USER MANUAL

This manual is supposed to show you, how to load input files, create parameter sets and run used programs (*Structure*, *Structure Harvester*, *CLUMPP* and *distruct*), in our aplication.

Structure Input File Load:

1. To load *Structure* input you need to be on the *Structure* Tab in the application. Then, as shown in Figure 1, go to **Data File → Load** … . Dialog will be openned.

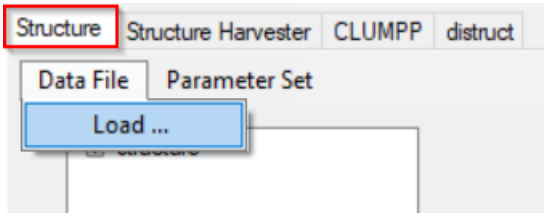

Figure 1 – Menu option, to load Structure input file

2. Dialog (Figure 2) is now openned. Go through the 4 steps to choose an input file and describe its format. If the actual format of chosen file does not match your description, it won't be loaded and you will be asked to correct mistakes in the description.

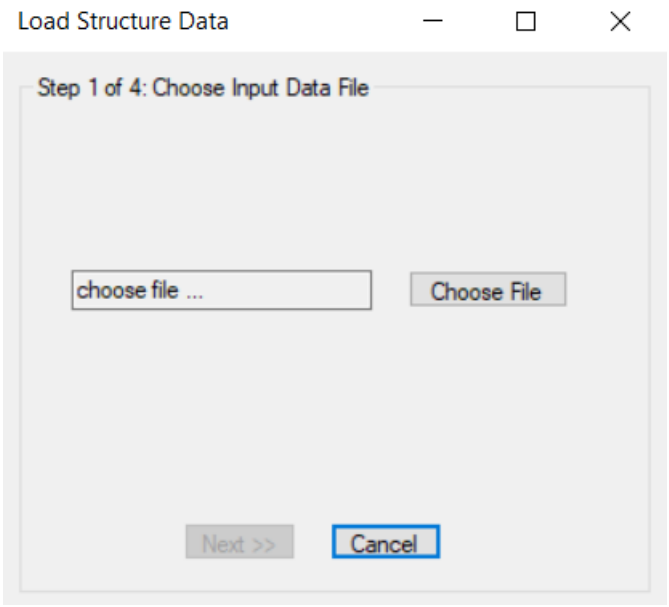

Figure 2 – Dialog for choosing and describing Structure input

3. If your format description matches the file's format, data are loaded and shown in the application. You may procceed in creating a new parameter set.

Structure Parameter Set

1. To create a new parameter set, go to **Parameter Set → Create** …, in the Structure Tab menu (shown if Figure 1). Dialog window will be openned.
2. Dialog for setting the values of parameters is openned (Figure 3). Set the desired values of parameters and namet he parameter set. Files *mainparams* and *extraparams* will be created.

