Speaker: Moshe Jarden

Title: Relatively projective profinite groups and pseudo closed fields

Abstract: One of the main problems of Field Arithmetic and Galois Theory is the classification of absolute Galois groups among all profinite groups. A partially successful way to attack the problem has been to relate properties of a field to properties of its absolute Galois group. For example, the absolute Galois group of a PAC field is projective. Conversely, every projective group appears as a Galois group of a PAC field. Similar relations hold between PRC fields and real projective groups and PpC fields and p-adically projective groups. More generally, let $\mathcal{F}$ be a finite set of finite extensions of $\mathbb{R}$ or of $\mathbb{Q}_p$ (where p varies) which is closed under Galois isomorphism. Let G be a profinite group. Then G is isomorphic to the absolute Galois group of a pseudo-$\mathcal{F}$-closed field K if and only if G is $\mathcal{F}$-projective and $\mathrm{Subgr}(G, \mathrm{Gal}(\mathbb{F}))$ is strictly closed in $\mathrm{Subgr}(G)$ for each $\mathbb{F} \in \mathcal{F}$.

The talk will supply proofs for the basic results about PAC fields and projective groups and will explain the notions and the technique involved in the more general result about P$\mathcal{F}$C fields.