

User manual for remote EyeLink data analysis

These steps are for Windows operating systems only.

They encompass 2 main tasks you might want to do for your analysis:

- 1- Connect remotely and manage the software as for the Remote Desktop connection of Windows
- 2- Transfer your data files to the EyeLink PC so that you can analyze them and backup the results on your PC.

WARNING: the use of the EyeLink data analysis PC requires a booking of the resource in Calpendo (<https://bbl.calpendo.com/#calendar>). If you don't have any Calpendo account, please contact Rémi Neveu (remi.neveu@unige.ch). In case of conflict between a user who has booked the resource in Calpendo and another one who didn't, the user who has booked the resource in Calpendo will have the priority to use the PC. Note that your PC can be blacklisted in case of misuse of the EyeLink data analysis PC which will then block any of your attempts to run the analyses. Note also that you cannot switch off the PC.

NOTE: the use of the EyeLink data analysis PC can be performed only from PCs connected to the university network.

Remote connection to the EyeLink PC

Note that the Windows Remote desktop will not work as the Data Viewer software used for the data analysis will open as a demo version with limited number of trials. You cannot use Teamviewer as the use of this software in the context of a professional activity that provides you a salary or a diploma is not allowed. You will use TightVNC instead.

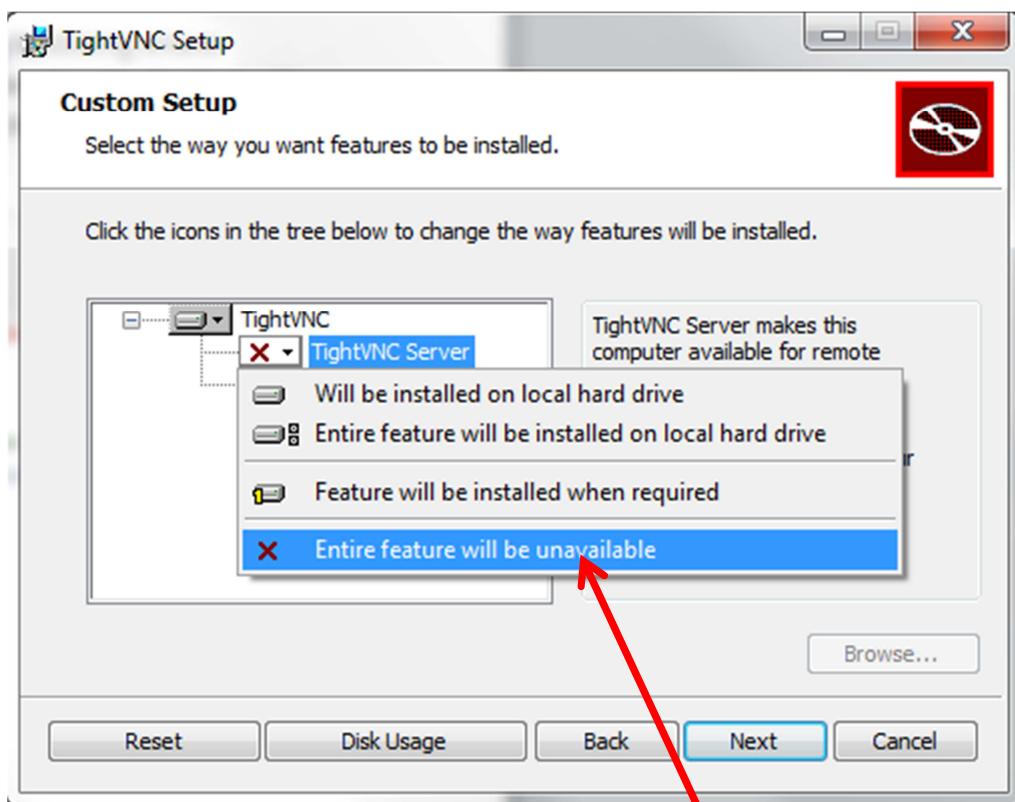
Steps to be performed for installing and running TightVNC:

