

Course: 3D Design
Title: Tufts Text
Blender: Version 2.6X
Level: Beginning
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(May 2012)

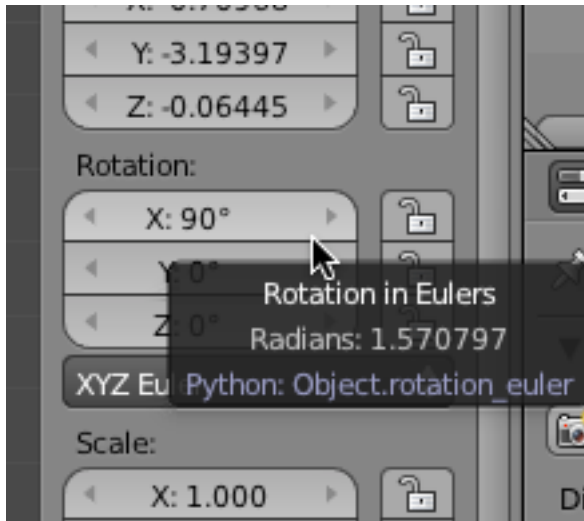
TUFTS TEXT



In this tutorial, we'll model 3-dimensional text (Tufts University) and animate it around the Tufts University Seal.

Open Blender. Select the default cube and delete it.

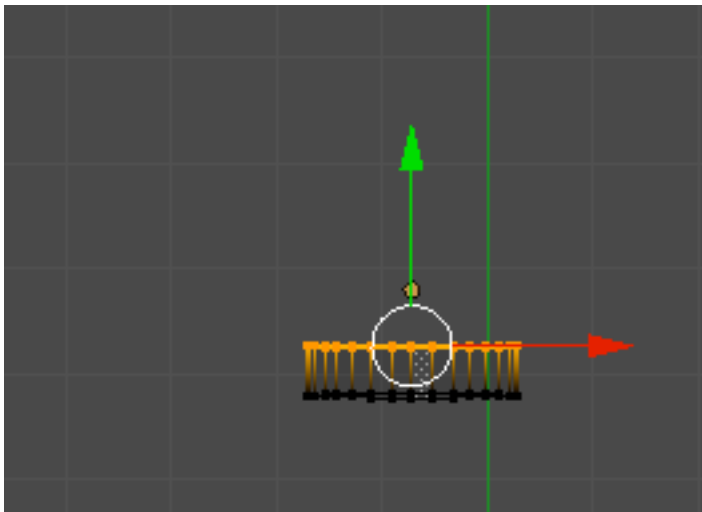
Switch to Front View. Place your 3D cursor in the center of the display. Press SHIFT-A and add a Cylinder object. Press the NKEY to display the properties panel on the right (if it is not already displayed). Set the X rotation for the cylinder to 90.



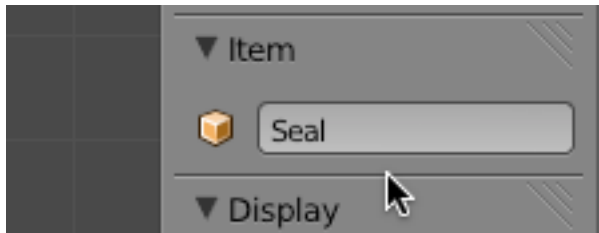
TAB into Edit Mode. Go to Wireframe mode (ZKEY).

Press NUMPAD-5 to go to Orthographic mode (instead of Perspective mode).

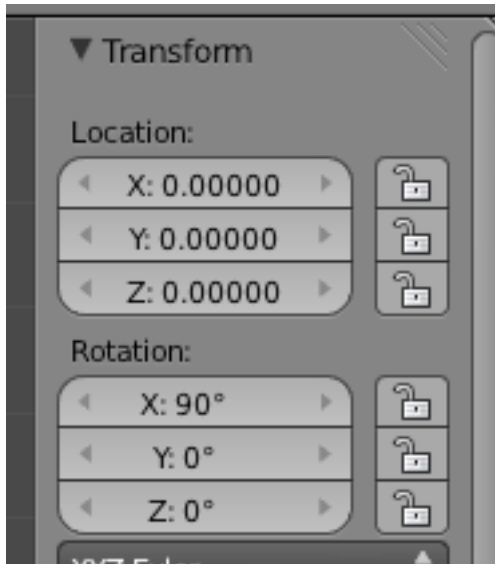
Switch to Top View. Press the AKEY to deselect the vertices. Use the Box Select (BKEY) to select the top vertices. Use the Green Transform Widget to move the vertices down to create a small coin-like object.



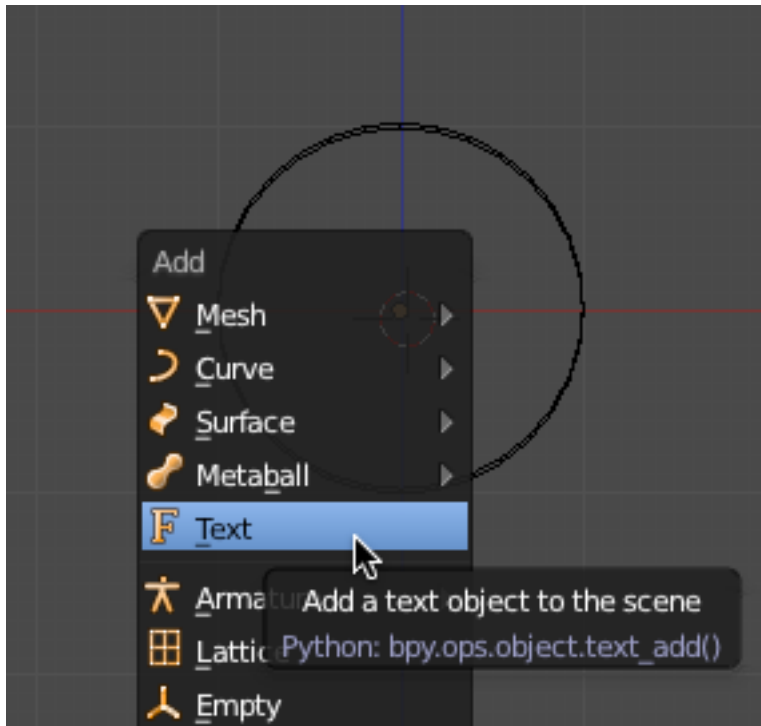
Switch to Front View. Press the AKEY to deselect the vertices. **TAB out of Edit Mode.** In the Transform Properties Panel name this object Seal.



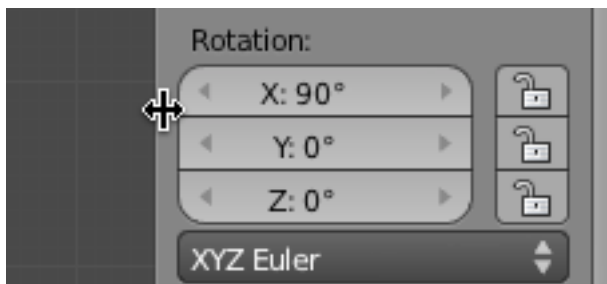
Set the Location X, Y and Z at 0.



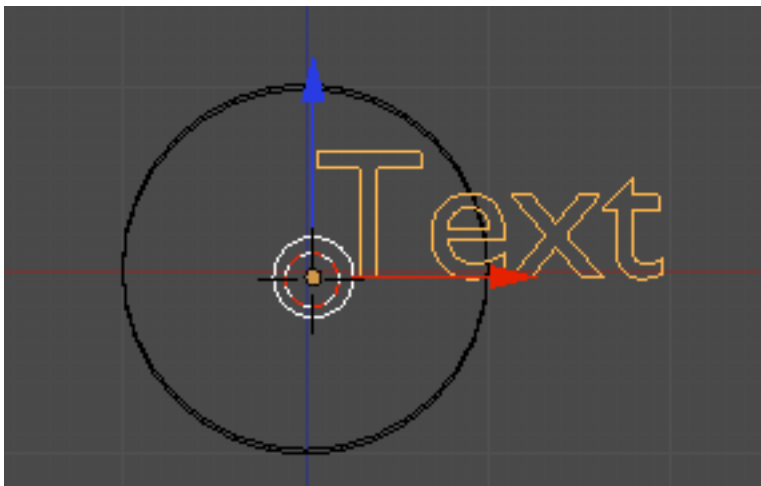
Press the AKEY to deselect the Seal. Place your 3D cursor in the center of the Seal. Press SHIFT-A and add a Text object.



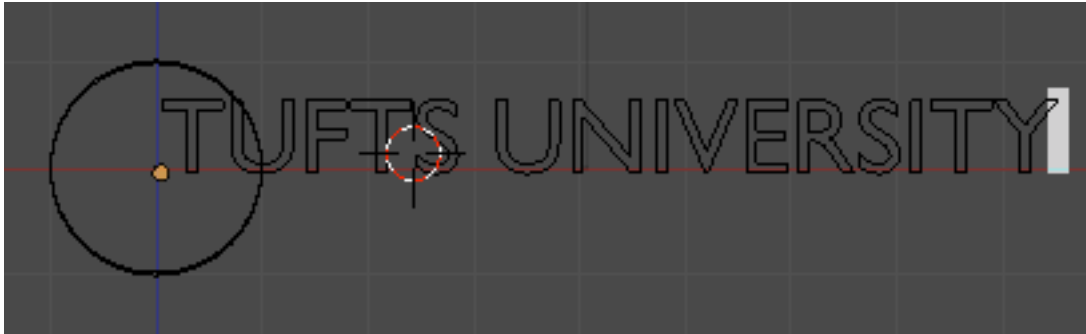
In the properties panel, set the X rotation to 90



The letters Text appears on the display spelling out the word “TEXT”.



TAB into Edit Mode. Use your Backspace key (or Delete key on a MAC) to backspace over the text. Then type in capital letters TUFTS UNIVERSITY.

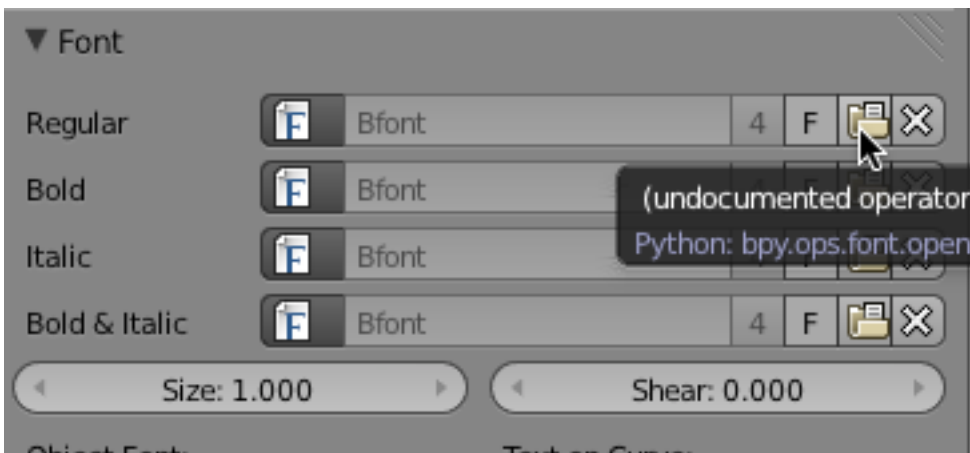


TAB out of Edit Mode. Blender uses a default font for text objects. However we can change the font to any PostScript Type 1 or True Type font. We will add a special “Tufts University” font to the list of Blender fonts. The name of this font file is “TUFTS.PFB” and can be downloaded [HERE](#).

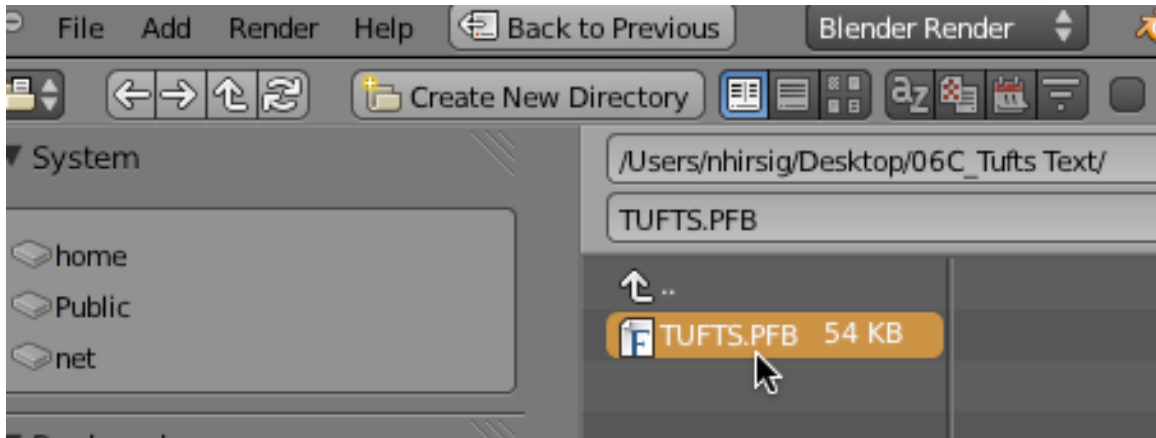
Go to the Object Data Editor.



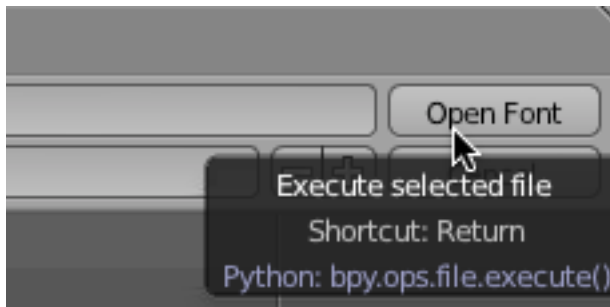
In the Font Panel, click on the Folder icon to the right of the “Regular” font.



This opens up Blender’s file page. Locate the TUFTS.PFB font file on your computer and select it.



