Doctorate School PLUS

uni-salzburg.at/doktorat

PARIS LODRON UNIVERSITÄT SALZBURG

MARS

Models, Algorithms, Computers and Systems

Series of Talks
WS 2025/26

Start: 3 pm

Location: Lecture Hall T01
Jakob-Haringer-Straße 2

Department of Mathematics
Department of Computer Science

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PARIS LODRON UNIVERSITÄT SALZBURG | Mathematics

PARIS LODRON UNIVERSITÄT SALZBURG | 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

October 23, 2025
Thursday, 15:00-15:45
Lecture Hall T01, ground floor

Probabilistic separation logic and its frame rule
Alex Simpson (University of Warwick)

Probabilistic separation logic offers an approach to reasoning about probabilistic programs in which a separating conjunction is used as a mechanism for expressing independence properties. Crucial to the effectiveness of the formalism is the frame rule, which enables modular reasoning about independent probabilistic state.

This will be an introductory talk on probabilistic separation logic, leading up to a new and simple formulation of the frame rule.

Joint work with Janez Ignacij Jereb.

Coming...

Peter Topping (Warwick)
January 29, 2025