

# SALZBURG MATHEMATICS COLLOQUIUM

Summer 2026

Antonella Perucca (University of Luxembourg)

## „Artin’s Conjecture on primitive roots“

May 28, 2026

Abstract:

If  $a$  is an integer and  $p$  is a prime, we say that  $a$  is a primitive root modulo  $p$  if the powers of  $a$  leave all remainders from 1 to  $p - 1$  after division by  $p$ . In 1927, Artin formulated his famous conjecture on primitive roots. In its qualitative form, it states that every integer that is neither  $-1$  nor a square is a primitive root modulo  $p$  for infinitely many primes  $p$ .

No explicit example is known up to date but the conjecture has been proven assuming the Generalised Riemann Hypothesis. In this talk we present the history of the conjecture and some related “Artin type” problems.

Thursday, **12:15-13:00**

Hörsaal 424, 1. Stock