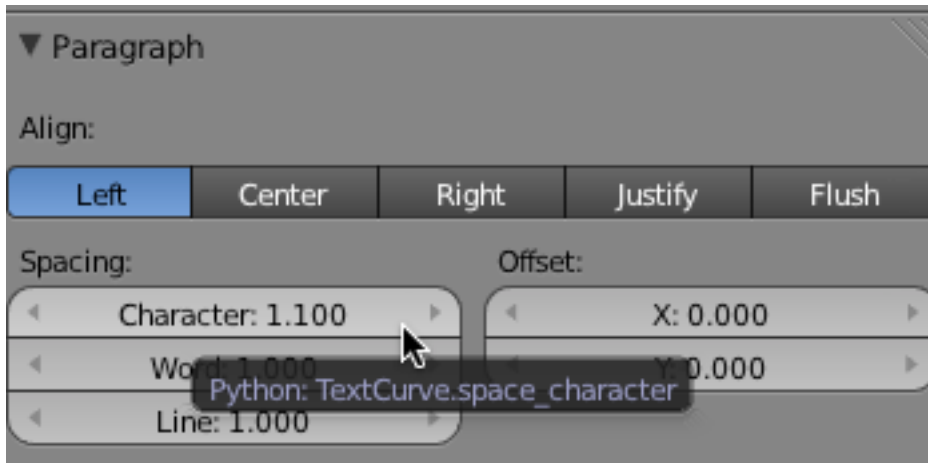
Click on the Open Font button.



This loads the font into Blender and applies it to the Tufts University text object.

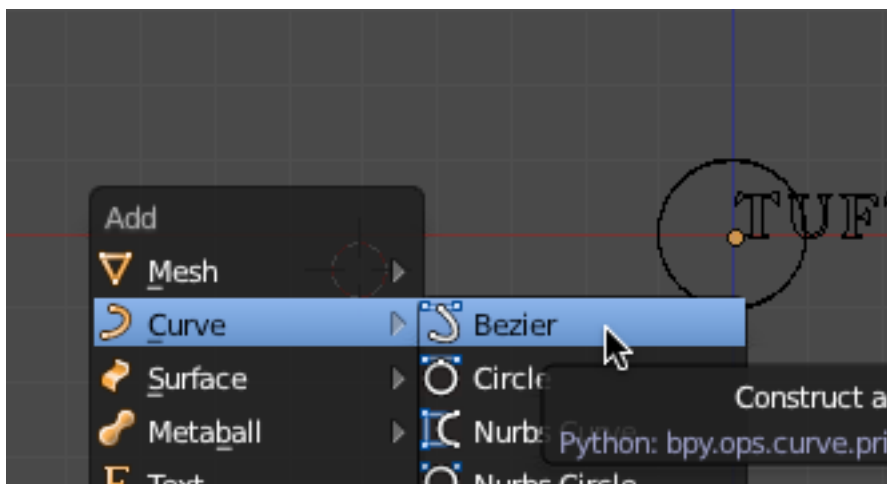


In the Paragraph Panel change the Character Spacing setting to 1.1. This will move the letters a little bit apart from each other.

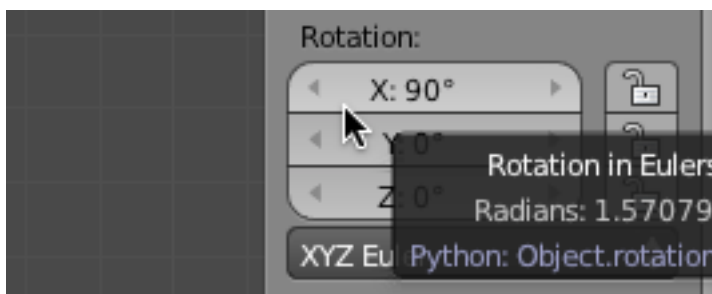


We want to curve the text in a circle around the seal. To do this we must first make a curved path. Press the AKEY to deselect the Text.

Place your 3D cursor in the center of the Seal. Press SHIFT-A and add a Bezier Circle.



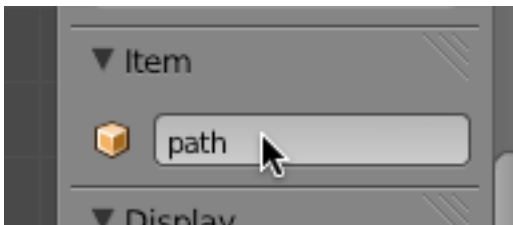
In the properties panel on the right, set the X rotation to 90.



Press the SKEY (Scale) and scale the circle as shown below.



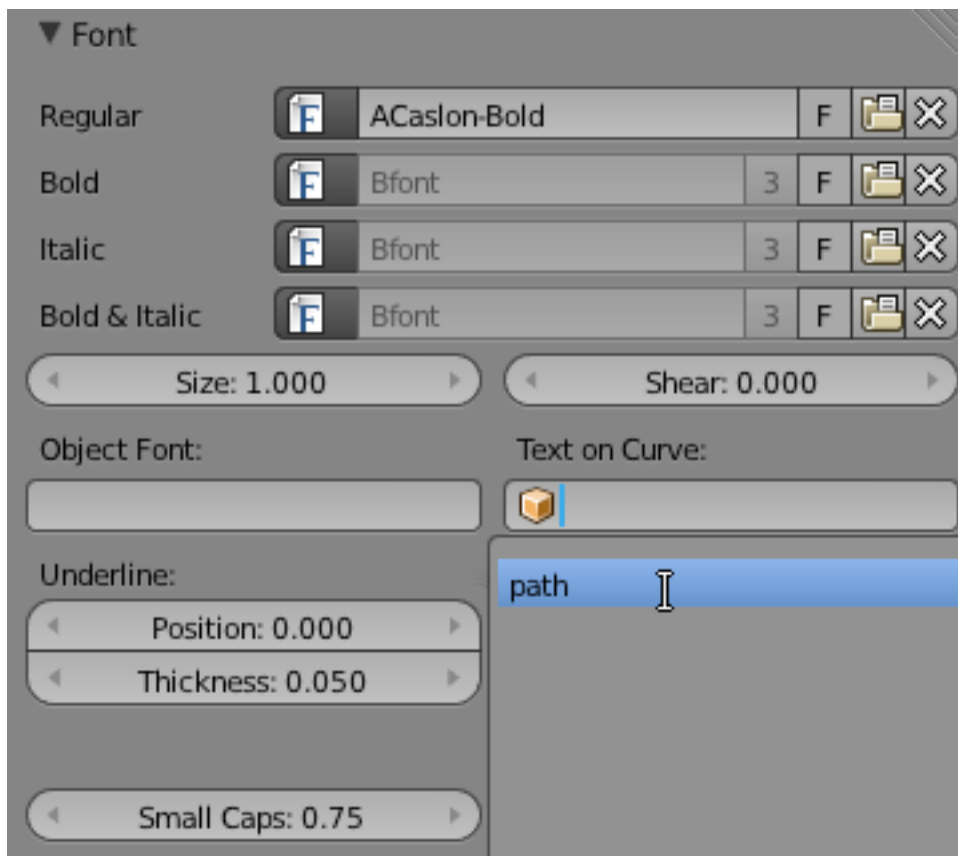
In the Properties Panel name this object “path”



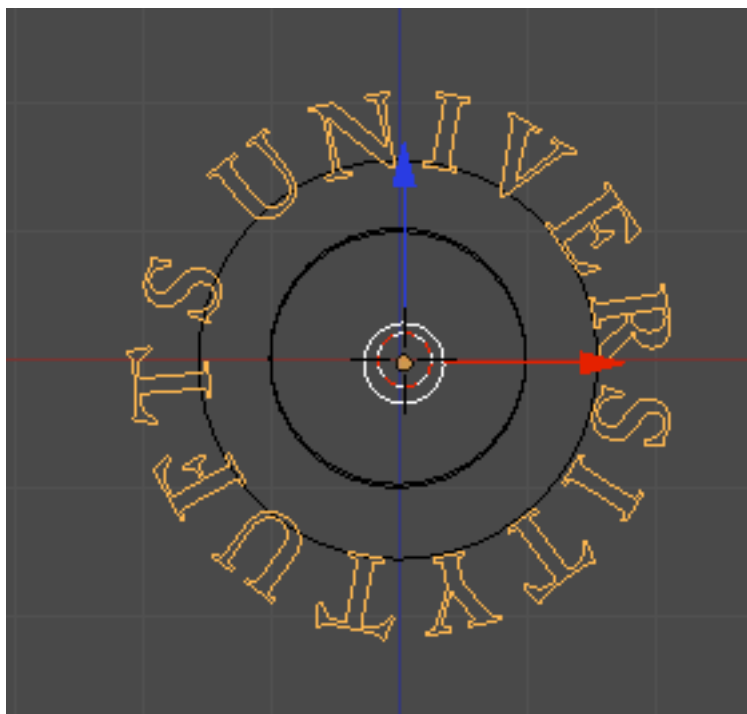
Set the LOC X, Y and Z at 0.



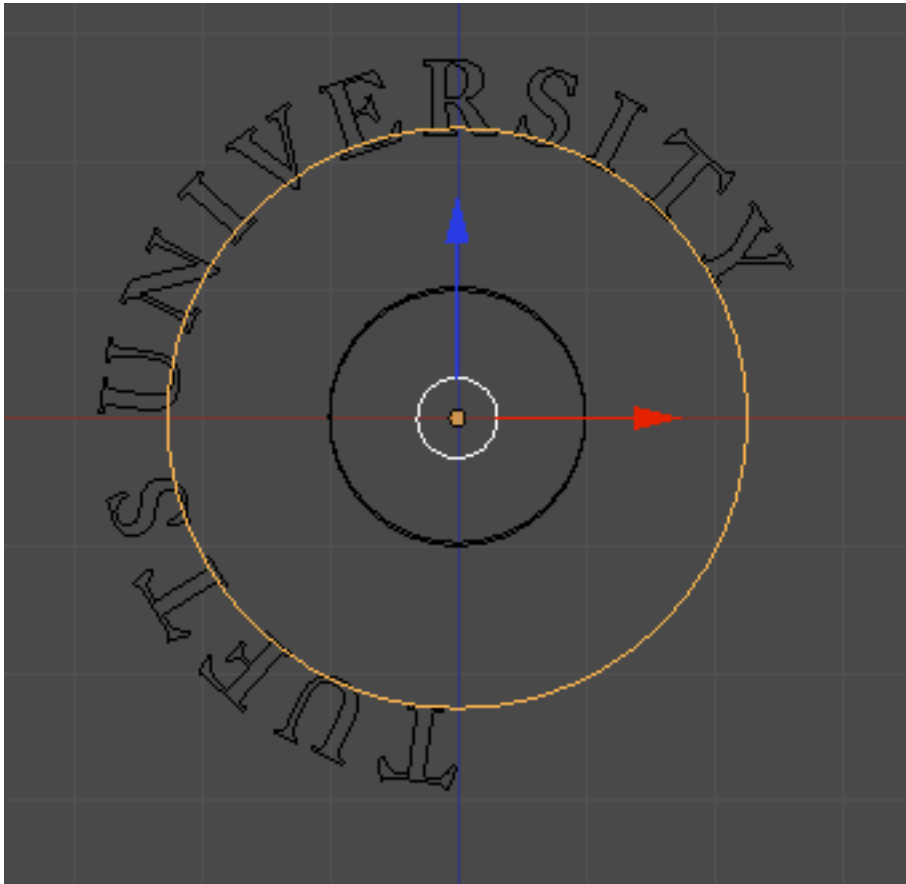
Select the Text object. In the Font panel (of the Object Data editor) click on the “Text on Curve” box and select the “path” object.



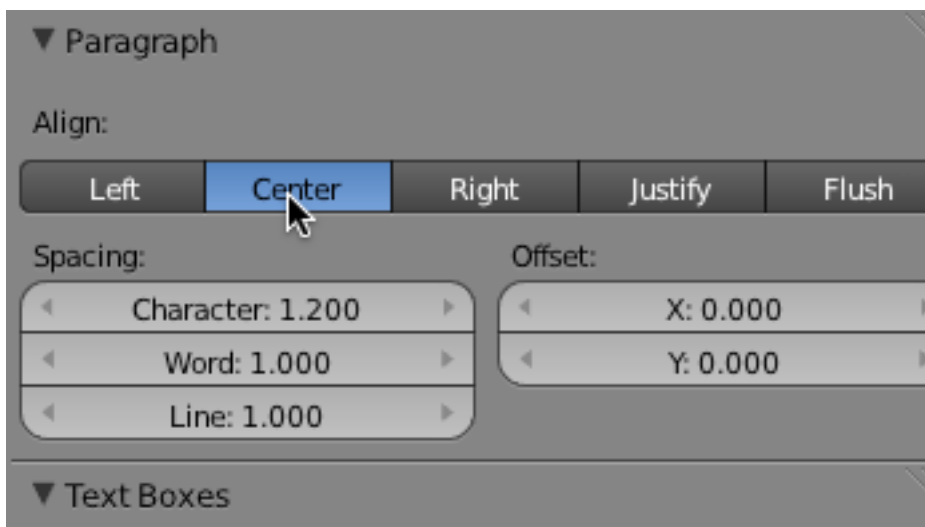
This displaces the Text along the Bezier circle's curve.



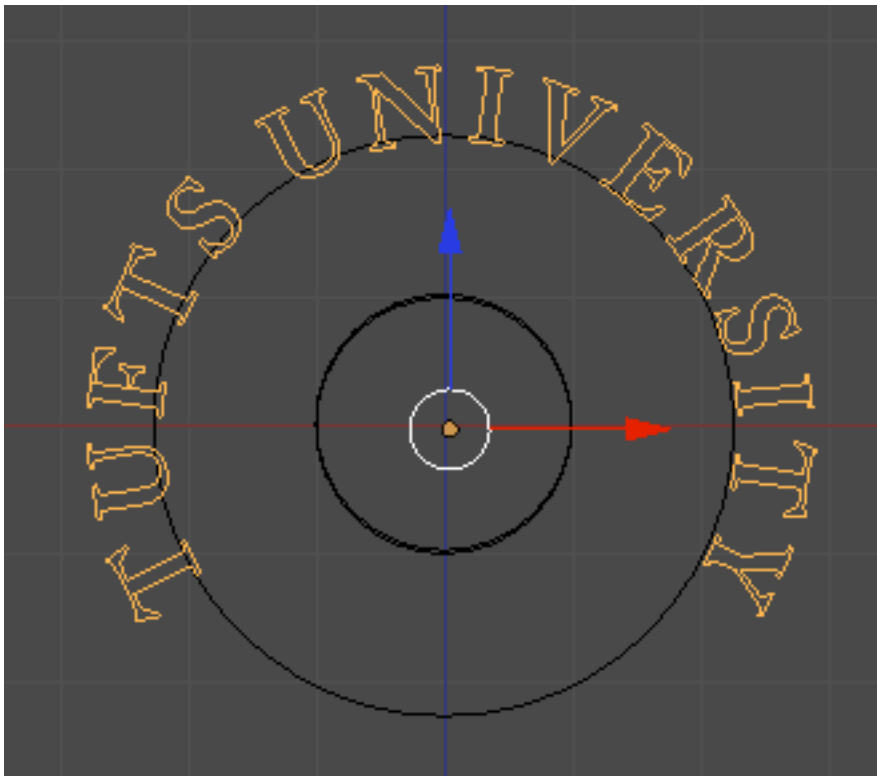
Select the Path object. Press the SKEY (Scale) and scale it up a bit as shown below.



