GALOIS THEORY OF DIFFERENTIAL AND DIFFERENCE SCHEMES

IVAN TOMAŠIĆ

Classical Picard-Vessiot theory had been developed as the Galois theory of differential/difference field extensions associated to linear differential/difference equations. Inspired by categorical Galois theory of Janelidze, and by using novel methods of precategorical descent applied to algebraic-geometric situations, we develop a Galois theory that applies to morphisms of differential/difference schemes, and vastly generalises the linear Picard-Vessiot theory, as well as the strongly normal theory of Kolchin. The talk will be based on a joint paper with Behrang Noohi in the differential case, and joint work in progress with Rui Prezado in the difference case.