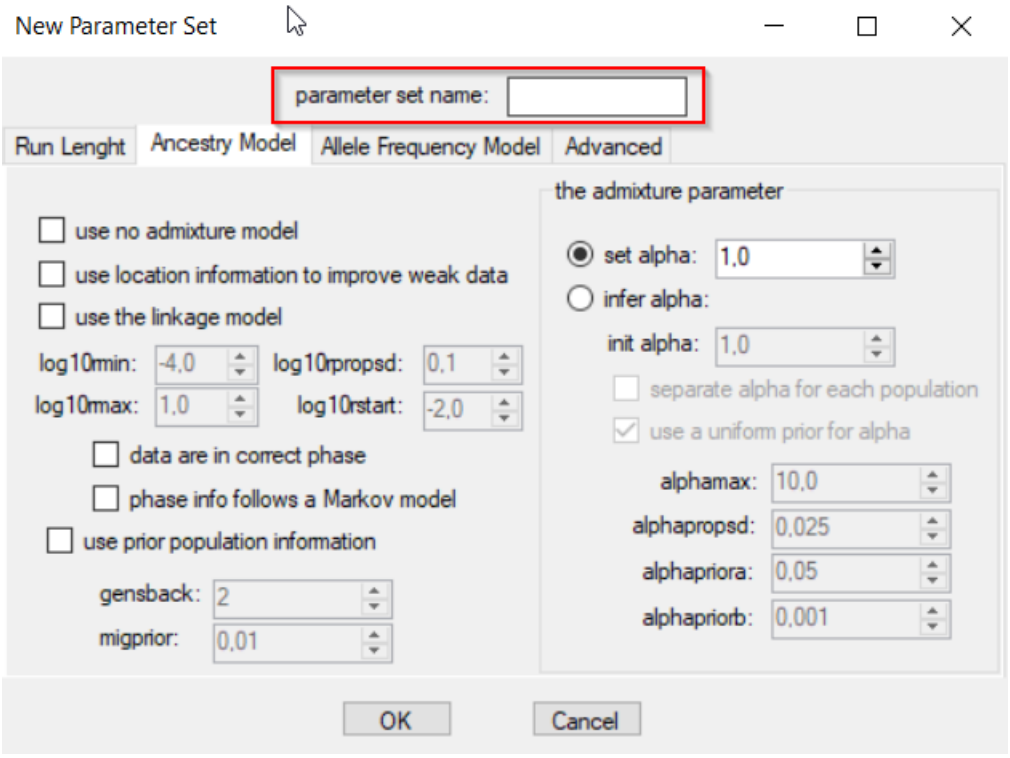

Figure 3 – Structure parameter set settings dialog

3. Directory for created parameter set is created. Files *mainparams* and *extraparams* are stored here. Results of *Structure* runs will be also saved in this folder.
4. Content of created files can be displayed in the application through a double click on a TreeView component node, as shown in Figure 4.

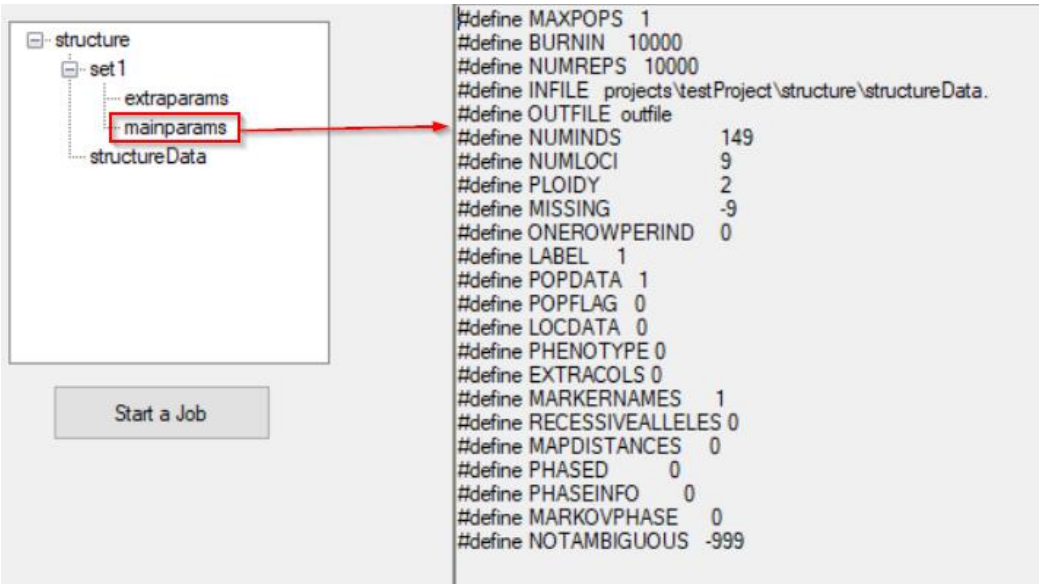

Figure 4 – File content display in the application

Structure Run:

1. After creating at least one parameter set, you can run *Structure* software. In Figure 4, you can see a „*Start a Job*“ button. If this button is clicked, dialog is openned.
2. In the dialog for *Structure* job settings (Figure 5), you have to choose a parameter set. Files *mainparams* and *extraparams* will be used as input for *Structure*. Then you choose a range of *K* values and number of interations *R* over each *K*.