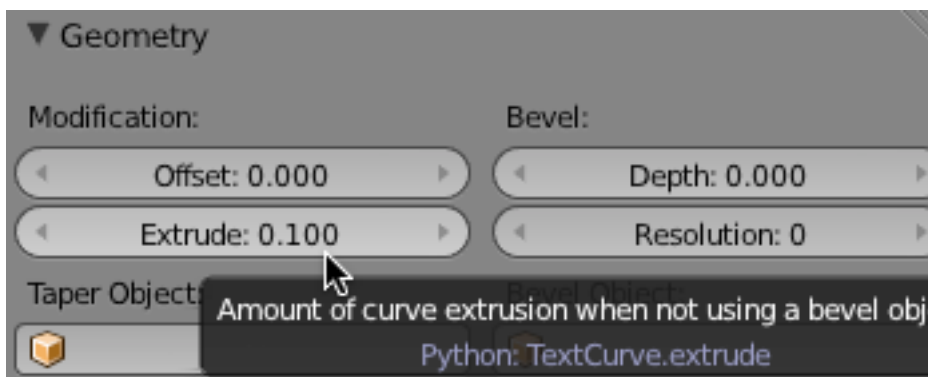
Select the Text object. In the Object Data editor / Paragraph panel select Center.



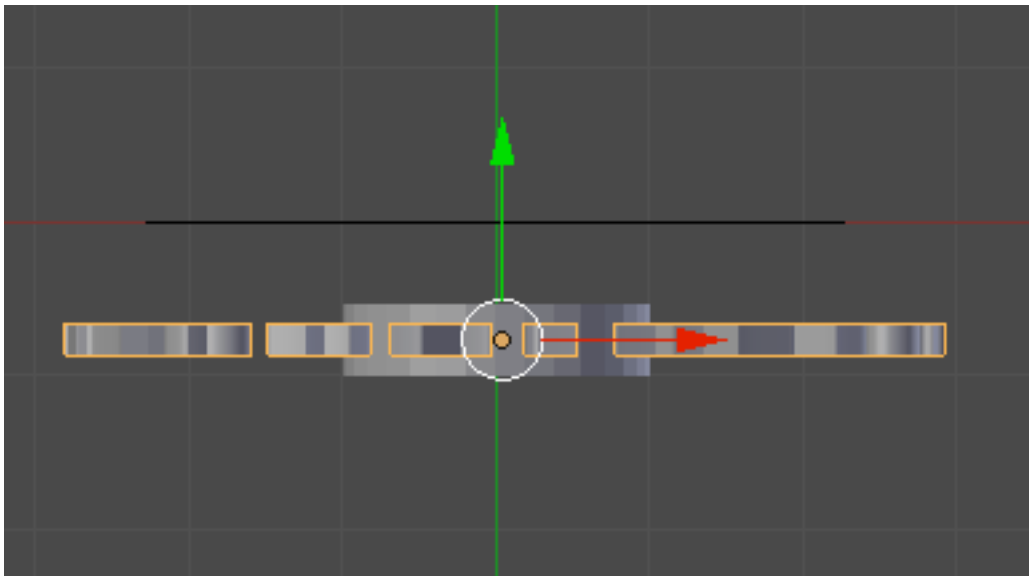
This will center the Text object around the path.



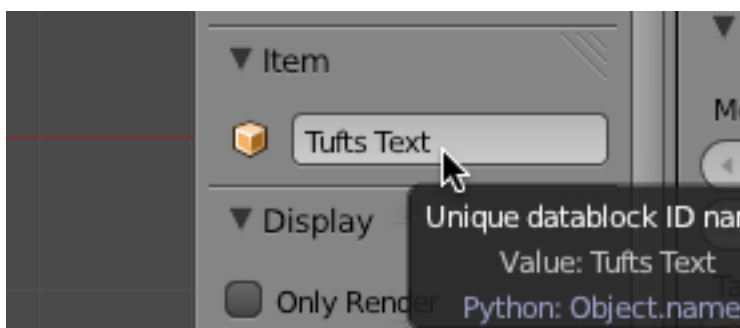
The text is still only 2 dimensional (but renderable). To give it more dimension in the Geometry panel set the Extrude to .1



Switch to Top View. Use the Green 3D Widget arrow to move the Text object so it is on top of the Seal.

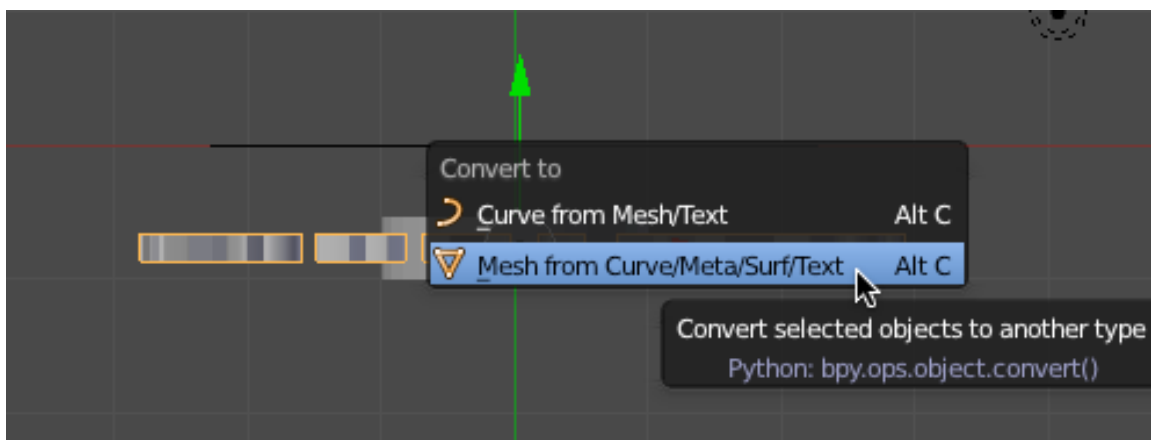


In the Properties Panel name this object “Tufts Text”.

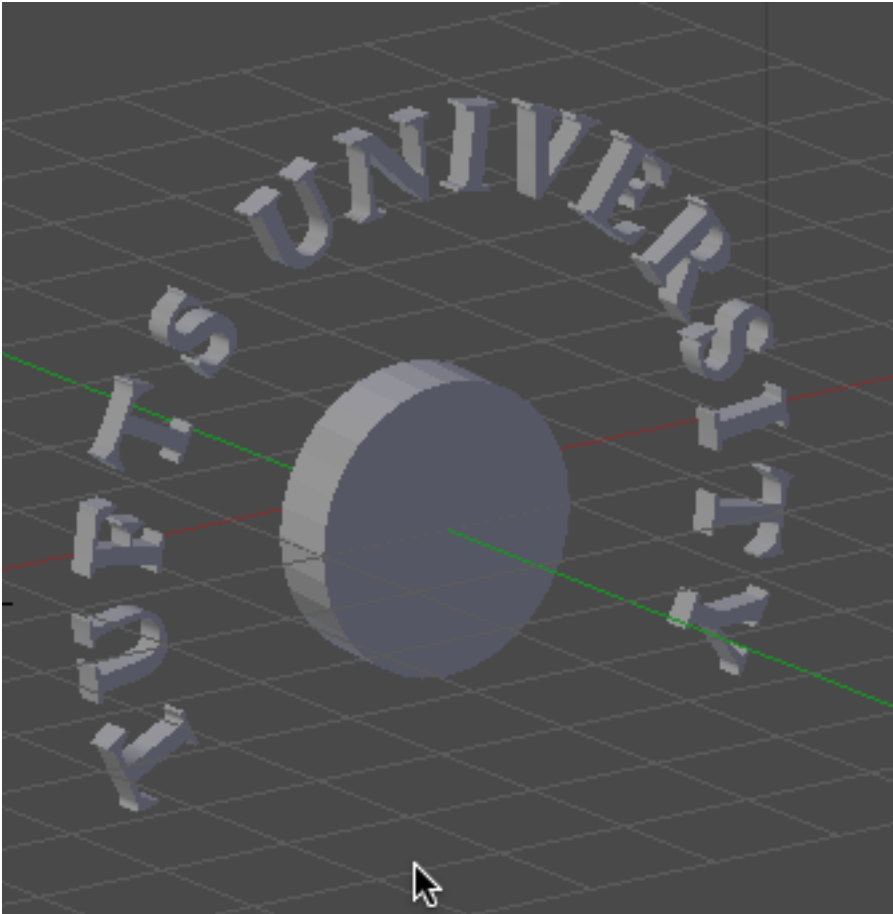


We want to animate this Text object later, so we need to convert it to a Mesh object and get rid of the Path object.

With the Tufts Text object selected press ALT-C and select Convert To - Mesh from Curve.



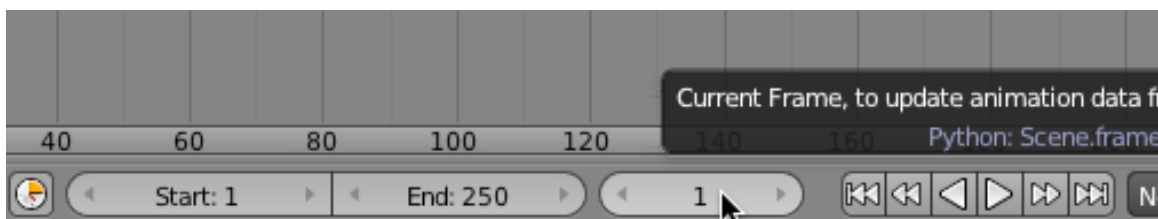
We no longer need the path object. Select the Path object and delete it. Press the ZKEY (Shading) and rotate you view to look at the model.



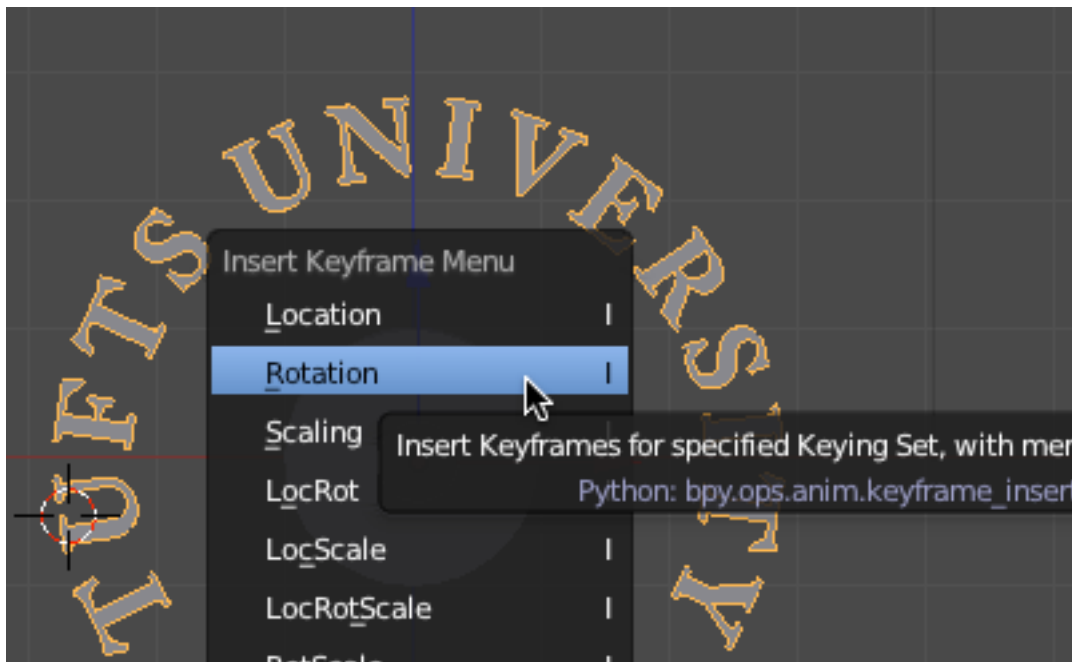
Save your Blend file (CTRL-W).

Animation:

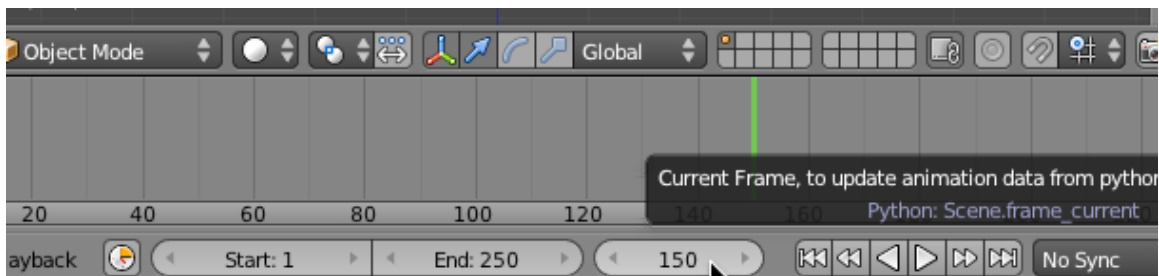
We want to animate the Tufts Text object around the Seal object. Switch to Front View. Make sure the current frame is frame 1.



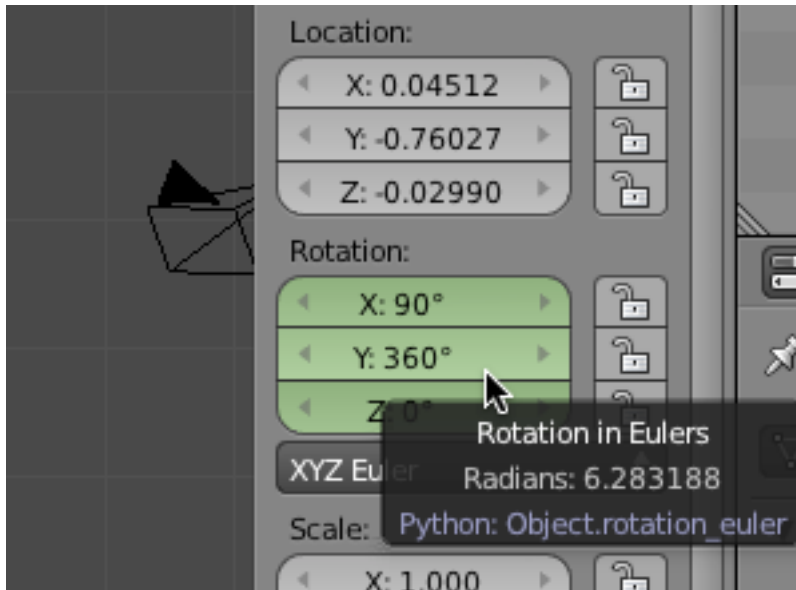
Select the Tufts Text object if not already selected. Press the IKEY (Insert) and insert a Rotation key frame.



