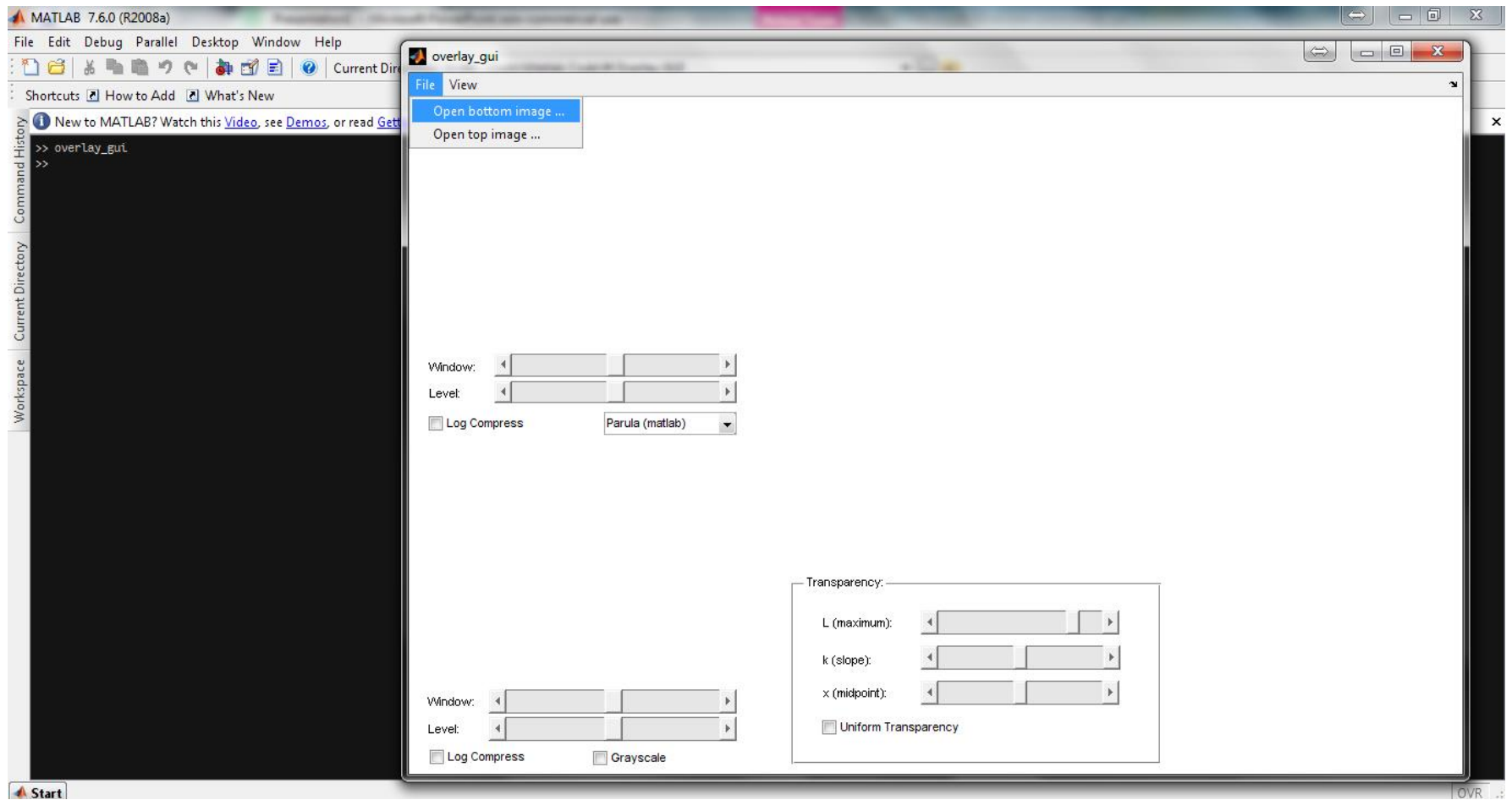


User-guide to the Optics in Medicine **Overlay GUI**

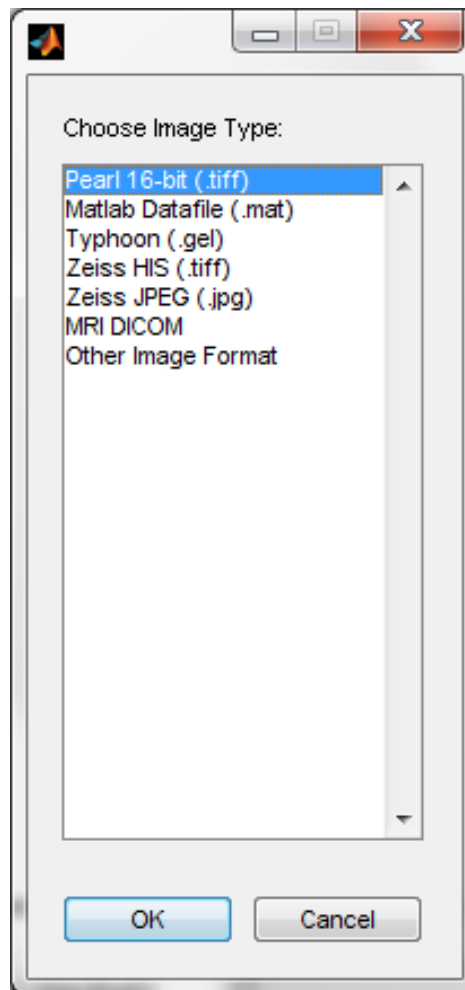