- 1- Download TightVNC from <http://www.tightvnc.com/download.php> by clicking where indicated below (if you are running a Windws 32 bits operating system (can be checked with right click on "Computer" and then on "Properties"), be carefull of choosing the installer for Windows 32 bits) :

The screenshot shows the TightVNC download page. At the top, there's a logo and a button labeled "Download TightVNC". Below that, a green bar states "Free, Lightweight, Fast and Reliable Remote Control / Remote Desktop Software". A red arrow points to the "Installer for Windows (32-bit)" link under the "Download TightVNC for Windows (Version 2.7.10)" section. At the bottom of the page, there are links for "Remote Desktop SDK" and "Integrate desktop sharing in your software!".

The screenshot continues from the previous one, showing the "Download TightVNC for Windows (Version 2.7.10)" section. The "Installer for Windows (64-bit)" link is now highlighted with a red arrow. Below it, there's a note about running on any version of Windows and a link to "more details here". Further down, there's a section for "TightVNC Java Viewer (Version 2.7.2)" with a note about Java support and a link to "more details here".

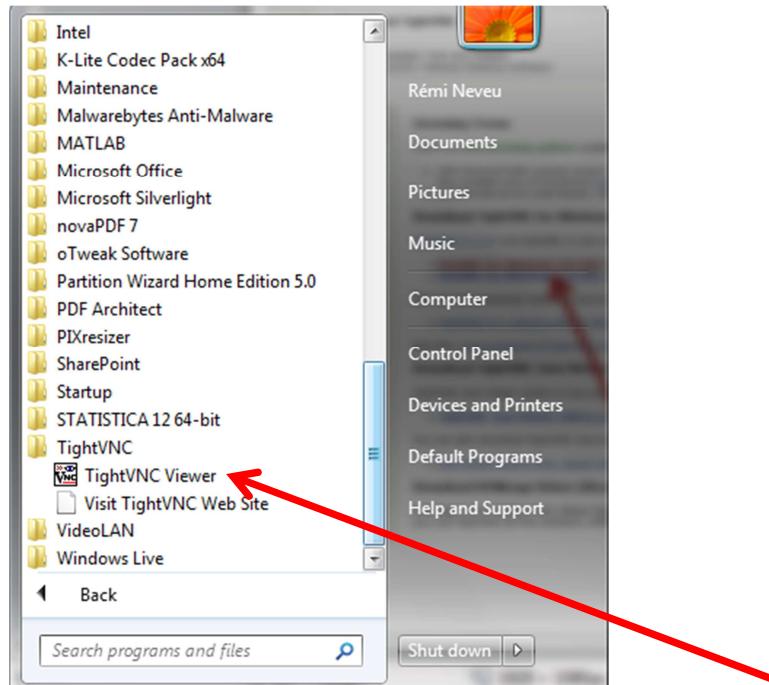
- 2- Run by double clicking the tightvnc-2.7.10-setup-64bit.msi file
- 3- In the Setup Wizard, click “Next”, then accept the license terms (tick the box and click “Next”, then click on “Custom”, then click on “TightVNCServer” and in the menu, select “Entire feature will be unavailable”



