

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

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The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 1: Create a New Database

Double click on the BioNumerics shortcut



Database	Create new database	Last accessed	Comment
clonaggi geni target met...	o EURL	2012-01-24 18:15	
conedera			
corso PD			
Demo2D			
Demobase 2D		2012-11-27 17:12	
DemoBase Connecte			
DemoBase			
E coli EQA		2014-04-18 13:04	
E. coli O157		2012-12-03 15:27	
E. coli PT13		2014-06-04 16:07	
E. coli vir factors			
E.coli Cipro			
E.coli O157			
E.coli_PT11			
ECDC			
ECOLI NEW test-rename		2014-04-18 12:03	
ECOLI NEW			

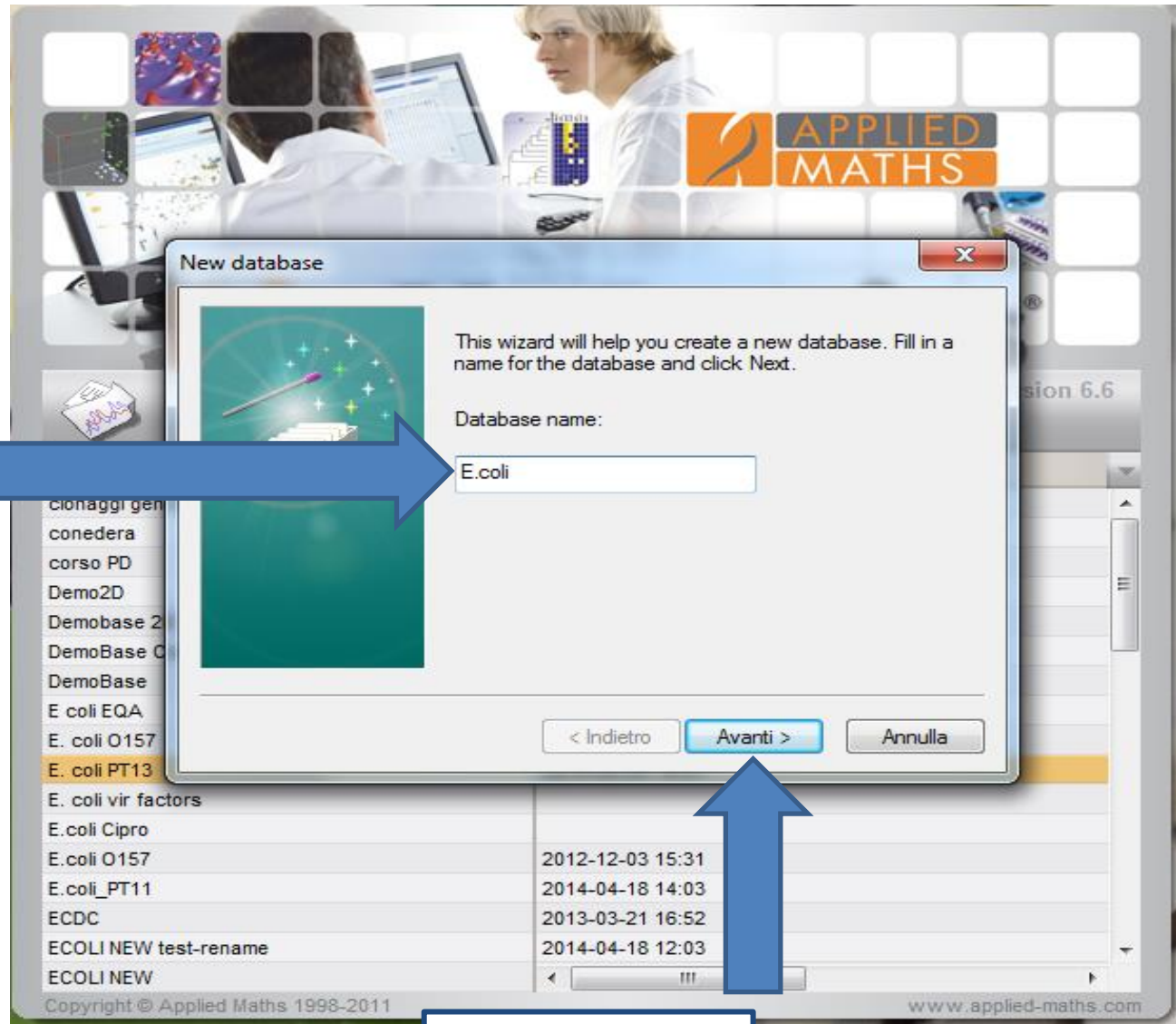
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Click "Create new database"

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Step 1: Create a New Database

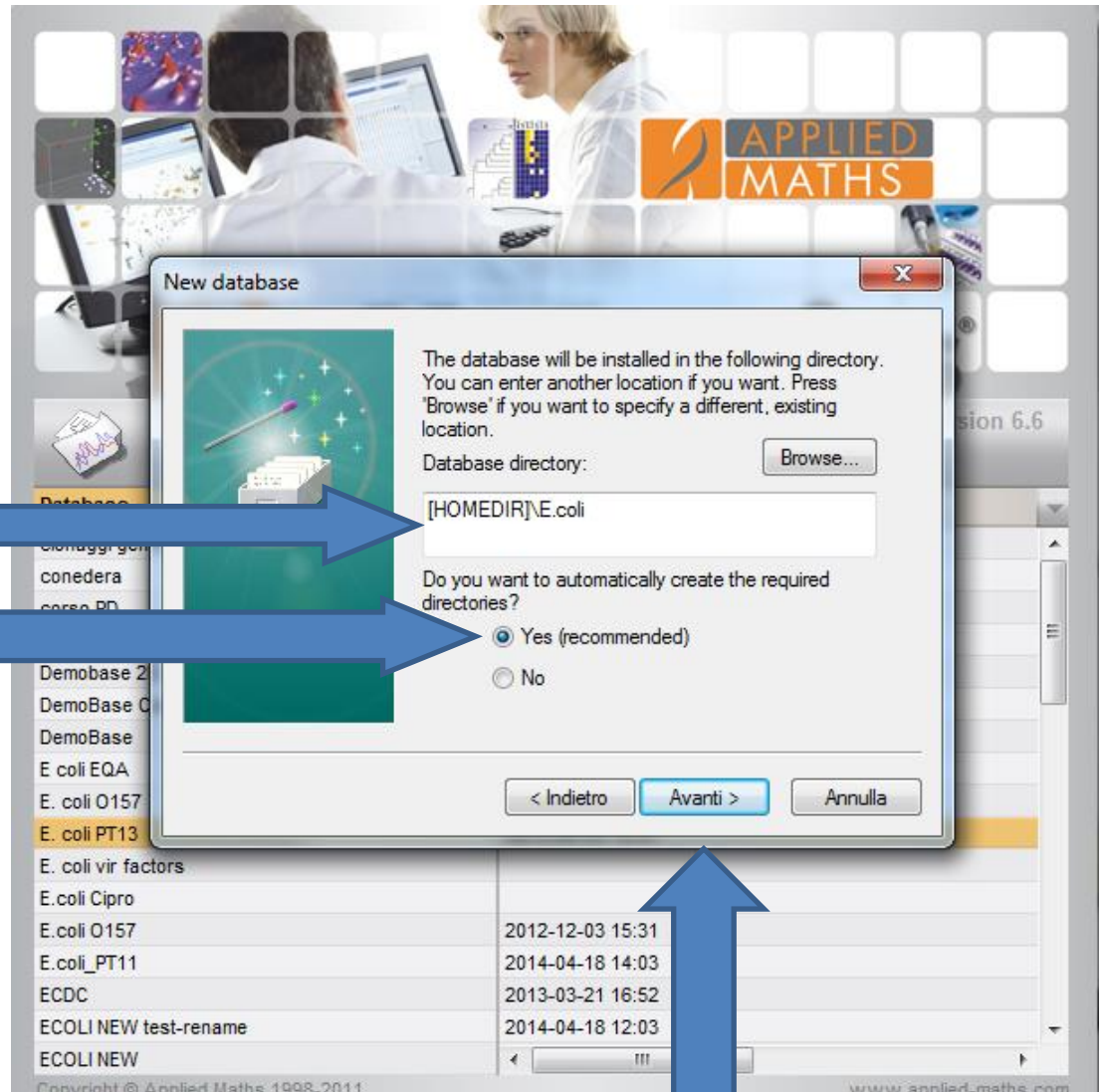
Type in the name for your new database: E.coli



Click "Next"

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Step 1: Create a New Database



Select the default directory

Keep the default at "Yes"

