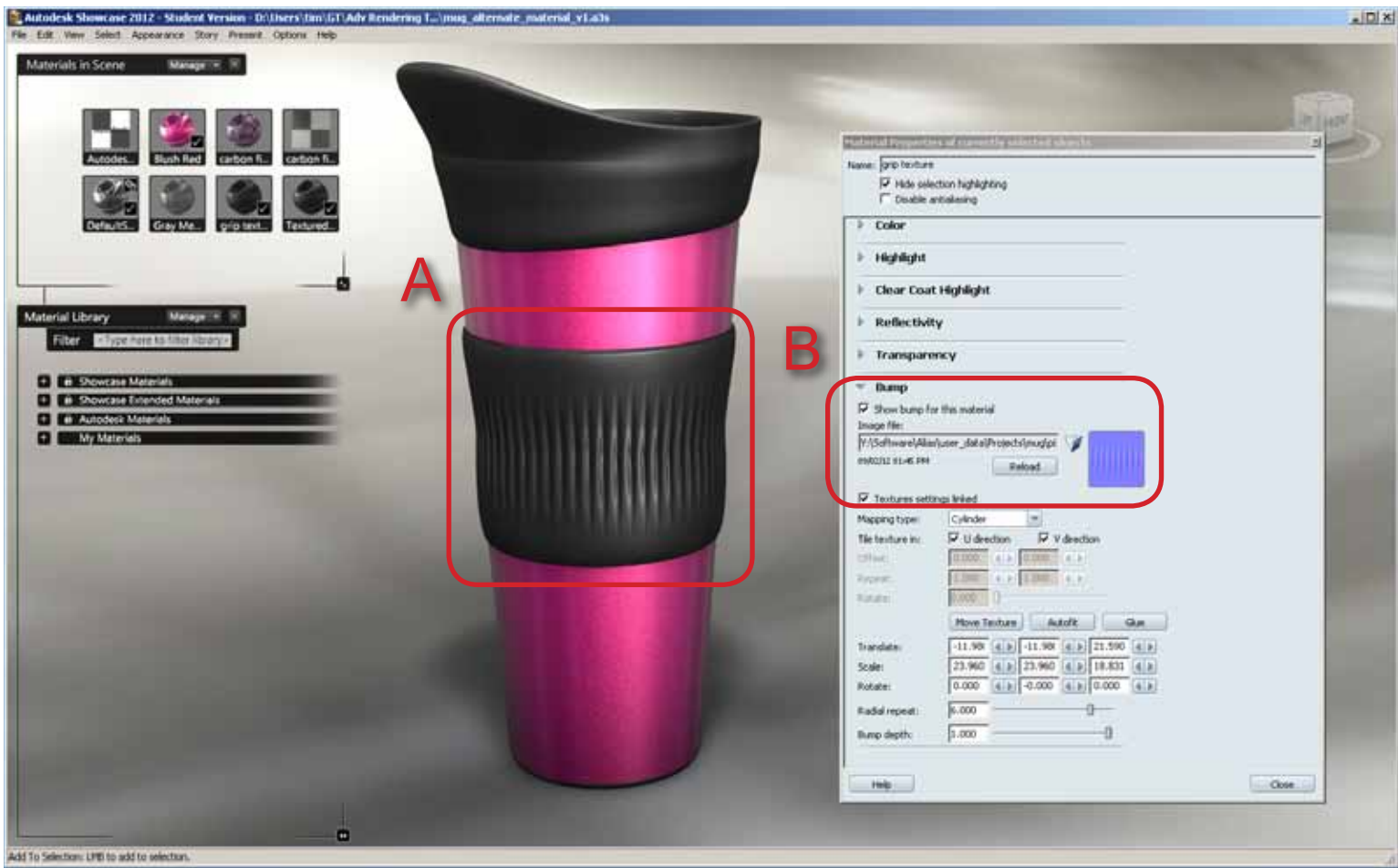


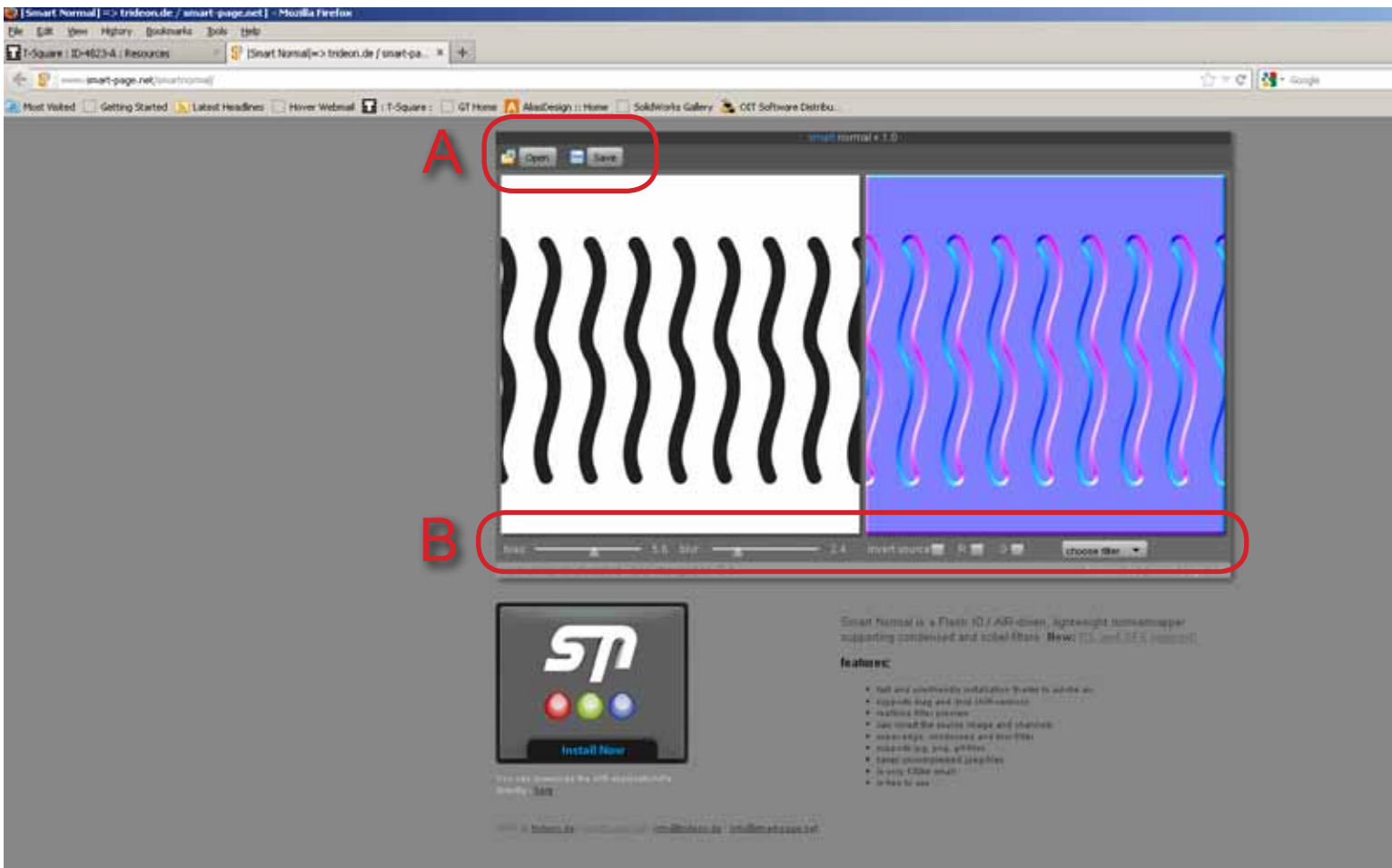
# Showcase - Custom Bump Maps

**Step 1** Custom bump maps can be created by applying a normal map file to the “Bump” parameter on a material. This tutorial covers how to create the normal map and apply it to a form (A & B).