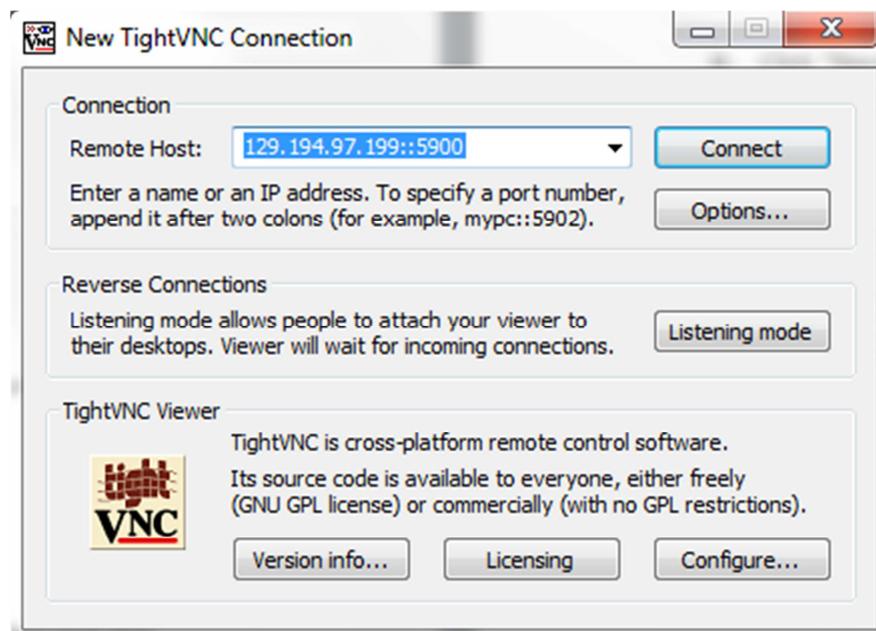
- 4- Click “Next” twice and then “Install”
- 5- Wait for the Install shield wizard to finish and click “Finish”

By now you have successfully installed TightVNC viewer.

To connect remotely to the PC for running EyeLink analyses with DataViewer software, launch TightVNC Viewer (can be found in the start button of Windows 7->all programs->TightVNC



A pop-up window will ask you to provide an IP address (129.194.97.82) and a port (5900). Fulfill as following (be careful of putting two : between the IP address and the port number):



You will then be asked to provide a password. Please contact Rémi Neveu (remi.neveu@unige.ch) to get the password.

Finally, you will be directly logged into the user account EyeLink analysis. If not, select this account and contact Rémi Neveu (remi.neveu@unige.ch) to get the password.

The DataViewer software is located on the desktop. The folders “LABNIC”, “NCCR”, “CISA”, “FPSE” and “OTHERS” are dedicated to receive your files during your analyses.

Transfer of files between your PC and the EyeLink analysis PC

To do so, you'll use the WinSCP program that will run SFTP protocol.

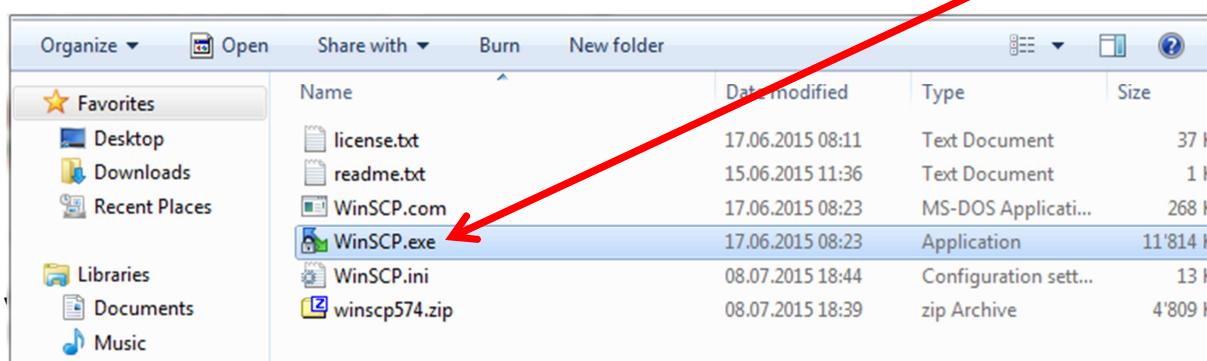
Steps to be performed for installing and running WinSCP:

- 1- Download WinSCP from <https://winscp.net/eng/download.php> by clicking on “Portable executable” :