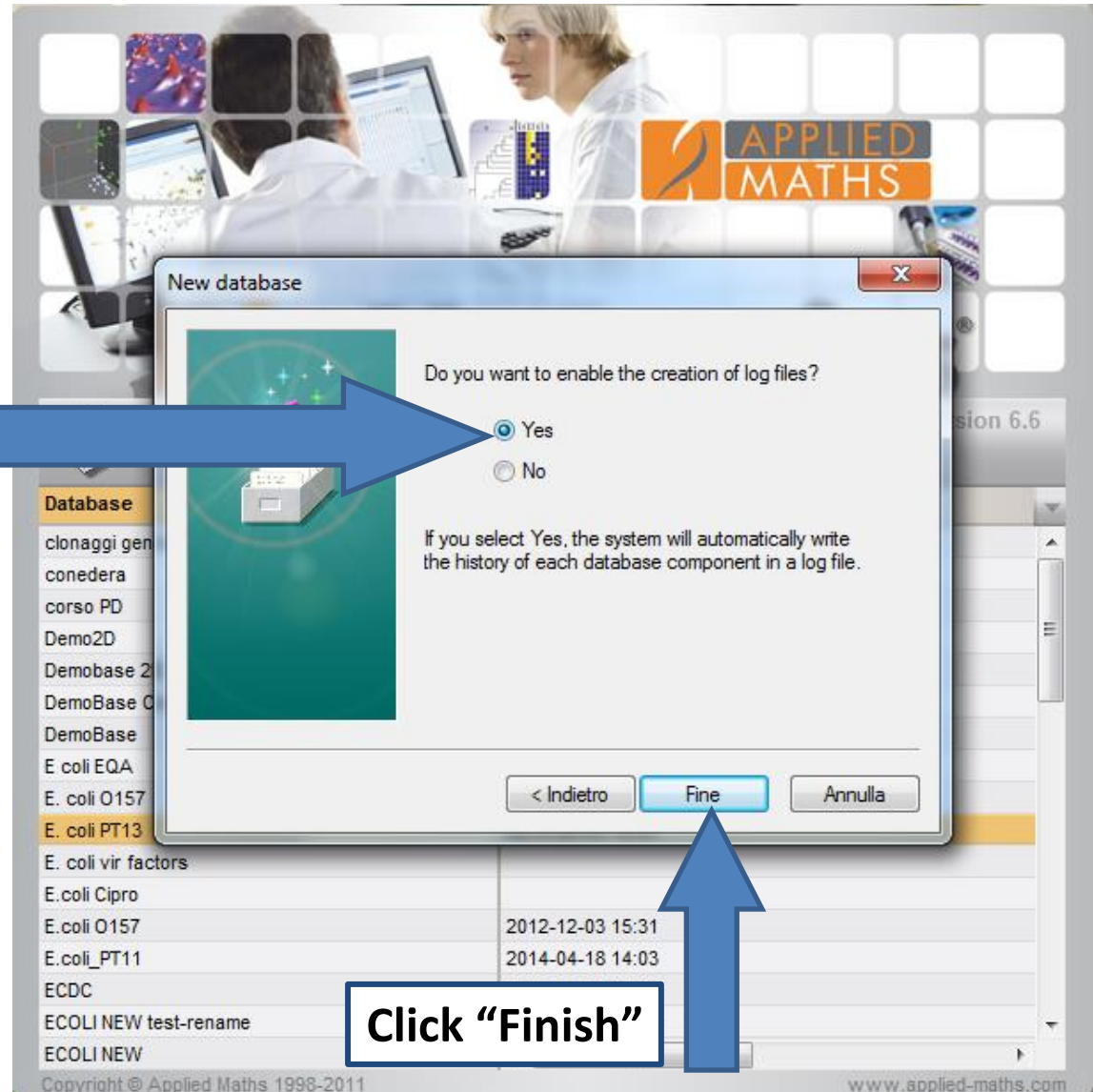
Mind the directory where you want to place your database(s)

Click "Next"

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Step 1: Create a New Database

Change to "Yes"



Click "Finish"

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Step 1: Create a New Database

Setup new database

Database type:

- New connected database (automatically created)
- New connected database (custom created)
- Existing connected database
- Local database (single user only)

ODBC connection string: Build...

Database type

- Access®
- SQL Server®
- Oracle®
- MySQL®

Store fingerprints in database

Store sequence trace files in database

Proceed

Make your choice

Click «proceed»

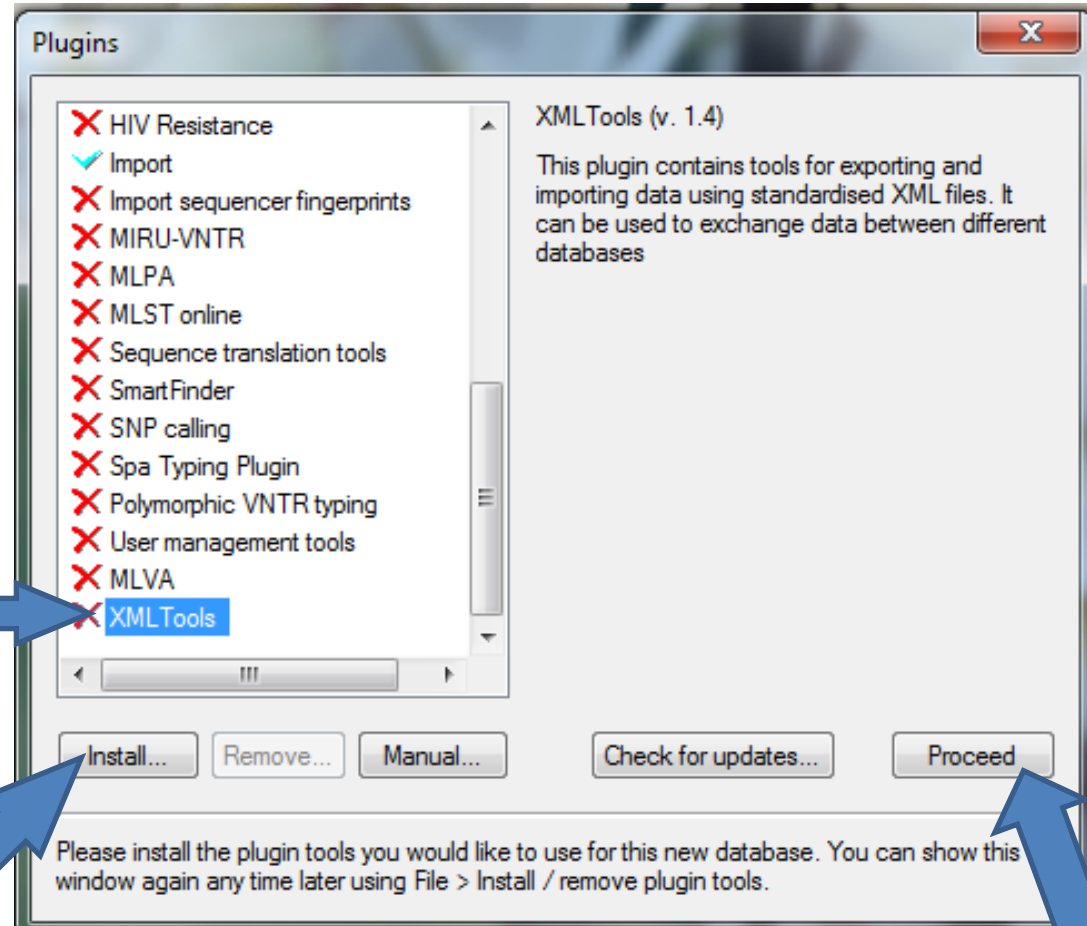
This may depend on the way you have BN installed (network or local)

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Step 1: Create a New Database

Plug-ins offer additional functionality, such as importing and exporting various types of data

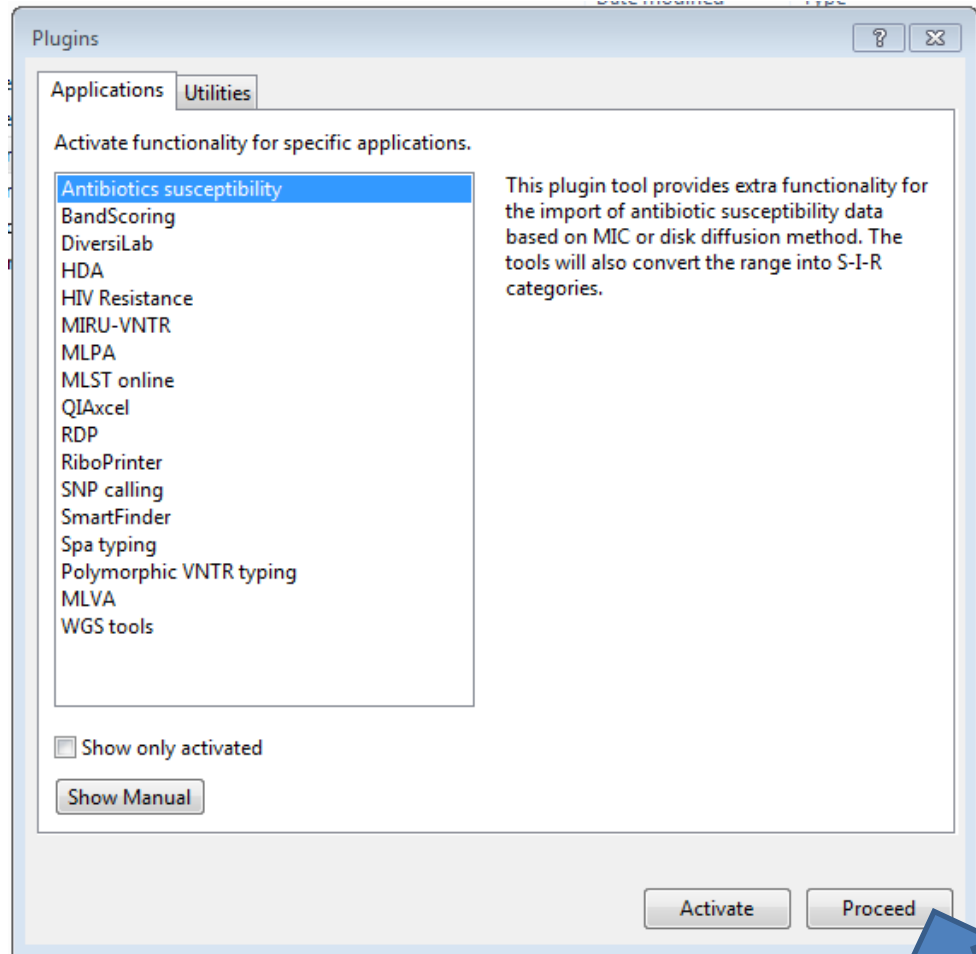
Choose XML Tools Plug-in, and click “Install,” then “Proceed”



