

abstract

JOINT IAS/PU NUMBER THEORY SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

In 1993, Sczech defined an $n-1$ cocycle on $GL_n(\mathbb{Z})$ valued in a certain space of distributions. He showed that specializations of this cocycle yield the values of the partial zeta functions of totally real fields of degree n at nonpositive integers. In this talk, I will describe an integral refinement of Sczech's cocycle. By introducing a "smoothing" prime l , we define an $n-1$ cocycle on a congruence subgroup of $GL_n(\mathbb{Z})$ valued in a space of p -adic measures. We prove that the specializations analogous to those considered by Sczech produce the p -adic L -functions of totally real fields. We also consider certain other specializations that conjecturally yield the Gross-Stark units defined over abelian extensions of these fields. This is joint work with Pierre Charollois.