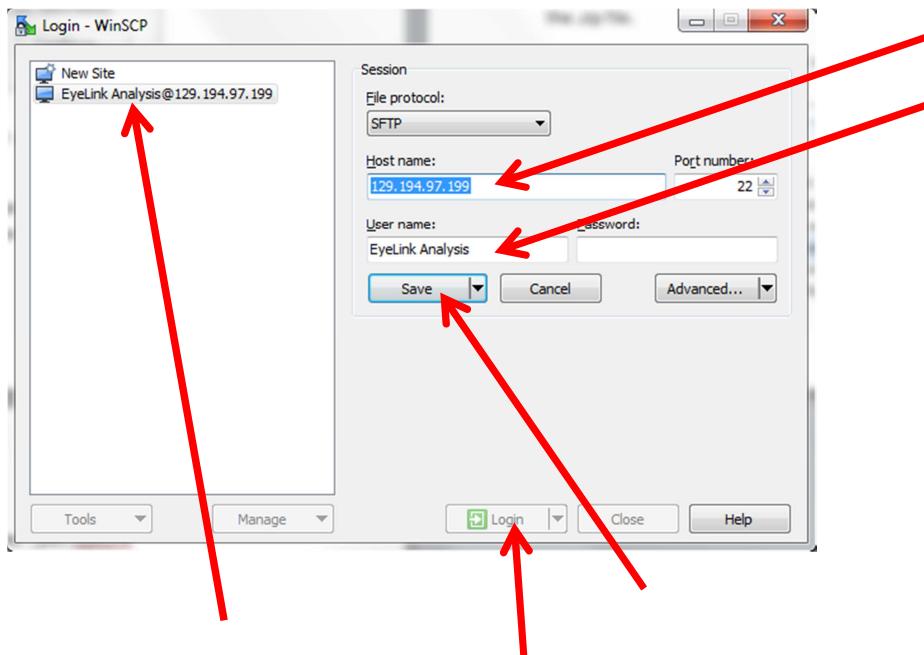
The screenshot shows the WinSCP Downloads page. At the top, there's a navigation bar with links like File, Edit, View, Favorites, Tools, Help, News, Introduction, SSH Client, SFTP Client, FTP Client, Download, Install, Donate, Documentation, Guides, F.A.Q., Scripting, .NET & COM Library, Screenshots, Translations, Support, Forum, Tracker, and History. Below the navigation bar, there's a section titled "WinSCP Downloads" with links for [Download WinSCP], [WinSCP Release Notification], and [Download PuTTY]. A banner for "MIVITA - DIE ZUSATZVERSICHERUNG, DIE SICH DEN LEBENSPHASEN ANPASST" is displayed. Under the "Download WinSCP" heading, there are four download options: Installation package (5.5 MiB; 362,856 downloads to date), Portable executables (4.7 MiB; 63,835 downloads to date), .NET assembly / COM library (4.6 MiB; 3,165 downloads to date), and Source code (8.8 MiB; 1,642 downloads to date). A red arrow points to the "Portable executables" link.

You will be redirected to the sourceforge.com website. After a couple of seconds, your browser will ask you if you want to save the file. Click on “Save as” and select the folder where you want to save the .zip file.

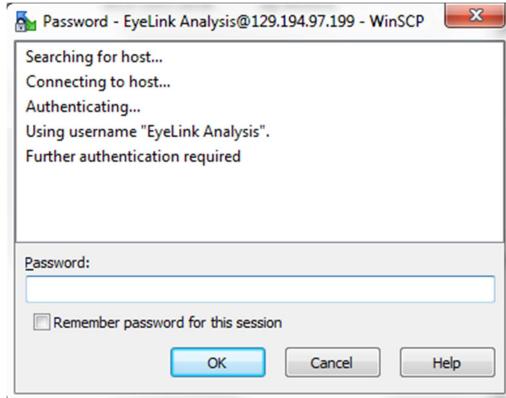
- 2- Unzip the downloaded file and double click on WinSCP.exe