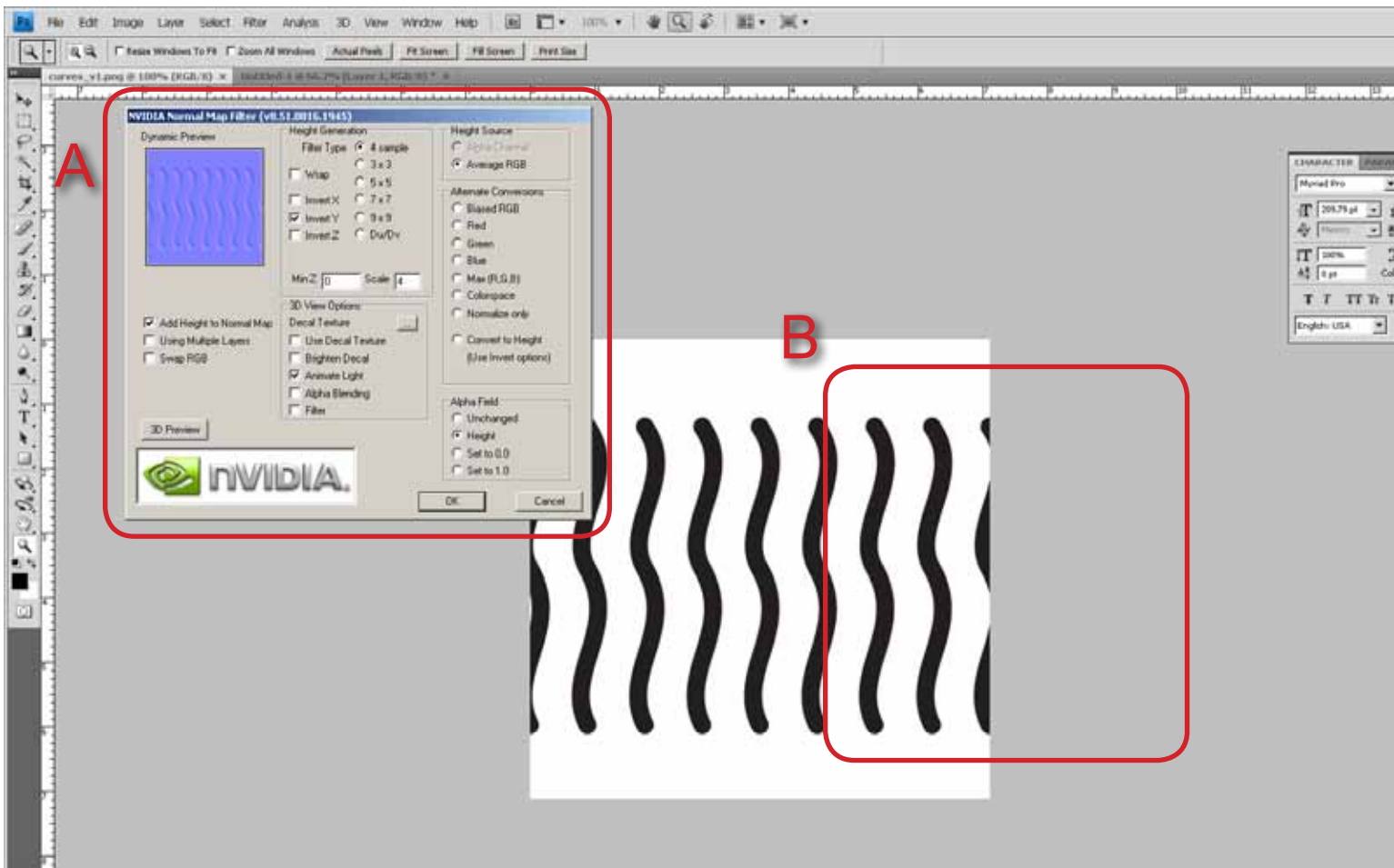
# Showcase - Custom Bump Maps

**Step 2** There are two ways to make normal maps from either black & white or color images. An online tool is available to open, convert and save out normal maps (<http://www.smart-page.net/smartnormal/>) (A). The bias slider adjust the intensity while the blur slider adjust the fuzziness of the image (B).



