TECHNISCHE UNIVERSITÄT DRESDEN

Colloquium

Within the seminar of the Research Focus, the Ph.D. programme "Specification of discrete processes and systems of processes by operational models and logics" presents a talk by

Prof. Dr. Miki Hermann
Research group "Algorithmics and Optimization"
École Polytechnique Palaiseau
France

about

"Complexity of Clausal Constraints Over Chains"

Abstract: We investigate the complexity of the satisfiability problem of constraints over finite totally ordered domains. In our context, a clausal constraint is a disjunction of inequalities of the form $x \geq d$ and $x \leq d$. We classify the complexity of constraints based on clausal patterns. A pattern abstracts away from variables and contains only information about the domain elements and the type of inequalities occurring in a constraint. Every finite set of patterns gives rise to a (clausal) constraint satisfaction problem in which all constraints in instances must have an allowed pattern. We prove that every such problem is either polynomially decidable or NP-complete, and give a polynomial-time algorithm for recognizing the tractable cases. Some of these tractable cases are new and have not been previously identified in the literature.

This is a joint work with Nadia Creignou (Marseille), Andrei Krokhin (Durham), and Gernot Salzer (Vienna).

Date:	18.10.2005
Place and time:	Hans-Grundig-Str., Room: GRU 151, 1.15 pm

All interested persons are invited to attend!

Prof. Dr.-Ing. habil. Heiko Vogler