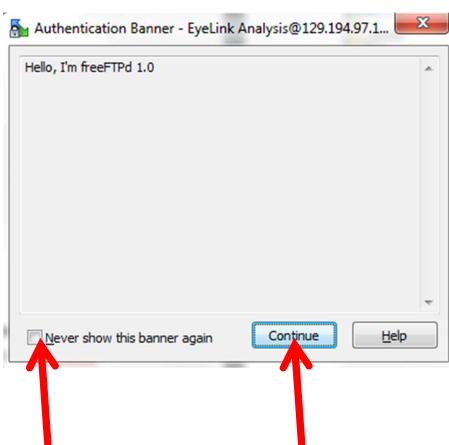
- 3- Set the parameters for the session. In the field “host name”, put: 129.194.103.158; and in the field “User name”: EyeLink Analysis. There is a space between “EyeLink” and “Analysis” and it is case sensitive. Leave Port number set to 22.



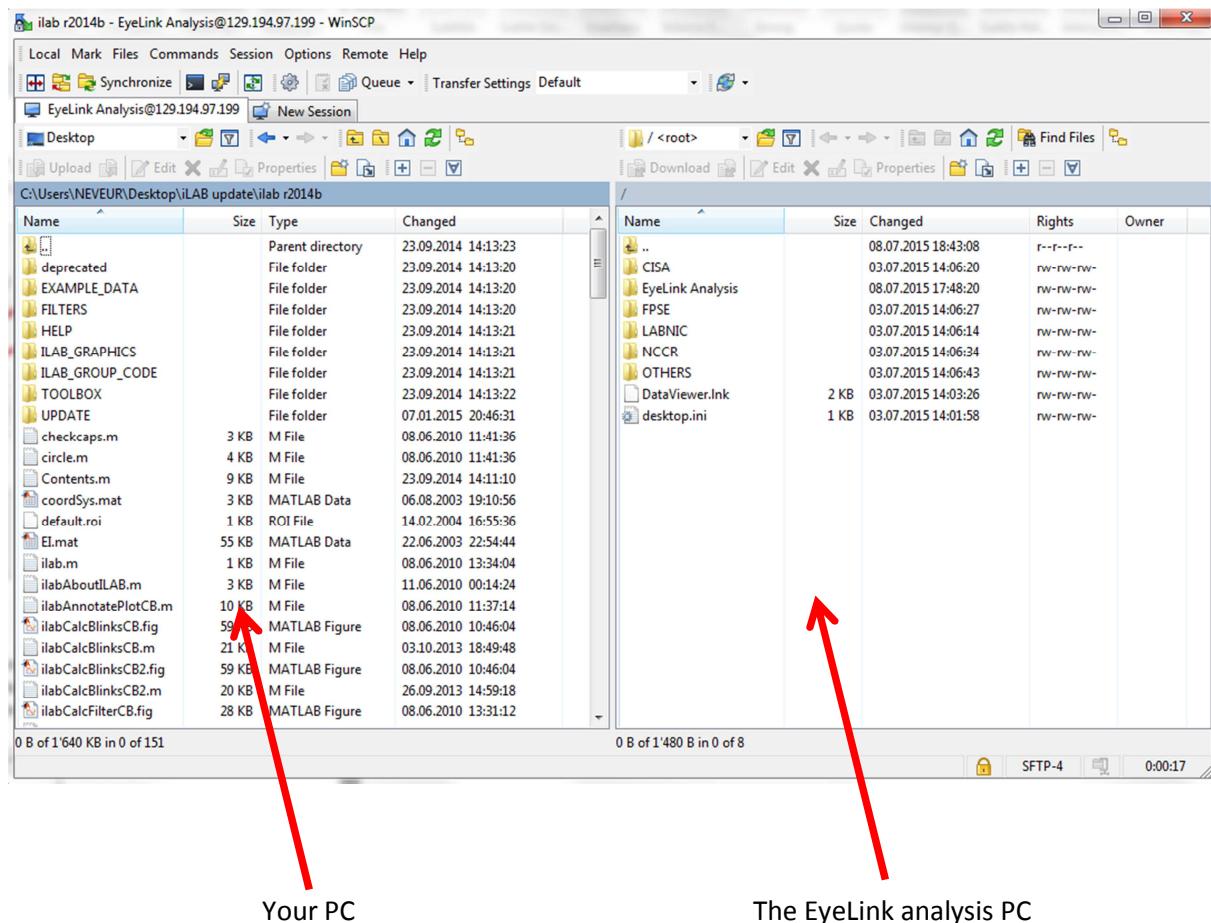
- 4- Click on “Save”. It is not mandatory to put the password here. You will be asked to enter it at each new connection (except if you save it on the PC with the session which is not recommended).
 5- Your session has been defined in the left panel of the window. Select it and click on “Login”.
 6- Provide the password. Please contact Rémi Neveu (remi.neveu@unige.ch) to get the password.



