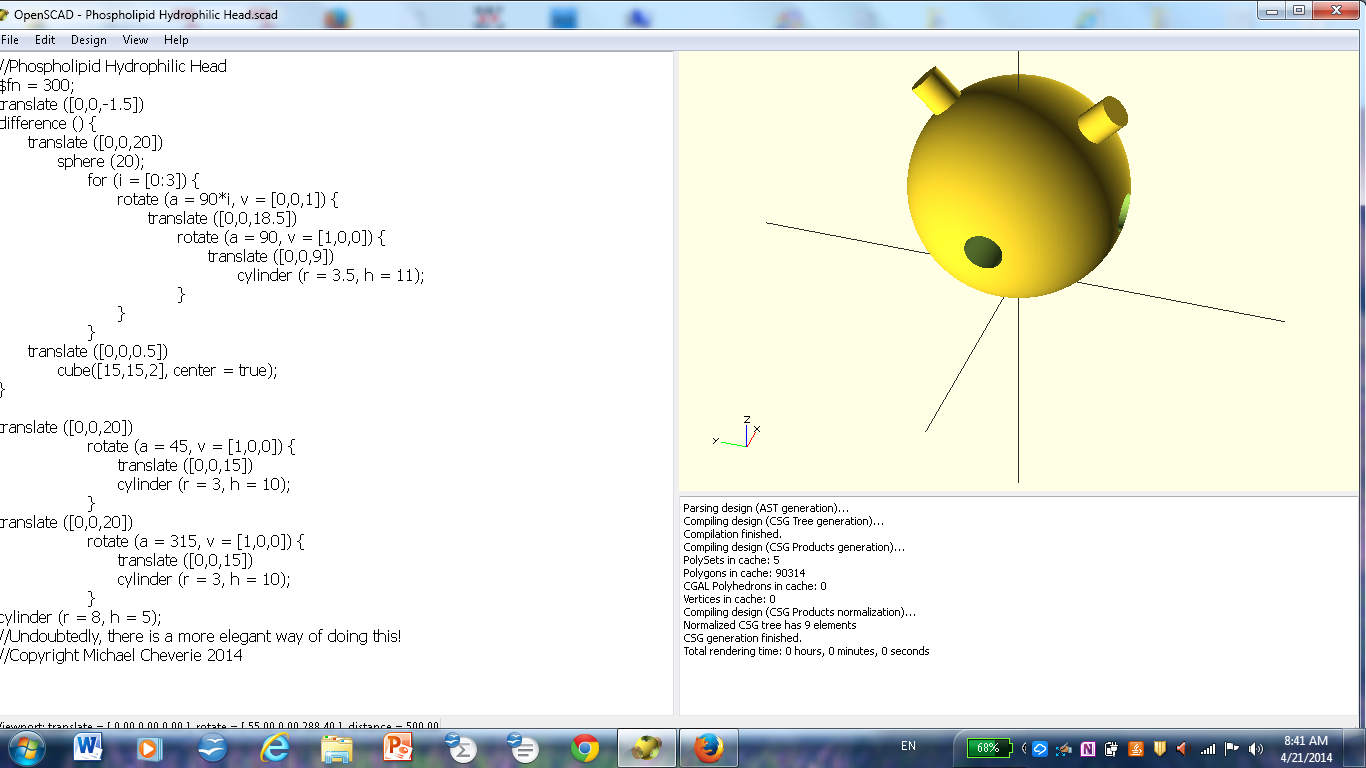
Provided by Mike Cheverie, TVI

Los Angeles Unified School District

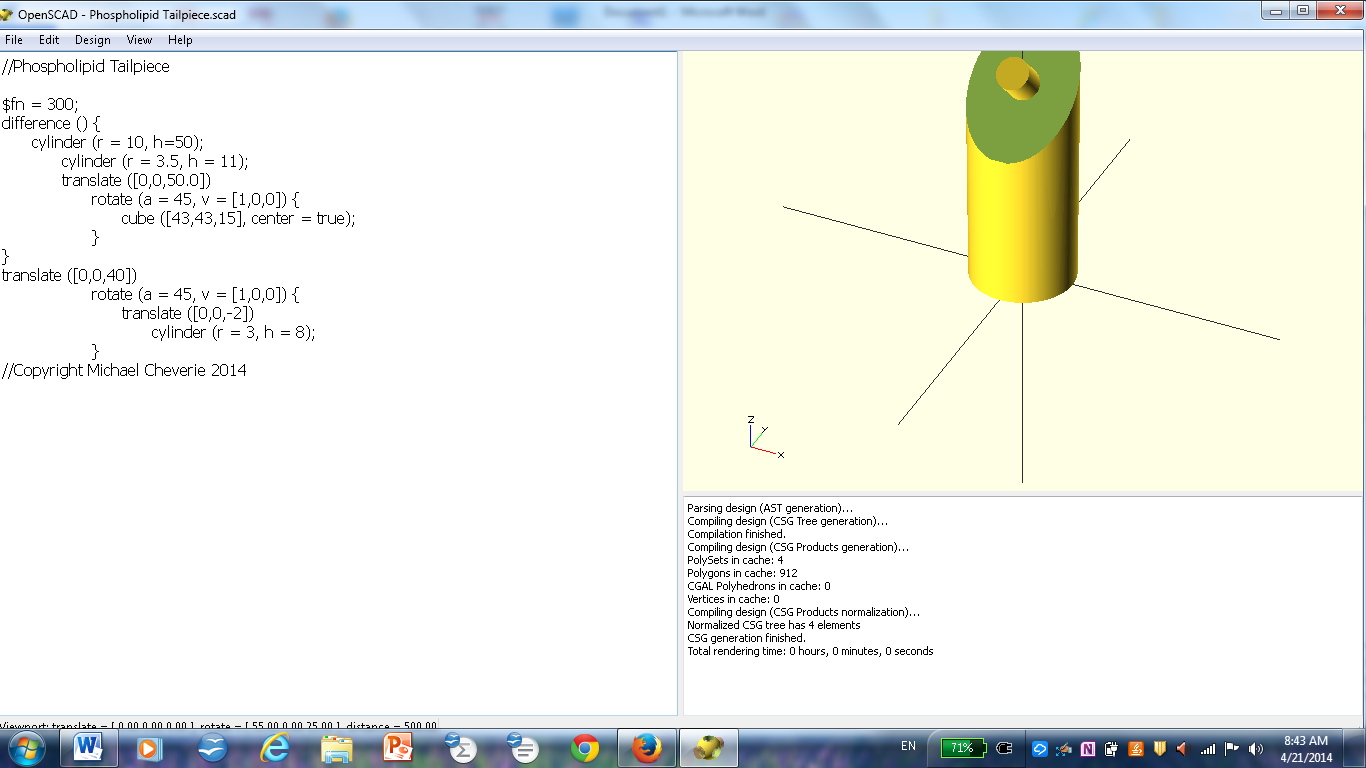
