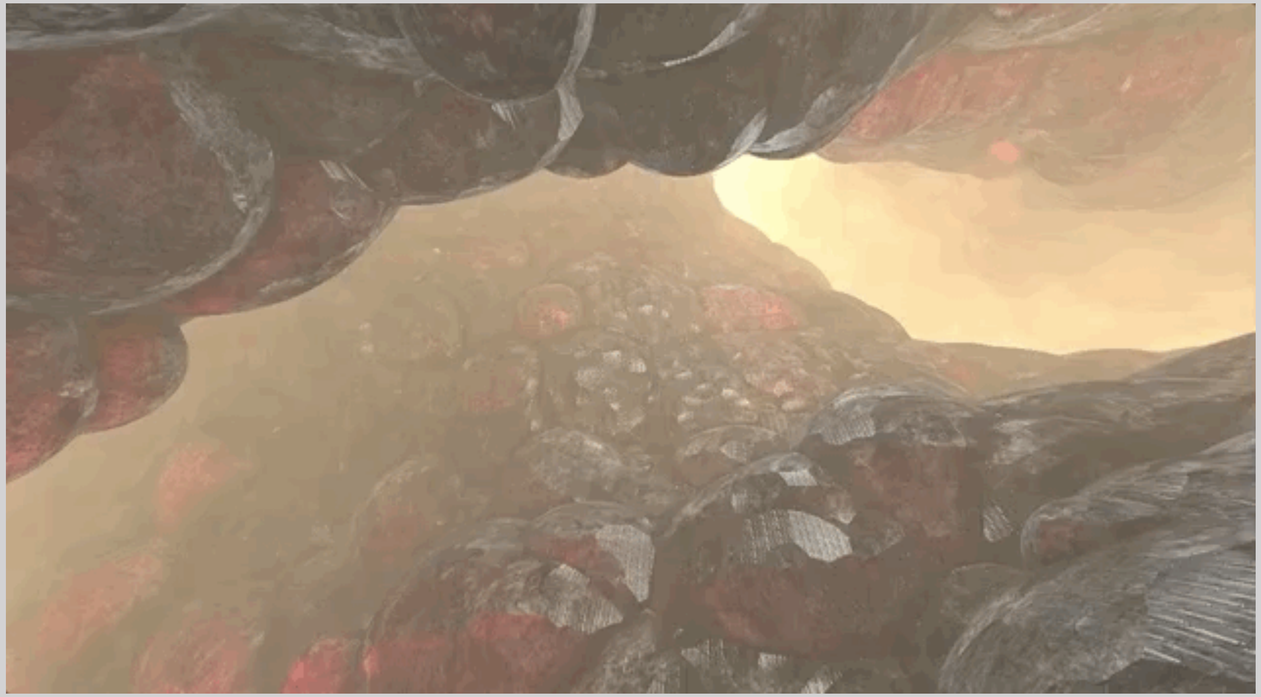
Shader Inputs

```
uniform vec3      iResolution;           // viewport resolution (in pixels)
uniform float     iTime;                 // shader playback time (in seconds)
uniform float     iTimeDelta;            // render time (in seconds)
uniform int       iFrame;                // shader playback frame
uniform float     iChannelTime[4];       // channel playback time (in seconds)
uniform vec3      iChannelResolution[4]; // channel resolution (in pixels)
uniform vec4      iMouse;                // mouse pixel coords. xy: current (if MLB down), zw: click
uniform samplerXX iChannel0..3;          // input channel. XX = 2D/Cube
uniform vec4      iDate;                 // (year, month, day, time in seconds)
uniform float     iSampleRate;           // sound sample rate (i.e., 44100)
```

```
586         float tanHi = abs(mod(per*.5 + t + iTime, per) - per*.5);
587         vec3 tanHiCol = vec3(0, .2, 1)*(1./tanHi*.2);
588         sceneCol += tanHiCol;
589         */
590
591
592         //vec3 refCol = vec3(.5, .7, 1)*smoothstep(.2, 1., noise3D((sp + ref*2.)*2.)*.66 + nois
593         //sceneCol += refCol*.5;
594
595
596         // Shading.
597         sceneCol *= atten*shading*ao;
598
599         //sceneCol = vec3(ao);
600
601
602     }
603
604     // Blend the scene and the background with some very basic, 4-layered fog.
605     float mist = getMist(camPos, rd, light_pos, t);
606     vec3 sky = vec3(2.5, 1.75, .875)* mix(1., .72, mist)*(rd.y*.25 + 1.);
607     sceneCol = mix(sceneCol, sky, min(pow(t, 1.5)*.25/FAR, 1.));
608
609     // Clamp, perform rough gamma correction, then present the pixel to the screen.
610     fragColor = vec4(sqrt(clamp(sceneCol, 0., 1.)), 1.0);
611
612 }
```

3D Cellular Tiling *Created by* ***Shane*** *in 2016-04-17*



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On Android

- < Android 13 can use only pre-built shaders:
  BitmapShader, **LinearGradient**, etc

- with Android 13 can use
  programmable **RuntimeShader**s written in AGSL

- GPU level effects without direct OpenGL

- pass shaders as ***string*** into a **RuntimeShader**
  object!

```
val shader = RuntimeShader("""
  // Shader code here in AGSL
 """
)

// Make a Brush
val brush = ShaderBrush(shader)

// Canvas() / DrawScope
onDraw = { value →
 // Use it to paint anything!
 drawRect(brush)
}
```