The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

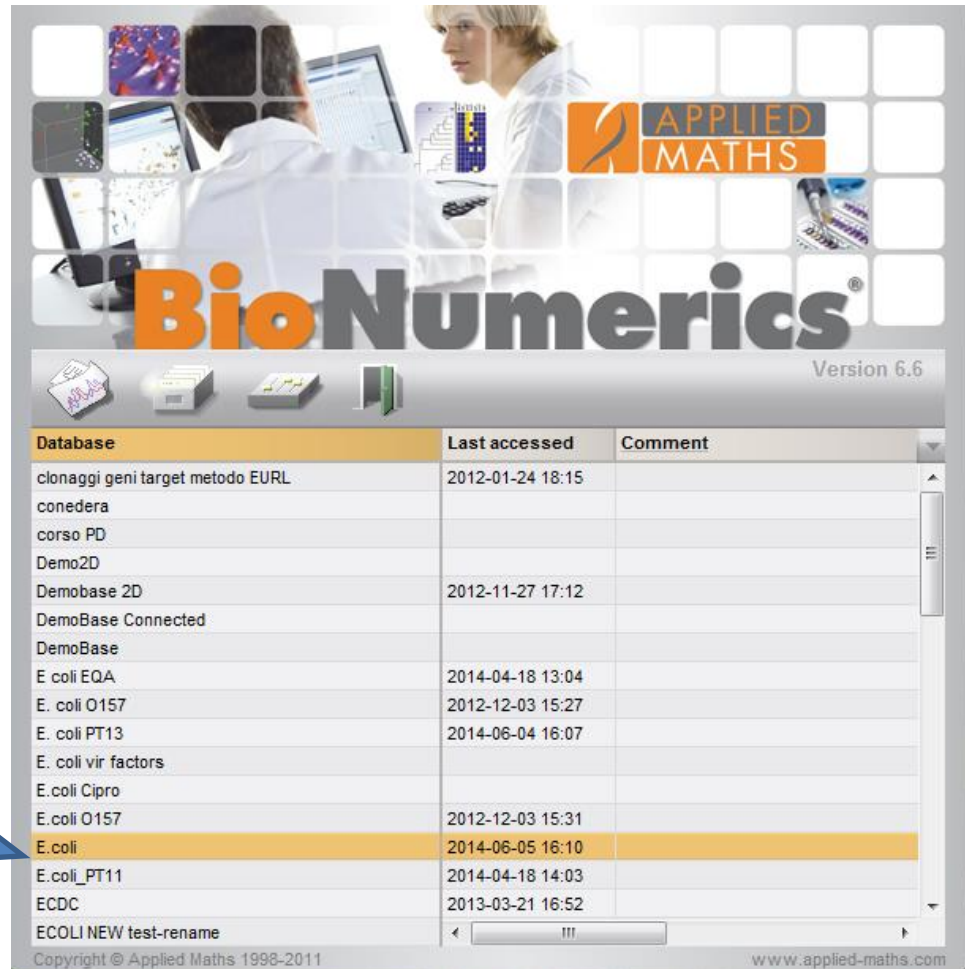
Step 1: Create a New Database

“XML-tools”
(import/export)
already available



The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 1: Create a New Database



The screenshot displays the BioNumerics software interface. At the top, there is a header with the 'APPLIED MATHS' logo and the 'BioNumerics' title. Below the header, there is a table listing various databases. The table has three columns: 'Database', 'Last accessed', and 'Comment'. The 'E.coli' entry is highlighted in yellow, and a blue arrow points to it from a text box on the left. The table contains the following data:

Database	Last accessed	Comment
clonaggi geni target metodo EURL	2012-01-24 18:15	
conedera		
corso PD		
Demo2D		
Demobase 2D	2012-11-27 17:12	
DemoBase Connected		
DemoBase		
E coli EQA	2014-04-18 13:04	
E. coli O157	2012-12-03 15:27	
E. coli PT13	2014-06-04 16:07	
E. coli vir factors		
E.coli Cipro		
E.coli O157	2012-12-03 15:31	
E.coli	2014-06-05 16:10	
E.coli_PT11	2014-04-18 14:03	
ECDC	2013-03-21 16:52	
ECOLI NEW test-rename		

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Note that your newly created database is listed

Mind the “logical” naming of the various databases

Step 2: Experiment type

Database entries

Key

Experiments

Name	Type
------	------

Experiments Entry relations

Files

Name	Created	Modified	Location
------	---------	----------	----------

Comparisons

Name	Created	Modified	Location
------	---------	----------	----------

Comparisons Libraries Decision Networks

Alignments

Name	Created	Modified
------	---------	----------

Alignments Chromosome comparisons Annotations Power assemblies

Database: E.coli (connected, _DefaultUser_) Entries: Loaded=0, View=0, Selected=0 | 0 experiments C:\Users\maugliani_antonella\Documents\BioNumerics\Data\E.coli

IN THE "EXPERIMENT" PANEL SELECT THE FLASK AND CREATE THE NEW EXPERIMENT TYPE...

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Step 2: Experiment type

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Test new database Salmonella - BioNumerics

File Edit Database Analysis Scripts Window Help

Database entries

Experiment types

Key Level Modified date

Experiment types Entry fields

Fingerprint files

File name Experiment type Link Modified date Source

Comparisons

Name Modified date Level Number of entries

Database entries Database design

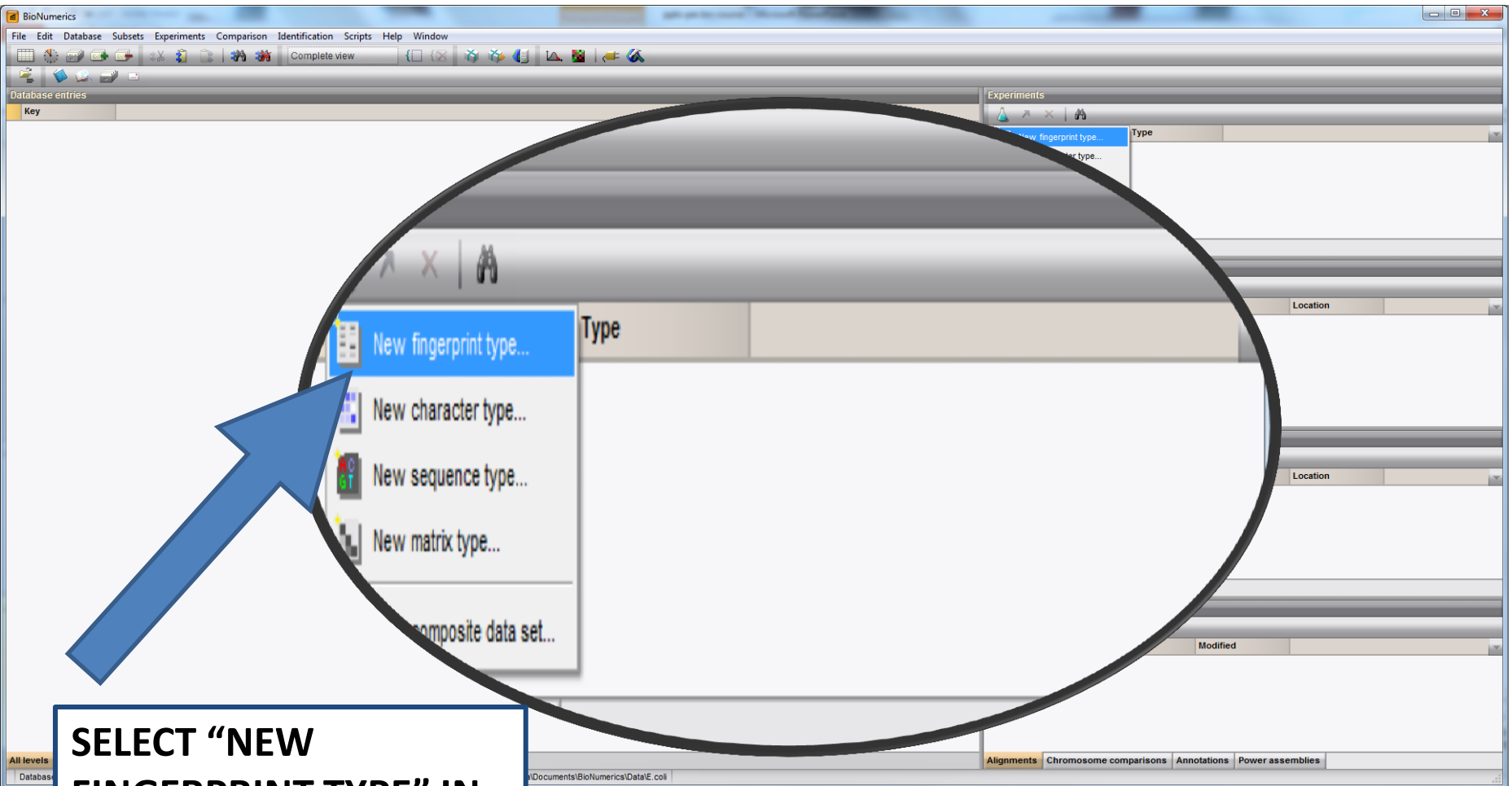
Database: Test new database Salmonella (_DefaultUser_) Entries: Loaded=0, View=0, Selected=0 0 experiments R:\Projecten\E114506 EURL Salmonella\PFGE\BN Databases Salmonella\Test new database Salmonella

