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

Algebraic Geometry Seminar

Differentials on the arc space

Tommaso de Fernex (University of Utah)

Abstract: The work of Greenberg, Nash, Kolchin, and Denef-Loeser has set the basis for our understanding of the structure of arc spaces and their connections to singularities and birational geometry. Most of the focus in these studies is on the reduced structure of arc spaces and their underlying topological spaces, and little is known about their scheme structure. In joint work with Roi Docampo, we further investigate the structure of arc spaces. Our main result gives a description of the sheaves of Kahler differentials of the arc space. The approach leads to new results on arc spaces as well as simpler and more direct proofs of some of the theorems in the literature.

Wednesday, April 26 at 4:00 PM in SEO 427