This records the rotation of the Tufts Text object in frame 1. Set the current frame to 150.

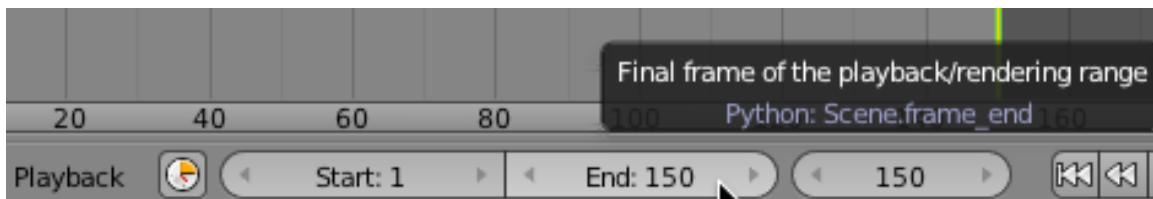


In the Properties Panel set the Y Rotation to 360 degrees.

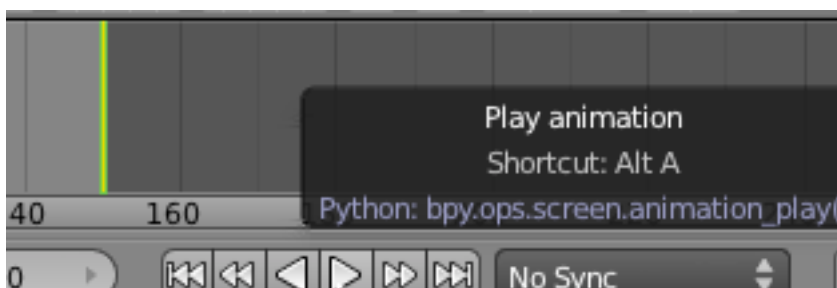


Press the IKEY (Insert). Insert a Rotation keyframe. This records the rotation of the Tufts Text object in frame 150.

In the Timeline Window set the End frame to 150.

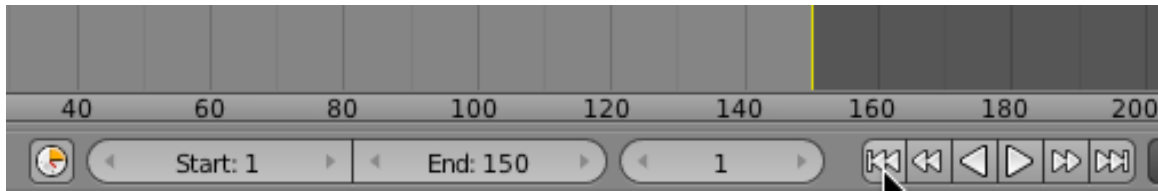


In the Timeline Window press the play animation icon.



This plays the animation in the 3D viewport. You can stop the playback of the animation by pressing the stop icon or pressing the ESC (Escape) key.

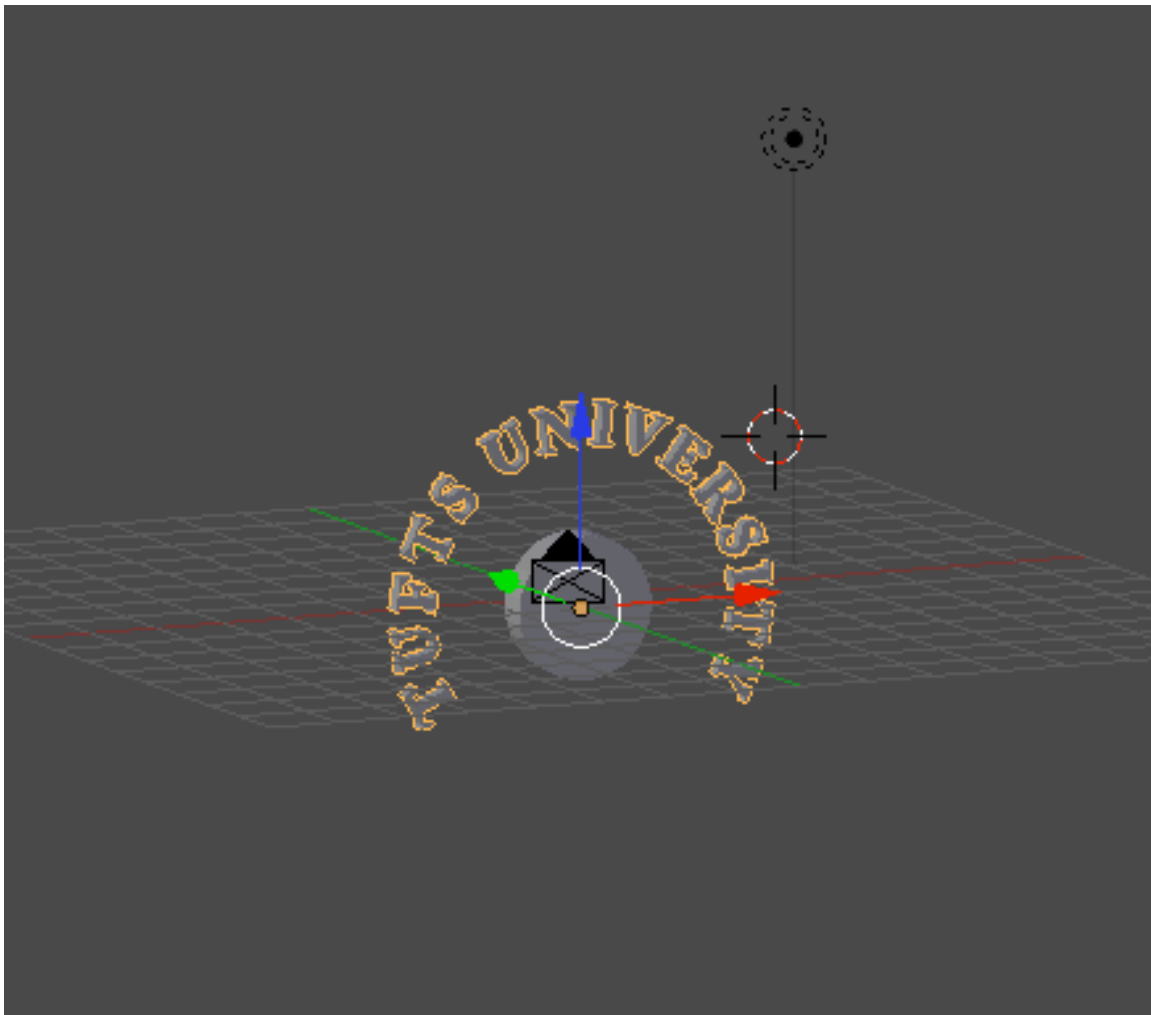
Set the current frame back to 1.



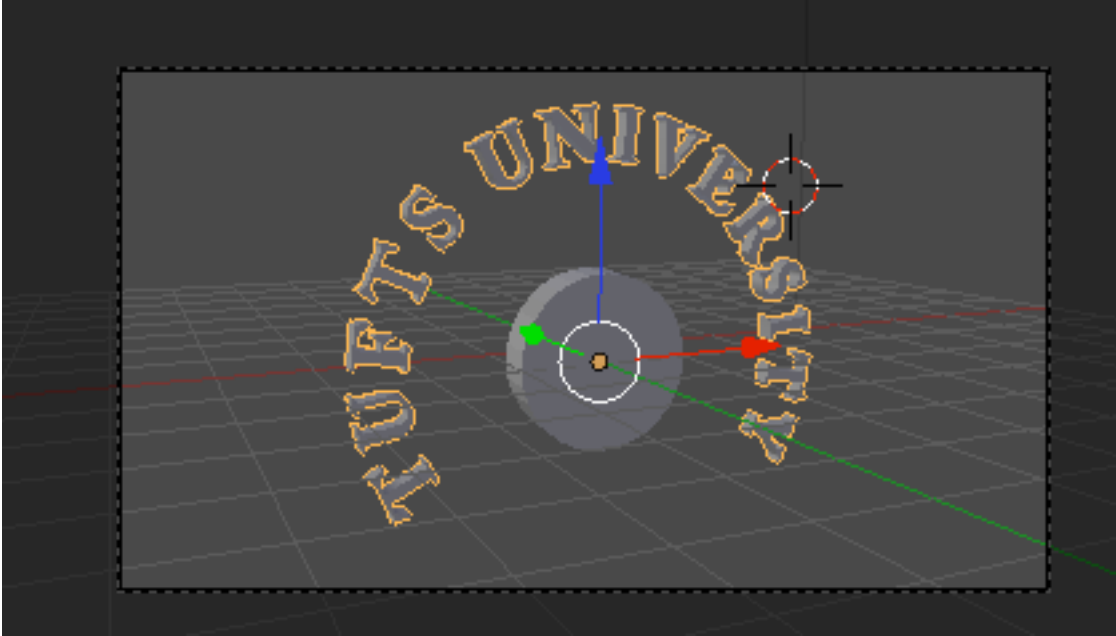
Save your Blend file.

Camera:

Rotate your 3D display to show the scene dimensionally in the center as shown below.



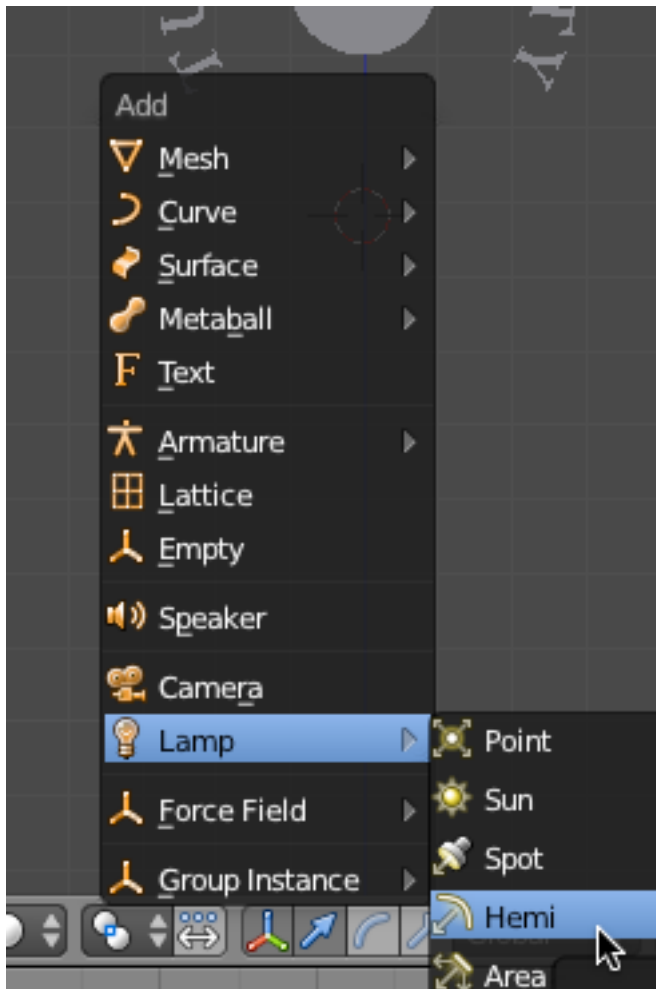
Press CTRL-ALT-NUMPAD-0 (align camera) This will align your camera object to the view.



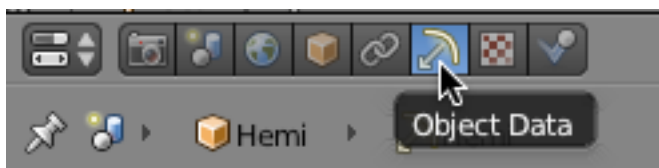
Note: You may have to go back and forth from your 3D view (click your center mouse button) to setting the camera view. Pressing NUMPAD-0 will always show you the camera view. You can also just select the camera object, move it or rotate it to establish a good camera view.

Lighting:

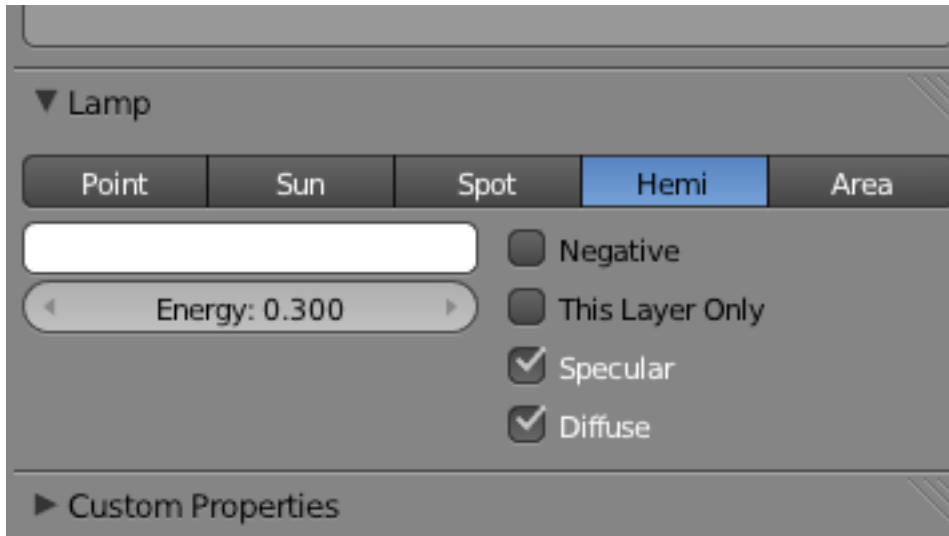
Go to front view. Select the default point lamp and delete it. Place your cursor below the Tufts Text object and add Hemi Lamp object.



Go to the Object Data Editor.

