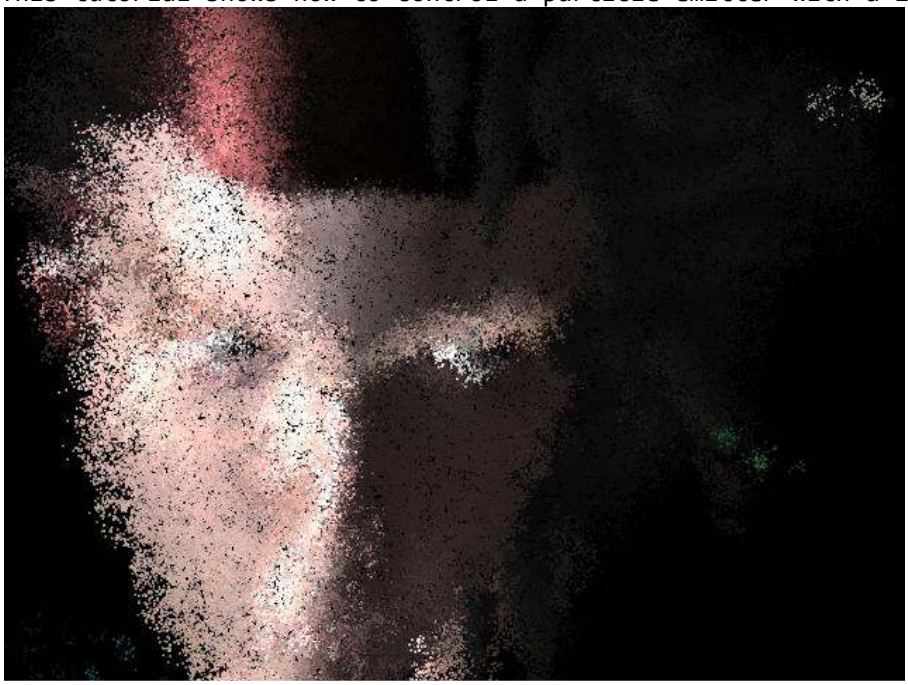
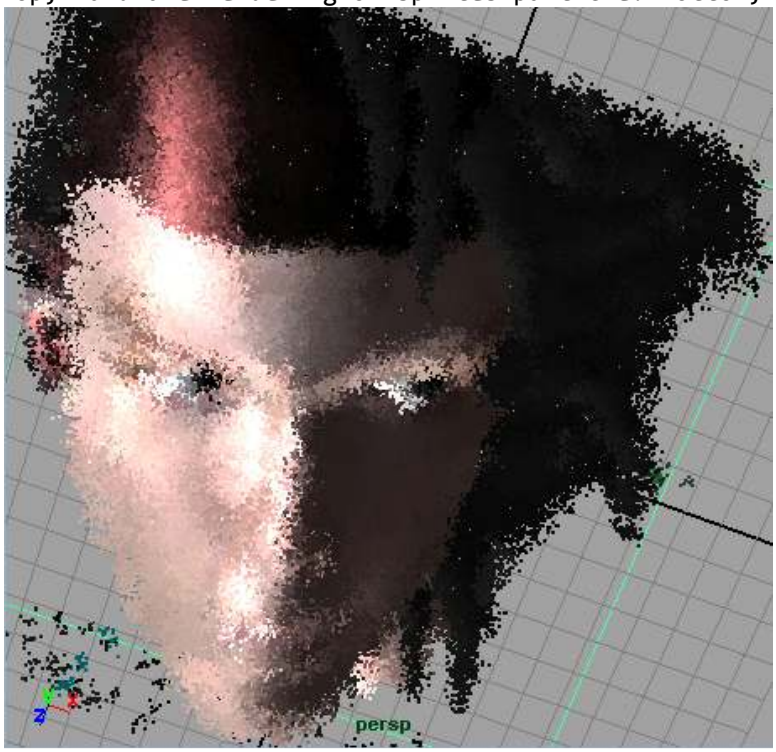
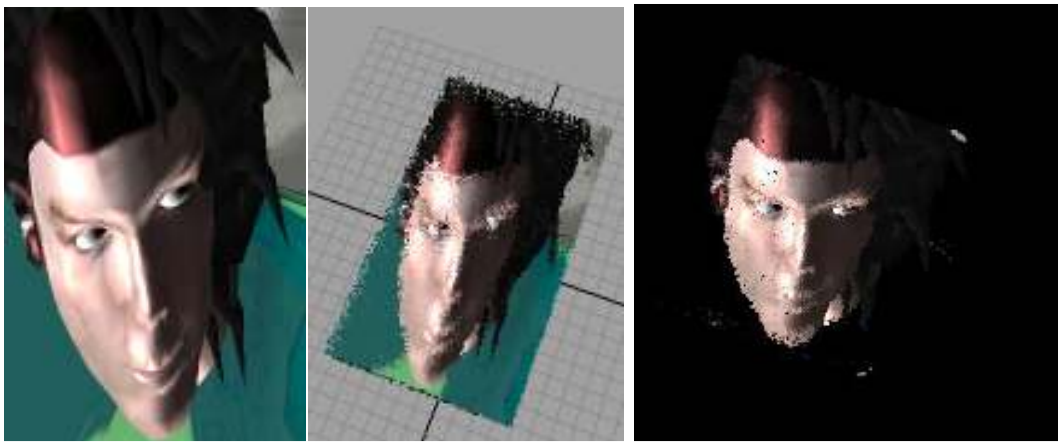
Particle emission from 2D image or video clip in Maya

