Block Theory for profinite groups

John MacQuarrie*
Department of Mathematics
Universidade Federal de Minas Gerais
Belo Horizonte, Brazil

Abstract

If G is a finite group and k is a field, the group algebra kG (as with any finite dimensional algebra) can be decomposed as a direct product of indecomposable algebras, called the *blocks* of G over k. Great progress in the representation theory of finite groups has been made by studying the kG-modules "one block at a time" (this approach is "block theory'). I will discuss distinct projects, with Ricardo Franquiz Flores (UNIFEI) and with Peter Symonds (University of Manchester) wherein we develop a block theory for profinite groups, trying to emphasise how remarkably robust and well-behaved the theory seems to be.