UNIVERSITÄT SALZBURG

Fachbereich Computerwissenschaften

EINLADUNG
zum Gastvortrag am

Mittwoch, 10. Dezember 2008, 17:15 Uhr, T02
Institutsgebäude Jakob-Haringer-Str. 2, Itzling

von

Peter Korošec
Jožef Stefan Institute, Ljubljana

zum Thema:

Numerical Optimization with Parallelized Ant Colony Approach

Abstract:

Numerical optimization is important in decision science and in the analysis of an objective, i.e., a qualitative measure of the performance of the system. This objective can be any quantity or combination of quantities that can be represented by a single number. The objective depends on certain characteristics of the system called parameters, which are often restricted or constrained in some way. The goal is to find the values of the parameters that optimize the objective. In the past two or three decades, different kinds of optimization algorithms have been proposed to solve such optimization problems. One of them is Ant Colony Optimization (ACO). Although ACO has been proven to be one of the best metaheuristics in some combinatorial optimization problems, the application to numerical optimization appears more challenging, since the pheromone laying method is not straightforward. In this talk, a new ACO based approach, called Differential Ant Stigmergy Algorithm, will be presented. Furthermore, to speed-up the algorithm's execution, a parallelized versions using Multi-Processing (shared memory approach) and Message Passing Interface (distributed memory approach) will be discussed.
The talk will end with some Examples of real-world applications.

Univ.Prof. Dr. Marian Vajteršic (Host)   **O.Univ.Prof. Dr. Peter Zinterhof (Fachbereichsleiter)**