

M^o :: MultiDisciplinar

Joint research with our four groups allows the project to address different fields from new perspectives and backgrounds.

▲ University of Málaga
mstar.lcc.uma.es



M^o :: MultiObjective

Real-world problems are usually complex, and have non-linear search spaces, constraints, and multiple objectives that need to be solved.

▲ University Carlos III
mstar.uc3m.es



New multiobjective optimization studies, techniques, software, and metrics are in progress.

▲ University of Extremadura
mstar.unex.es



M^o :: MetaHeuristics

Metaheuristics are widely used techniques which can be applied to different optimization and search problems.

▲ University of La Laguna
mstar.ull.es



Examples of metaheuristics include, among others, simulated annealing (SA), tabu search (TS), iterated local search (ILS), evolutionary algorithms (EA), particle swarm optimization (PSO), ant colony optimization (ACO).



MSTAR
 Multidisciplinar
 Multiobjective
 Metaheuristics

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M^o :: The Project

This project is aimed at innovating in multiple fronts of multiobjective optimization (MO) from the perspective of metaheuristic techniques.

We are advancing in fundamental research by developing new multi-objective models for algorithms such as ant colony, scatter search, cellular genetic algorithms, particle swarm, differential evolution, and other procedures capable of solving problems of realistic dimension and complexity.

The problems tackled will not be limited to typical instances drawn from standard benchmarks, but instead we will also address a multidisciplinary selection of applications:

- ▲ Software engineering
- ▲ Economy and finance
- ▲ Communications
- ▲ Traditional engineering

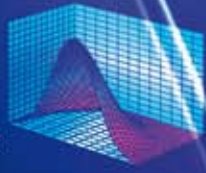


M^o :: Objectives

The goal is to unify criteria for experimentation and evaluation of new MO techniques, and to improve their efficiency and effectivity.

Among others, the aims to achieve are:

- Metaheuristics
- Multiobjektivization
- Methodology for evaluating MO algorithms
- MO with many-objective optimization
- MO scalability
- Hybrid approaches
- Transfer to real domains:
 - Engineering
 - Economy and finance
 - Software engineering
 - Communications



The studies about grid computing, hybridization, and a long list of new algorithmic extensions in a unified way inside one project, are only possible thanks to the coordinated effort of four teams of researchers.



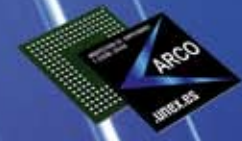
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