Meeting: 1003, Atlanta, Georgia, SS 9A, AMS-MAA-SIAM Special Session on Research in Mathematics by Undergraduates, I

1003-76-1160 **Theodore J Dziuba*** (tjdziuba@gmail.com), Rochester Institute of Technology,711 Kimball Dr., Rochester, NY 14623, and **David S. Ross** (dsrsma@rit.edu), Rochester Institute of Technology. *Variable Surface Tension and Contact Angle in Microfluidics.*

In microfluid application, the contact angle of a given surface affects the shape of a fluid drop when it is at rest. The surface tensions of two fluids affects the shapes of the drops as they coalesce. We will explore the effects of varying contact angles and surface tension on two-liquid flows on the microfluidic level using analytical techniques and numerical methods in computational fluid dynamics to illustrate changing properties of the final resting state of the mixture. (Received October 05, 2004)