

*Department of Mathematics,  
University of California San Diego*

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## Math 209 - Number Theory

**Dr. Joe Ferrara**

UCSD

### **A p-adic Stark conjecture in the rank one setting**

**Abstract:**

In the 1970's Stark made precise conjectures about the leading term of the Taylor series at  $s=0$  for Artin L-functions. In the rank one setting when the order vanishing is exactly one, these conjectures relate the derivative of the L-function at  $s=0$  to the logarithm of a unit in an abelian extension of the base field. In this talk, we will define a p-adic L-function and state a p-adic Stark conjecture in the rank one setting when the base field is a quadratic field. We prove our conjecture in the case when the base field is imaginary quadratic and the prime  $p$  is split, and discuss numerical evidence in the other cases.

Host: Cristian Popescu

**Thursday, November 8, 2018**

**2:00 PM**

**AP&M 7421**

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