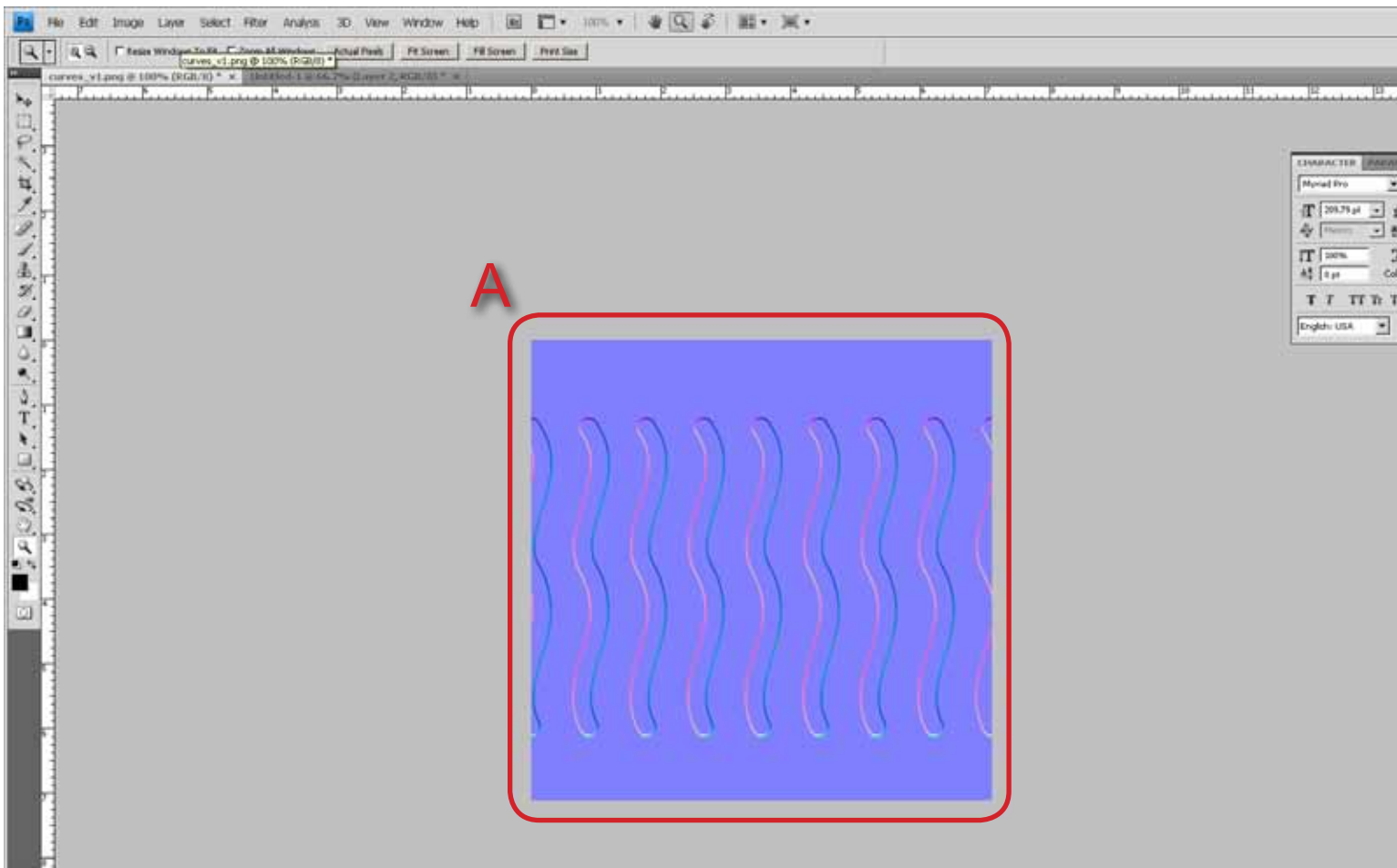
# Showcase - Custom Bump Maps

**Step 3** The second way to create a normal map is to use the free Photoshop filter plug-in provided by the graphics card company NVIDIA (<http://developer.nvidia.com/nvidia-texture-tools-adobe-photoshop>) (A). This plug-in has many options and works well but is only available for the Window's version of Photoshop.