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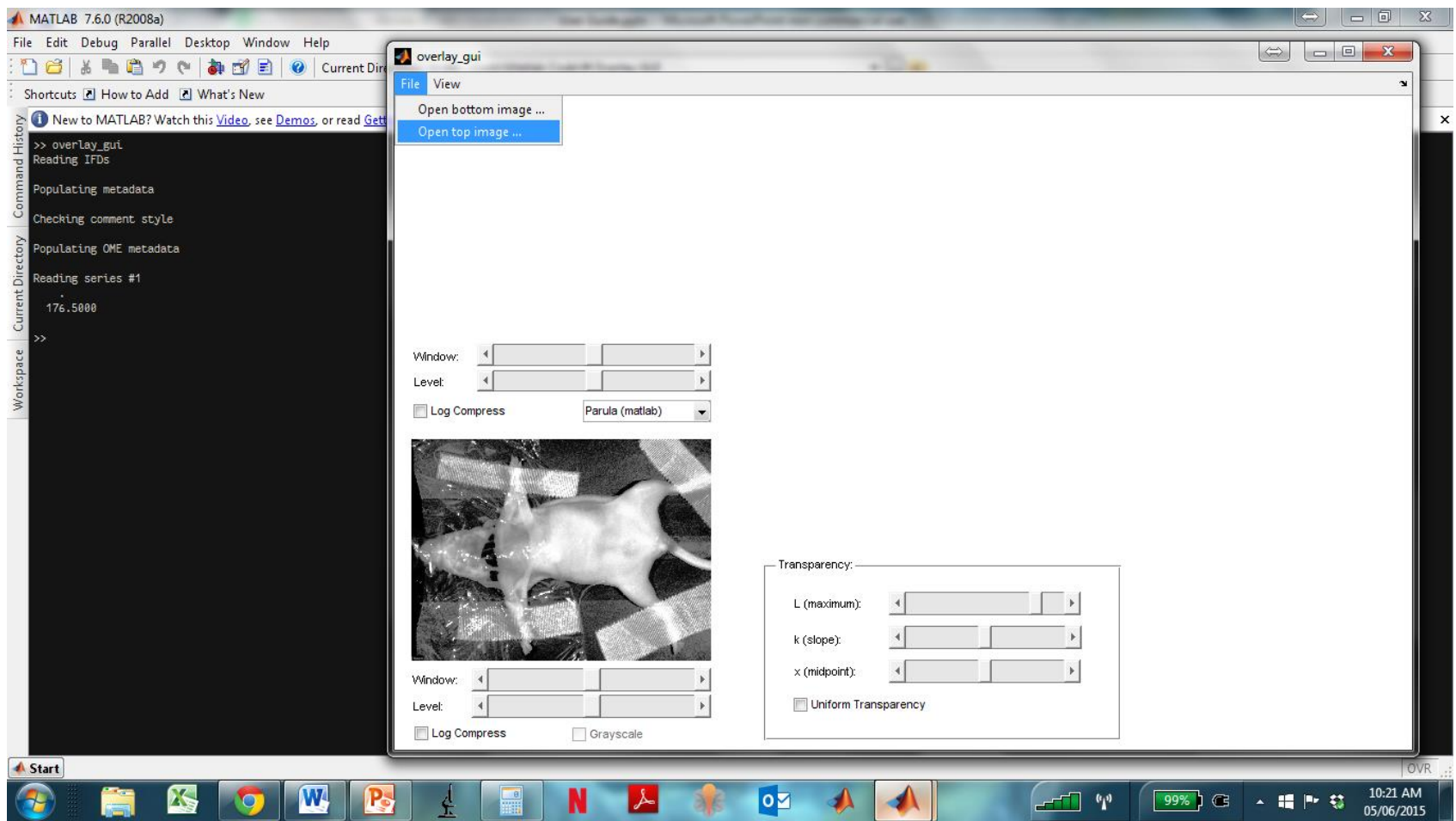
Step 1