Slide 12 of 21 "Tema di Office" Dutch (Netherlands) 53% 17:10 3-7-2016

IN THE "EXPERIMENT" PANEL SELECT THE PLUS AND CREATE THE NEW EXPERIMENT TYPE...

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Step 2: Experiment type



The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 2: Experiment type

The screenshot displays the BioNumerics software interface. A central dialog box titled "New fingerprint type" is open. It features a wizard icon on the left and instructional text on the right: "This wizard will help you create a new fingerprint type. Fill in a name for the fingerprint type and click Next." Below the text is a text input field containing "PFGE_XbaI". At the bottom of the dialog are three buttons: "< Indietro", "Avanti >", and "Annulla". A blue arrow points upwards to the "Avanti >" button. To the right of the dialog, a white callout box with a blue border contains the text: "WRITE THE NAME OF THE FINGERPRINT TYPE (USUALLY: PFGE_NAME OF THE RESTR.ENZ. XbaI)". The background shows the BioNumerics main window with various panels like "Database entries", "Experiments", and "Comparisons".

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 2: Experiment type

LET THE DEFAULT OPTIONS

New fingerprint type

What kind of fingerprint data do you have?

- Two-dimensional TIFF files
- Densitometric curves

What is the dynamic range of the scan?

- 8-bit (256 values)
- 12-bit (4096 values)
- 16-bit (65536 values)

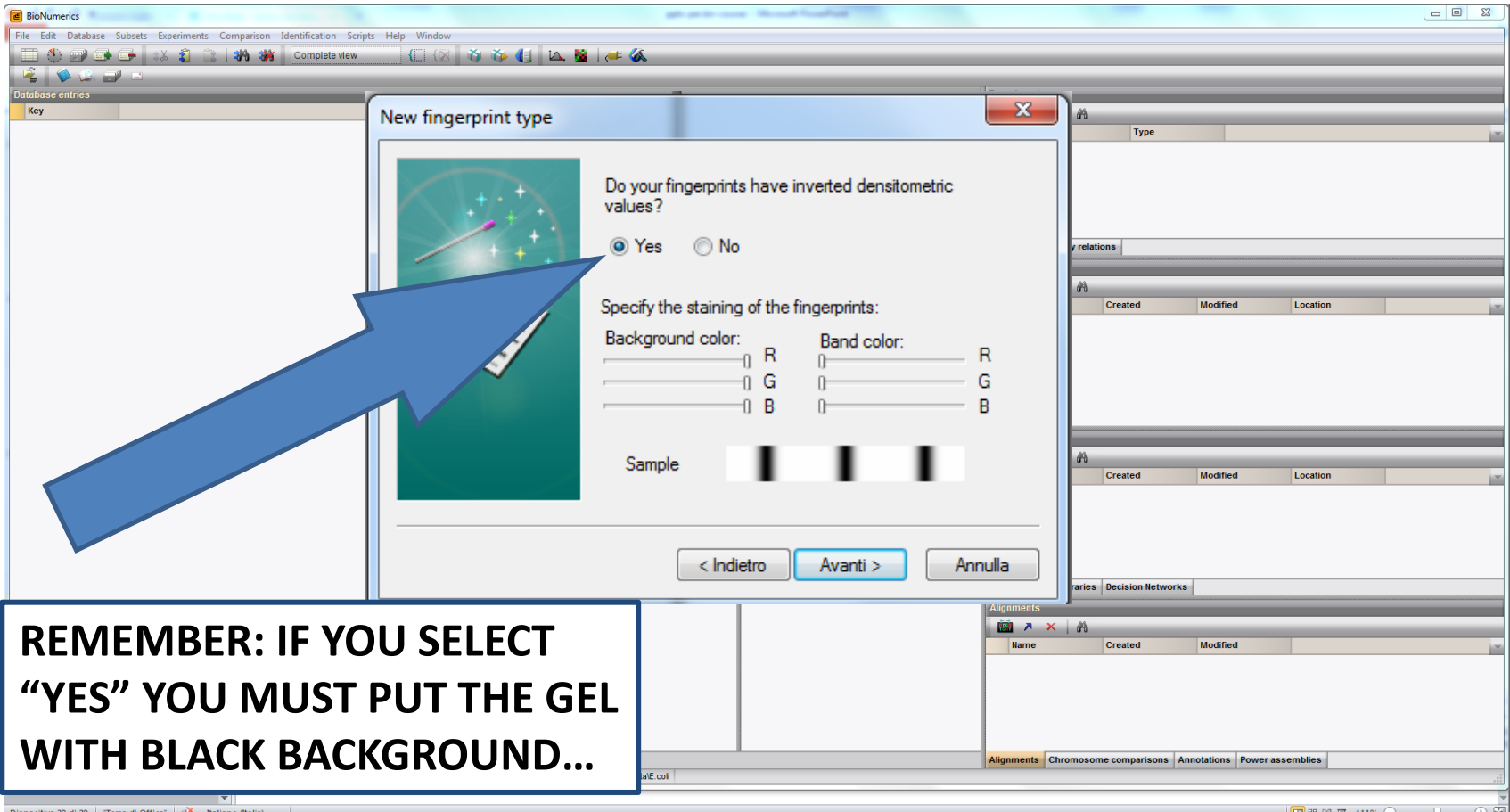
< Indietro **Avanti >** Annulla

Database: E.coli (connected_DefaultUser_) | Entries: Loaded=0, View=0, Selected=0 | 0 experiments | C:\Users\maugliani_anttonella\Documents\BioNumerics\Data\E.coli

Chromosome comparisons Annotations Power assemblies

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 2: Experiment type




Do your fingerprints have inverted densitometric values?

Yes No

Specify the staining of the fingerprints:

Background color: _____ R _____ G _____ B

Band color: _____ R _____ G _____ B

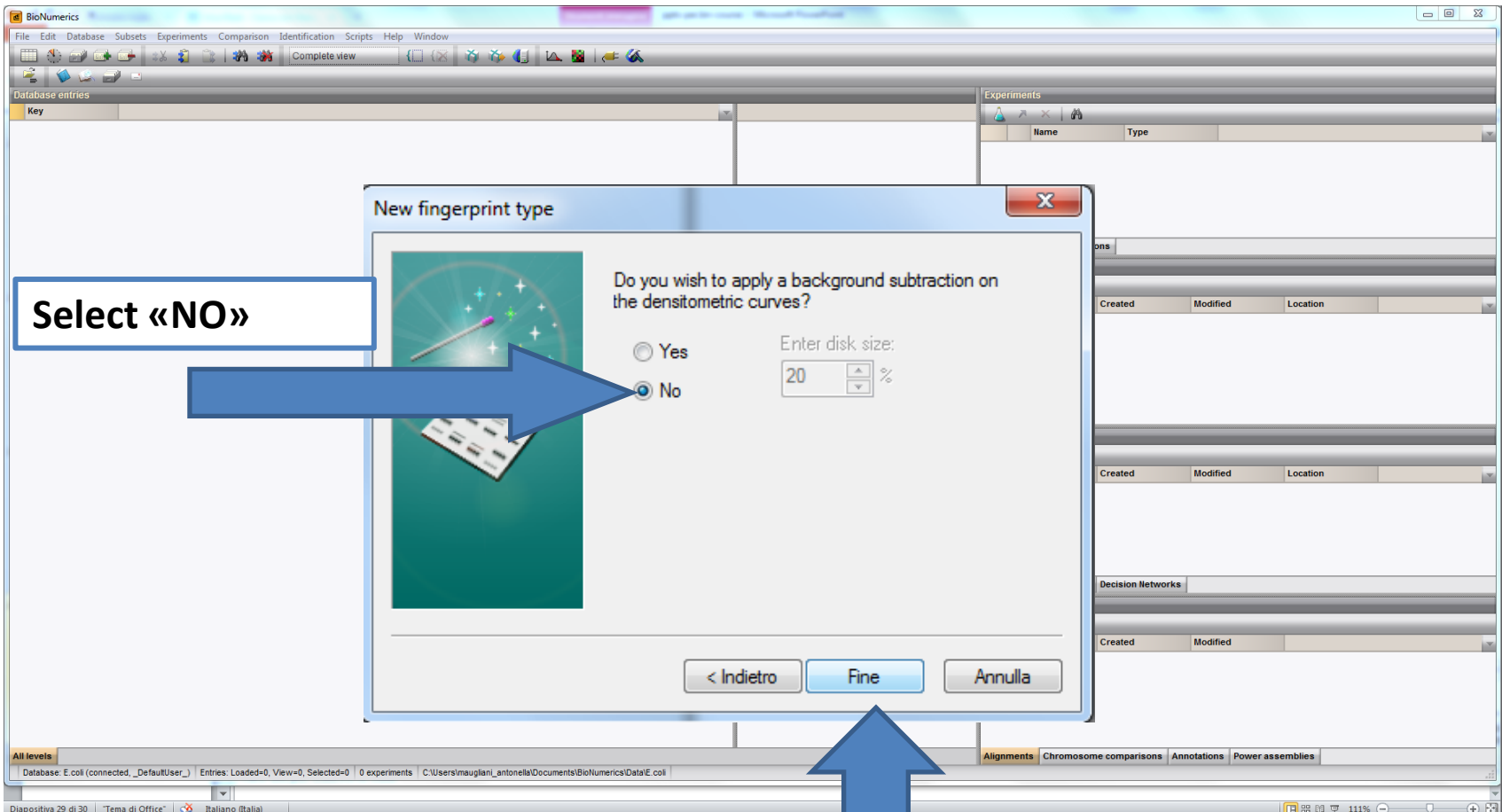
Sample 

< Indietro Avanti > Annulla

REMEMBER: IF YOU SELECT "YES" YOU MUST PUT THE GEL WITH BLACK BACKGROUND...

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 2: Experiment type

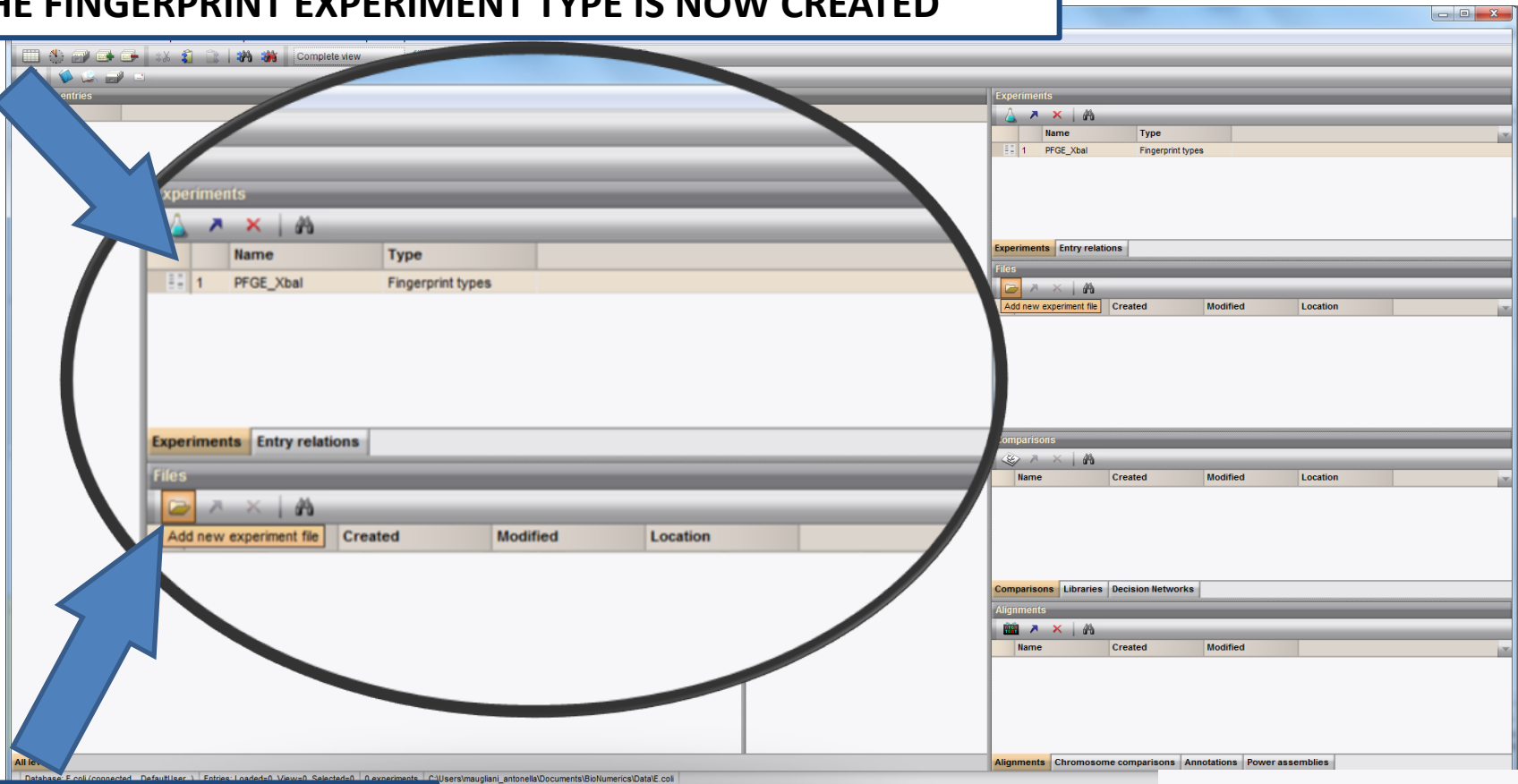


The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 2-3 : Experiment type – import TIFF files

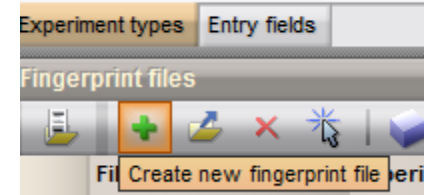
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THE FINGERPRINT EXPERIMENT TYPE IS NOW CREATED



CLICK ON "ADD NEW EXPERIMENT FILE"

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The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 3: Importing TIFF files...

SELECT THE TIFF IMAGE OF THE GEL FROM THE SOURCE FOLDER AND CLICK "OPEN"

Nome file: DPCF0801geI52

Bitmap files

Apri Annulla

Name	Type
1 PFGE_Xbal	Fingerprint types

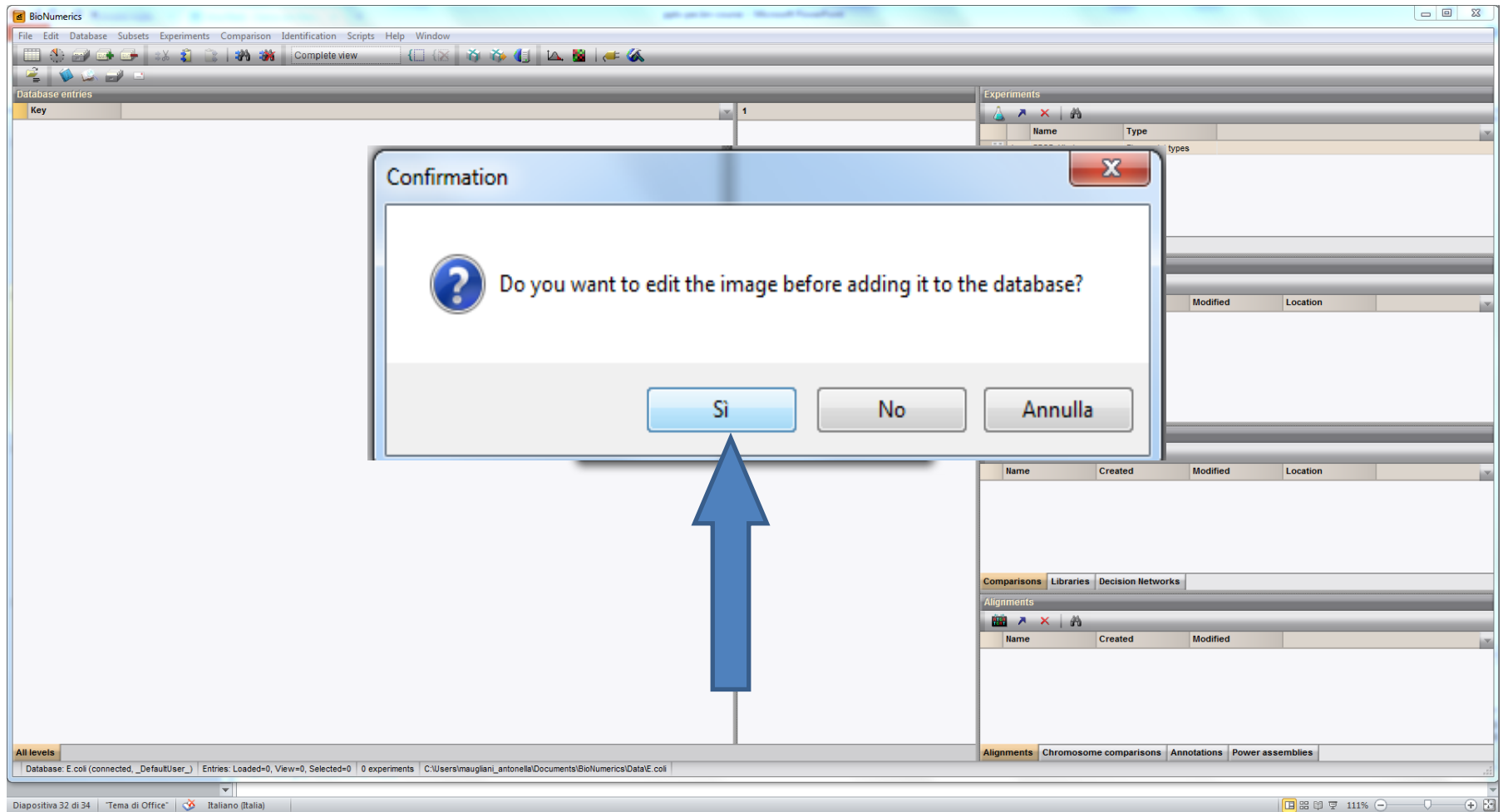
Name	Created	Modified	Location
------	---------	----------	----------

