

# ImpLiMet – user manual

ImpLiMet provides an easy to utilize site for imputation of any dataset providing user with selection of previously proven imputation methods as well as possible information about the optimal method for their dataset for distinct missingness causes. Specific steps are provided below.

The screenshot displays the ImpLiMet v1.0 web interface. On the left is a dark sidebar with navigation links: 'Getting start', 'Download sample data', 'Analyze', 'Troubleshoot', 'Authors and citing', and 'Return to CompLiMet'. The main content area is titled 'Imputation for Lipidomics and Metabolomics' and has two tabs: 'Imputation' (active) and 'Visualization'.

**Step 1:** A checkbox labeled 'This box must be selected prior to data upload if input includes information about multiple feature measurement groups (see download sample data for information about the required input format)' is shown. An annotation points to it: 'Select If the dataset includes multiple feature measurement groups'. Below this is a file upload section with a 'Browse...' button and a text input field containing 'Input\_data\_without\_group\_info.csv'. An annotation points to the input field: 'Input file with features in columns and samples in rows (see Download sample data for details)'. An 'Upload complete' button is visible below the input field.

Below the upload section, a summary box displays: 'Total number of samples: 45', 'Total number of features: 40', 'Total number of measurement groups: 1', and 'Total number of missing values in the dataset: 21'.

**Step 2:** Two dropdown menus are shown. The first is labeled 'Remove samples with the selected % of missing values' and has 'Don't remove any samples' selected. The second is labeled 'Remove features with the selected % of missing values' and has 'Don't remove any features' selected. An annotation points to the first dropdown: 'Samples with more than selected % of missing values will be removed from imputation'. Below these is a box showing 'The sample(s) left : 45 and the feature(s) left: 40'. A 'Cleaned Data' button is located below this box.

**Step 3:** A section titled 'Select imputation method (Note: a minimum of 6 samples or 3 features without missing values is required for the full optimization option)' contains a 'Select imputation method:' dropdown with 'Optimization' selected. An annotation points to this dropdown: 'Select type of imputation. Selecting – “Optimization” will provide estimate of the best imputation method for the dataset. Optimization can be performed with either full search or fast, partial search.' Below this is a checkbox for 'full parameter search' and a 'Run IMPLIMET' button.