Select "Open Bottom Image..." from the File menu.



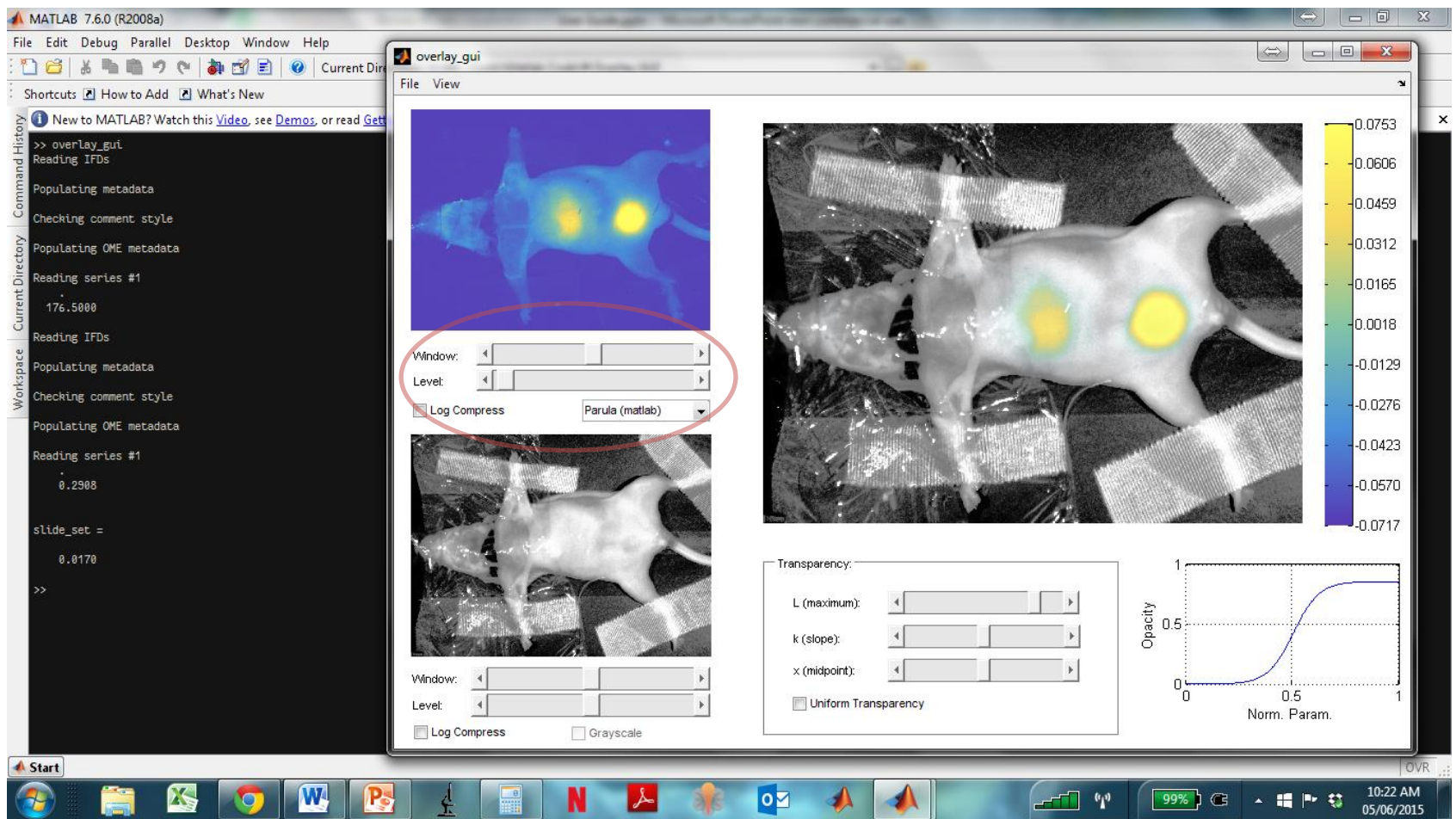
Step 2

Select image format that you'd like to load. Note – if you don't see the desired format, you can load it into matlab via the command line and save it in a .mat file, which can be loaded by selecting option #2.