Name	Created	Modified
------	---------	----------

Name	Created	Modified
------	---------	----------

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 3: Importing TIFF files



The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

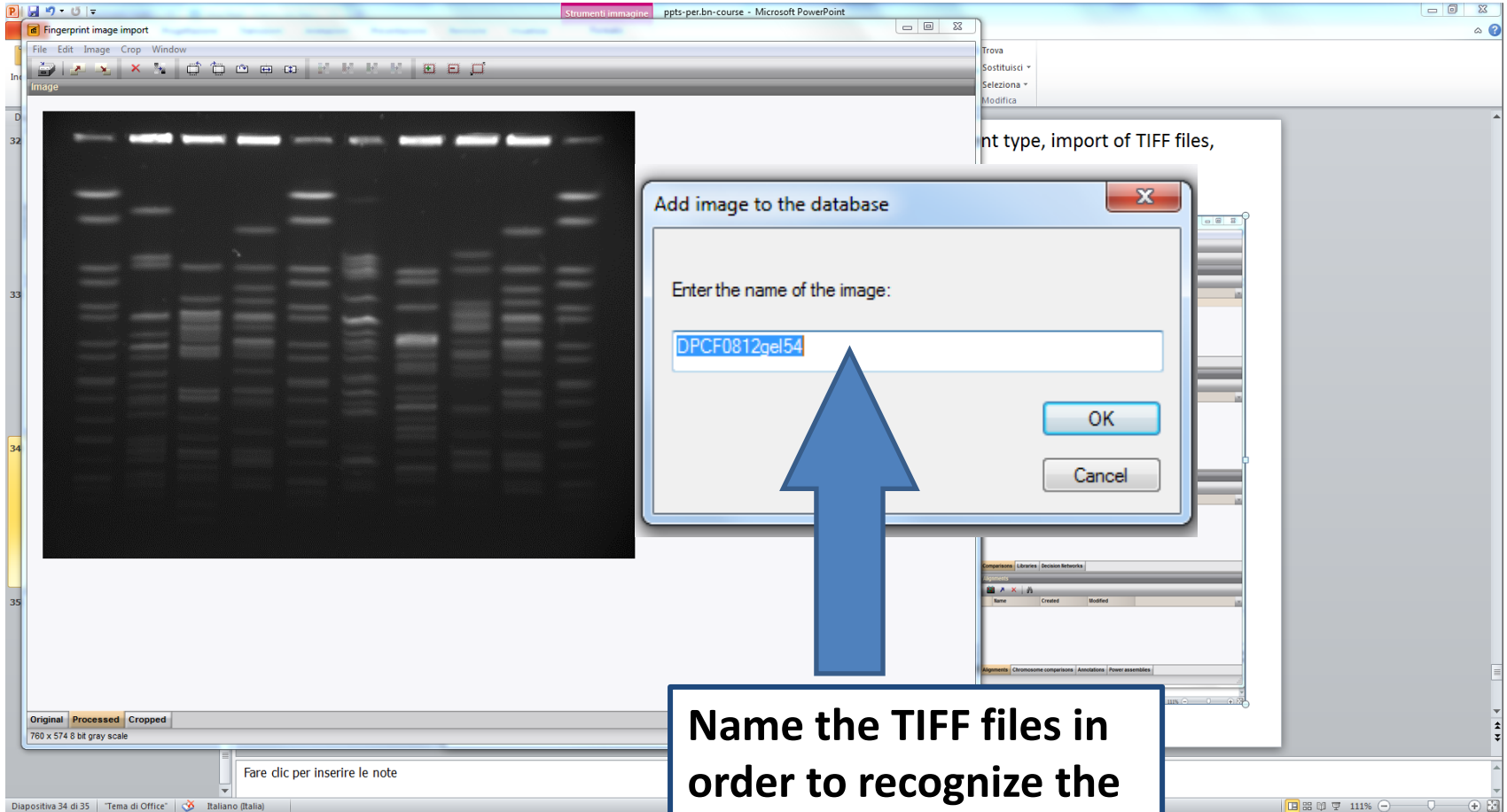
Step 3: Importing TIFF files

ADD IMAGE TO DATABASE

The screenshot displays the BioNumerics interface during the 'Fingerprint image import' process. The main window shows a dark image of a fingerprint lane with multiple lanes. The 'File' menu is open, and the 'Add image to database...' option is highlighted. A blue arrow points from a callout box to this option. The callout box contains the text 'ADD IMAGE TO DATABASE'. The right-hand side of the interface shows a sidebar with various panels: 'Name' and 'Type' (with one entry: '1 PFGE_Xbal Fingerprint types'), 'Experiments' and 'Entry relations', 'Files' (with columns: Name, Created, Modified, Location), 'Comparisons' (with columns: Name, Created, Modified, Location), 'Comparisons Libraries Decision Networks', 'Alignments' (with columns: Name, Created, Modified), and 'Alignments Chromosome comparisons Annotations Power assemblies'. The status bar at the bottom indicates 'Database: E.coli (connected, _DefaultUser_) Entries: Loaded=0, View=0, Selected=0 0 experiments C:\Users\maugliani_anttonella\Documents\BioNumerics\Data\E.coli'.

