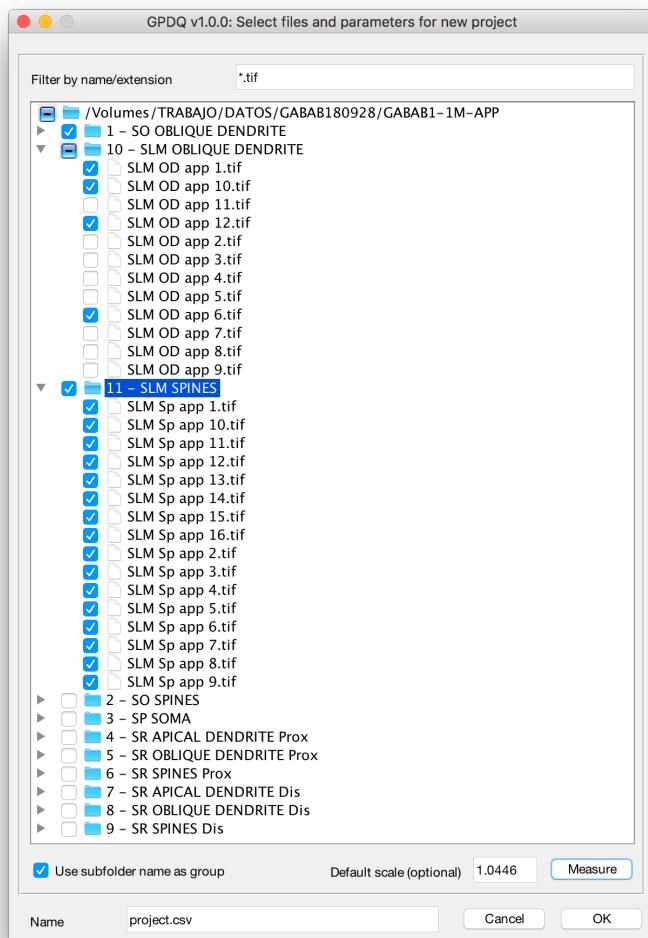


Figure 3.1. Project creation with `newProjectEdit()`.

## 3.2 Measuring scales

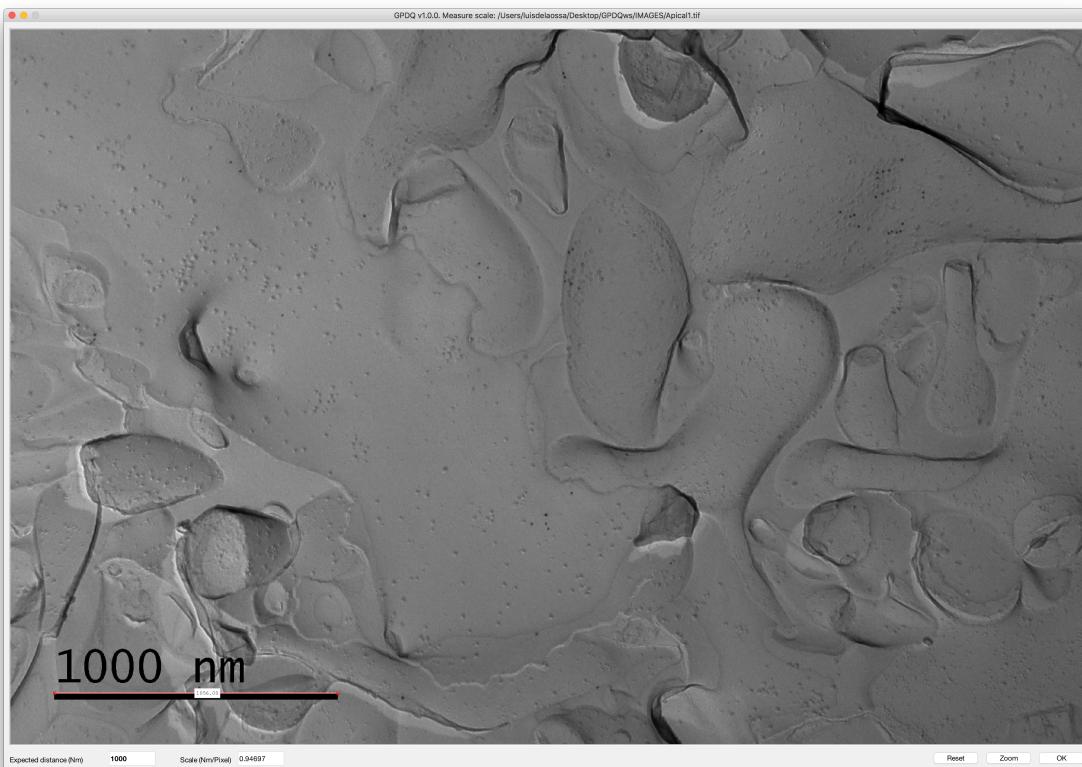


Figure 3.2. Scale measuring with `measureScale()`.