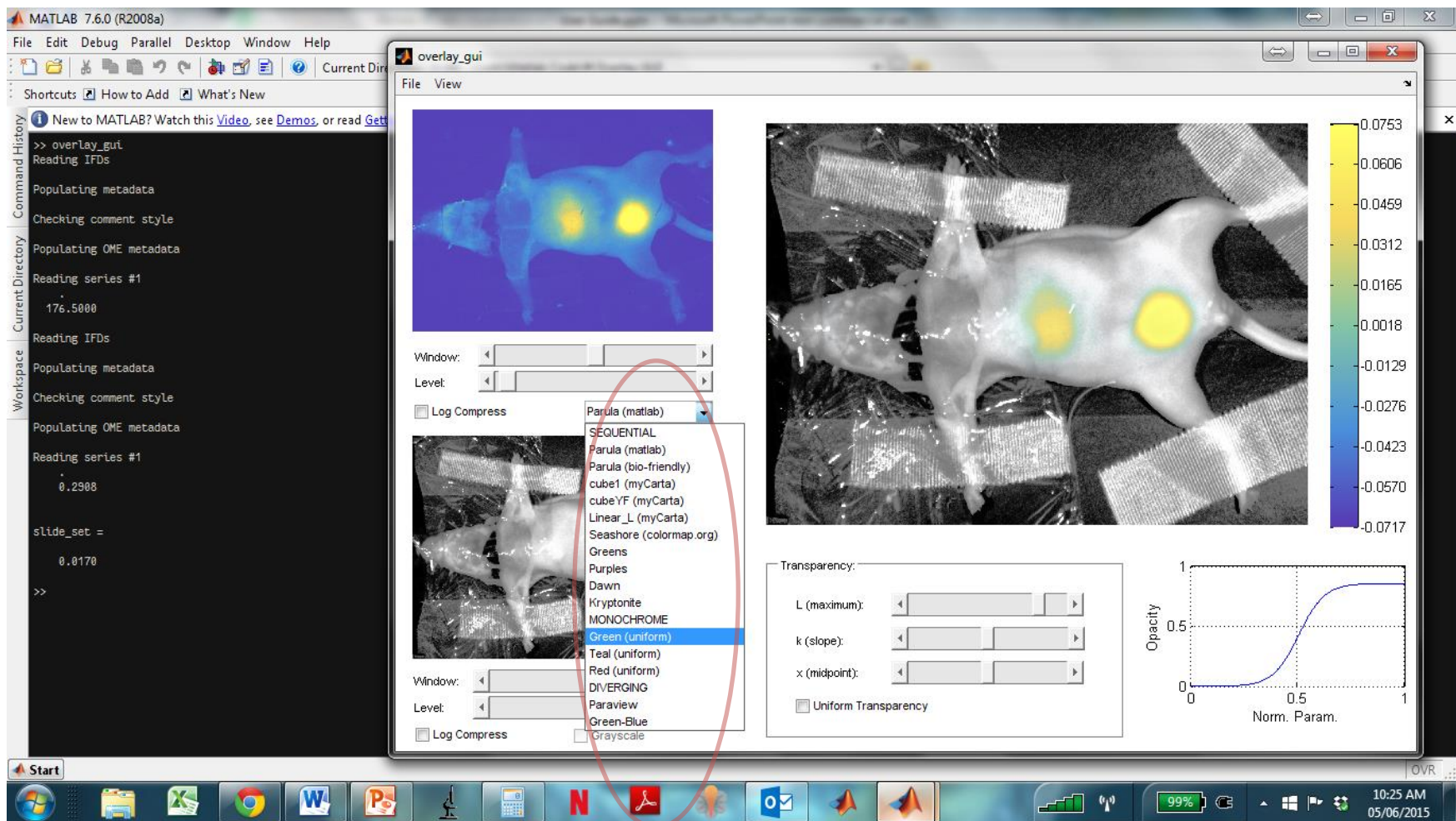
Step 3

Select “Open top image ...” and repeat step 2.



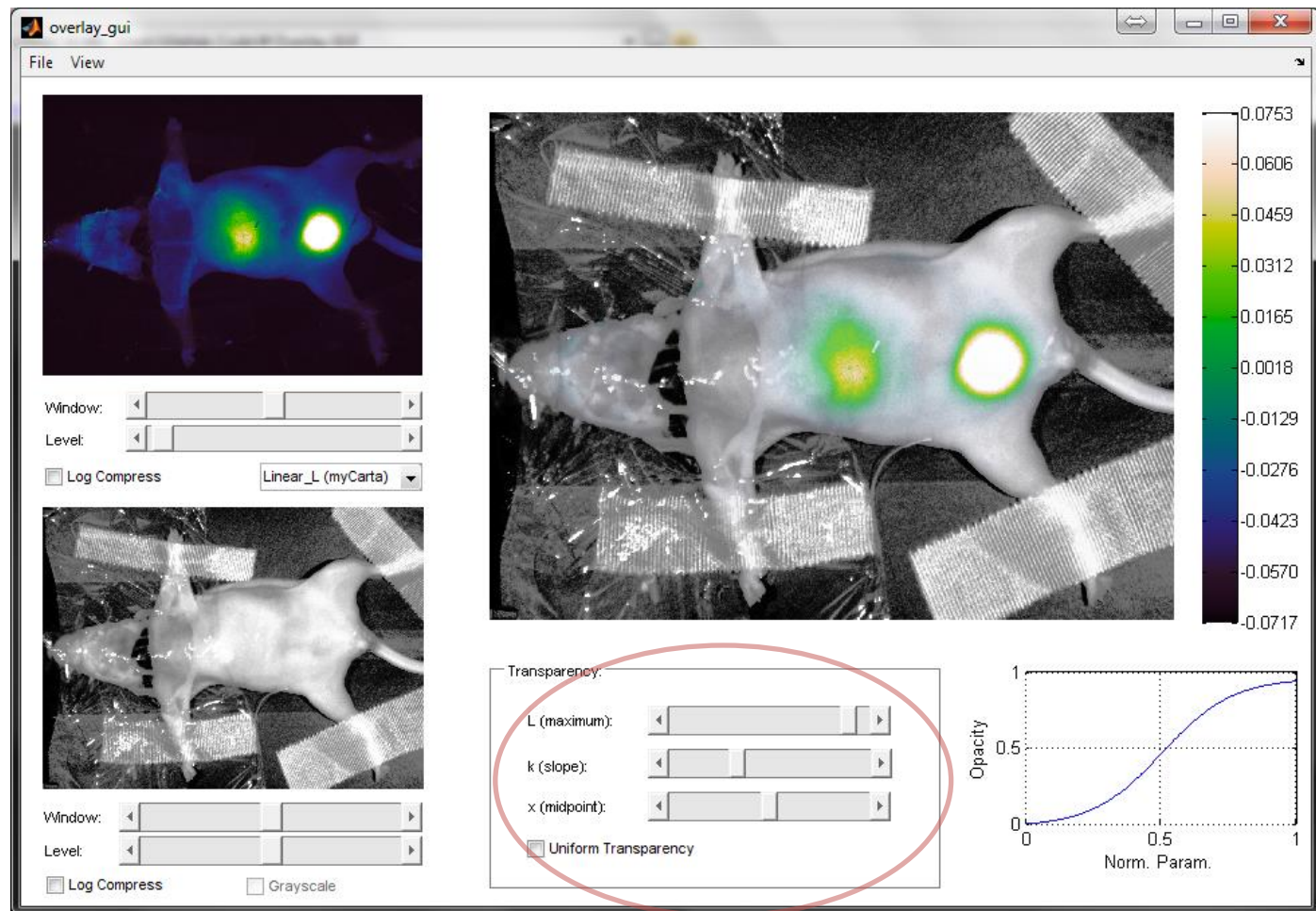
Once the top image is selected, it will be automatically leveled based on the median of the histogram. You can fine-tune the window and leveling using the sliders.

