

THEMATIC SESSION: New trends in Algebraic Geometry

**Title of the talk: Varieties with nef anti-canonical has surjective Albanese**

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I will present a joint work with Sho Ejiri showing that smooth projective varieties with nef anti-canonical divisor have surjective Albanese morphism. The statement was conjectured in the Kähler setting by Demailly-Peternell-Schneider in 1993, and it was shown in characteristic zero by Zhang in 1996. Our contribution is that it also holds in positive characteristic, and hence over any field. This is the first arbitrary dimensional positive characteristic result on varieties with nef anti-canonical divisor that is not sensitive to wild behavior: wild action of Frobenius on cohomology, wild singularities of the general fibers over the Albanese image, etc. I will also mention a few corollaries and generalizations.