



# ODTU-Bilkent Algebraic Geometry

## On a class of non-simply connected Calabi-Yau 3-folds with positive Euler characteristic-Part 1

By

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**Abstract:** In this talk I will present a class of non-simply connected Calabi-Yau 3-folds with positive Euler characteristic which are the quotient spaces of fixed-point-free group actions on desingularizations of singular Schoen 3-folds. A Schoen 3-fold is the fiber product of two rational elliptic surfaces with section. Smooth Schoen 3-folds are simply connected CY 3-folds. Desingularizations of certain singular Schoen 3-folds by small resolutions have the same property. If a finite group  $G$  acts freely on such a 3-fold, the quotient is again a CY 3-fold. I will present how to classify such group actions using the automorphism groups of rational elliptic surfaces with section. The smooth Schoen 3-fold case gives 0 Euler characteristic whereas the singular case results in positive Euler characteristic for the quotient CY threefolds.

**Date:** Friday, March 31, 2023

**Time:** 15:40 (GMT+3)

**Place:** Zoom

To request the event link, please send a message to [sertoz@bilkent.edu.tr](mailto:sertoz@bilkent.edu.tr)