This tutorial shows how to control a particle emitter with a 2d image.

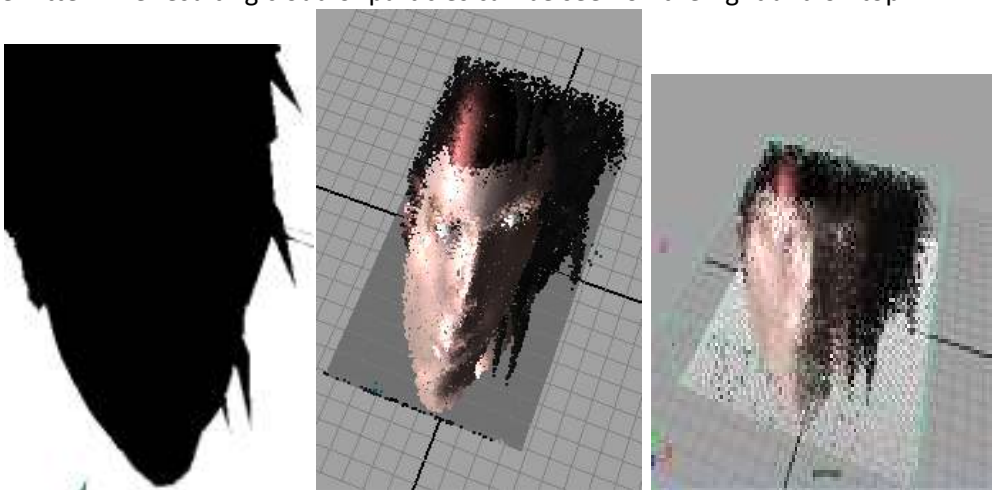


Top, hardware rendering of sprites particle. Bottom, preview of the particle emitter.

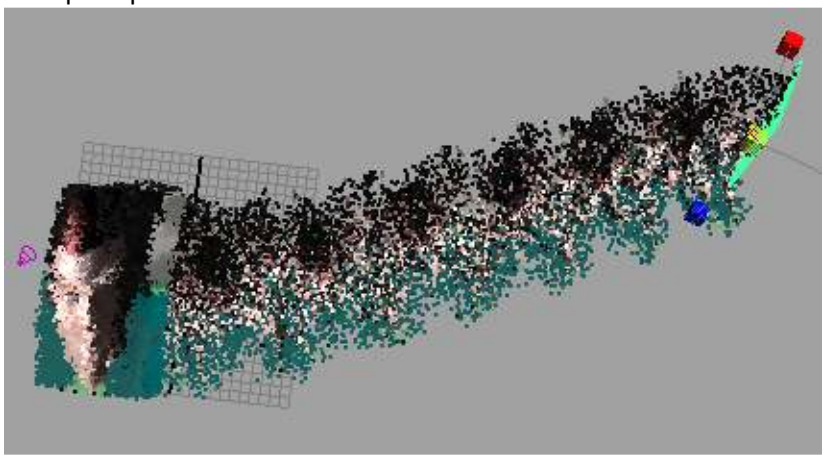




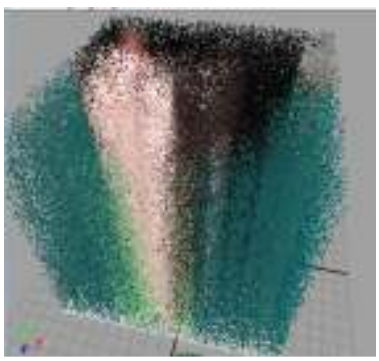
The 2D image on the left emits particle per pixel color using the RGB values and controls a surface emitter. The resulting cloud of particles can be seen on the right and on top.

