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

Commutative Algebra Seminar

Multiplicities of Jumping Numbers

Swaraj Pande (University of Michigan)

Abstract: Multiplier ideals are very refined invariants that measure the singularities of algebraic varieties. They give rise to many other interesting invariants, for example, the log canonical threshold and more generally, jumping numbers. This talk is about another related invariant, namely multiplicities of jumping numbers that measure the difference between successive multiplier ideals. The main theorem here is that these multiplicities fit into a quasi-polynomial. We'll also discuss when the various components of the quasi-polynomial have the highest possible degree relating it to Rees valuations. Finally, we'll consider the special case of monomial ideals where these invariants have a combinatorial description in terms of the Newton polyhedron.

Wednesday, April 21 at 4:00 PM in Zoom