3D Printing for Accessible Materials in Schools – DIAGRAM Center webinar 4/30/14

# Phospholipid Model

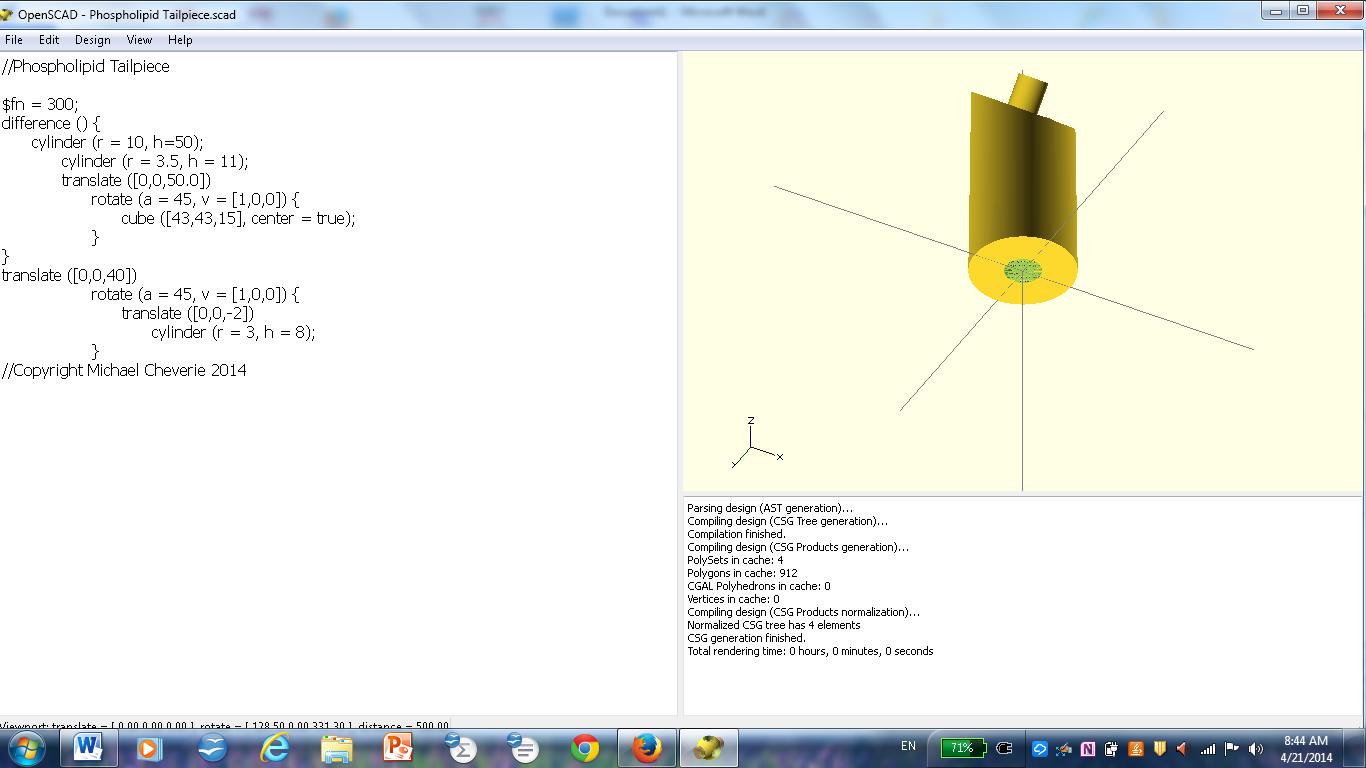
## Hydrophilic Phosphate Head:



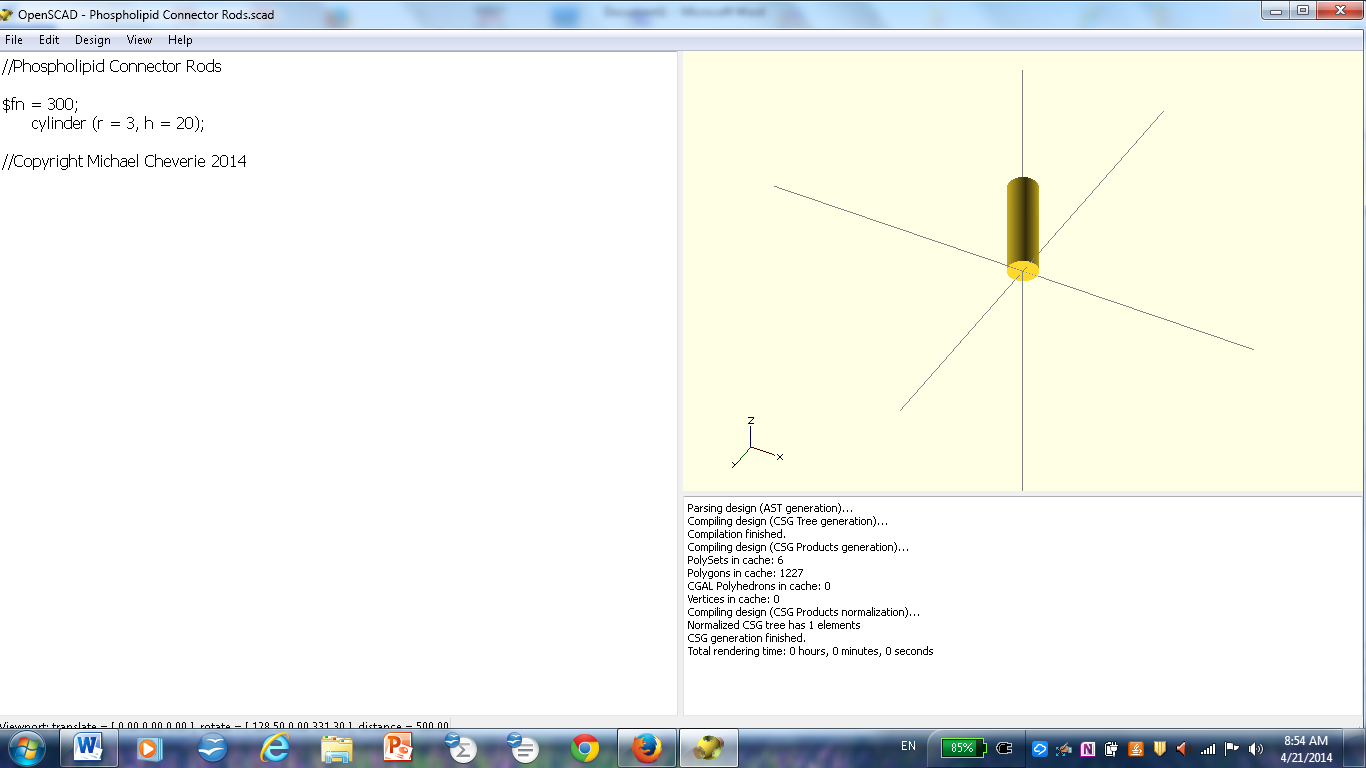
## Hydrophobic Lipid Tail Piece:



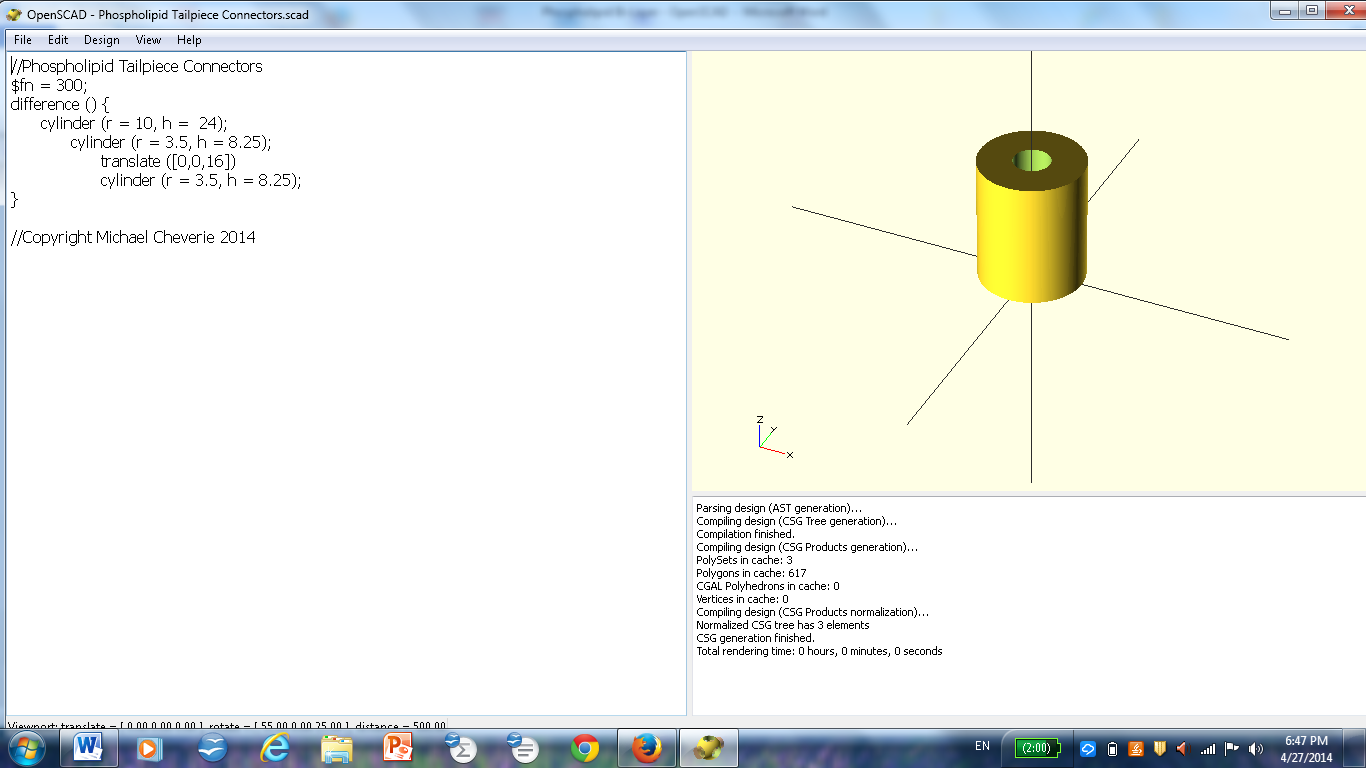
## Hydrophobic Lipid Tail Piece (Alternate View):



## Connector Piece (for Phosphate Heads):



## Phospholipid Tailpiece Connectors:



## To make a phospholipid:

1. Connect one tail piece to each of the posts of the phosphate head.

2. Connect another tail piece to each of the tail pieces connected; repeat two more times, for a total of four tail pieces for each of the posts on the phosphate head.

## To make a phospholipid sheet:

1. Use the connector piece for the phosphate heads to connect four phospholipids to a central phospholipid. (Note that each phospholipid has four lateral holes that will accommodate a connector piece for attachment to other phospholipids.)

2. Repeat this pattern to produce one sheet of phospholipids.

## To make a phospholipid bi-layer:

Use the phospholipid tailpiece connectors to attach one sheet of phospholipids to an inverted sheet of phospholipids.