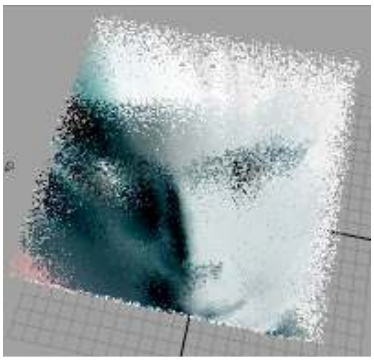


An additional black and white mask can control the areas of the image that are emitting particles, for example a plan.

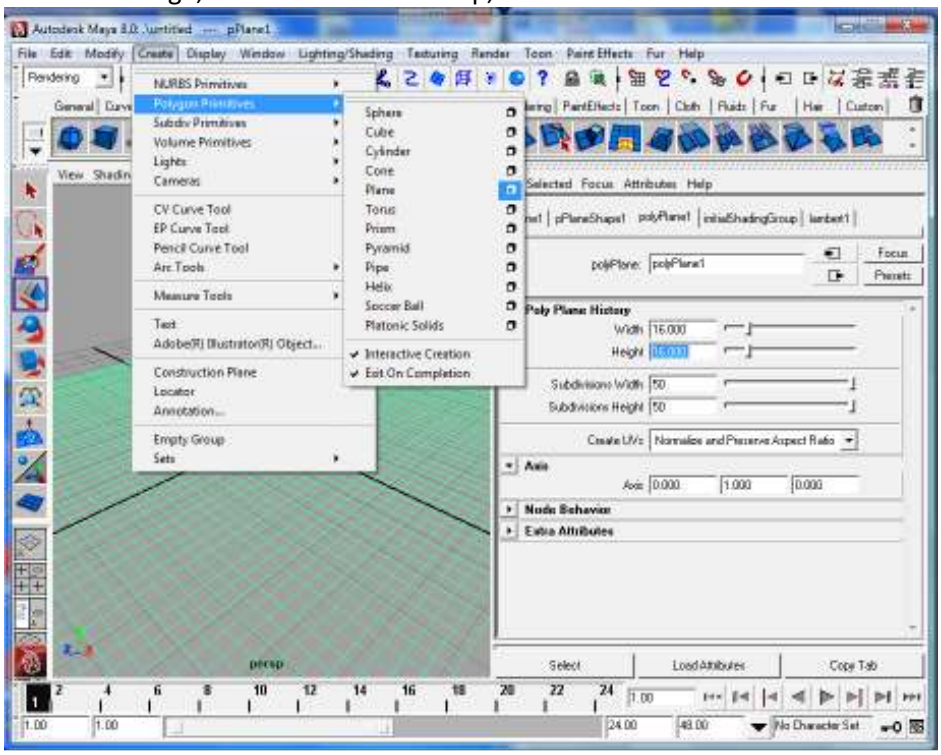


The plane flies away to the right side under the pressure of an air field.

