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

Algebraic Geometry Seminar

The space of equations for a curve of prescribed gonality

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Abstract: The Brill-Noether varieties of a curve C parameterize embeddings of C of prescribed degree into a projective space of prescribed dimension, i.e. equations for the curve. When C is general, these varieties are well understood: they are smooth, irreducible, and have the ''expected'' dimension. As one ventures deeper into the moduli space, past the general curve, these varieties exhibit intricate, even pathological, behaviour: they can be highly singular and their dimensions are unknown. A first measure of the failure of a curve to be general is its gonality. Based on an analogous combinatorial problem on graphs, Pflueger conjectured a formula for the dimensions of the Brill-Noether varieties for general curves of a given gonality. I will present joint work with Dave Jensen, in which we prove Pflueger's conjecture. The proof blends non-archimedean analytic techniques, ideas from logarithmic Gromov-Witten theory, and the geometry of scrolls.

Wednesday, November 8 at 4:00 PM in SEO 427