- 7- Tick the box and click on “Continue”



You are now able to drag and drop folders and files from your PC to the eyeLink analysis PC:

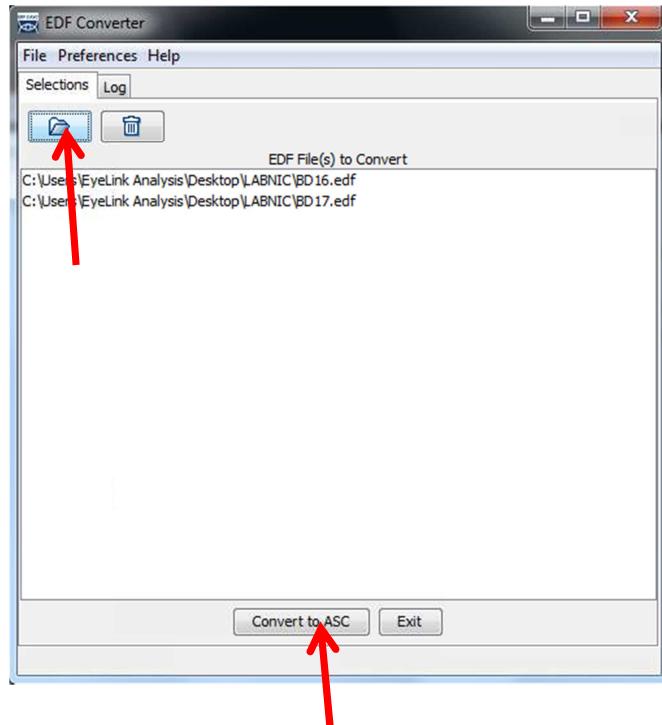


Converting EyeLink files

The raw files provided by EyeLink are in .edf format. You can convert these files into a .asc format that can be imported into excel or Matlab. However, note that this file won't include the saccade, fixation and blink extractions. Moreover, you don't need to convert files if you want to analyze them with the DataViewer software.

To convert a file:

- 1- Open edfconverter from the Desktop
- 2- Select all the .edf files you want to convert after clicking on the folder icon.
- 3- Click on “Convert to ASC”. The converted files will be written at the same location as the .edf files.



For loading the file in excel, note that Excel 2007 and later versions are limited to one million lines while Excel 2003 and earlier are limited to 65000 lines. You might then lose data in Excel if your experiment was substantially long.

WARNING: excel display/analysis of converted files must not be carried out on the EyeLink data analysis PC.

Analyzing EyeLink .edf files

WARNING: you must exit the software once you are done otherwise the following user might overwrite your data space. You also have folders on the desktop (LABNIC, CISA, NCCR, FPSE, OTHERS) where you can create your own folder for storing files and analysis output during your use of the PC).