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 3: Importing TIFF files

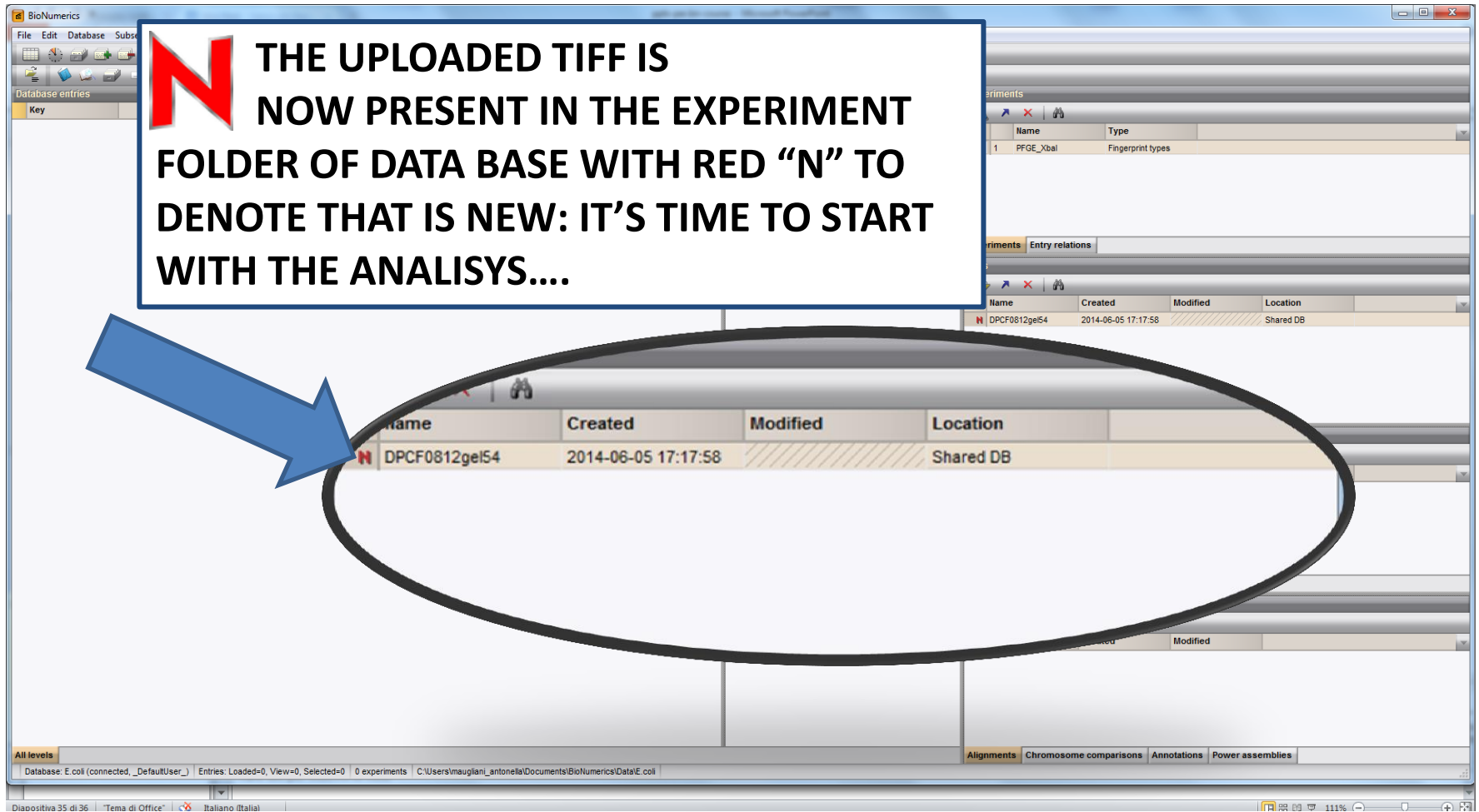


The screenshot displays the BioNumerics software interface. On the left, a window titled 'Fingerprint image import' shows a grayscale gel electrophoresis image with multiple lanes. A dialog box titled 'Add image to the database' is open in the center, prompting the user to 'Enter the name of the image:'. The text 'DPCF0812gel54' is entered into the text field. A large blue arrow points from a text box at the bottom towards the 'OK' button in the dialog. The background shows the main software window with various toolbars and a sidebar.

Name the TIFF files in order to recognize the run... and click OK

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 3: Importing TIFF files



N THE UPLOADED TIFF IS NOW PRESENT IN THE EXPERIMENT FOLDER OF DATA BASE WITH RED "N" TO DENOTE THAT IS NEW: IT'S TIME TO START WITH THE ANALISYS....

The screenshot shows the BioNumerics software interface. A table in the center displays database entries. The entry 'DPCF0812geI54' is highlighted with a red 'N' in the first column, indicating it is a new entry. A blue arrow points to this entry, and a large black oval encircles the entire table area. The table has the following structure:

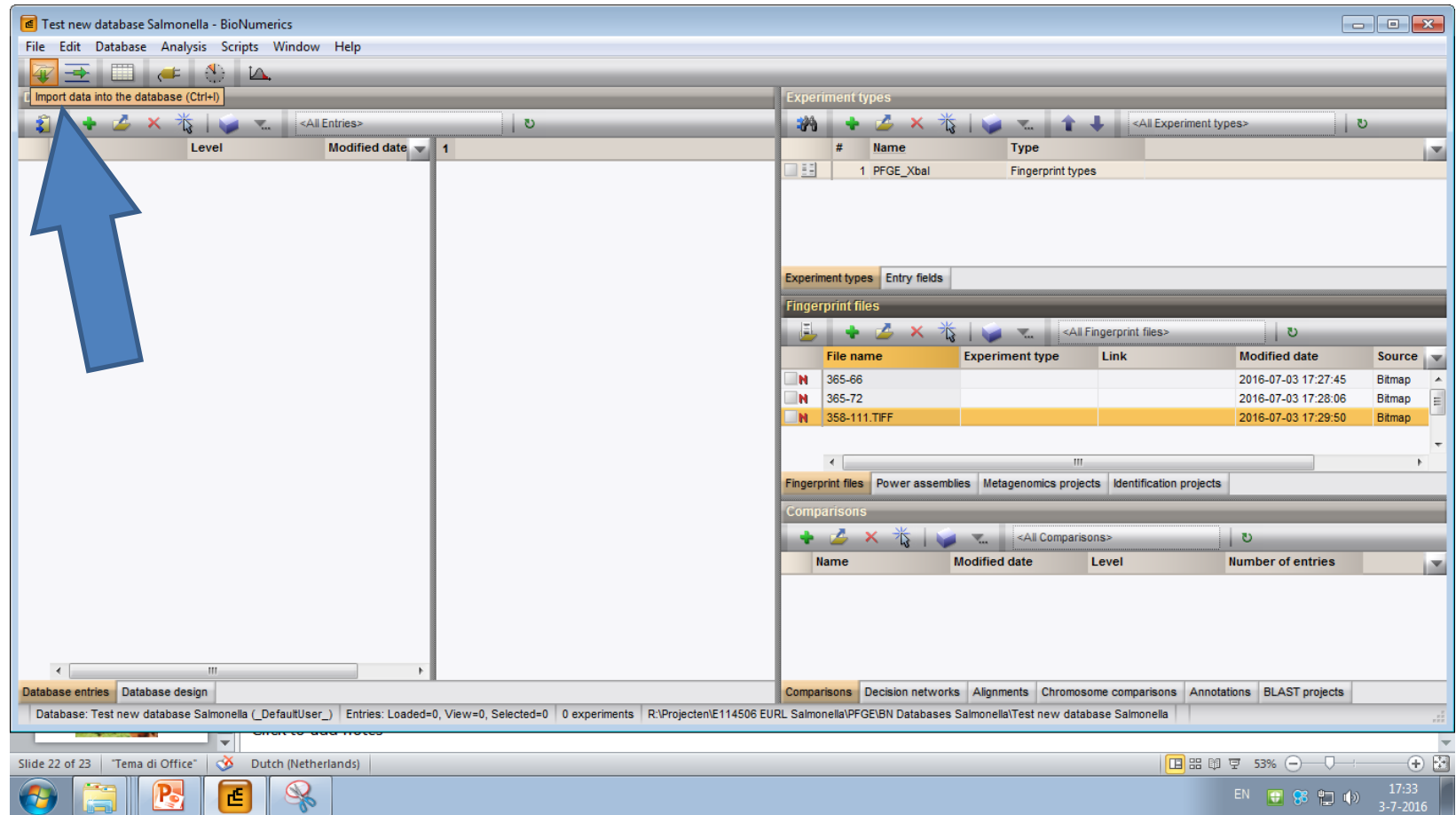
Name	Created	Modified	Location
N DPCF0812geI54	2014-06-05 17:17:58		Shared DB

At the bottom of the interface, the status bar shows: 'All levels', 'Database: E.coli (connected, _DefaultUser_)', 'Entries: Loaded=0, View=0, Selected=0', '0 experiments', and the file path 'C:\Users\maugliani_antoniella\Documents\BioNumerics\Data\E.coli'. The system tray at the bottom right shows the date and time as 11:11 AM on 06/05/2014.

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 3 : import TIFF files (alternative way)

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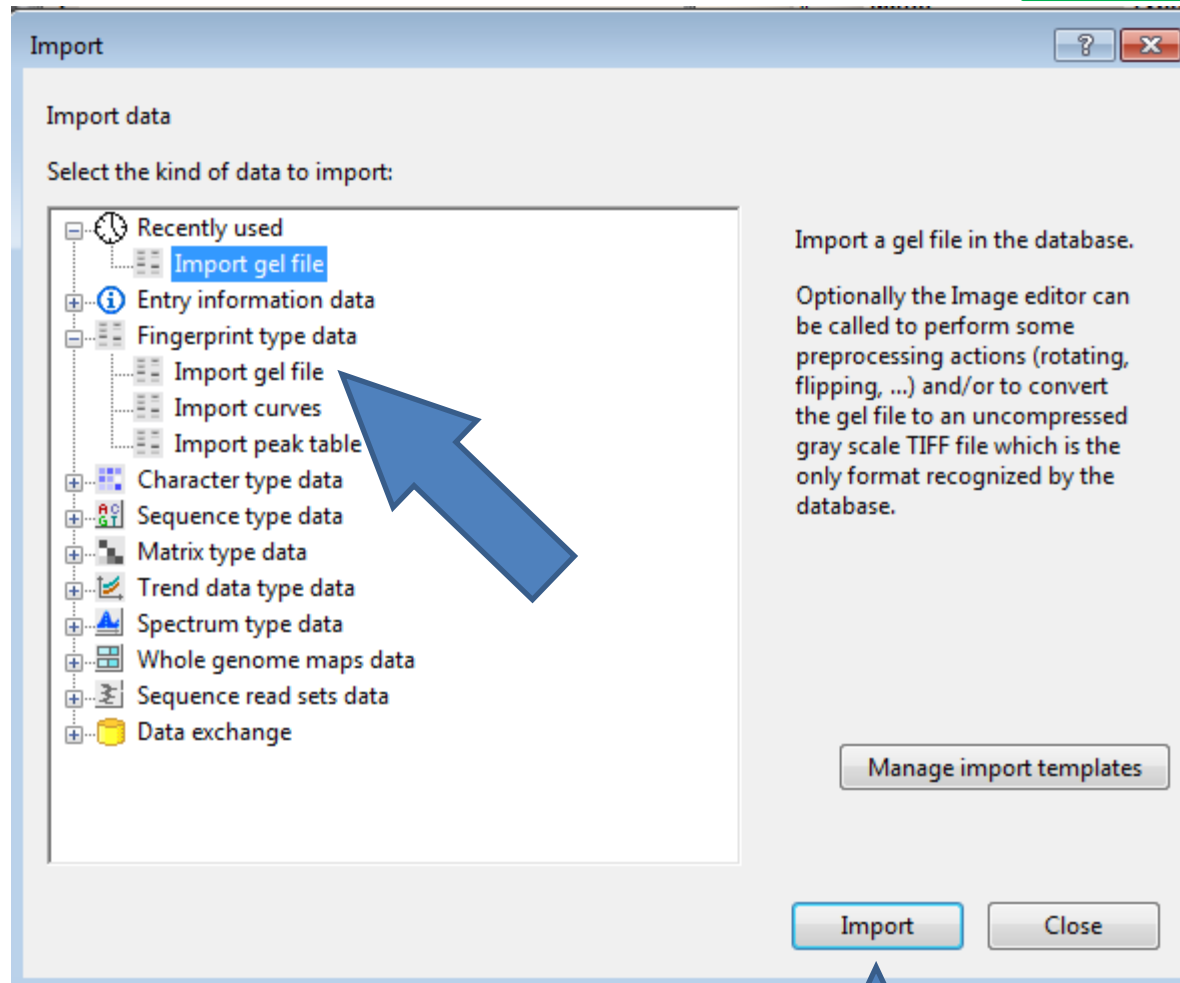


