



UNIVERSITÀ  
DI TRENTO  
Dipartimento di  
Matematica

# DOTTORATO



CYCLE 35th  
ORAL DEFENCE OF THE PHD THESIS

**Monday 20 March 2023 – at 2.30 pm**

Department of Mathematics  
Seminar Room 1

The event will take place in presence and online through the ZOOM platform.  
To get the access codes please contact the secretary office

## Alberto Franceschini

PhD Student in Mathematics

### $\mathbb{C}^*$ -actions on rational homogeneous varieties and the associated birational maps

**Abstract:**

Given a birational map among projective varieties, it is known that there exists a variety  $Z$  with a one-dimensional torus action such that the birational map is induced from two geometric quotients of  $Z$ . We proceed in the opposite direction: given a smooth projective variety  $X$  with a one-dimensional torus action, one can define a birational map associated to the action and study the properties of the map via the geometry of  $X$ . Rational homogeneous varieties admit natural torus actions, so they are a good class of examples to test the general theory. In the thesis, we obtain and discuss some results about the birational maps associated to some one-dimensional torus actions on rational homogeneous varieties.

**Supervisor:** Luis Eduardo Solà Conde (University of Trento)

**CONTATTI**

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