

Sophia University

Mathematics Colloquium

When: Friday, July 15, 2016, 17:30-18:30

Where: Room No. 201, Main Bldg., Ichigaya-Campus

Speaker: Steven Lu (Université du Québec à Montréal)

Title: Hyperbolicity, ergodic complex structures and
hyperkähler manifolds

Abstract: This is a talk about my joint work with L. Kamenova and Misha Verbitsky on the identical vanishing of the Kobayashi pseudometric on known hyperkähler manifolds, including all Kähler K3 surfaces.

This solves a (converse) conjecture of Serge Lang for Kähler surfaces that a compact complex manifold whose Kobayashi pseudometric is non degenerate on a (Zariski) open set is of general type. It actually solves the conjecture for all surfaces (except the case of VII₀ surfaces) and it eliminates for the projective case the need to appeal to the difficult result of Mori-Mukai (Bogomolov-Mumford) on the existence of family of elliptic curves in projective K3s.