It is also possible to toggle between **normal** and **log compress** modes.



Step 4

Select a different color palette from the drop-down menu. They are organized as sequential (luminance, or perception of brightness is monotonically increasing or decreasing), monochrome (single color which would enable all scalar value information to be encoded with transparency), and diverging (sequentially decreasing as values move from a center-point outwards). I plan to add support for two additional classes: segmenting (a discrete number of levels of data) and highlighting (suppressing luminance at all values except one narrow band of information, such as the highest 5% or lowest 5% of the data).

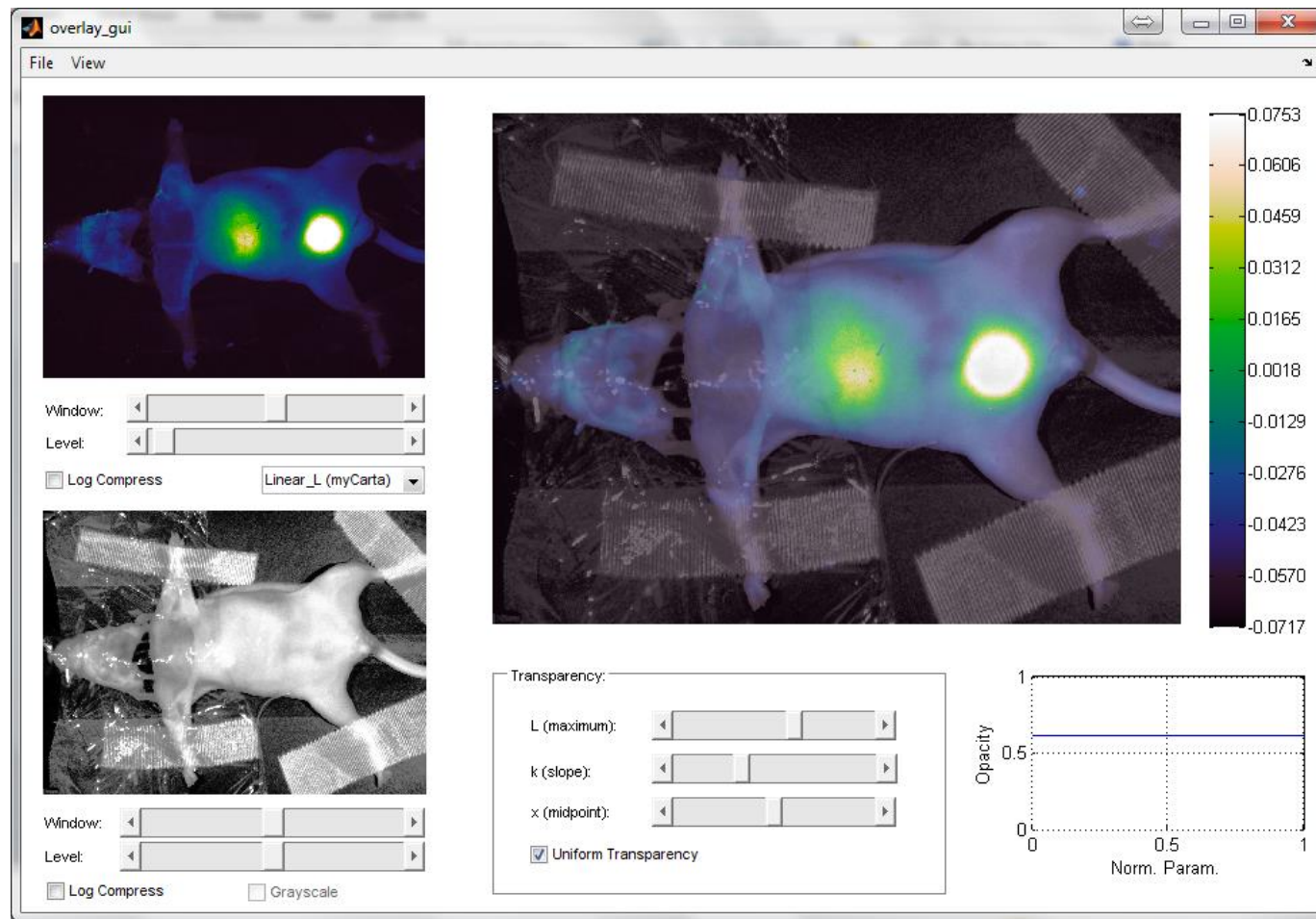


Step 5 – Adjust Transparency

The transparency transfer function is defined by a logistic equation. Parameters are L , which defines the maximum opacity (plateau), k , which defines how quickly opacity increases from 0 to L , and x , which defines where the 50% opacity point is.

