

SPEAKER: Krishnaswami Alladi

AFFILIATION: University of Florida

TITLE: "Partitions with non-repeating odd parts -
q-hypergeometric and combinatorial identities"

ABSTRACT: By studying partitions with non-repeating odd parts using representations in terms of 2-modular graphs, we first derive a Lebesgue type q-series identity and use this to give a unified treatment of several fundamental identities in the theory of q-hypergeometric series. Next we study these partitions combinatorially and obtain new weighted partition identities. Consequences include a combinatorial proof of a modular relation for the Göllnitz-Gordon functions, and a new derivation of a shifted partition identity due to Andrews. Finally we discuss some new parity results and hint at a theory of basis partitions.