STUDENT WORKSHOP SZCZECIN 2019

Speaker: Blaise Boissonneau (Universität Münster)

Title: *Ring-defining the p-adic valuation*

Abstract: On $\mathbb{Q}_p$, there is a well-known explicit ring-formula defining the p-adic valuation. With some efforts, one can establish a similar formula for certain extensions of $\mathbb{Q}_p$, but classical methods fail in general for wilder algebraic extensions of $\mathbb{Q}_p$. With the help of a theorem of Jahnke and Koenigsmann, we will show that the p-adic valuation is indeed ring-definable in every algebraic extension of $\mathbb{Q}_p$.