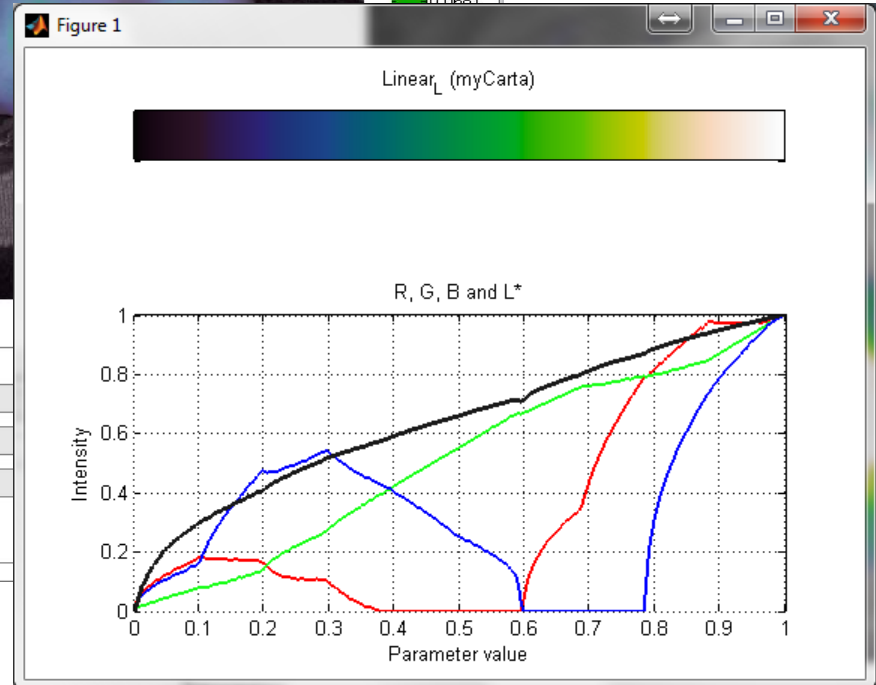
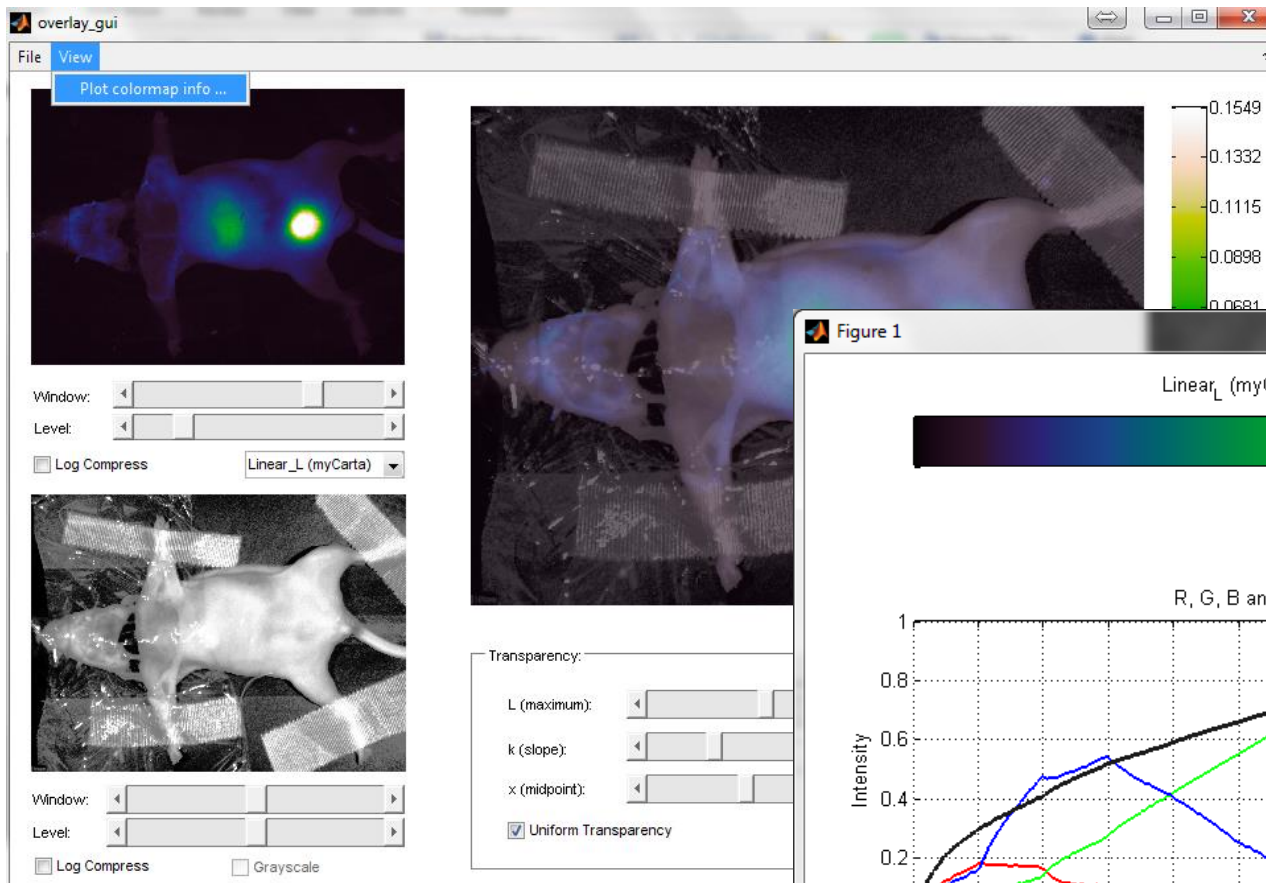
K approaches a Heavyside function for high values, and a straight line for low values.

Best practice is to have the transfer function reflect the tumor probability function of the chromophore in question.



Option: uniform transparency

Transparency will not depend on values of top image, but will be uniform and opacity will be determined by slider “L”.



Step 7: Get colormap properties

If you are concerned with having a perpetually-balanced colormap, good! You have been paying attention ;)

You can view the R, G, and B intensities, as well as L*, which represents the luminance of human visual perception