

NUMBER THEORY SEMINAR
Monday, Dec. 1, 4.30 - 5.30 pm, MS 6221

Speaker: Ryan Daileida, UCLA

TITLE: Zero Density of L -functions and Extreme Class Numbers

ABSTRACT: We prove a new result on extremal class numbers of totally real non-abelian cubic number fields. This was previously done by Duke under the assumption of GRH, generalizing a method of Littlewood. We remove the need for GRH by proving a zero density estimate for automorphic L -functions. Using the same techniques we prove an analogous result for pure cubic fields. We thus demonstrate that the upper bounds for class numbers provided by GRH in these cases are essentially the best possible.