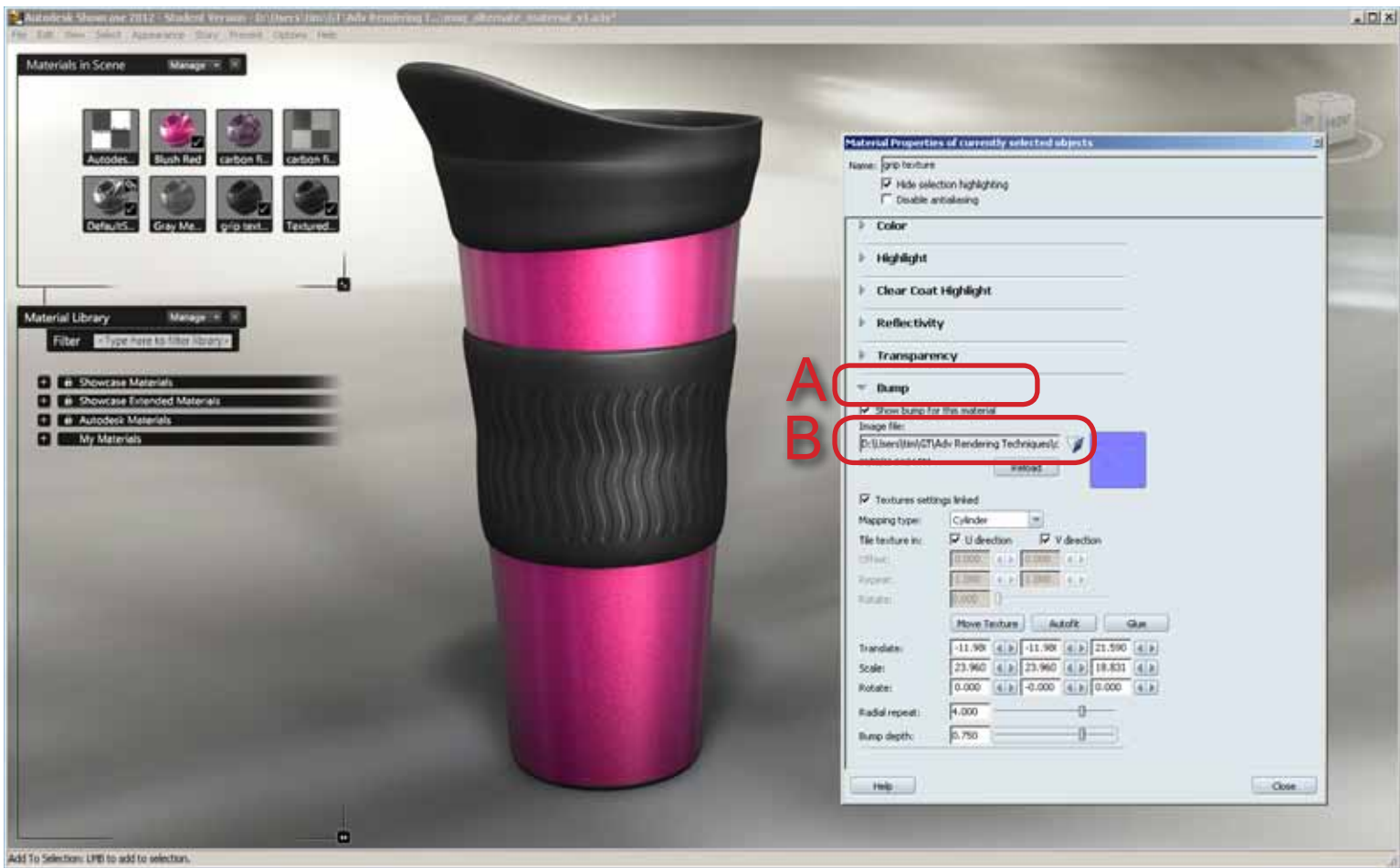
# Showcase - Custom Bump Maps

**Step 4** After the NVIDIA filter is applied, the image is modified (A). The image can be saved out (Save As ...) in any common format (jpeg, png, tiff, etc). Usually add a “normal” extension to the image to help identify it as a normal map.



# Showcase - Custom Bump Maps

**Step 5** Apply the normal map in the Bump parameter of a material (A). Click on the folder icon and load the normal image.



# Showcase - Custom Bump Maps

**Step 6** Depending on the form, the mapping type may need to be changed. In this example, the mapping type was changed to cylinder to match the form of the travel mug. In addition, the radial repeat is set to 4 because of the source image. Therefore, the icon shape only shows 90° instead of a full 360°.

