Mathematics, Statistics, and Computer Science **@ UIC**

Logic Seminar

Differential transcendence of elliptic hypergeometric functions through Galois theory

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Abstract: Elliptic hypergeometric functions arose roughly 10 years ago as a generalization of classical hypergeometric functions and q-hypergeometric functions. These special functions enjoy remarkable symmetry properties, like their more classical counterparts, and find applications in mathematical physics. After interpreting one of these symmetries as a linear difference equation over an elliptic curve, we apply the differential Galois theory of difference equations to show that these functions are always differentially transcendental for "generic" values of the parameters. This is joint work with Thomas Dreyfus and Julien Roques.

Thursday, January 24 at 3:30 PM in 427 SEO