

## Mathematical Colloquia

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**Monday, 02 May 2022**

17:15 h, lecture room B6 (ExWi)

**Dr. Christian Urech, EPFL (Lausanne)**

# Cremona groups - what they are and how to study them

**Abstract:** A fruitful way to understand geometric objects is to study their groups of symmetries. At the same time, groups are best understood by considering their actions on geometric spaces. In this talk, I will illustrate this philosophy in the context of birational geometry. I will introduce Cremona groups (i.e., the groups of birational transformations of projective spaces), exhibit non-positively curved spaces on which they act by isometries, and demonstrate how these actions allow to answer classical problems. Along the way, we will encounter beautiful tales from algebraic geometry, dynamics, and geometric group theory.