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

Graduate Computational Algebraic Geometry Seminar

The Method of Gauss-Newton to Compute Power Series Solutions of Polynomial Homotopies

Jan Verschelde (UIC)

Abstract: We consider the extension of the method of Gauss-Newton from complex floating-point arithmetic to the field of truncated power series with complex floating-point coefficients. Applying linearization, instead of manipulating matrices of series, we work with series which have coefficients as matrices, which leads to block structured linear algebra methods. We distinguish between regular and singular cases. This is joint work with Nathan Bliss.

Thursday, September 14 at 3:00 PM in SEO 1227