

1106-AB-1088      **Amanda Folsom\***, Amherst College/Yale University, Mathematics Department, Amherst, MA  
01002. *Selberg's q-difference equations, the Rogers-Ramanujan continued fraction, and unit groups.*

In this talk, we will first discuss early work of Selberg, which extends the celebrated Rogers-Ramanujan identities via a general family of q-difference equations. Building from Selberg's work, we will then show how to construct fundamental groups of modular units (one of which is the Rogers-Ramanujan continued fraction) within the modular function fields, as well as unit groups within number fields; in particular we address a problem originally studied by Gauss, Gupta, and Zagier. We will also discuss "radial limits" of the Rogers-Ramanujan functions, in light of recent related work pertaining to Ramanujan's mock theta functions. (Received September 10, 2014)