

## **Pallavi Dani**

Title: Filling invariants at infinity

Abstract: The  $k$ -dimensional Dehn function of a group captures the difficulty of filling  $k$ -spheres with  $(k + 1)$ -balls in a suitable space associated with the group. On the other hand, divergence is an invariant that measures the spread of geodesics in such a space. These two ideas are united by “higher divergence functions”, which measure rates of filling spheres by balls “at infinity”, i.e., far from a basepoint. It turns out that these filling rates can detect some geometric properties of the space.

After giving the basic definitions and motivation, I will describe recent joint work with A. Abrams, N. Brady, M. Duchin, and R. Young on higher divergence in the class of right-angled Artin groups.

## **Anne Thomas**

Title: Lattices in complete Kac-Moody groups

Abstract: A complete Kac-Moody group over a finite field is a totally disconnected, locally compact group, which may be thought of as an “infinite-dimensional Lie group”. An example is  $G = \mathrm{SL}(n, K)$  with  $K$  the field of formal Laurent series over a finite field. We study uniform and nonuniform lattices in such  $G$  of rank 2, where the associated Bruhat-Tits building is a tree. We use finite group theory and the dynamics of the group action on the tree and its boundary. This is joint work with Inna (Korchagina) Capdeboscq