

The requirements for figures embedded in grants or fellowships are different than those you produce for manuscripts. Typically, they have to be physically smaller and require less memory than those you would produce for a manuscript. At the time, they have to be crisp and readable even in electronic form, since grants and fellowships are often viewed on laptops during the meetings in which they are discussed and funding decisions are made. My R01 grants often have 15-20 figures and yet the whole file is typically 2-6MB and always < 10MB. Here is how I do it:

1. If your figure is a micrograph or contains a micrograph, be sure to retain an original in a file format that maintains its original resolution (e.g., TIFF).
2. Construct your figure in Illustrator. Please see my more complete advice about making publication quality figures for suggestions about how to organize your figure and manage space effectively for the greatest impact. If the figure is a schematic and/or a graph, you can do it entirely in Illustrator. If it includes a micrograph, open that file with Illustrator and copy and paste into your figure. Save this file as a master in Illustrator (.AI) format.
3. Open the final Illustrator file with Photoshop. For color images, choose 300 DPI and RGB mode. For BW images, choose 600 DPI and grayscale. As it opens, the file will automatically be rasterized to create a bit-mapped Photoshop file from the object-oriented Illustrator file.
4. Crop the image so that all excess white space is gone. Measure the space that you have allocated to your figure in your fellowship or grant (literally-with a ruler). Resize the image (using the resize image, not resize canvas option) so that it is physically about 10% bigger than what you have allocated in your fellowship or grant. Save the file in Photoshop format.
5. Finally, while the file is open in Photoshop, Choose the Save for Web option. Unlike TIFF, AI, or Photoshop formats, this choice, which will culminate in the production of a JPEG file, involves a loss of image resolution. Consequently, you are given options to manage that resolution loss in a menu that appears to the right of your image. Choose (1) JPEG option, (2) check the "optimized box", (3) Choose a resolution that is 70 or higher (this will be high, very high, or maximum).
6. In your grant or fellowship, insert a 1 column, 2 rows, or 2 columns and 1 row table. **DO NOT USE THE MS WORD TEXT BOX OPTION FOR INSERTING TABLES.** There aren't enough expletives in the universe to describe their utility. If you want your text to wrap around the table, use the select table menu option and the positioning option.
7. Finally, place the cursor inside the box within the table where you want your figure to appear and then select the insert picture from file option. Find your new JPEG on your computer and select it. You may need to resize it a little once it appears in your table.