

# “How to make a good scientific figure” checklist:

- Optimize for the figure bottleneck: Maximize information, minimize ink.
- If you have trouble starting: hand-draw plots to envision your figure (saves time)
- Convey a main point clearly, without need of a caption.
- For comparisons, put data as close together as possible (e.g., overlapping lines).
- Label X- and Y-axes. Keep text horizontal.
- Do color choices make sense? Do I need color?
- Label any lines, nearby if possible (i.e., no far away legend boxes)
- For scatter plots, point to one dot and have a small description (e.g., “one neuron”)
- Avoid tables, pie charts, ...
- Ultimate test: Show figure to colleague without context + caption.  
Can they tell you the main point of figure?
- Is the figure aesthetically pleasing?
- Did you use white space correctly?
- Do you accurately convey the data? With proper statistics? Controls?