SPEAKER: Vyjayanthi Chari (UC Riverside)

TITLE: Demazure modules and mock theta functions

ABSTRACT: In this talk we discuss Demazure modules in highest weight representations of affine Lie algebras. These modules are indexed by a pair consisting of a dominant integral weight for the underlying simple Lie algebra and a non-negative integer called the level. It is known that a Demazure module of a fixed level ℓ has a flag whose sections are Demazure modules of level m for all $m \geq \ell$. We shall see that the multiplicities in the flag give rise to interesting generating series which are connected in the case of $sl(2)$ with fifth order mock theta functions of Ramanujan and in higher rank to the cone theta functions.