Learning Goals

In this tutorial, you will learn to:

- Create a mesh for a three dimensional internal flow.
- Apply Non-Newtonian fluid properties using the Carreau model.
- Apply time-varying boundary conditions using User Defined Functions (UDF).

Problem Specification

Consider the following 3D model of a carotid artery bifurcation.

This tutorial has videos. If you are in a computer lab, make sure to have head phones.
velocity gradients. Here we use the Carreau-model to model blood’s viscosity. Since blood flow is pulsatile and cyclic, the velocity profile at the inlet is a function of time. The pressure at the outlet is defined to be constant (100 mmHg). More details on boundary conditions will be provided in the next page Pre-Analysis and Set-up.

Summary of steps for ANSYS Workbench version 19.2  3D Bifurcating Artery Outline ANSYS 19.2.pdf

Go to Step 1: Pre-Analysis & Start-Up

Go to all FLUENT Learning Modules