

## **Distinguished Speaker Series**

Friday, February 13 at 11:30am, NTDP F223

### **A Parameter Control Method of Evolutionary Algorithms Using Exploration and Exploitation Measures**

Dr. Marjan Mernik



#### **Abstract**

Exploration and exploitation are omnipresent terms in evolutionary computation community that have been broadly utilized to explain how evolutionary algorithms perform search. However, only recently exploration and exploitation measures were presented in a quantitative way enabling to measure amounts of exploration and exploitation. To move a step further, this talk introduces a parameter control approach that utilizes such measures as feedback to adaptively control evolution processes. With new exploration and exploitation measures, the evolution process generates relatively good results in terms of fitness when applying to a practical chemical engineering problem of fitting Sovova's model.

#### **Bio**

Marjan Mernik received the M.Sc. and Ph.D. degrees in computer science from the University of Maribor in 1994 and 1998, respectively. He is currently Professor of Computer Science at the University of Maribor, Slovenia. He is also Visiting Professor of Computer and Information Sciences at the University of Alabama at Birmingham, and at the University of Novi Sad, Faculty of Technical Sciences, Serbia. His research interests include programming languages, compilers, domain-specific (modeling) languages, grammar-based systems, grammatical inference, and evolutionary computations. He is a member of the IEEE, ACM, EAPLS, and the Editor-In-Chief of Computer Languages, Systems and Structures journal, as well as the Associate Editor of Applied Soft Computing journal.