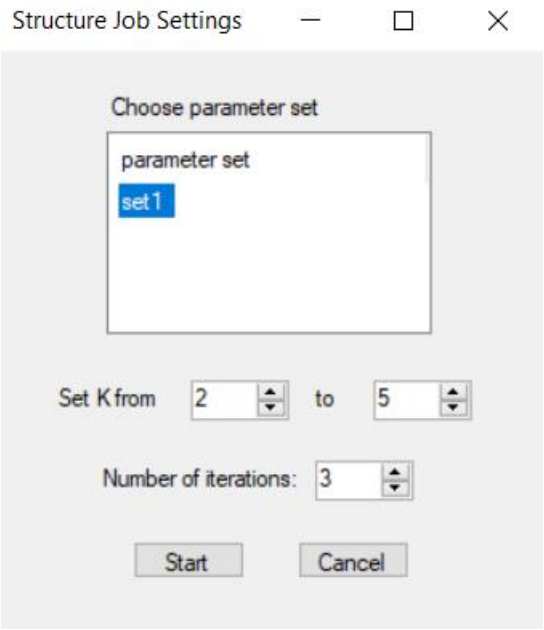

Figure 5 – Structure job settings dialog

3. After clicking Start, the dialog will be closed, and you will be informed about *Structure* job progress (Figure 6). You can not start another *Structure* job, whilst on eis in progress. But you can, for example, create new parameter sets.

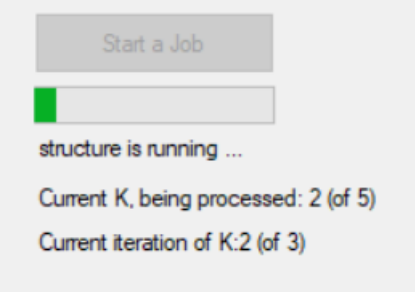

Figure 6 – Structure job in progress screen

Structure Harvester Run:

1. *Structure Harvester* analysis can be executed after a succesful *Structure* job via this application. Current version of application does not yet allow to load your own input for *Structure Harvester*.
2. So if there is at least one parameter set, created for *Structure*, for which are available results, you can start *Structure Harvester*. Figure 7 shows a *Structure Harvester* Tab in the application. First choose a parameter set (1). Then click „*Start a Job*“ button(3). After a succesful run, output files are displayed in the TreeView component (3). You can display their conter, same as in *Structure* Tab. You can also diplay graphs (4), based on Evanno results and the mean likelihoods of *K*.

