Including Images

For those societies that allow their use, the uploading of images is a step in the abstract creation process. There are several things to consider when choosing your images. Foremost is quality.

Image Quality

*Generally, the larger the image size, the better it will appear after being processed and put into print.* To understand why this is the case, and to perhaps give you some insight into what is the best method to use for producing your images, a brief discussion of image quality follows here.

Different mediums have different resolutions, as measured in dots per inch (dpi). The greater the dots per inch, the higher the effective resolution. The lower the dots per inch, the lower the effective resolution, and the lower the level of detail you can achieve in a picture.

Computer scanners usually scan images at higher resolutions (300 to 4800 dpi). Images that are produced on a computer with image-editing programs such as Adobe Photoshop default to 72 dpi, though you can increase the resolution. Such programs default to 72 dpi because it is the least common denominator among computer monitor resolutions, which are typically either 72 dpi for Macintosh machines, or 96 dpi for Windows machines.

The image that you upload will probably eventually be output in print at 600 dpi, and will most likely be placed in a normal 8.5 x 11 inch page. Societies that have their proceedings produced by ScholarOne’s sister company, Carden Jennings Publishing, typically prefer to organize abstracts into two columns on a normal page. Images associated with the abstracts in each column, therefore, are limited in width to about 3 inches, and in height to about the same.

If we use a 3 inch x 3 inch picture at 600 dpi as typical for images in print versions of proceedings, then if:

<table>
<thead>
<tr>
<th>Your image size is greater than 3&quot; x 3&quot; (7.6 cm x 7.6 cm)</th>
<th>Your image resolution is greater than 600 dpi</th>
<th>Your image resolution is less than 600 dpi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great. It is not a problem to have to scale back from having too much information (resolution).</td>
<td>OK. When a lower resolution image is converted to higher resolution, it decreases in size. Hopefully your image size is large enough to make up for this.*</td>
<td></td>
</tr>
</tbody>
</table>

| Your image size is less than 3" x 3" (7.6 cm x 7.6 cm) | OK. Hopefully the resolution is high enough to cancel out the small image size.* | Could be a problem. If you take a low resolution image and convert it to high resolution, it decreases in size. Since the size is already less than 3"x3", this could be really small.* |

This table basically asserts the general rule of thumb for images: *if in doubt, the larger the size of the image, the better.*

*Tip:* In the end, the easy to way to determine if your image quality might not be sufficient is to look in the **Image Quality Notes** column in the Images table. If you see "Image resolution in doubt", or if the dimensions in print are significantly less than 7.6 cm (3 inches) in width, then your image might not be of sufficient quality.
Image Format
The format of an image is specified by its suffix. Common image format suffixes are .jpg (JPEG), .gif (GIF), .tif (TIFF), and .bmp (BMP). Abstract Central accepts any format image.

TIFF is a lossless format, meaning that no image information is thrown out when saved under this format. JPEG and GIF, the most common compression formats, are lossy formats, meaning that they throw out picture information to save on file size. It is important to save the original image in the appropriate format, since once the image is compressed you can not regain the lost information.

Of course, TIFF, being lossless, is the best format to use. JPEGs are best for complex images of many colors (e.g., a family portrait), while GIFs are most appropriate for images with straight lines and fewer colors (e.g., a stop sign). If you are uploading photographs, MRIs, and X-Rays, JPEG is best. If you are creating tables, graphs, charts, etc., the GIF format is the best.

Regardless of format, once uploaded the image will be converted by AbstractCentral to the JPEG format so that you can view it on the web.

Tip: If you are at a different computer and need to download the images associated with your abstract, right click in Windows (Ctrl + Click for Macs) and choose Save As to save the image on the local computer. You can then modify the image if needed and re-upload it.

Character Count
The number of characters that the image contributes toward your total character count will be indicated in the column under Image Quality Notes. The character count is important because different societies impose different limits to the total number of characters the abstract can consume. The number for the image is arrived at using its height at a 600 dpi resolution (a print resolution), since the width will remain constant upon printing. Depending on its size, an image can account for up to 1200 characters.

You can decrease the potential for a high character count and improve the quality of your image by being sure that you have no extra white space around the image.