



MARS

Models, Algorithms, Computers and Systems



Series of Talks
SS 2026

Start: 3 pm

Location: Lecture room 414, 1st floor
Hellbrunner Straße 34

A cooperation with SMC

Department of Mathematics
Department of Computer Science

Contact

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Mathematics



Computer
Science

MARS – Models, Algorithms, Computers, and Systems

Modern high tech research in science and technology requires to a great extent an interdisciplinary approach. This applies particularly to wide areas of the methodological sciences mathematics and computer science, where generally one or more aspects of a chain of consecutive closely interlocked fields of research are considered. These start with a mathematical model, continue with algorithmic problems and finally cover aspects of the implementation on computers or high performance computing environments and therefore also issues on the efficiency of computer systems.

MARS is a doctoral programme at the Doctorate School PLUS (DSP Programme), which is organized by the departments of mathematics and computer sciences of the Paris Lodron University Salzburg. Its objective is to educate doctoral students in the research fields models, algorithms, computers, and systems and also to achieve new insights and research findings especially with regard to the inter-dependency of these fields of research. The focus will be on important topics relevant for the Salzburg research site. MARS fields of research form particularly from a methodological point a cohesive and closely linked line of research and cover a wide spectrum of scientific interests.

Joint activities constitute the structured doctoral program in MARS. These include seminars with external guest speakers, one day workshops with external guests and multi day retreats away from the university, as well as summer schools on the topics of MARS.

Program

Mai 21, 2026
Thursday, 15:00-15:45
Lecture room 414, 1st floor

Artin's Conjecture on primitive roots

Antonella Perucca (University of Luxembourg)

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.

Coming...

The next MARS Series of Talks is starting in WS 2026/27