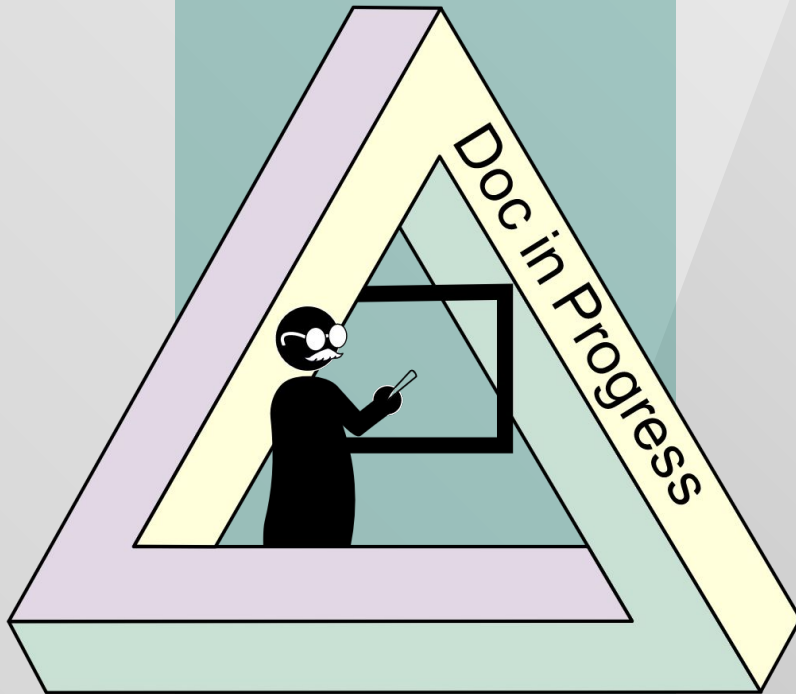




UNIVERSITÀ  
DI TRENTO

Dipartimento di  
Matematica



PhD in Mathematics

“Doc in Progress” is pleased to introduce you to

**Lorenzo Barban**

University of Trento

PhD in Mathematics

## The relation between birational geometry and $C^*$ -actions

In this friendly talk we explain how birational transformations arise naturally in the context of  $C^*$ -actions on projective varieties. With the help of examples, we first review basic notions about algebraic torus actions, explaining for instance the Bialynicki-Birula decomposition. We then concentrate on the geometric quotients of a  $C^*$ -action, explaining how they are all birational to each other. We conclude by asking the opposite question: under which conditions two birationally equivalent varieties can be realized as geometric quotients by a  $C^*$ -action?



Thursday, March 30 – 16:00 CET

The seminar will take place in room “Aula Seminari 1” (Department of Mathematics). If needed, please contact [docinprogress.unitn@gmail.com](mailto:docinprogress.unitn@gmail.com) using an institutional e-mail address to ask for a Zoom streaming of the event.

[docinprogressunitn.wordpress.com](http://docinprogressunitn.wordpress.com)