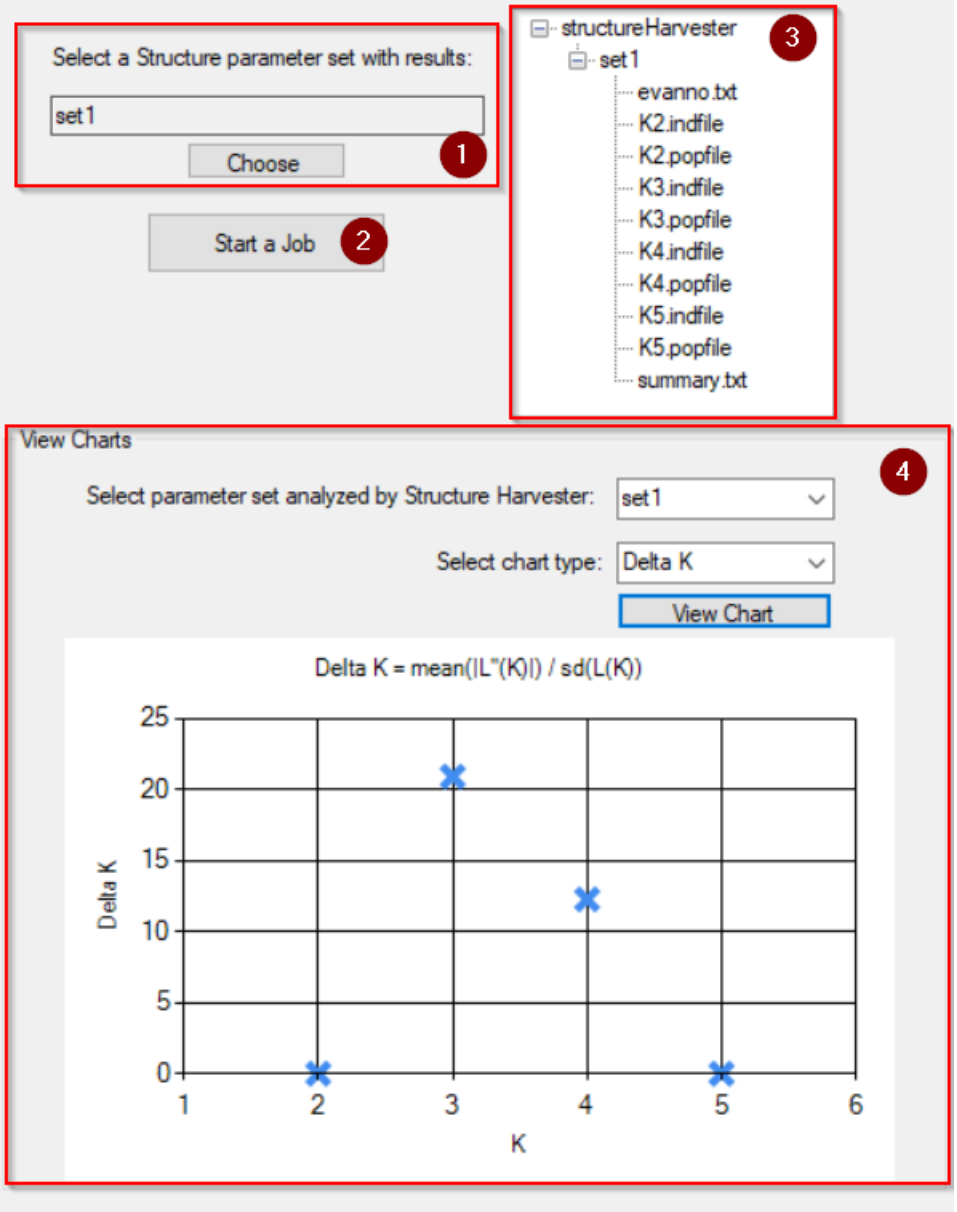

Figure 7 – Structure Harvester Tab in application

CLUMPP Parameter Set:

1. Parameter sets for *CLUMPP* can be created after a sucessful run of *Structure Harvester*. *CLUMPP* will continue with its results.
2. On the *CLUMPP* Tab in the application, go to **Paramfiles → Create** … . Choose a parameter set with *Structure Harvester* results. Then a dialog (Figure 8) will be openned.
3. Value of iterations over *K* and number of individuals are infered automatically, based on previous parameter values, set for *Structure* software.
4. After clicking „OK“ button, two parameter files are created. One with DATATYPE = 0, and one with DATATYPE = 1.

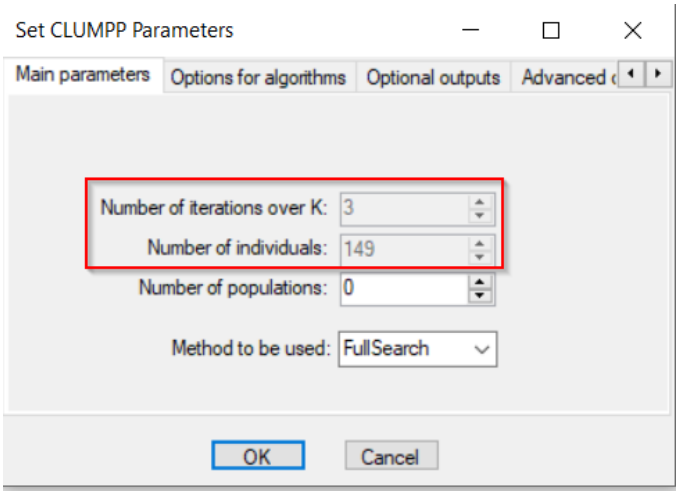

Figure 8 – CLUMPP parameter set dialog

CLUMPP Run:

1. If at least one *CLUMPP* parameter set is created, you can run *CLUMPP*. After clicking „*Start a Job*“ button, a dialog will be openned.
2. In the openned dialog (Figure 9), choose a parameter set, which paramfiles will be used as input for *CLUMPP*. Other input files ale inferred from *Structure Harvester*, based on the name of parameter set and chosen range of *K*.