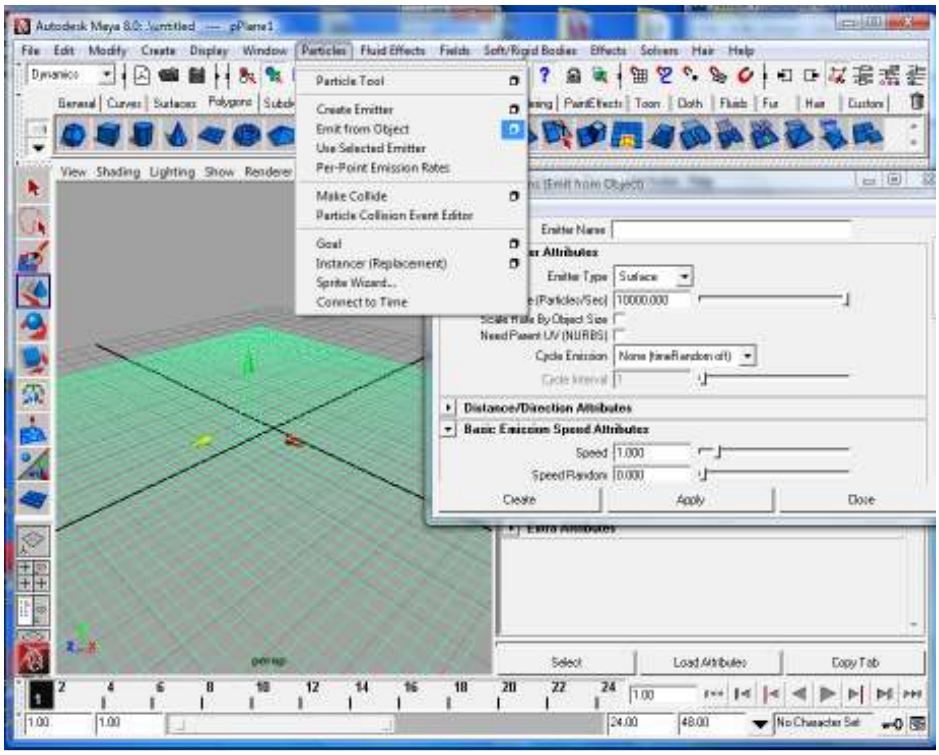




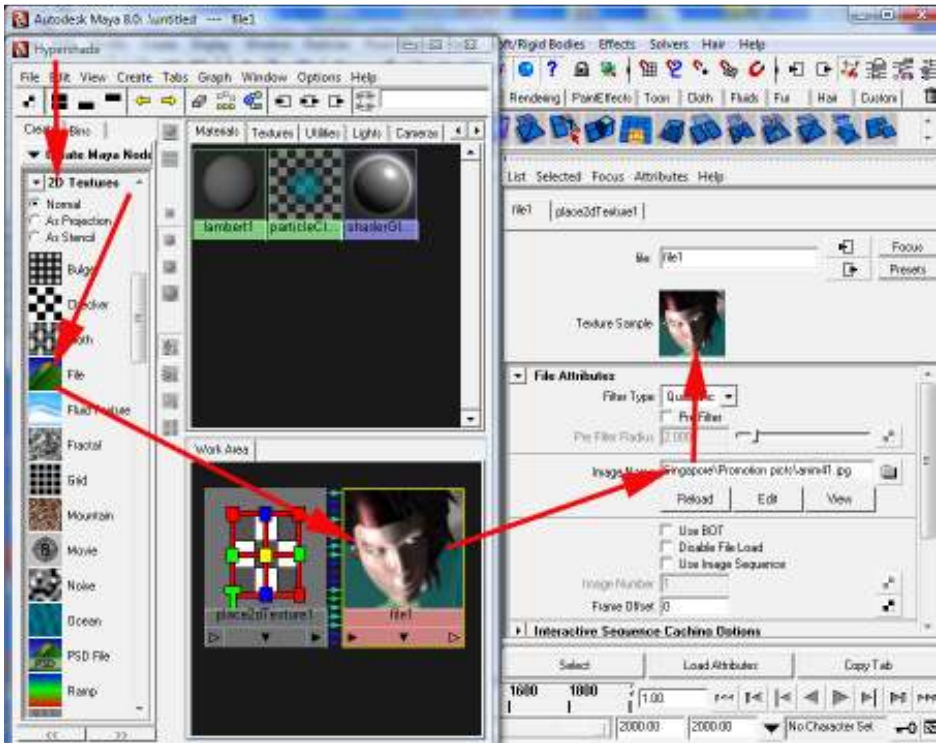
On the left, controlling the speed of the emitter helps flying through the image. On the right, zooming inside the image, frame from a video clip,.



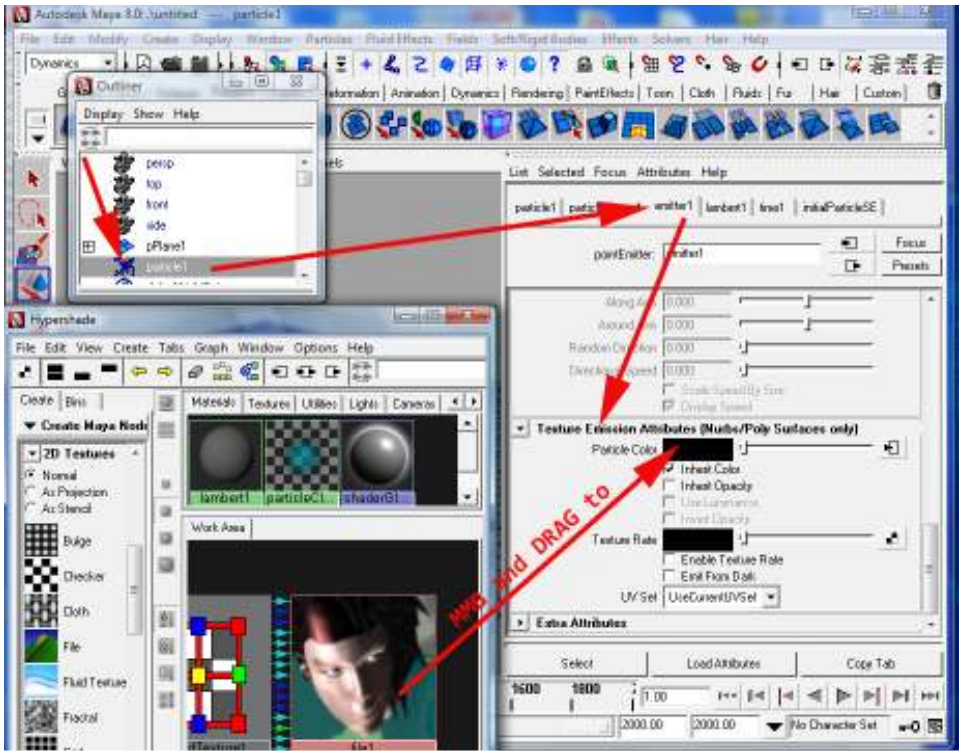
Let's create a plane. Go to Create > Polygons Primitives > Plane Subdivisions = 50 by 50. Please note that you can assign the plane height and width to a multiple of the original image. For example an image size 350 by 240 will fit on a plane width 2.4 Height 3.5



