Speaker: Kannan Soundararajan

Title: Integral Factorial Ratios

Abstract: I will describe a new approach to classifying integral factorial ratios, obtaining a direct proof of a result of Bober. These results generalize an observation going back to Chebyshev that

$$\frac{(30n)!\,n!}{(15n)!\,(10n)!\,(6n)!}$$

is an integer for all natural numbers n. Due to the work of Rodriguez-Villegas and Beukers and Heckman, this problem is closely related to classifying hypergeometric functions with finite monodromy groups, and the result of Bober was originally derived as a consequence of the work of Beukers–Heckman. The new proof is elementary and makes partial progress on other related questions.