

# Introduction to Optimisation Using Metaheuristics

Ender Özcan<sup>1\*</sup>

<sup>1</sup> School of Computer Science, University of Nottingham, UK  
ender.ozcan@nottingham.ac.uk

## Abstract

Metaheuristics represent a set of high-level approaches supporting the development of heuristic optimisation algorithms. They often provide high-quality (not necessarily optimal) solutions to computationally hard problems in a reasonable amount of time. Over the past few decades, many highly effective metaheuristics, working on a variety of domains, have been presented. This seminar will be covering the fundamentals of metaheuristics focusing on combinatorial optimisation with case studies, including search paradigms, heuristic/operator types, classification of metaheuristics, algorithmic design issues, parameter tuning versus control, and more.

## Bio

Ender Özcan is a Professor of Computer Science and Operational Research with the Computational Optimisation and Learning (COL) Lab at the University of Nottingham. His research lies at the interface of Computer Science, Artificial Intelligence and Operational Research. With over 150 refereed publications, he is one of the leading scientists in intelligent decision support, underpinned by advanced (hyper-/meta)heuristic optimisation techniques. He contributed and has been contributing to externally funded projects as principal investigator and co-investigator, supported by various funding bodies ranging from European Commission to Innovate UK. He is a co-founder and co-chair of the EURO Working Group on Data Science Meets Optimisation. He is a Senior Member of IEEE, an elected member of the EPSRC, and College Research Foundation - Flanders (FWO) Peer Review College. He is Associate Editor of the Journal of Scheduling and International Journal of Applied Metaheuristic Computing, and on the Editorial (Advisory) Board of the Engineering Applications of Artificial Intelligence Journal and International Journal of Intelligent Computing and Cybernetics.