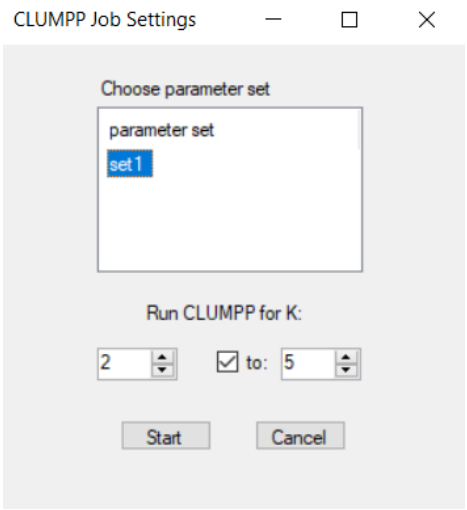

Figure 9 – CLUMPP job settings dialog

distruct Parameter Set:

1. Parameter sets for *distruct* can be created after a sucessful run of *CLUMPP*. *distruct* will continue with its results.
2. On the *distruct* Tab in the application, go to **Drawparams → Create** … . Choose a parameter set with *CLUMPP* results. Then a dialog (Figure 10) will be openned.
3. Numbers of pre-defined populations and individuals are infered automatically, based on previous parameter values, set for *Structure* and *CLUMPP*.
4. For each cluster *K* of chosen range will be created one parameters file *drawparams*.

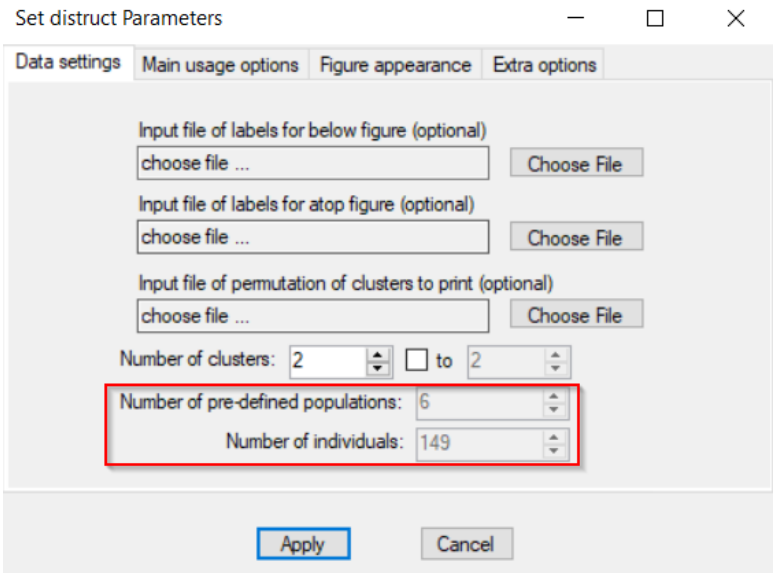

Figure 10 – distruct paramset dialog

distruct Run:

Same process as for *CLUMPP* run.
After a successful *distruct* job, you can convert output files of PostScript format to PDF. Just choose a file in the TreeView component and click „*Convert .ps to .pdf*“ (as shown in figure 11).

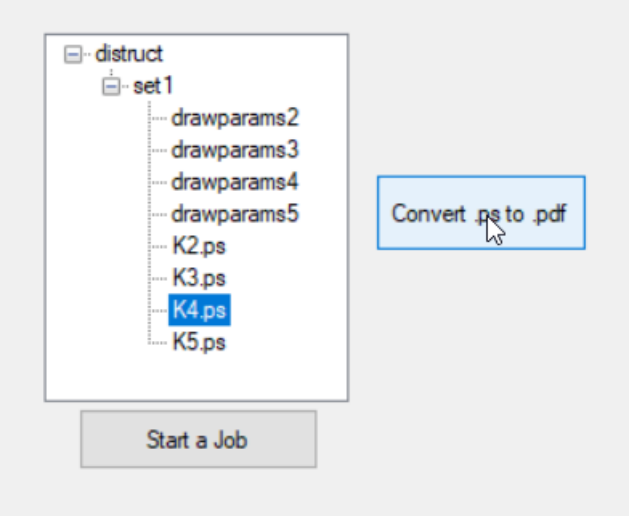

Figure 11 – PostScript to PDF conversion