

Cambridge–Tokyo mini-workshop 2015

Date 23rd Nov. 2015
Place Room MR4 in the Centre for Mathematical Sciences, University of Cambridge
How to go See [Access Information](#)

Program

13:30 ~ 14:30	Gongyo
15:00 ~ 16:00	Svaldi
16:30 ~ 17:30	Ejiri

Title and Abstract

13:30 ~ 14:30 Yoshinori Gongyo (Tokyo)

Title: Rational points on log Fano threefolds over a finite field

Abstract: We prove the WO -rationality of klt threefolds and the rational chain connectedness of klt Fano threefolds over a perfect field of characteristic $p > 5$. As a consequence, a klt Fano threefold over a finite field has a rational point. This is a joint work with Hiromu Tanaka and Yusuke Nakamura.

15:00 ~ 16:00 Roberto Svaldi (Cambridge)

Title: Adjoint dimension of foliations

Abstract: The classification of foliated surfaces by Brunella, McQuillan and Mendes carries many similarities with Enriques-Kodaira classification of surfaces but also many important differences. I will discuss an alternative classification scheme where the role of differential forms along the leaves is replaced by differential forms along the leaves with values in fractional powers of the conormal bundle of the foliation. In this alternative setup one obtains a classification of foliated surfaces closer to the usual Enriques-Kodaira classification. If time permits, I will show how to apply this alternative classification to describe the Zariski closure of the set foliations which admit rational first integral of bounded genus in families of foliated surfaces. Joint work with Jorge Vitorio Pereira.

16:30 ~ 17:30 Sho Ejiri (Tokyo)

Title: Weak positivity theorem and Frobenius stable canonical rings of geometric generic fibers

Abstract: In characteristic zero, Fujita, Kawamata, Viehweg, Fujino and many others showed semi positivity theorems and weak positivity theorems which are important results on the positivity of direct images of relative pluricanonical bundles. However, in positive characteristic, there are counter-examples to these theorems. In this talk, we

show that an analogue of weak positivity theorems holds in positive characteristic, when the canonical ring of the geometric generic fiber F is finitely generated and the Frobenius stable canonical ring of F is large enough.

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Organizers Caucher Birkar (Cambridge)
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