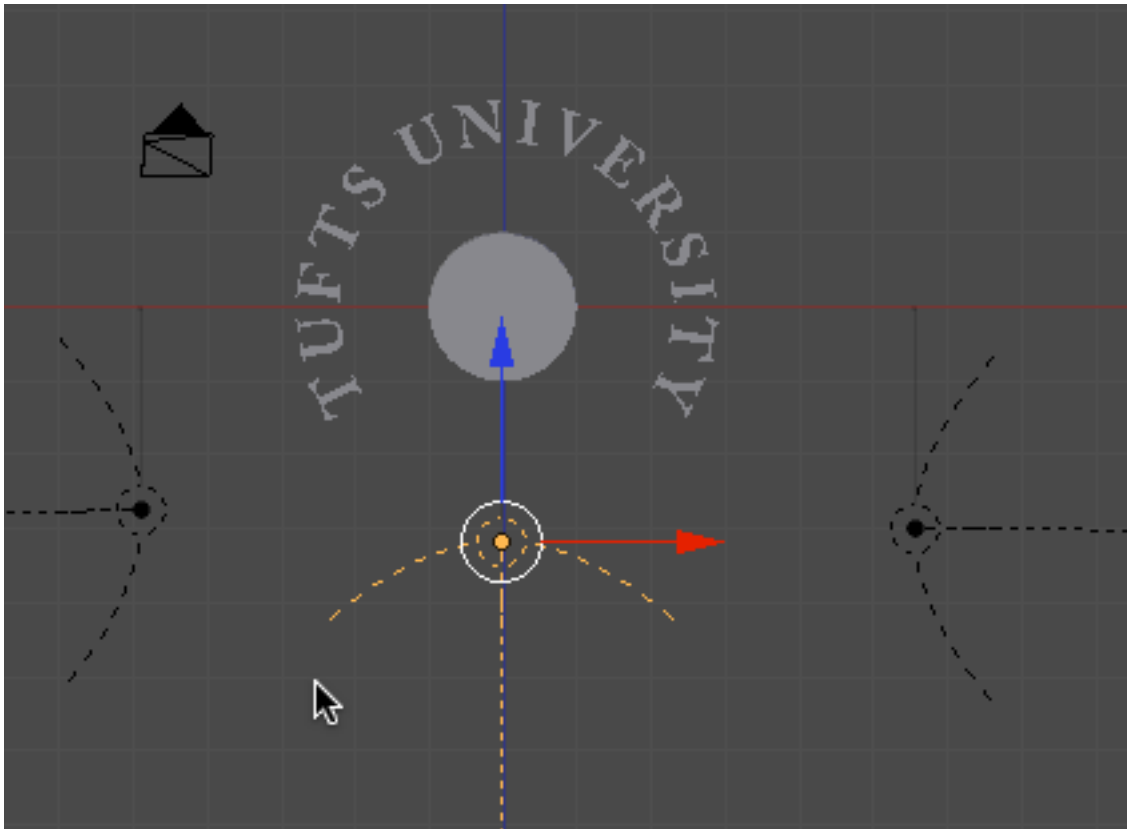


In the Lamp panel, set the Energy level to .5

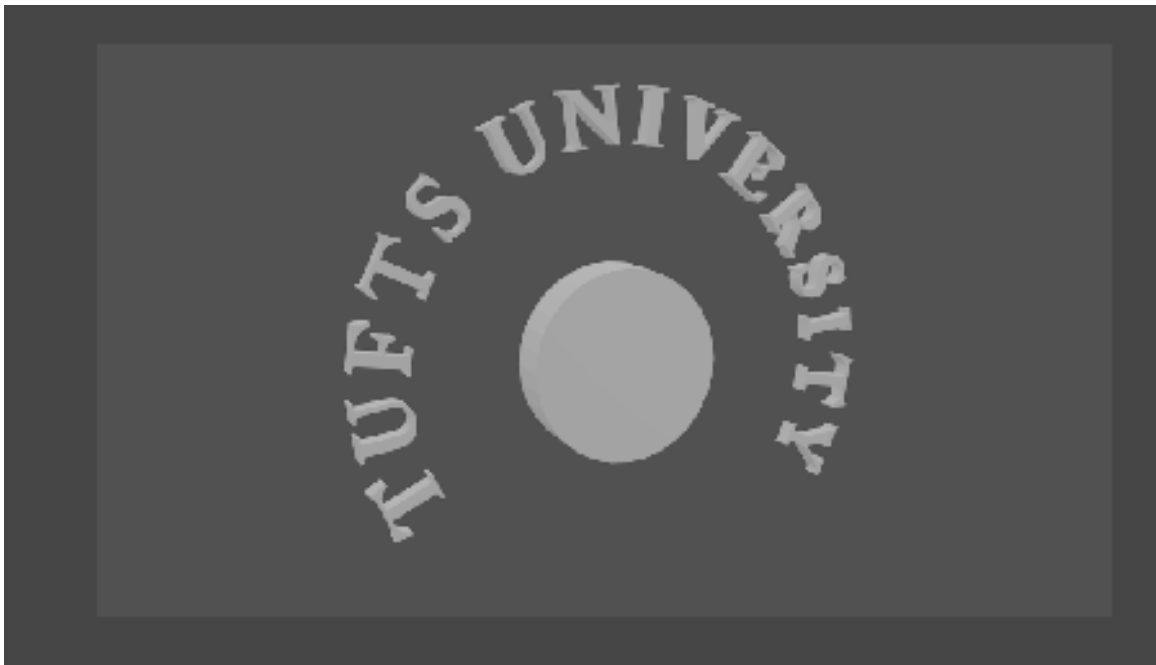


With the Hemi lamp selected, press SHIFT-D (Duplicate) and make a duplicate Hemi lamp object. Left-click to set and move the duplicate to the right a bit.

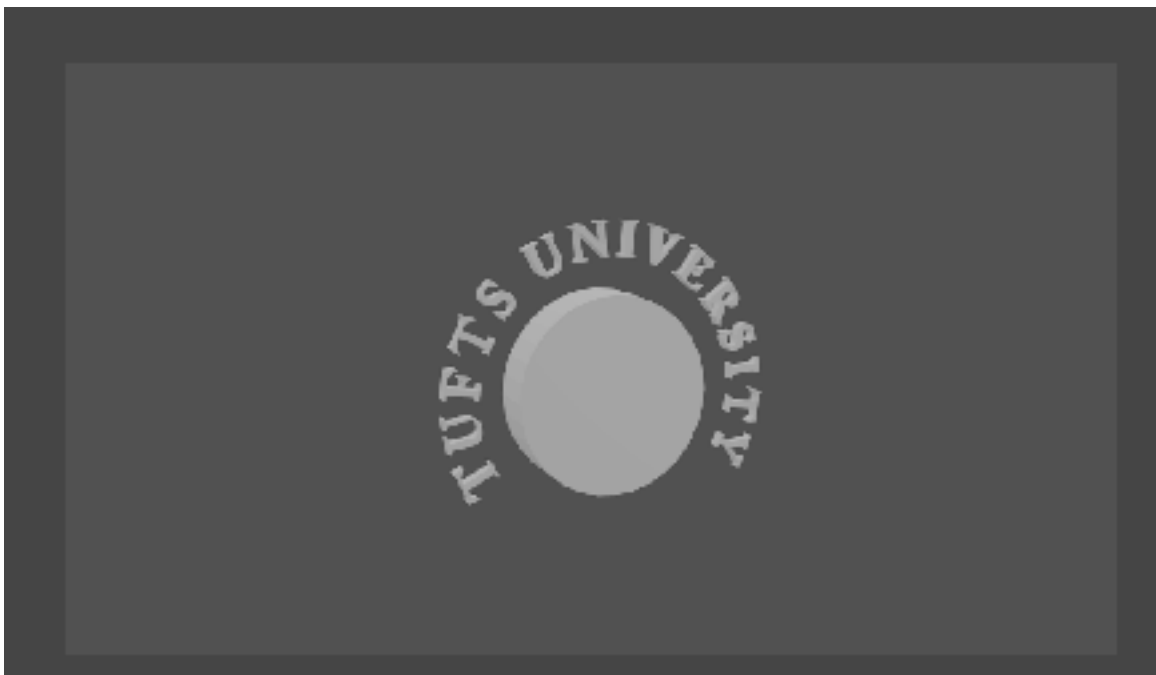
Make another duplicate Hemi lamp and move it to the left a bit. Rotate (RKEY) toward the Hemi lamps as shown below.



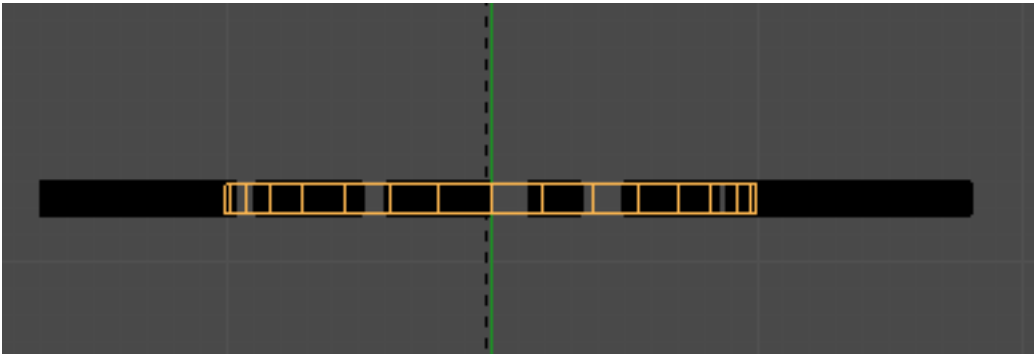
Render the scene.



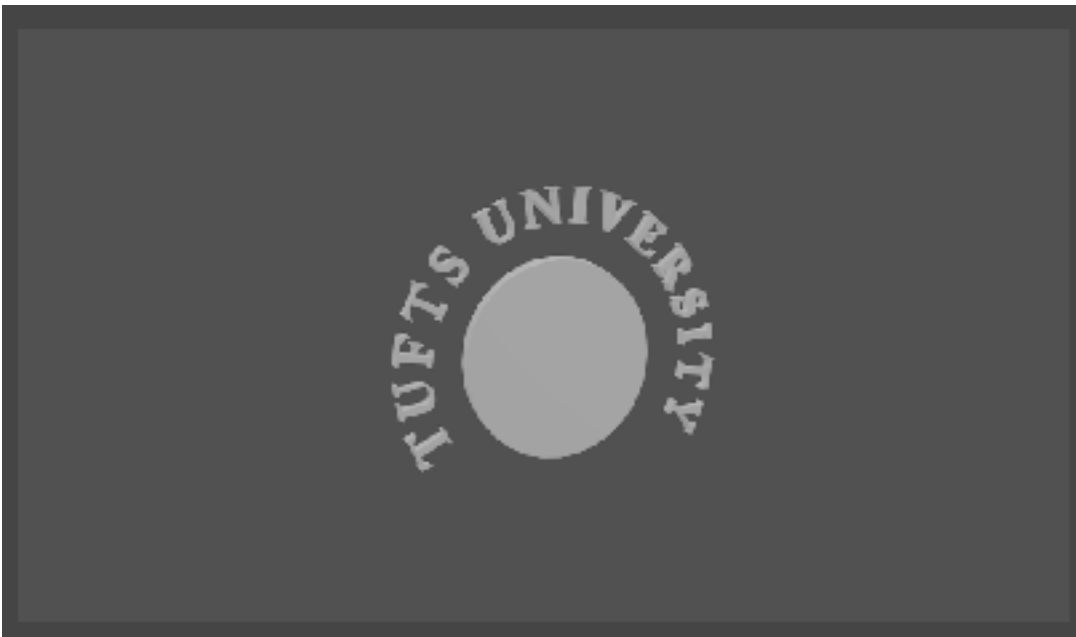
My TuftsText object is a bit too large to fit the entire circle animation within the camera frame so I will select it and scale it down a bit.



The rim of the Seal object is also a bit too wide. Go to Top view. Select the Seal object. Go to wireframe mode (ZKEY). TAB into edit mode. Box select the top vertices and move them closer to the other set. Then TAB out of edit mode and center the Seal in the Tufts Text object as shown below.



ZKEY back to solid shading mode, go to front view and Render the scene.



Save your Blend file.

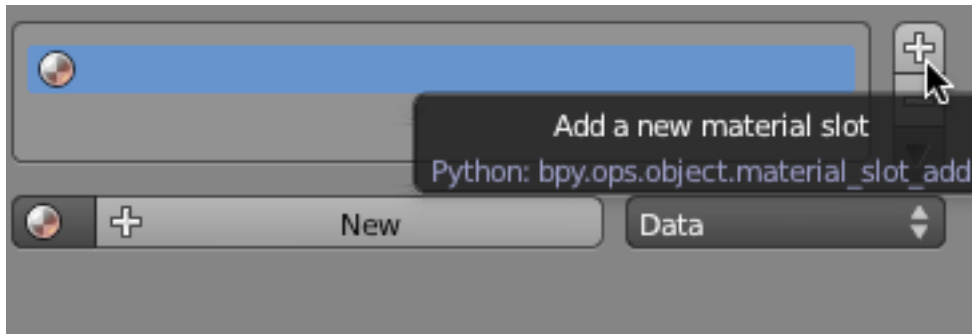
Materials:

We will add a textured material to the Seal object using an image file named “TuftsSeal.png”. You can download this image file [HERE](#).

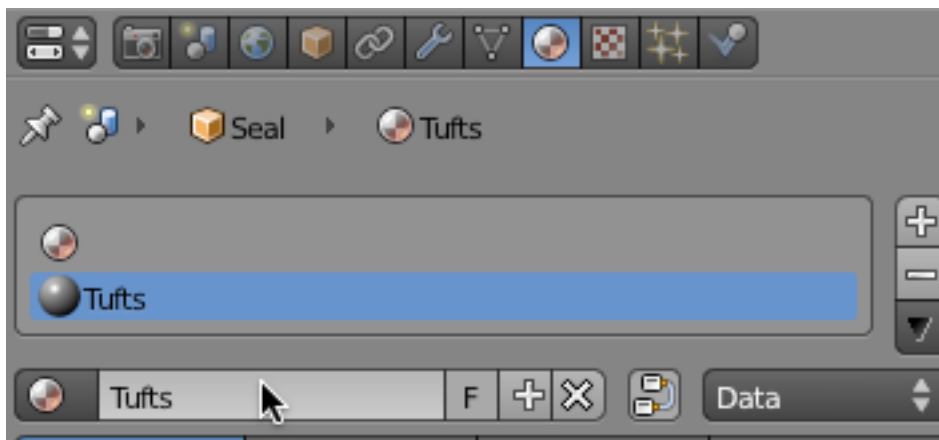
Select the Seal object. Go to the materials editor.



