Math 208 - Algebraic Geometry Seminar

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Stability conditions on Gushel-Mukai fourfolds

Abstract:
An ordinary Gushel-Mukai fourfold $X$ is a smooth quadric section of a linear section of the Grassmannian $G(2,5)$. Kuznetsov and Perry proved that the bounded derived category of $X$ admits a semiorthogonal decomposition whose non-trivial component is a subcategory of K3 type. In this talk I will report on a joint work in progress with Alex Perry and Laura Pertusi, in which we construct Bridgeland stability conditions on the K3 subcategory of $X$. Then I will explain some applications concerning the existence of a homological associated K3 surface, and related algebraic constructions in hyperkaehler geometry.

Host: Dragos Oprea

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