A Lower Bound for the Size of a Sum of Dilates

Date Tuesday, April 5

Time 4 pm

Location 317 Mudd

Abstract: Let A be a subset of integers and let $2 \cdot A + k \cdot A = \{2a_1 + ka_2 : a_1, a_2 \in A\}$. Y. O. Hamidoune and J. Rué proved that if k is an odd prime and A a finite set of integers such that $|A| > 8k^k$, then $|2 \cdot A + k \cdot A| \geq (k+2)|A| - k^2 - k + 2$. In this talk, I will give the outline of the method used and show how we can extend it for the case when k is a power of an odd prime and the case when k is a product of two odd primes.