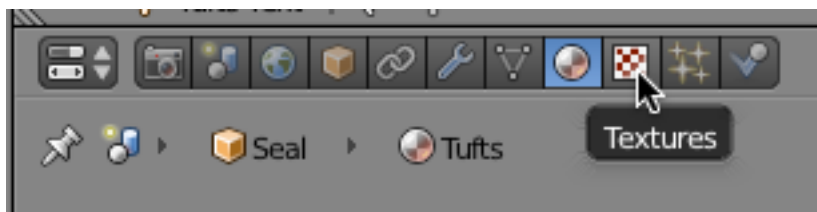
We will be placing two materials on this object. Click the Plus sign to add a second material slot.



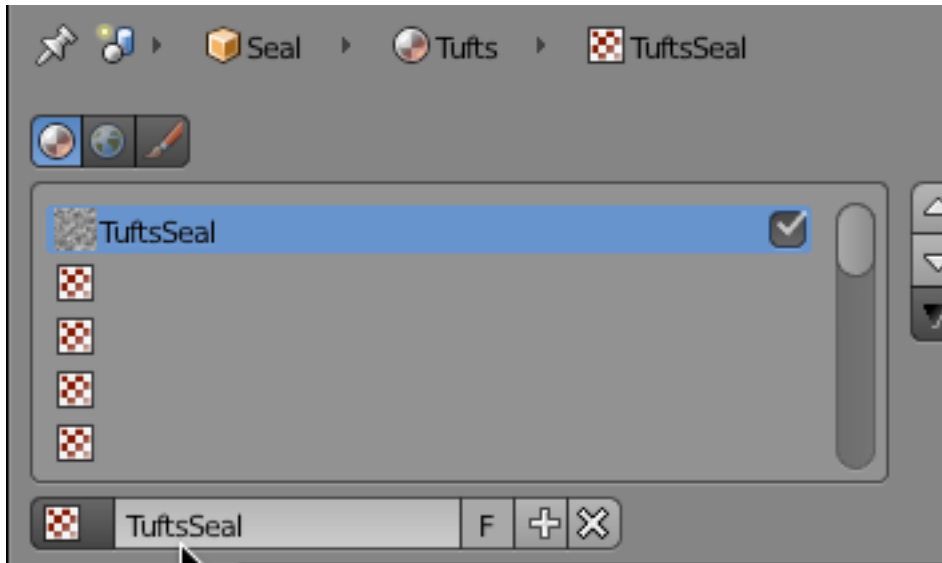
Select the second material channel and name it “Tufts”



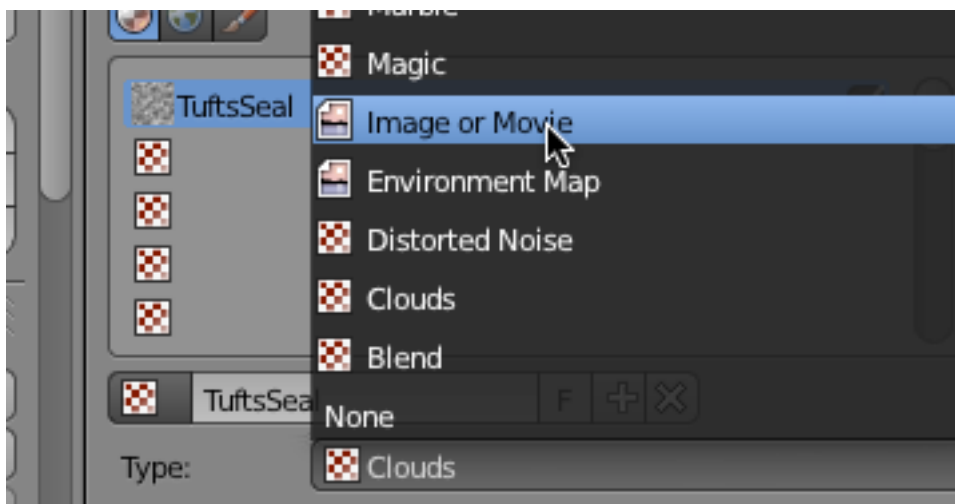
Go to the Texture Editor.



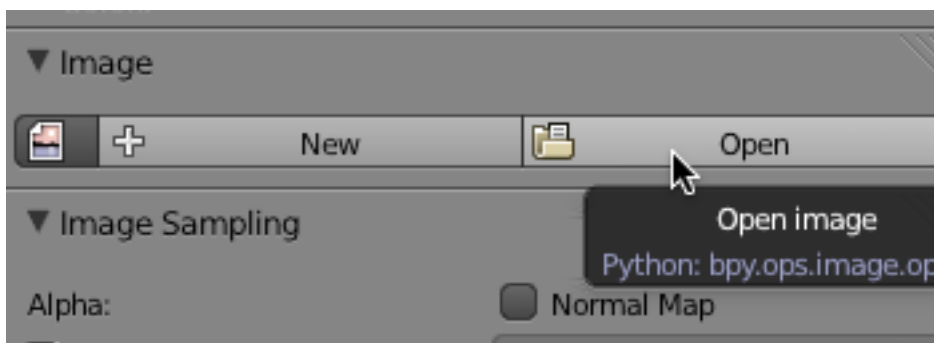
Click New and name the texture “TuftsSeal”.



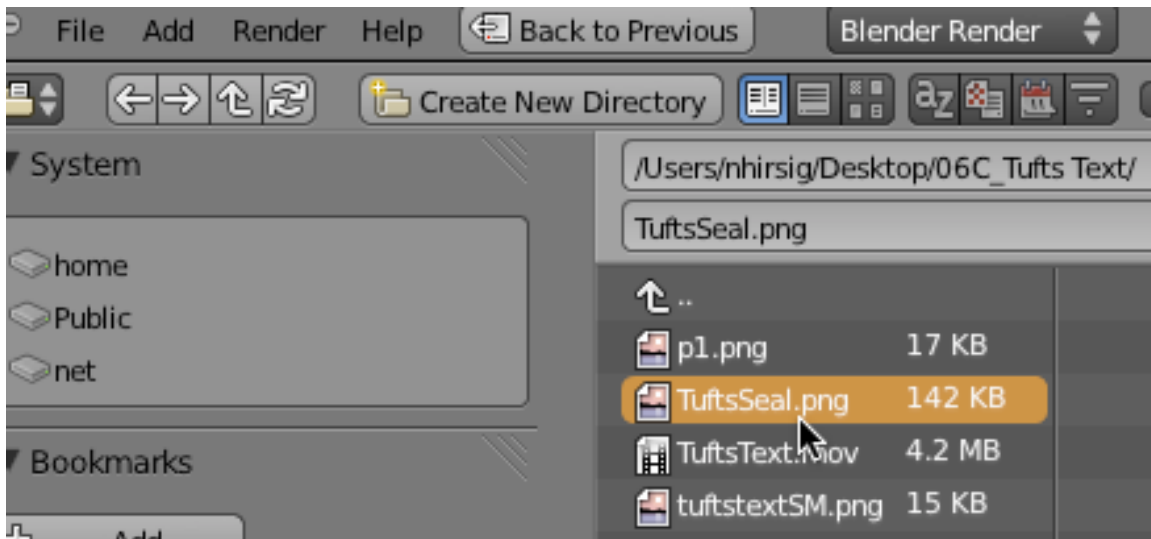
Change the Type to Image or Movie.



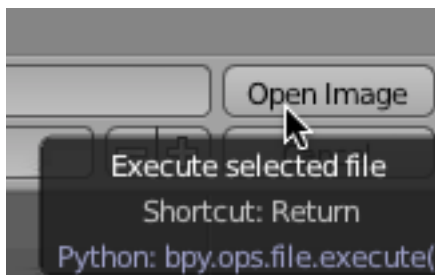
In the Image panel, click on the Open button.



This opens Blender's File page. Locate the TuftsSeal.png file on your computer and select it.

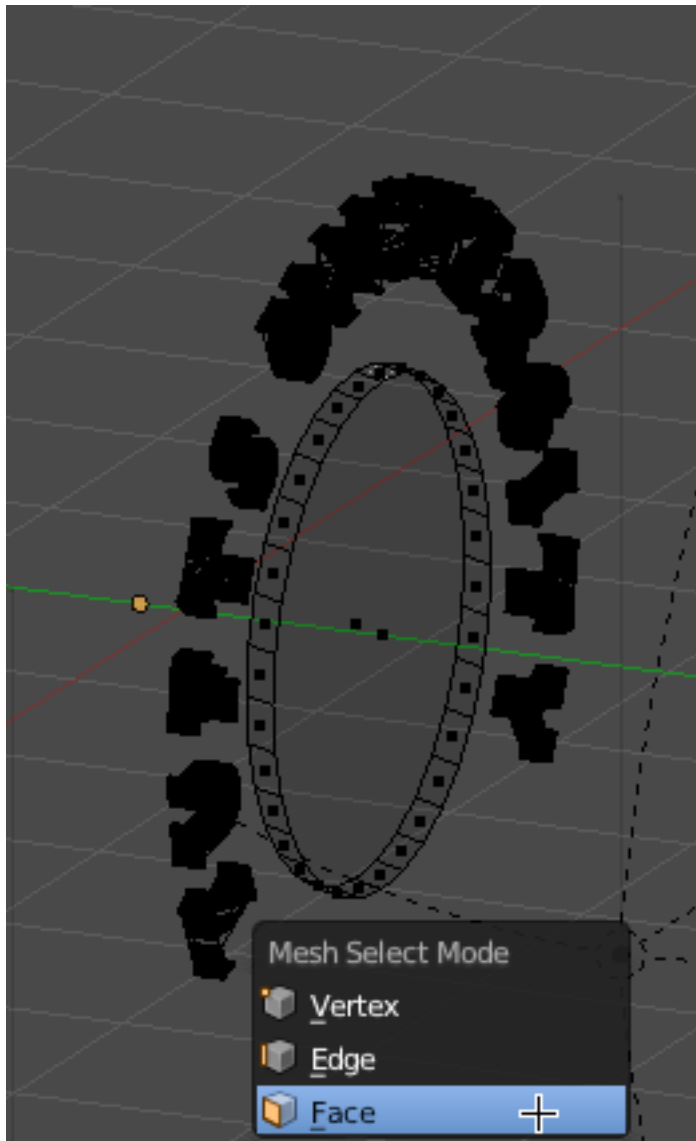


Click on the Open Image button.

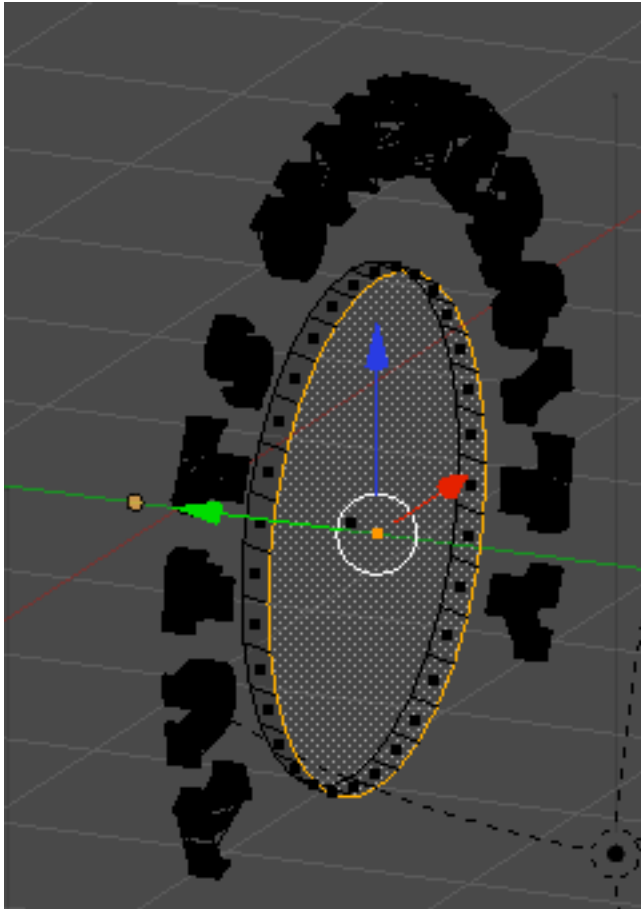


Go back to the Materials editor.

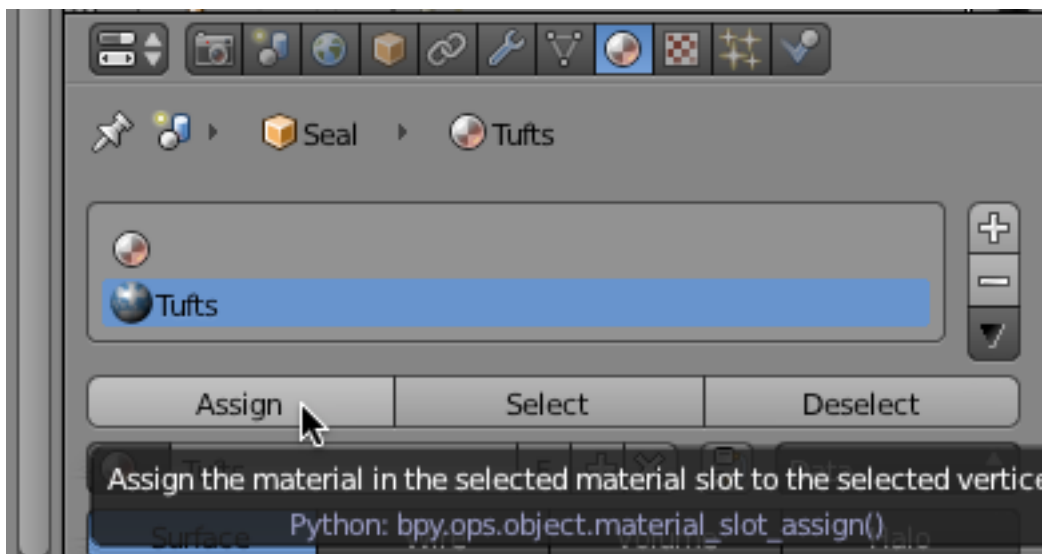
With the Seal object selected, TAB into edit mode. Go to wireframe mode (ZKEY). Deselect the vertices. Rotate your display to a more dimensional view. Go to Face select mode. CTRL-TAB



Select the front face of the Seal object.



