

Debrecen Number Theory Seminar

24 February 2023. – 13:00-13:50

Location: M402

Daniel Gil-Muñoz: An introduction to Hopf-Galois theory

A Hopf-Galois extension is a finite extension of fields for which there is some Hopf algebra acting linearly on the top field of the extension fulfilling some properties in such a way that it extends the notion of Galois extension. This is the beginning of Hopf-Galois theory, a generalization of Galois theory that has been proved as a useful tool in order to broaden the notions and results in which the Galois action plays an important role. In this talk we shall see a comprehensive introduction to this theory from the notion of Galois extension and view some current research trends on the area; namely, Hopf-Galois theory on separable extensions and, on the other hand, the application of Hopf-Galois theory to study arithmetic questions on rings of integers in extensions of local or global fields.