Edge-Distance-Regular Graphs Are Distance-Regular

Date Tuesday, April 9

Time 3 pm

Location 303 Mudd

Abstract: A graph is edge-distance-regular when it is distance-regular around each of its edges and it has the same intersection numbers for any edge taken as a root. In this talk we give some (combinatorial and algebraic) proofs of the fact that every edge-distance-regular graph G is distance-regular and homogeneous. More precisely, G is edge-distance-regular if and only if it is bipartite distance-regular or a generalized odd graph. Also, we obtain the relationships between some of their corresponding parameters, mainly, the distance polynomials and the intersection numbers.

Joint work with M. Cámara, C. Delorme, M.A. Fiol, H. Suzuki.