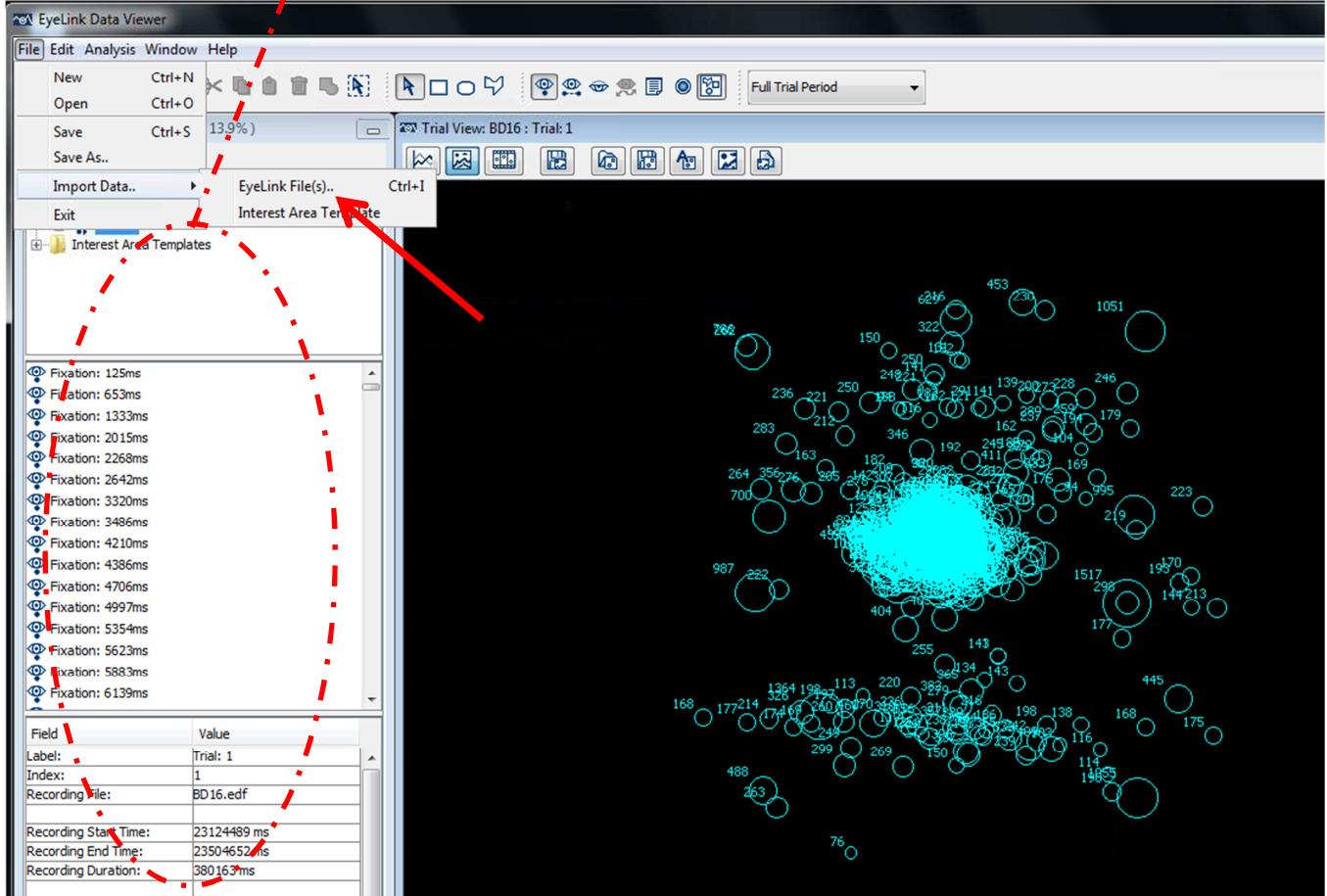
NOTE: The analysis of .edf files doesn't provide you any p-values or statistical comparisons between conditions or participants. It only allows you to extract a set of parameters (saccade characteristics, fixation characteristics and so on) for your trials for each participant. It generates then an excel files with these parameters and it is then up to you to rearrange and analyze from a statistical point of view the extracted parameters. The pdf version of the user manual of the software is available on the desktop as well as in Help->PDF Manual.

