universität innsbruck
Fakultät für Mathematik, Informatik und Physik

VORSTELLUNGSVORTRAG: Theoretische Informatik

Dienstag, 5. November 2019 Raum 3W03 (ICT-Gebäude)	
Georg MOSER	
09:00 Uhr	**Forschungsvortrag und Diskussion:** **"Computation with Bounded Resources: Uniform Resource Analysis"** *The theory of computation as developed at the beginning of the last century lies at the very heart of computer science. Computations, where the resources are limited, can be conceived as investigations into computational complexity theory. On the other hand, computations with bounded resources have also been intensively studied in the area of static program analysis, as program analysis offers techniques for predicting the behaviour of programs.* *In this talk, I will summarise recent results in computation with bounded resources. In particular, I will focus on one of our core subject, fully automated resource analysis, so that no user interaction is required. Resource analysis is a sub-field of static program analysis, which infers resource bounds of programs without actual execution of the programs. Resource analysis impacts on the correctness of programs, as programs that over-exceed available computing resources are most likely to fail, and hence cannot run correctly.* *In the last decades there has been significant progress in the area of resource analysis. This resulted in significant success stories clearly showing that resource analysis can be practicable and scalable. Still, it is relatively easy to design simple programs that break the analysis of existing tools. Furthermore, in recent applications we have seen that our tools are overwhelmed with industry-sized programs with code bases larger than 1M LOC. In the talk, I briefly sketch a remedy for this situation, namely fully-fledged uniform resource analysis.*

*) Die Veröffentlichung von Namen und Titel erfolgt nur auf Zustimmung der Vortragenden.
Stellungnahmen zum Vortrag richten Sie bitte bis längstens 12:00 Uhr an Fakultaet-MIP@uibk.ac.at.