On Wednesday, April 23 at 14:15 L-224 a seminar talk will be given by Prof. Csaba Szabo (Eötvös Loránd University, Budapest).

The complexity of solving equations over finite groups and rings

In the past few decades computational complexity questions over finite algebraic structures are gaining more and more interest. In my talk I review the existing results on the most natural questions: the equation solvability and the identity checking problems. Given a finite algebra $A$ and two several variable terms (polynomials) $p(x_1,\ldots,x_n)$, $q(x_1,\ldots,x_n)$ over $A$. The equation solvability question asks if there are any elements $a_1,a_2,\ldots,a_n$ such that $p(a_1,\ldots,a_n)=q(a_1,\ldots,a_n)$. The identity checking question asks if the same holds for every substitution of the variables.

I will discuss these complexity questions over classical algebraic structures as groups and rings and I will pose several open problems.

Everybody is welcome!