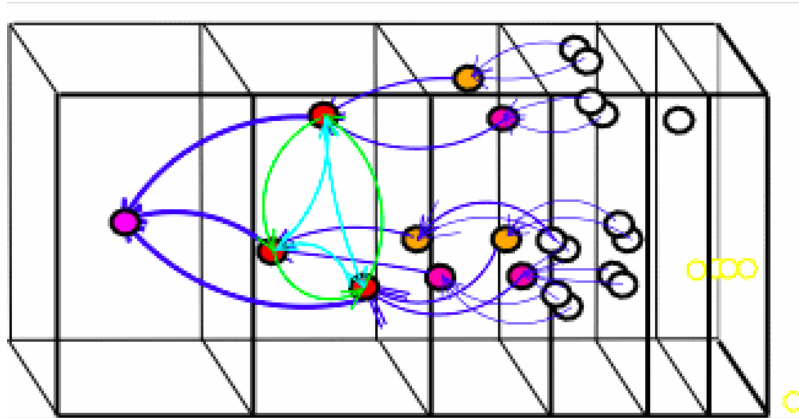


(Infinite) Galois Theory and Profinite Groups

Undergraduate Math Club
CORNELL UNIVERSITY



SPEAKER

Frankie Chan

ABSTRACT

When L/K is a finite Galois extension of fields, we have a beautiful inverse correspondence between the intermediate fields of L/K with the subgroups of the automorphism group $\text{Gal}(L/K)$. We can attempt to extend this notion to infinite algebraic field extensions, but the previous correspondence fails to hold. We will see an example of why not; nevertheless, there fortunately is still a correspondence. In this talk, we will quickly revisit the finite theory and discuss the correct way to think about the infinite Galois correspondence by the way of profinite groups. It is useful to know elementary topology and basic definitions from field theory. Given enough time, details may be provided, but this talk is more to provide enough language to show the results.

OCT 7 at 5:15pm

Malott 532 ★ Refreshments