Harriet M Lord* (hlord@csupomona.edu), Dept. of Mathematics, Cal Poly Pomona, 3801 W. Temple Ave., Pomona, CA 91768. Henri Lebesgue and Arc Length. Preliminary report.

In this talk we present Lebesgue's work on *arc length*. We present his definition of arc length and then compare this to previous definitions and to various definitions of surface area. (Received September 11, 2009)