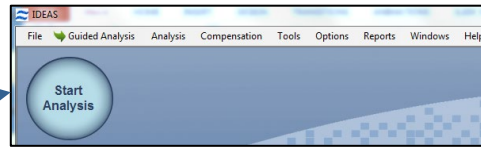# IDEAS® Software Quick Start Guide

Analysis and Data Management

The Cytek® Amnis® IDEAS® software is used to analyze data collected on the ImageStream® system. There are three types of image file: Raw Image File (.rif), Compensated Image File (.cif), and Data Analysis File (.daf). FCS files can be analyzed in IDEAS® software or third party analysis software and will contain the feature data without the images.

Opening files using the Start Analysis

1. Launch IDEAS® software.

2. Click Start Analysis, and browse for the appropriate data file. Or use "File" "Open" and choose a .rif, .cif, (skip to step 4) or .daf (skip to step 6). File extensions need to be visible in windows to know what the file type is.

3. Browse for an existing compensation matrix (.ctm file) or create a new one by clicking New Matrix and follow the steps outlined in the compensation QS guide.

4. Select an analysis template (.ast file) or a .daf with the analysis you wish to apply. If no template is chosen the default template will be used.

5. Select the active channels used in the experiment, and the Image Gallery Display properties will be applied to the images. They can be manually adjusted following the reporting QS guide.

6. Select the appropriate wizard for your application and follow the steps to completion. Basic Immunophenotyping can be done using the "Begin Analysis" wizard. Use the "feature finder" wizard if your application is not in the default list.

7. To add additional analysis use the histogram and dot plot icons in the tool bar, or select Guided analysis and choose a building block.

8. Add additional Masks as needed. (Analysis / Masks / New / Function).

9. Add additional Features as needed. (Analysis / Features / New).

10. When the analysis is complete save the data analysis file (.daf) and analysis temple (.ast) using the options in the file drop down list. This analysis can be applied to any data file following the steps above, or choosing "file" then "open" and applying the .ast and .ctm files.

11. When the wizard is complete, validate the regions by opening the control files using the saved analysis template and compensation matrix. Also verify the data in the statistics report under "reports" and "define statistics report".

12. To batch process additional files, select tools/ batch data files and refer to the Batching Multiple Files QS guide 3.

13. To report the data, right click plots or images, and chose copy to clipboard. You can then paste the data into any third party reporting software.

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To save an analysis template file:

1. From the File drop down option, Select Save As Template File (.ast).
2. Enter the name of the analysis template to save.
3. Click Save. Any file can now be opened and analyzed using this template.

To batch process data files:

1. From the Tools menu, select Batch data files.
2. Click Add Batch.
3. Click Add Files, and ctrl select all the data files in the experiment.
4. Select the compensation and analysis template to use.
5. Click OK, and when all critical batches have been added, select Submit Batch, to start the batch.

To merge Raw Image Files:

1. From the Tools menu, select Merge .rif Files. The Merge .rif Files screen appears.
2. Click Add Files, and Ctrl-select the .rif files to merge.
3. Click OK and name the file with a unique file name.
4. Click Save.

To create a new data file from populations:

1. From the Tools menu, select Create Data File from Population.
2. Check the Raw Image File (.rif) box to create a .rif file and click the browse button to select a name. Check the Compensated Image File (.cif) box to create a .cif.
3. Check the desired populations in the Select population list, and hit OK.

To Export Image and Feature Data for multiple files:

1. Under the Tools menu, select the type and format of the data to export.
2. To export Feature data, select export features, for images select export .tif Images.
3. Select the population and features to export.
4. Select Add files, and Ctrl-select the data files to export.
5. Chose the format and population of data to export (i.e. FCS), and press OK.

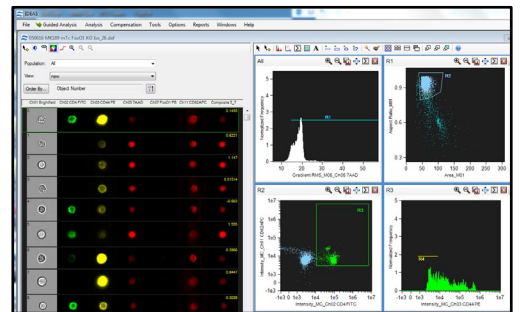**File Structure Overview (.rif, .cif, .daf)**
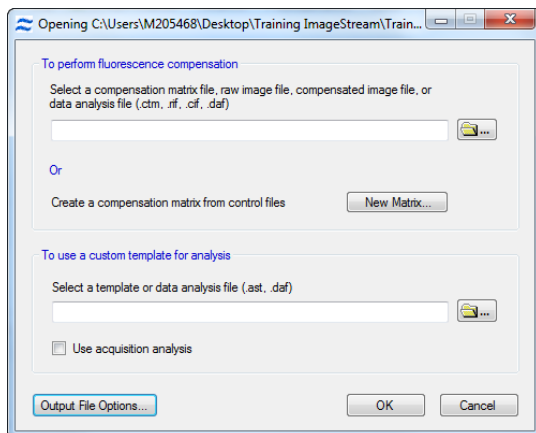
2.) Open a raw data file .rif

3.) Navigate to a compensation matrix.

4.) Navigate to an analysis template.

12.) Once analysis is validated **Batch** process experiment, and review statistics report.