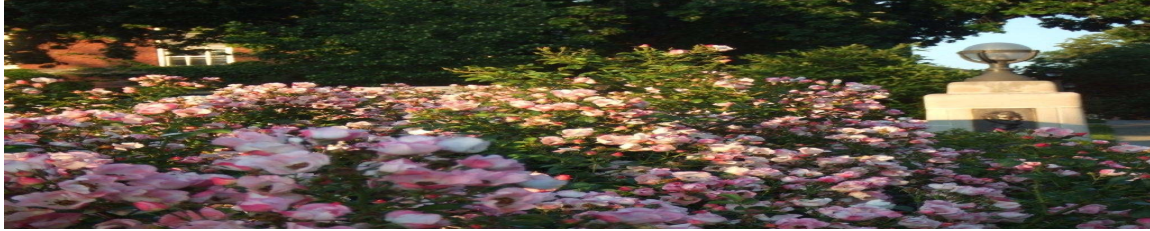


ISU ALGEBRA SEMINAR



Date: Wednesday, February 13, 2019

Time: 10:00 AM-10:50 AM

Location: STV 325

Speaker: Lucian Ionescu

Talk title: The Arithmetic of Galois Theory

Abstract: Galois, Klein, Hilbert, Langlands and Grothendieck set the course for Algebraic Number Theory and beyond, Anabelian Geometry. What is easier to understand is the Abelian case, the so called Abelian Class Field Theory.

I will present by example the less emphasized side of this, the arithmetic side of Galois Theory, which via "linearization" becomes the standard text on Galois Theory of Abstract Algebra, as shapped by Artin in the beginning of the 20th century.

Prerequisites? ... just ancient Chinese and Arabic modular arithmetic, and Gaussian integers example (Wikipedia level).

The "Part II" of the talk will be concerned with the algebraic analog of the fundamental group, which for fields is the Galois group, en route to Anabelian Geometry.

I will attempt to relate it with π_1 and algebraic de Rham cohomology (Periods), in the spirit of Hurwitz Theorem, but since this hasn't been done before (as far as I know), be prepared for anything!