### 3.3 Editing sections

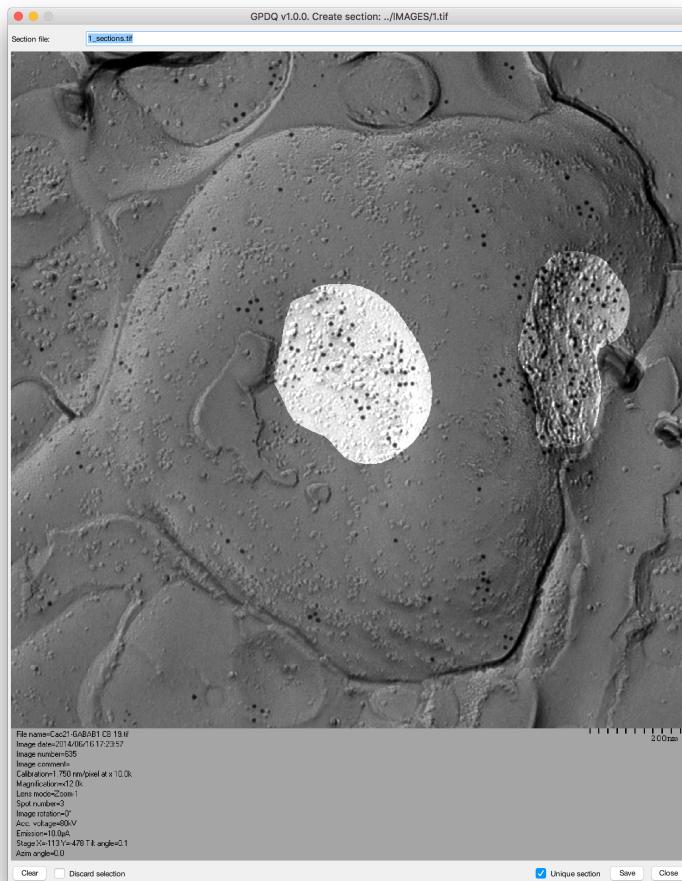


Figure 3.3. Section edition with `createSection()`.

### 3.4 Section labeling

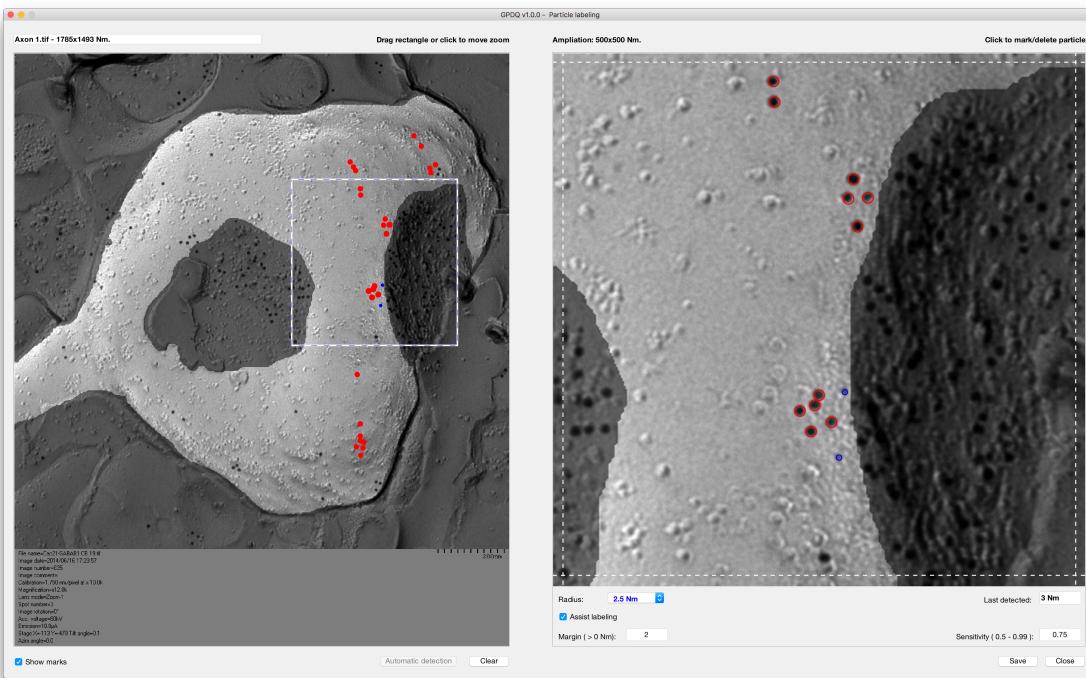


Figure 3.4. Section labeling with `sectionLabeling()`.



**Code**

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Packages



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## **Creating New Modules**

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How specific modules can be created

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### Credits

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## 6.1 MIT License

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