Math 208 - Algebraic Geometry Seminar

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Abelianization and quantum lefschetz for orbifold I-functions

Abstract:

Let G be a connected reductive group with maximal torus T, and let V and E be two representations of G. Then E defines a vector bundle on the orbifold V//G; let X//G be the zero locus of a regular section. The quasimap I-function of X//G encodes the geometry of maps from $\mathbb{P}^1$ to X//G and is related to Gromov-Witten invariants of X//G. By directly analyzing these maps from $\mathbb{P}^1$, we explain how to relate the I-function of X//G to that of V//T. Our formulas prove a mirror symmetry conjecture of Oneto-Petracci that relates the quantum period of X//G to a certain Laurent polynomial defined by a Fano polytope. Finally, we describe a large class of examples to which our formulas apply, examples that are the orbifold analog of quiver flag varieties. Question for the audience: what else can one investigate with these examples?

Special Note:
Pre-talk 3:30 PM

Host: Dragos Oprea

Friday, May 28, 2021
4:00 PM
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