# MODULE: FREE MEASUREMENT

BRIEF DESCRIPTION:

Scientific research often requires very specific analyses which differ among different studies. For that need automatic calculations of the parameters are inappropriate and more detailed analyses are usually necessary. With the Free Measurement module signals are acquired for all three force components (Fy, Fy and Fx) for unlimited time period. Although Manual Markers Tool is available in the module, researchers will probably strike for the raw signal which can be easily exported to any kind of word processing software for more detailed analyses.

When the Free Measurement module opens, the existing measurements of the selected subject inside the current Visit are displayed and the user can review it (see section Analysis for details). If no measurements have yet been done for this subject, than only the option to start a new measurement is enabled. In order to begin a new measurement, click New Measurement button and select the Input Parameters to exactly define the measurement task.

When the New Measurement button is selected for the first time after entering the Free Measurement module, the force plate is initialized. After the automatic initialization process is finished, the zero offset must be done (follow the instructions on the pop-up message). The plate must be unloaded during the entire initialization and zero offset procedure. This procedure is performed every time you enter the Free Measurement module. Zero offset can be repeated any time manually by pressing the Offset button, otherwise the automatic zero offset is done every 30 minutes.

BASIC FUNCTIONS:
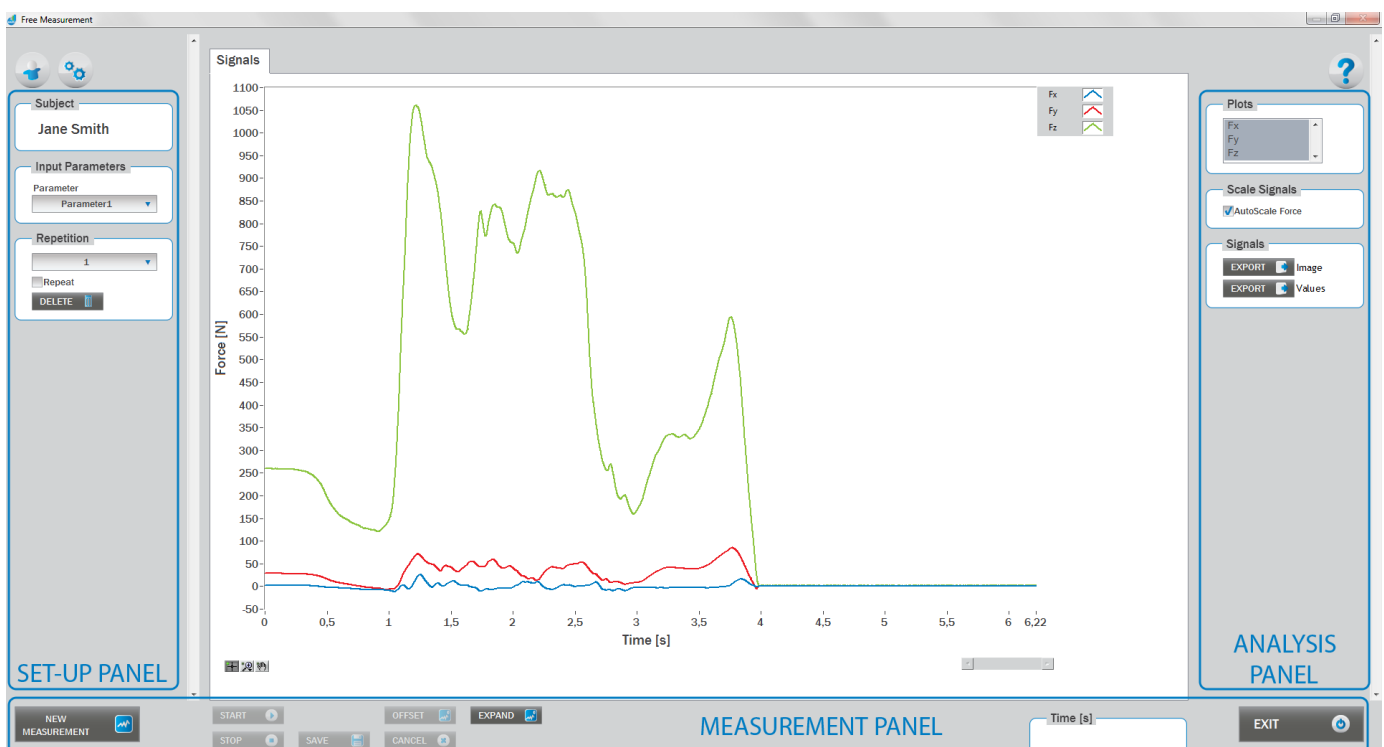
SET-UP PANEL:

SUBJECT

Name
The selected subject.

INPUT PARAMETERS

See Selecting Input Parameters section for details.

REPETITION

Repetition
Number of repetitions for the selected Input parameters.

Repeat
If checked, the selected repetition is replaced when the new measurement is performed.

Delete
Delete the selected repetition.

ANALYSIS PANEL:

PLOTS

Plots
The list of all channels. The selected channels are shown on the graph.

SCALE

AutoScale Force
If checked, the vertical scale of the graph is adapted to the maximum and minimum value of all force signals.

SIGNALS

In the Signals panel, image or values (row data) of acquired signal can be exported. Image and values can be exported with different parameters, which can be set in Settings window under export section. For details about setting the parameters refer to Settings Section.

Export Image
Export the image of signals (as visible on the graph on the Signals tab)into the clipboard. Image can be paste in any image editor.

Export Values

Export values (raw data) of signals (as visible on the graph on the Signals tab) into CSV or TXT format. Format of the file can be set in settings window under export section. For details about setting the parameters refer to Settings Section.

MEASUREMENT PANEL:

New Measurement
Starts with a new measurement.

Start
Starts the measurement.

Stop
Stops the measurement.

Save
Saves the measurement.

Cancel
Cancel the last measurement.

Offset
Makes zero offset. Note that the force platform must be unloaded during the process.

Collapse
Collapses the graph and the side panels are shown.

Expand
Expands the graph and the side panels are hidden.

Time left [s]
Time left to the end of measurement.

Exit
Closes the measurement module.

SELECTING INPUT PARAMETERS:

Before the measurement can start, the user can choose some input parameters with which the measured motor task is specifically defined. These parameters are important for further analysis, comparisons and reporting.
User defined: in the Settings panel of the main window of the software the user can define input parameters (see Settings Section for details). After doing so, the newly defined input parameter will from then on appear as an optional choice in the Free Measurement module.

MEASUREMENT:

After selecting the input parameters, the subject steps on the force plate and goes into the requested position in a way that the orientation of the body is consistent with that of the plate (i.e. +Y direction of the plate is the anterior direction). After that, click Start and the software will begin with the signal acquisition. When the measurement is completed, click Stop.

If you want to start a new measurement, click the New Measurement button and repeat the procedure. Before doing so, you can change the Input Parameters; if not, the Input Parameters of the previous measurements will be used. If you want to repeat a certain measurement, click on the drop down menu, select the repetition you want to replace and check the box Repeat. Then click Start and a pop-up window will ask you if you really want to repeat the measurement. Click OK if you want to repeat.

ANALYSIS:

Analysis enables you to check the signal of all three components of the ground reaction force. Individual components of the ground reaction force measurement can be visualized under the Signal tab. If you want to confirm the measurement, click Save. If you would like to export the calculated parameters use Export function in Result Table panel.