How to 3D-Print Proteins

Step 1:

> **Download UCSF Chimera:**
> http://www.cgl.ucsf.edu/chimera/download.html

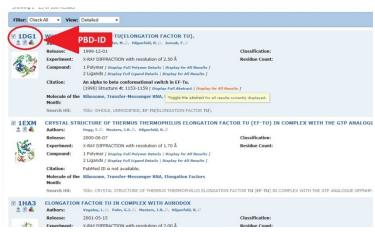Step 2:

> Find a desired protein on **RCSB Protein Databank:**
> http://www.rcsb.org/pdb/home/home.do

Step 3:

> Obtain the 4-digit PDB-ID of your desired protein
> Example:

Step 4:

> **Download the protein in .pdb format**
> Go to the 'Download Files' tab and enter your 4-digit PDB-ID
> Uncheck 'mmCIF Format', and check 'PDB Format'

Step 5:

> Open UCSF Chimera and load your PDB file

Step 6:

> Under the 'Actions' tab, select 'hide' for both Ribbon and Atoms/Bonds

Step 7:

> In the 'Surface' tab, select 'show'

Step 8:

> Under 'File' select 'Export Scene' and change the file type to [.stl]

Step 9:

> Open your new STL protein file, and print it out! (I suggest using Rafts & Supports)

Note: Printing directly from this file will yield a print that is essentially 100% infill. All cavities and structures inside of the protein will print as well. See the link below to learn how to import .stl files in SolidWorks so that you can modify the file and make prints faster:

http://www.swtuts.com/?p=427