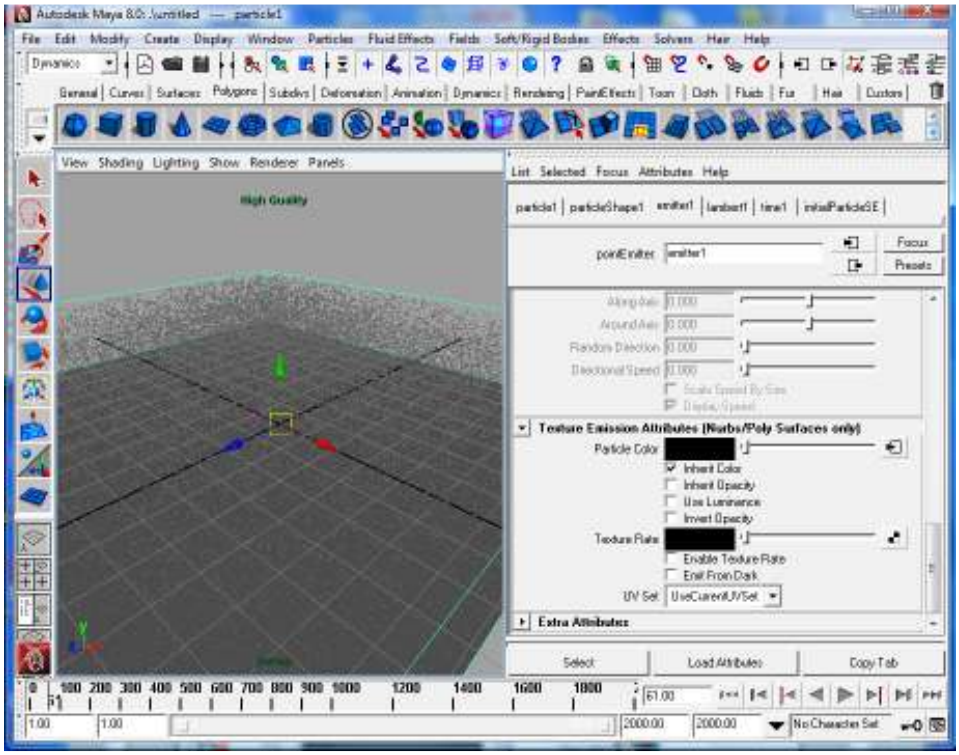
Create a particle emitter on the plane's surface. Go to Dynamics > Particles > Emit From Object > Surface, select a Rate = 100000



