

**READ FIRST BEFORE INSTALLING, AND USE AT YOUR OWN RISK! This software is provided with absolutely no warranties or guarantees of any kind, and we are not be responsible for any kind of damage that may occur to your computer software and hardware as a result of installation!**

----->**After installation** (see below) , double-click on the *BioGrapher421.....xls* workbook in the *copied/installed BioGrapher FOLDER* to start the Excel front-end for GraphViz.

#### **INSTALLATION ON A PC (WinXP, Excel 2003, 2007)**

This assumes that you have downloaded or received the BIOGRAPHER DISTRIBUTION ZIP ARCHIVE, usually BioGrapher[Date][Version] DISTRO.zip. The current zip file is BioGrapher\_052908\_PC\_v421\_DISTRO.zip

Unzip the distribution, open the DISTRO folder, and *copy/move* the **BioGrapher FOLDER** that it contains to an appropriate location. You MUST copy/move the folder to a location on the PC where all users have read and write permissions. Sometimes this can be a problem with the C:\PROGRAM FILES folder. We suggest you copy/move the **BioGrapher FOLDER** to the "SHARED DOCUMENTS" or "USER'S DOCUMENTS" folder. *Do not rename or change the location of any of the files or folders inside the BioGrapher folder! Do not add files or folders with a name that begins with GraphViz!*

That's it! You are all set. Read the AT&T GraphViz license (LICENSE README GRAPHVIZ\_ATT.pdf) in the DISTRO folder or the BioGrapher folder first, and if you agree with its terms, double click on the **BioGrapher421\_v218\_052908.xls** Excel workbook in the **BioGrapher FOLDER** to open the workbook in Excel and start using its layout features.

#### **INSTALLATION ON A MAC (OS 10.5, also seems to work but not tested extensively on OS 10.4)**

This assumes that you have downloaded or received the BIOGRAPHER DISTRIBUTION ZIP ARCHIVE, usually BioGrapher[Date][Version] DISTRO.zip. The current zip file is BioGrapher\_052908\_MAC\_v421\_DISTRO.zip

We suggest that you login as an administrative user (with privileges to write to the Applications folder and other system folders) and unzip the distribution as an administrative user, *using the Apple Archive utility (right or control click on zip file and select "Archive Utility" from the 'Open With' popup menu item) or the latest version 12 of Stuffit Expander*. Open the unzipped DISTRO folder to locate the BioGrapher **MAC421\_GV218\_INSTALLER** AppleScript executable file and double-click on it to *run the installer*, which **automatically copies the BioGrapher FOLDER** in the distribution to its default location (**APPLICATIONS folder** on the boot disk), and then invokes the AT&T GraphViz installer to install GraphViz. Please note that if you have BioGrapher and/or GraphViz versions previously installed, you will be asked to remove or archive them first, and the installer will quit. You will also be asked to supply an administrative user's name and password. In exceptional circumstances, where file permissions prevent proper installation, you may have to rerun the script as *root*, using the *root* password. Please be aware that you do so at your own risk!

That's it! You are all set. Read the AT&T GraphViz license (LICENSE README GRAPHVIZ\_ATT.pdf) in the DISTRO folder or **BioGrapher FOLDER** again (it was already displayed during the installation), and if you still agree with its terms, double click on the BioGrapher421\_v218\_052908.xls Excel workbook in the **BioGrapher FOLDER** to open the workbook in Excel and start using its layout features.

#### **INSTALLATION ON AN OLDER MAC OS (OS 10.3.9-10.4)**

This assumes that you have downloaded or received the **SPECIAL** BIOGRAPHER DISTRIBUTION ZIP ARCHIVE, BioGrapher\_052908\_MAC\_OLD\_DISTRO.zip.

It also assumes you have installed the original GUI version of GraphViz for the Mac, version 2.16 [1.13(16)] written by Glen Low, as **GraphViz.app** in the **APPLICATIONS folder**. This app *may* be available for download at <http://www.pixelglow.com/graphviz/download>.

Unzip the archive and *copy* the **BioGrapher FOLDER** from the unzipped DISTRO folder to an appropriate location where you have read and write privileges as a normal user. It is perfectly OK to copy it to a flash drive or the desktop.

That's it! You are all set. Double click on the BioGrapher421\_v216\_052908.xls Excel workbook in the **BioGrapher FOLDER** to open the workbook in Excel and start using its layout features.

## KNOWN ISSUES

### General

Newick notation was recently added. Trees drawn using Newick notation via input or import into the relevant form are different from the tree drawn by invoking the node list created from the Newick expression.

The import function for Newick expressions specified in the appropriate form will happily import any text file and does not check to see if the expression is valid. [This can actually be considered a feature, since you can inspect any kind of file in this window!] Some rudimentary error checking is now done before graph drawn from a Newick expression—missing commas and parentheses, and a check to first see if the file contains any parentheses at all in the first place!

Newick/list nodes cannot be colored.

Newick rendering is non-standard with root at the top of the page. Is this an issue?

Mathematical properties of graphs (CALCULATE menu) work only with adjacency matrices.

Clustering coefficient and small world calculations need more work. Please check the calculations carefully!

The front-end currently works ONLY with UNDIRECTED graphs and assumes that matrix representations are symmetric, although "trees" are drawn using a kludge.

Nodes drawn on graphs cannot be repositioned without “ungrouping” (select graph and use Excel drawing selection tool) all the shapes in the rendering. However, you can freely resize and cut/copy/paste the vector graphics image of the graph. Use PASTE SPECIAL to paste into MSWORD as an enhanced metapicture/file.

Copy and paste of a range of cells selected works only once (not repeatedly with same clipboard data) since the selection focus is lost due to error-checking. Workaround: Use the Office Clipboard where multiple items can be stored and reused.

### PC ISSUES

Speed takes a severe hit in Excel 2007, more so for both Excel 2003 and 2007 in Vista (not tested extensively). Excel 2007 seems to be a graphics hog and needs a computer with a good graphics card, adequate memory and enhanced CPU speed.

The Excel front end has only been extensively tested with Excel 2003 on a stock WinXP machine, where its performance is excellent, even on older machines!

### MAC ISSUES

Mac file I/O and drawing is considerably slower than on a PC. (Excel 2004 issue on Mac).

Mac Excel 2004 on a Wintel machine is sometimes unstable. Use at your own risk. If Excel crashes, shut down and reboot. Open the EXCEL application FIRST and open backup workbooks that Excel creates without enabling their macros. Then quit Excel and attempt to restart the BioGrapher workbook, which should be fine because it is write-protected! If all else fails, DELETE the BioGrapher workbook and use a fresh copy!

Mac zoom with control-Z is also very slow if large graphs are displayed. Easier to manually resize graphs using the image handles!

For the Excel form in which Newick notation is entered/imported, copy and paste is implemented using non-standard (for the Mac!) Control-C and Control-V, whereas in the file dialog box where root node is specified later, the specification reverts to standard COMMAND-V to paste!

Fixed in v421---->[CSV files and text files imported from the PC version may not be visible/cannot be read through the Mac file dialog in BioGrapher.]

[Workaround: CLOSE BioGrapher and Excel first, then double click on .CSV extension file. It should open in Excel. SAVE the file as a .CSV file so that it is "blessed." Optionally, for batch processing of a large number of files, consider using shareware/freeware file type and creator changer packages. Use the file type and creator of a Macintosh "blessed" .CSV file as the template!]