**CLICK ON
"Import data into the database"**

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Step 3 : import TIFF files (alternative way)

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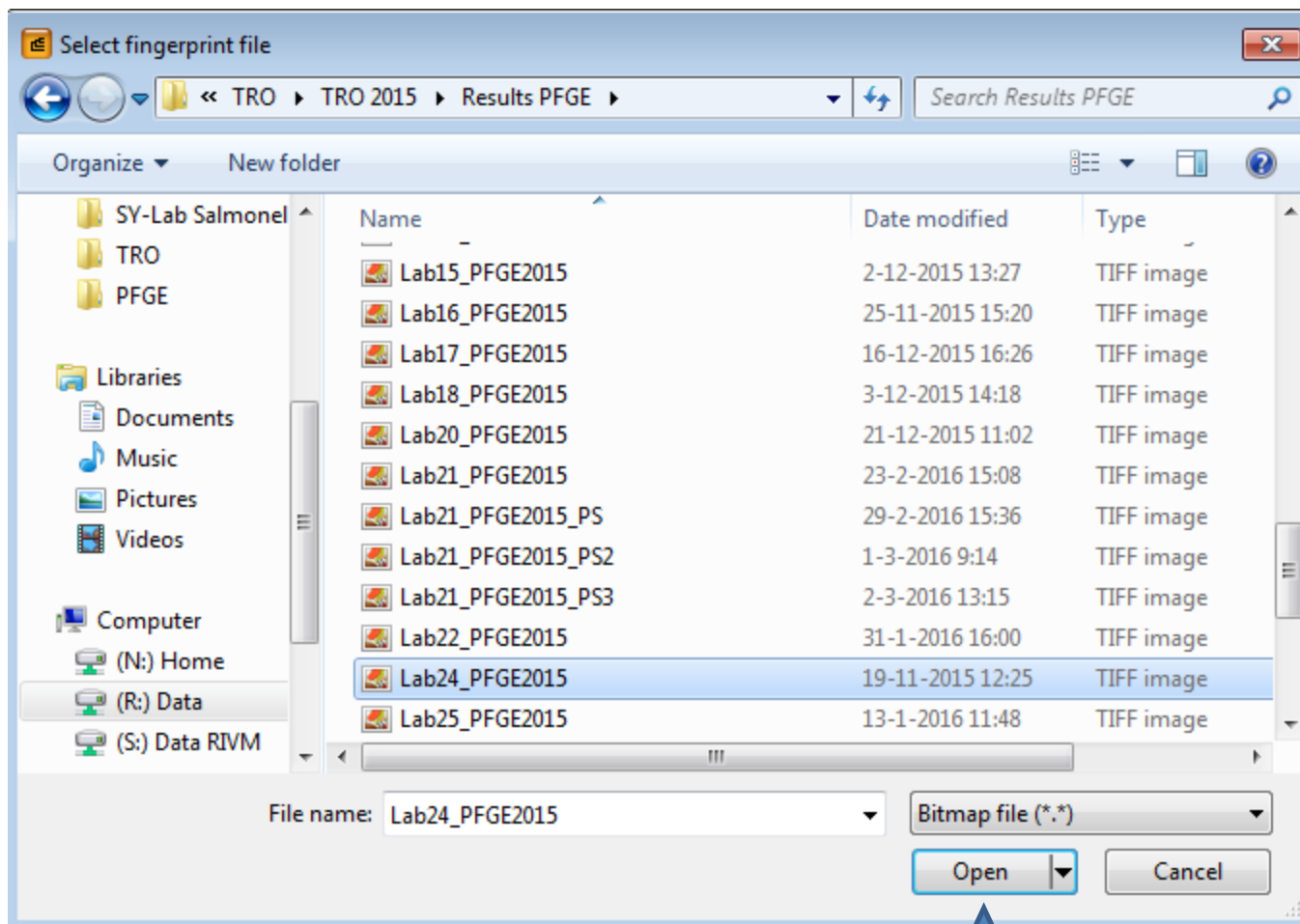


**CLICK ON
"Import gel file" and "Import"**

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 3 : import TIFF files (alternative way)

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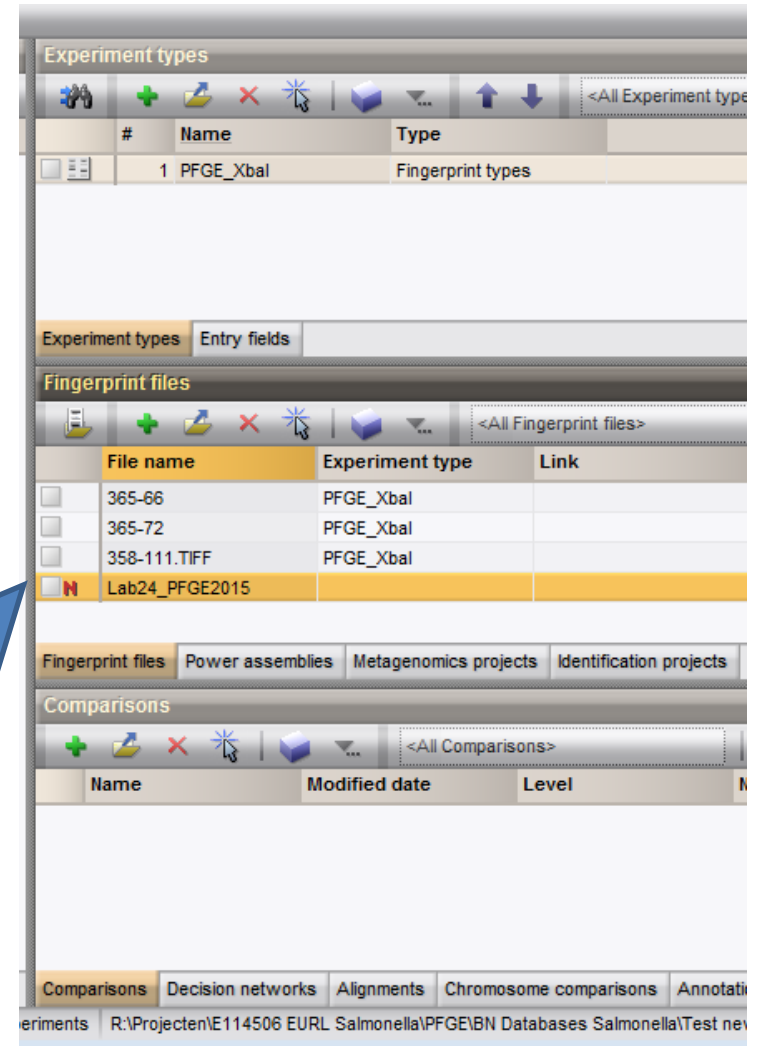
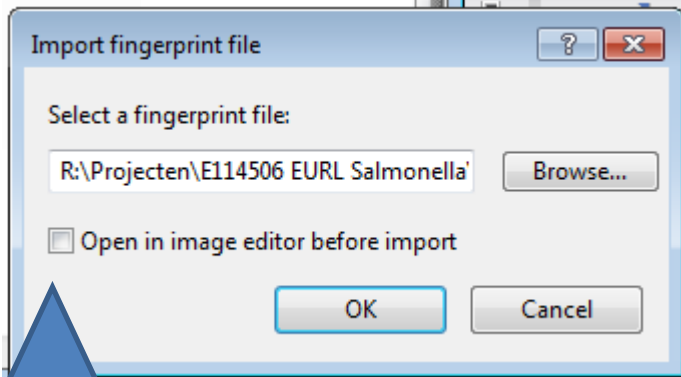


Select tiff file from the correct location and "Open"

The BioNumerics Software: database creation, experiment type, import of TIFF files, and setting up experiments

Step 3 : import TIFF files (alternative way)

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It can also be done by de-selecting "open in image editor"

Click "OK" and the file is directly imported and ready for analysis...

THANK YOU VERY MUCH FOR YOUR ATTENTION