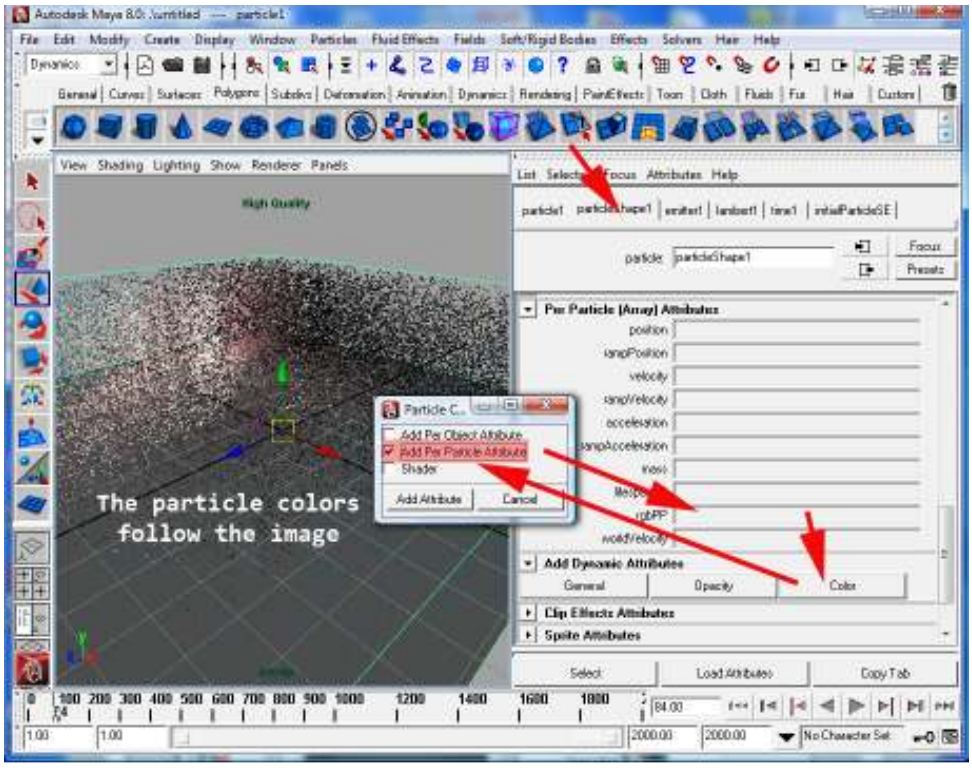
Create a 2D Texture node STEP. Go to Windows > Hypershade > 2D Textures, check Normal, LMB on "File" icon. Go to the Work Area, select LMB "File 1". Go to the Attribute Editor, load a 2D image of your choice.



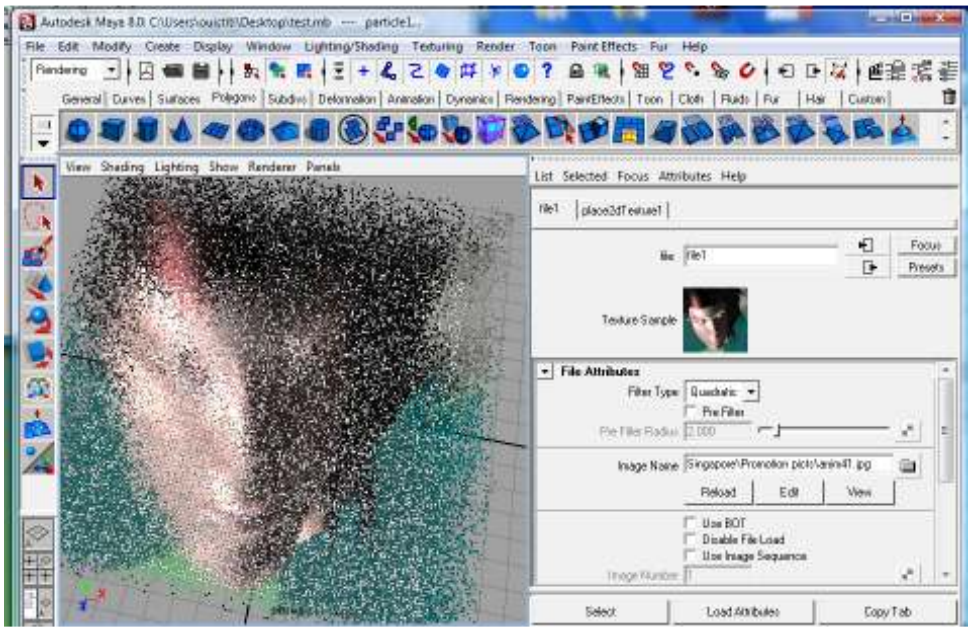
Let's assign the 2D texture to the particle emitter. Select particle1 in Outliner or in the 3D scene window. Go to the Attribute Editor > Emitter> Textures Emission Attribute. MMB and DRAG the File 1 icon from Hypershade Work Area on to Particle Color, select inherent color.



