HACETTEPE ÜNİVERSİTESİ MATEMATİK BÖLÜMÜ
GENEL SEMİNERİ

(HACETTEPE UNIVERSITY MATHEMATICS
GENERAL SEMINAR)

Tarih (Date): 01.06.2016, Çarşamba (Wednesday)

Saat (Time): 15:00

Yer (Place): Yaşar Ataman Seminer Salonu

Konuşmacı (Speaker): Doç. Dr. Laurence J. Barker, Bilkent Üniversitesi

Başlık (Title): Gluing the twists of a block

Özet (Abstract):

For a group algebra with coefficients in an algebraically closed field of prime characteristic p, the representation theory decomposes into the study of p-blocks. Over several decades, evidence has accumulated to suggest that some features of a p-block b are determined,up to a finite amount of information, by a p-subgroup D called the defect group. Part of the extra finite information appears to be captured by a category F, called the fusion system of b. Alperin's Conjecture suggests that, to specify the number of simple modules of b, just a bit more information is required, namely, some twists on the group algebras of the automorphism groups of some of the objects of F. The conjecture could be reformulated if it could be shown that those twists always glue together as a single twist on the whole of F.

The ideas above, pioneered by Puig and developed by Linckelmann and others, are the foundation for much of the activity in block theory at the present time. We shall review those ideas. We shall also outline a proof of the existence of a canonical gluing of the twists.