



# ODTU-Bilkent Algebraic Geometry

## Irreversible odd degree curves in $\mathbb{RP}^2$

By

**Ali Ulaş Özgür Kişisel**  
(ODTÜ)

**Abstract:** A smooth hypersurface  $X \subset \mathbb{RP}^{n+1}$  of degree  $d$  is called reversible if its defining homogeneous polynomial  $f$  can be continuously deformed to  $-f$  without creating singularities during the deformation. The question of reversibility was discussed in the paper titled "On the deformation chirality of real cubic fourfolds" by Finashin and Kharlamov. For  $n=1$ , the case of plane curves, and  $d \leq 5$  odd, it is known that all smooth curves of degree  $d$  are reversible. Our goal in this talk is to present an obstruction for reversibility of odd degree curves and use it in particular to demonstrate that there exist irreversible curves in  $\mathbb{RP}^2$  for all odd degrees  $d \geq 7$ . This talk is based on joint work in progress with Ferit Öztürk.

**Date:** 8 November 2024, Friday

**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)