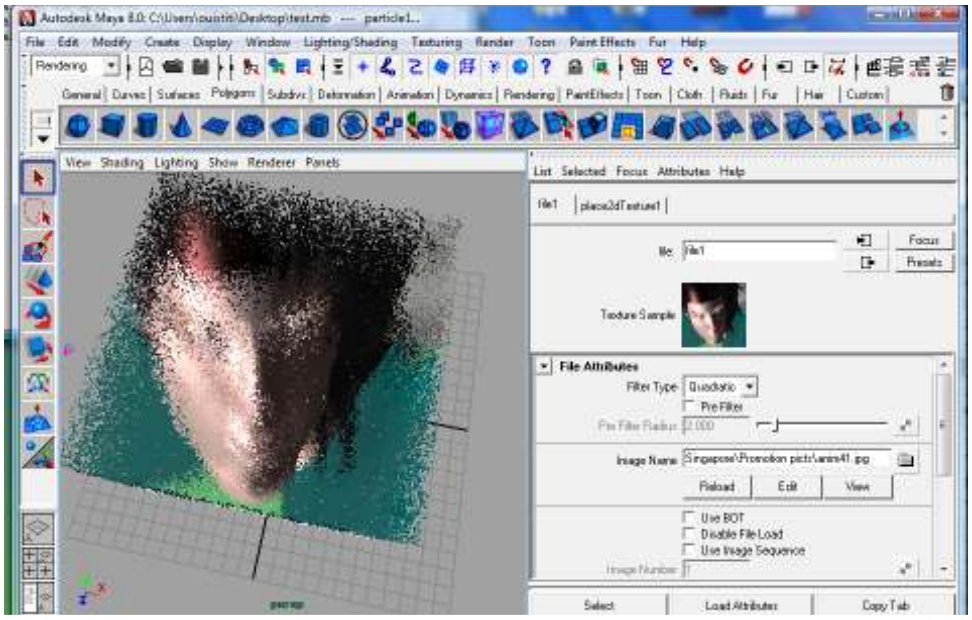
Set Timeline to frame zero. Play back. Particles are emitted without texture.



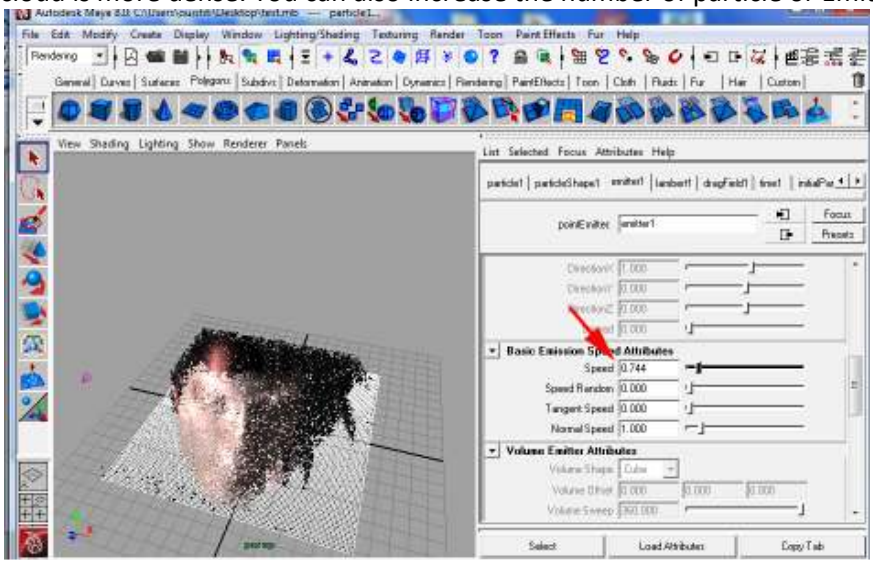
Go to ParticleShape 1, hit the Color button > select Add PerParticleAttribute.
A new attribute rgbpp is created.

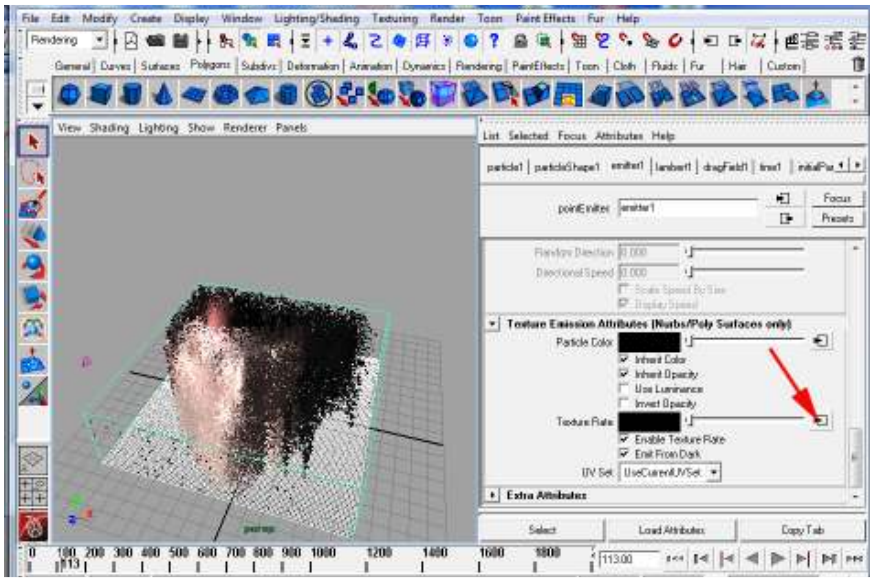


Playback the particles. The image appears.