In the Material editor, **with the Tufts material channel selected**, press the Assign button.



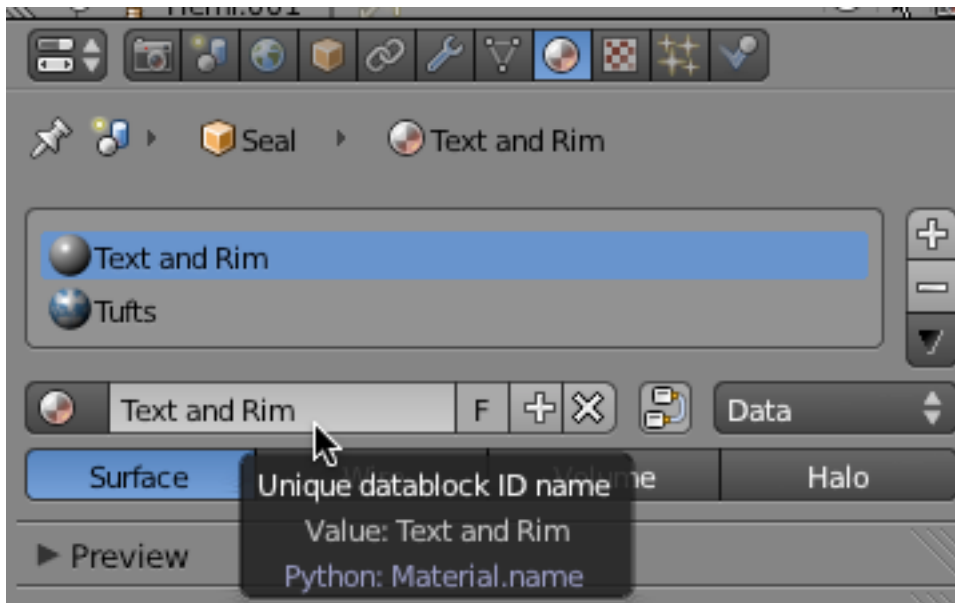
This assigns the Tufts material (that has the TuftsSeal image texture) to the front face of the Seal object.

Deselect the face (AKEY). TAB back to object mode. ZKEY to solid shading mode.

In the Specular panel set the Hardness to 211



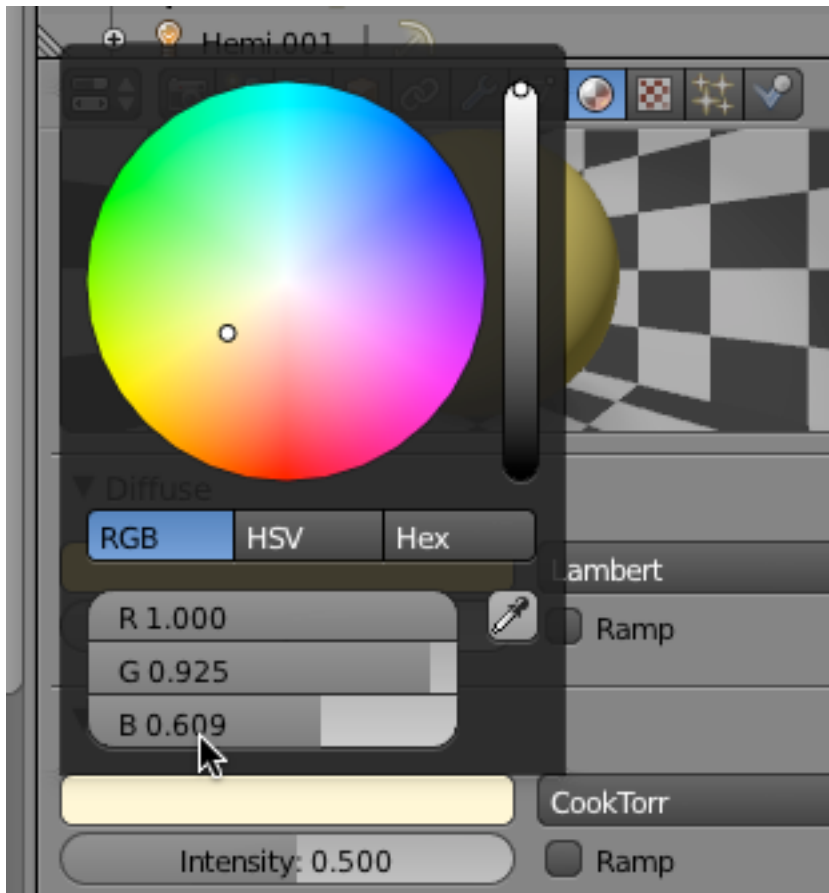
Now select the first (unnamed) material channel. Press the New button and name this material channel “Rim and Back”



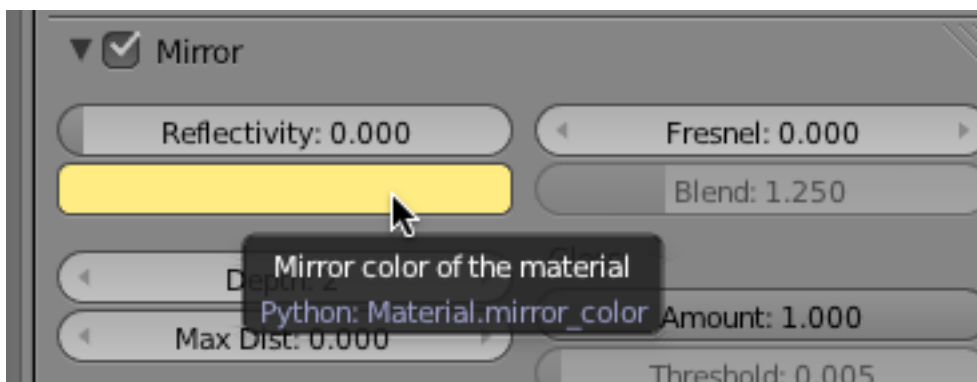
Click on the Diffuse color swatch. Set the R = 1, G=.820 and B=.168 making a gold diffuse color.



Click on the Specular color swatch. Set the R=1, G=.925, and B=.609

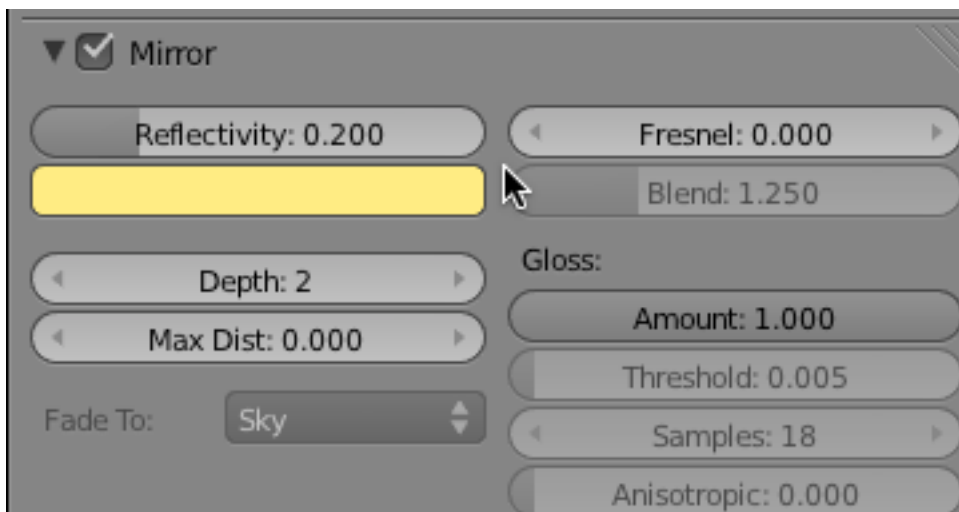


Check Mirror checkbox (activating it). Click on the mirror color swatch and set R=1, G=.820 and B=.165

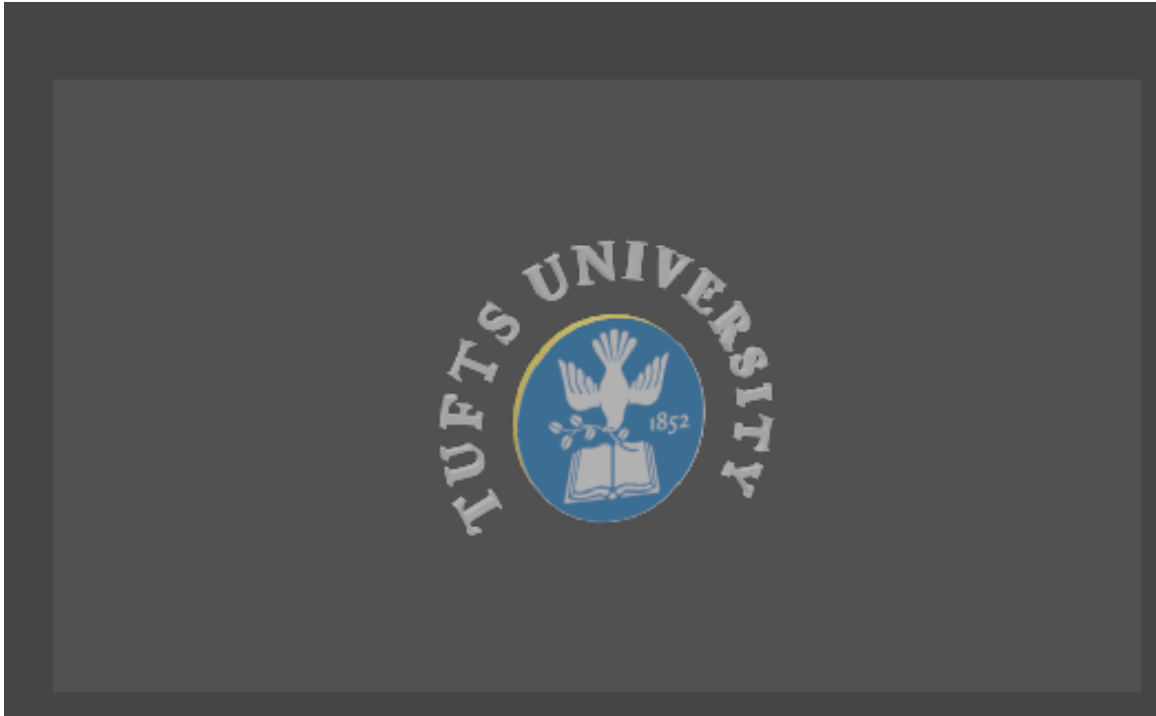




Set the Mirror reflectivity to .2



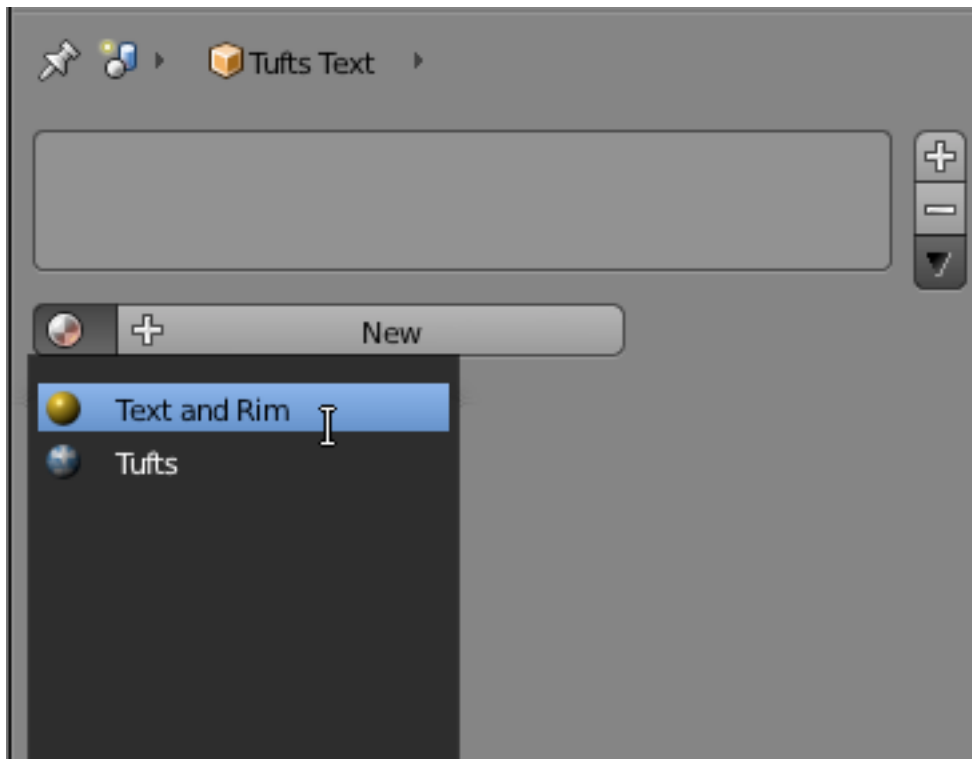
Render the scene.



Save your Blend file.

Select the TuftsText object. Go to the Material Editor. We will use one of the material channels we used on the Seal object. Click on the

Click on the “Browse Material button to the left of the New button and select “Text and Rim”.



This will assign the previously made material to the TuftsText object.

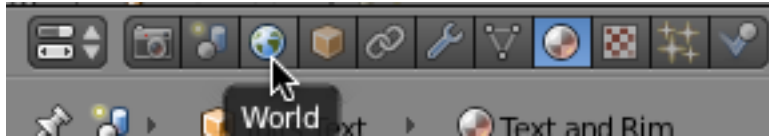
Render the scene.



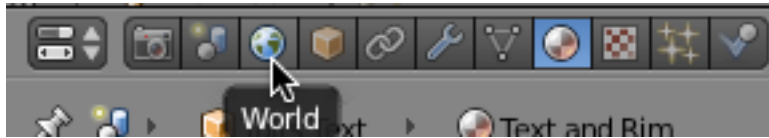
Save your Blend file.

World Background:

Press the AKEY so nothing is selected. Go to the World Editor.

