

## Short Course on Heuristic Search Methods for Combinatorial Optimization

*Speaker: Prof. Jeffrey Ohlmann, University of Iowa (USA)*

### *Organization:*

1. Basics of Local Search
  - First-Improvement, Best-Improvement
  - Search Landscapes, Big Valley Structure
  - Variable Depth Search, Variable Neighborhood Search, GRASP
2. Traditional Metaheuristics
  - Simulated Annealing, Tabu Search
3. Population-based Heuristics
  - Genetic Algorithms, Scatter Search
4. Math Programming Based Heuristic Search
  - Lagrangian Heuristics, Very-Large Scale Neighborhood Search
  - Integer-Programming-Based Heuristics
  - Constraint-Programming-Based Heuristics
5. Heuristic Search for Dynamic and Stochastic Combinatorial Optimization
  - Lagrangian Heuristics, Very-Large Scale Neighborhood Search
  - Sampling-Based Heuristic Search
  - Dynamic-Programming-Based Heuristics

### **Schedule:**

**Monday 23 October, 3 pm**

**Wednesday 25 October, 11:30 am**

**Thursday 26 October, 11:30 am**

**Seminary Room of the Department of Mathematics and Computer Science,  
Building 30B, MT11 - floor 1st**

**Short Biography:** Jeffrey W. Ohlmann is Associate Professor of Management Sciences in the Tippie College of Business at the University of Iowa, where he has been since 2003. Professor Ohlmann's research on the modeling and solution of decision-making problems has produced more than a dozen research papers in such journals as MATHEMATICS OF OPERATIONS RESEARCH, INFORMS JOURNAL ON COMPUTING, TRANSPORTATION SCIENCE, and INTERFACES. He has collaborated with companies such as Transfreight, LeanCor, Cargill, the Hamilton County Board of Elections and the Cincinnati Bengals. Due to the relevance of his work to industry, he received the George B. Dantzig Dissertation Award and was recognized as a finalist for the Daniel H. Wagner Prize for Excellence in Operations Research Practice. Born in Valentine, Nebraska, he earned a BS from the University of Nebraska and MS and PhD degrees from the University of Michigan.