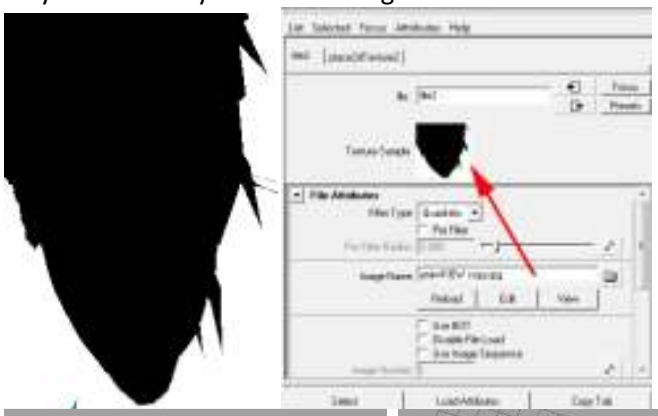


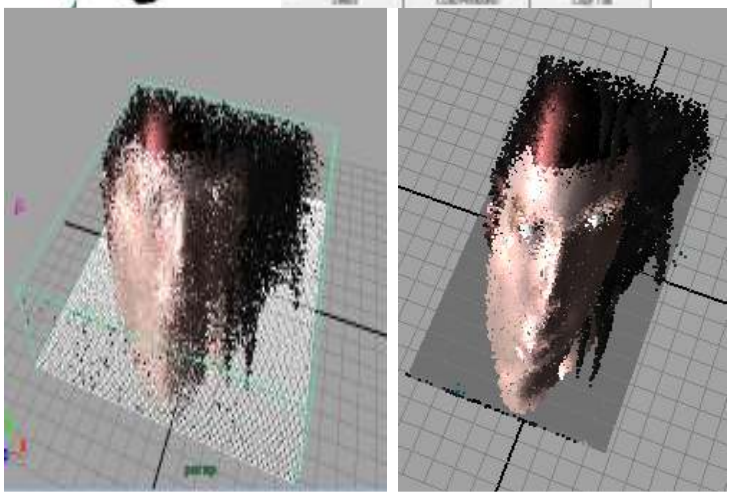
You can add density to the cloud of particle by changing the speed of the emitter. Lower speed = the cloud is more dense. You can also increase the number of particle or Emitter Attributes > Particle Rate.



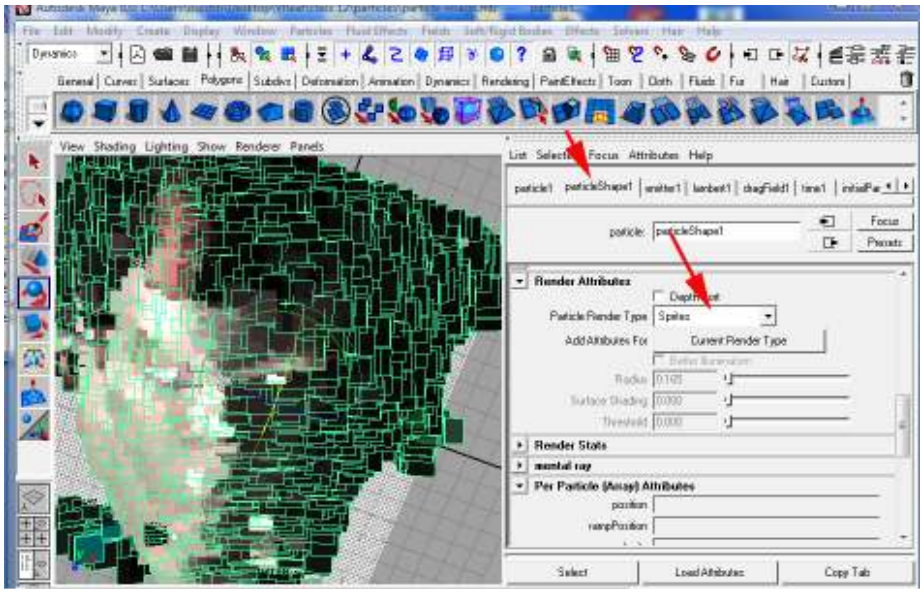


Let’s hide areas of the image by creating a black and white mask in Photoshop. Save as jpg. Create a new texture node (Go to the step called Create a 2D Texture node STEP in this tutorial. Load the mask in Maya. This time you MMB + drag “File2” on to Texture Rate).





You can notice that the plane is still visible. In order to hide the plane, select the plane, assign a new shader, for example, select Lambert 2. In the Attribute Editor, check transparency = 100%



Let's render. Go to Attribute Editor, ParticleShape1 > Render Attributes > Particle Render Types > Multi-point or Sprites

Hardware rendering of Sprites particles