1056-20-592   **Eli Aljadeff*** (`elialjadeff@gmail.com`), Department of Mathematics, Technion-Israel Institute of Technology, Haifa, Israel, and **Ehud Meir** (`meirehud@gmail.com`), Department of Mathematics, Technion-Israel Institute of Technology, Haifa, Israel. *On subgroup induction in group representation and group cohomology.*

Elementary abelian subgroup induction plays a crucial role in cohomology and representation theory of finite groups. Roughly speaking, the results say that important cohomological properties hold for a group ring RG, G a finite group and R an arbitrary ring, if and only if they hold for RE where E runs over all elementary abelian subgroups of G. In general, similar statements are false if one replaces the family of elementary abelian subgroups by cyclics. For instance, a theorem due to Chouinard (1976) says that if G is a finite group and M is a RG-module then it is projective if and only if it is projective as an RE-module where E runs over all elementary abelian subgroups of G. In 1976, J. Moore posed a conjecture which generalizes Chouinard's theorem to arbitrary (not necessarily finite) groups. The following is a special (but important) case of the conjecture. Let G be a torsion free group and H a subgroup of finite index. Then an RG-module M is projective iff it is projective as an RH-module. Note that this implies Serre's theorem on cohomological dimension. In the lecture I will present some old results (joint work with Cornick, Ginosar and Kropholler) and some recent results (joint work with Ehud Meir). (Received September 14, 2009)