1163-34-1578    **Rob Thompson\*** (`rthompson@carleton.edu`), Department of Mathematics and Statistics, 100 N College St, Northfield, MN 55057. *Simulating liquid lenses.*

Put a tiny droplet of oil on water. It will form a small lens-like shape. What is this shape, exactly? In this talk we discuss the equations that determine the shape of a fluid lens formed by depositing droplets of one fluid onto another. Reduction of the governing physical equation (the Young-Laplace equation) to a set of ordinary differential equations for the lens shape will be discussed along with methods for numerical solution of these equations. We'll also share the success (and failure) of these simulated lens shapes at predicting the shapes of actual polymer lenses produced in the research lab of Prof. Marty Baylor at Carleton College. This work is done in collaboration with Prof. Baylor, '19 Carleton graduates Emily Schwartz and Sam Stevenson, and Zack Johnson '22. (Received September 15, 2020)