Abstract:

Anabelian geometry asks how much can we say about a variety from its fundamental group. In 1997 Shinichi Mochizuki, using $p$-adic Hodge theory, proved a fundamental anabelian result for the case of $p$-adic fields. In my talk I will discuss representation theoretical data which can be reconstructed from an absolute Galois group and also types of representations that cannot be constructed solely from it. I will also sketch how these types of ideas can potentially give many new results about $p$-adic Galois representation.