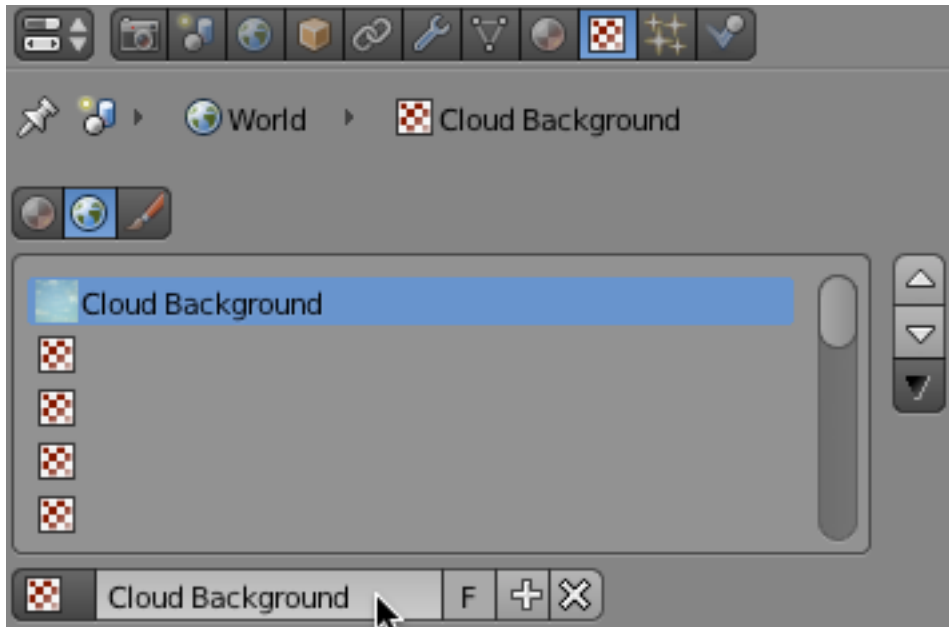


Now go to the Texture Editor



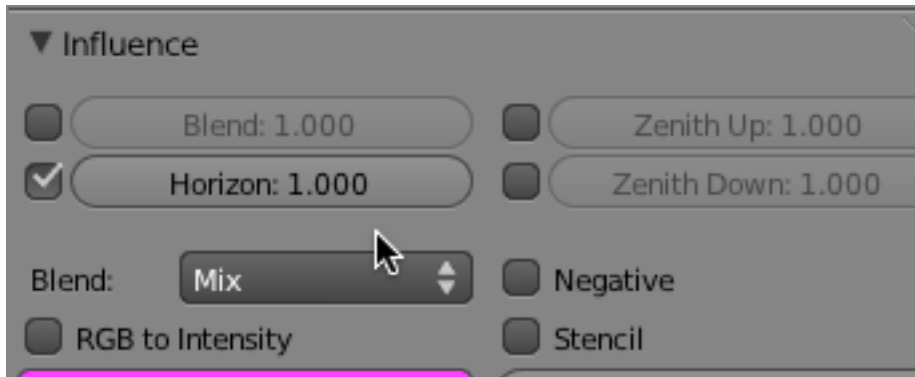
We will place an image of clouds in the Background. The image file we will use is named Clouds.jpg. This file can be downloaded [HERE](#).

Press the New Button and name this texture “CloudBackground”.

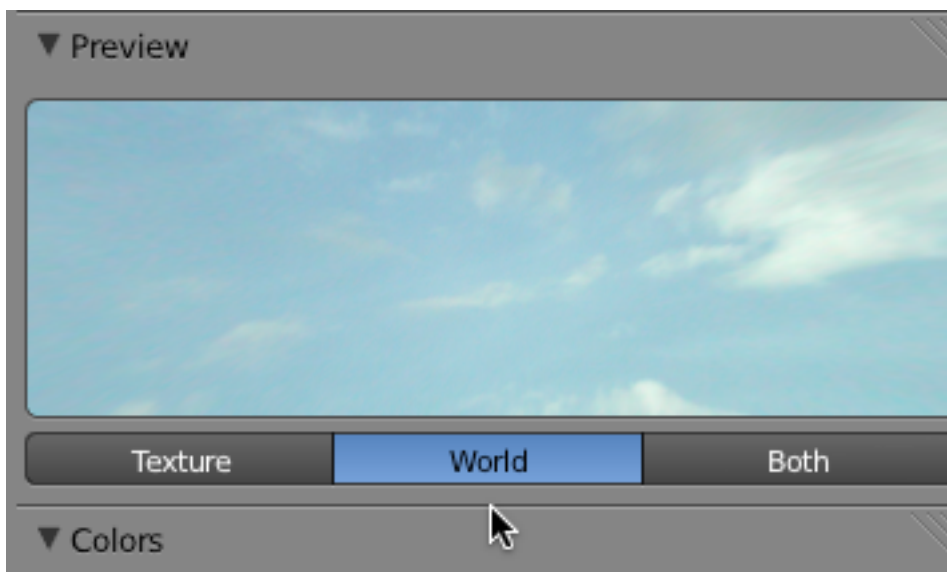


Change the Type to Image or Movie. Click on the “Open” button. This displays Blender’s File page. Locate the Clouds.jpg image on your computer and press the Open Image button.

In the Influence panel, uncheck the Blend checkbox and check the Horizon checkbox.



In the Preview panel select the World button.



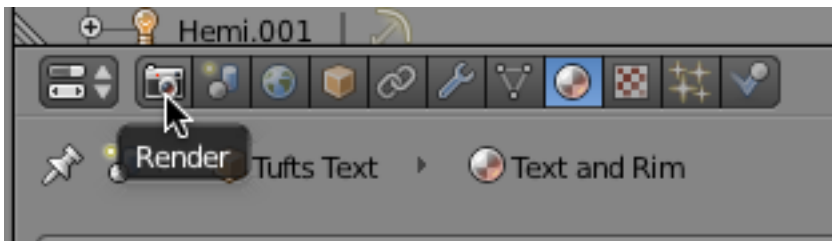
Render the scene.



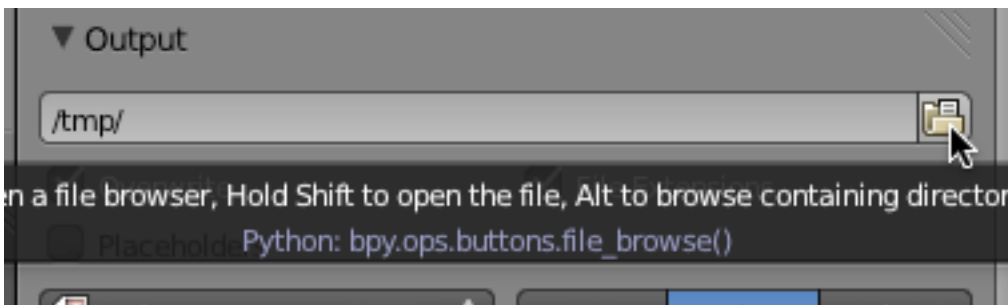
Save your Blend file.

Rendering the Animation:

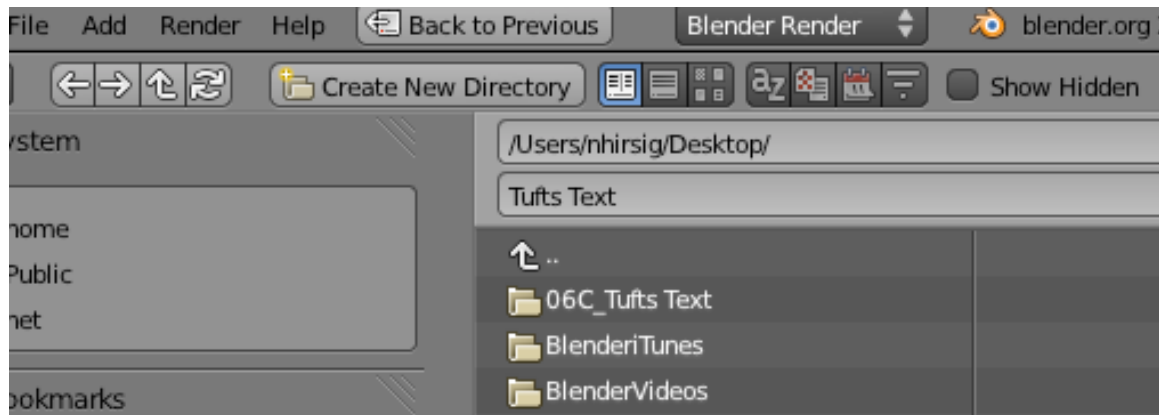
Go to the Render Editor.



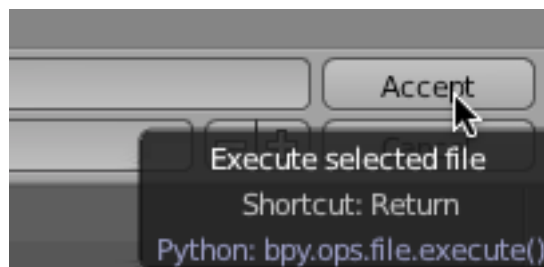
Scroll down to the Output panel and click on the folder icon as shown below.



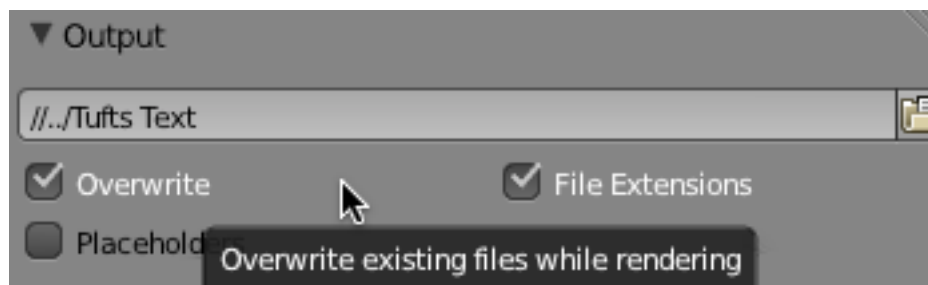
This displays Blender's file page. Decide where you would like the video file to be located (I choose the desktop) and then name the file Tufts Text Video (You do not have to add a file extension to the name).



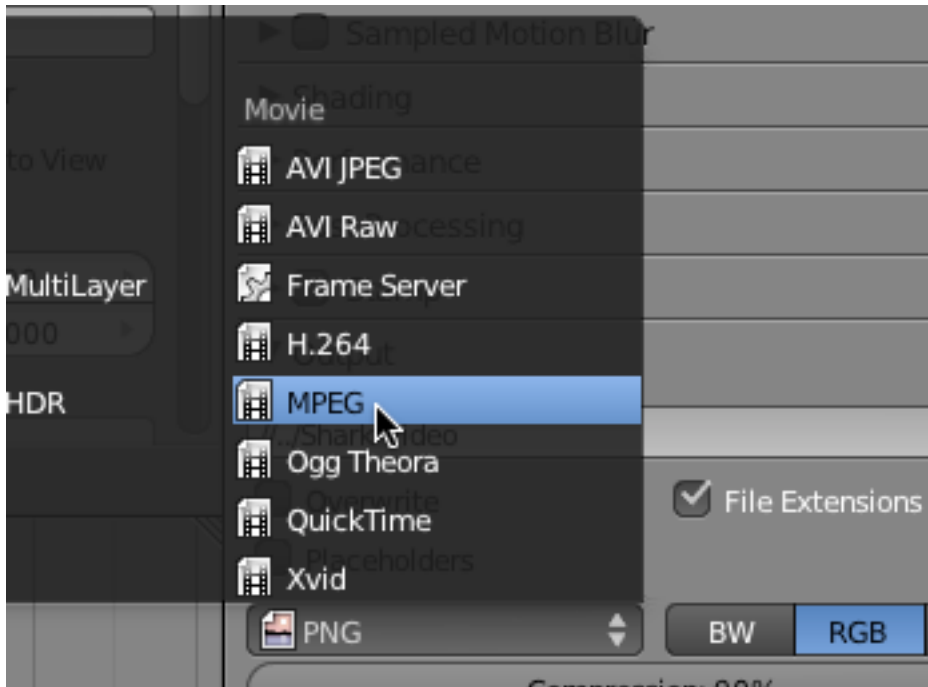
Click on the Accept button.



This sets the name and file saving path in the Output panel of the Render Editor.



Click on the PNG (which is really the file type button) and select MPEG



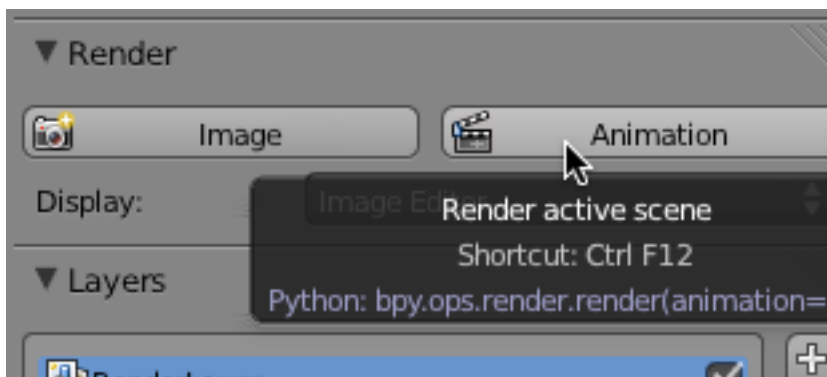
Note: You can choose a different video file type if you want.

Scroll up to the Dimensions Panel. Note that the default dimensions of the video (or the image) is 1920 pixels by 1080 pixels at 50%. This means the size of the video (or image) will be rendered at 960 x 540 pixels.

You can change this size by reducing the % slider. At 25%, the rendered video will be 540 x 270 pixels.

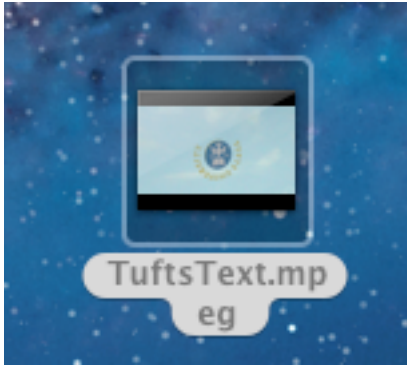
The larger the render dimensions, and the more complex the modeling, animation, texturing and especially the lighting, the longer it will take to render.

To render the video file, click on the Animation button.



This will render each frame in order in the UV Image Editor. This may take a long time. When the rendering is complete. You should have a video file (of your chosen file type) located on your desktop (or wherever you set the video to be rendered to.)

If you choose MPEG as the file type, the video file is, by default, named Tufts Text Video0001-0300.dvd. You can rename this to TuftsText.mpeg.



Save your Blend file.

You can view this Video file [HERE](#).

A completed copy of this tutorial .blend file named “TuftsText_Complete.blend: can be found [HERE](#).