



## Provenance Tracking for Static Analysis with Datalog

### Der Fachbereich Computerwissenschaften der Paris-Lodron-Universität Salzburg

lädt am

**Freitag, 24. Jänner 2020 um 14:00 Uhr**

im Hörsaal T03 des Fachbereichs Computerwissenschaften,  
Jakob-Haringer-Straße 2,  
zum  
**Gastvortrag**  
von

**Sarah Sallinger M.Sc.**  
TU Wien

mit dem Thema  
**Provenance Tracking for Static Analysis with Datalog**  
ein.

**Assoz. Univ.-Prof. Dr. Ana Sokolova**  
Host

Logic programming languages such as Datalog are gaining popularity for industrial applications such as static program analysis. This is due to the ease of expressing analyses in a declarative manner and to the availability of highly performant Datalog solvers. A major challenge in using Datalog for program analysis is the generation of valuable information about generated outputs, i.e. alarms, to give useful feedback to the users. A first step towards obtaining this information is the computation of provenance information for given analysis alarms. The state-of-the-art Datalog engine Soufflé provides this functionality by allowing users to construct proof trees. However, in contrast to the Datalog evaluation itself, this computation is not fine-tuned for performance which results in unnecessarily long proof tree construction times. In this talk I will present a new proof tree construction mechanism that leads to a significantly reduced construction time.

*Zur Person Sarah Sallinger:*

*Sarah Sallinger is one of our alumni -- she has graduated the Bachelor Program of our department in the summer of 2017, supervised by Ana Sokolova, as one of our best students of all times. She then studied in the Master in Computer Science Program at EPFL in Lausanne, Switzerland, and graduated in the late summer of 2019. Since October 2019, she is a PhD student at TU Wien within the LogiCS Doctoral School in the Forsythe group. Since her bachelor project, Sarah is working on topics in the area of verification. In this talk, she will present the results of her Master thesis.*