Informatik-Kolloqium

Rheinisch-Westfälische Technische Hochschule Aachen
Lehrstuhl für Informatik I

RWTH

EINLADUNG

Zeit:	Montag, 10. Januar 2005, 17.00 Uhr
Ort:	Hörsaal AH II, Ahornstr. 55
Referent:	Herr Prof. Dr. Artur Czumaj New Jersey Insitute of Technology, Newark/USA
Thema:	Sublinear-time Approximation Algorithms

Abstract The design of algorithms operating on massive data sets, has received a lot of attention in recent years. The practical motivation of this study is that polynomial algorithms that are efficient in relatively small inputs, may become impractical for input sizes of several gigabytes. For example, when we consider approximation algorithms for clustering problems in metric spaces then they typically have $\Omega(n^2)$ running time where n is the number of input points. Clearly, such a running time is not feasible for massive data sets. But for many problems such a running time is provably unavoidable. Surprisingly, these lower bounds do not necessarily hold when one wants to estimate the cost of an optimal solution. In this talk, we will present some examples of problems for which one can estimate the cost of optimal solutions in sublinear-time: the metric minimum spanning tree, certain clustering problems in metric spaces, and metric uniform minimum facility location problems.

Es laden ein: Die Dozenten der Informatik