One file can be performed at each time which means that if you have 20 files (for 20 participants), you'll have to repeat the operation 20 times.

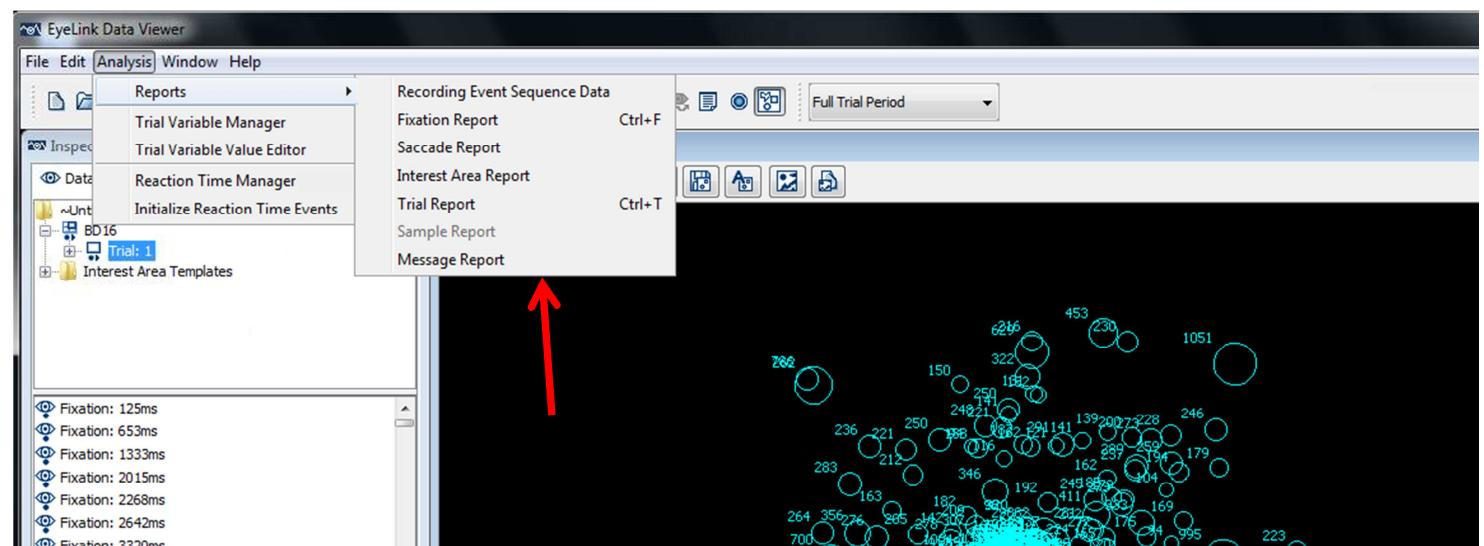
To extract parameters for one file:

- 1- Open the DataViewer software from the desktop
- 2- Click on File->Import data->EyeLink files

Data space



- 3- Click on Analysis->Report and select the type of event you want to report (Fixation, Saccade...). Note that "Message" refers to the triggers you have sent with the experiment PC.



- 4- The window that appears will ask you to select the parameters you want to report. The description of the parameters is available in the user manual in Help->PDF Manual. You can copy the PDF manual on your PC.
- 5- Once you have selected the parameters you want to report, click on “Next”. You will then be asked to provide the name of the excel file that is going to be written.

