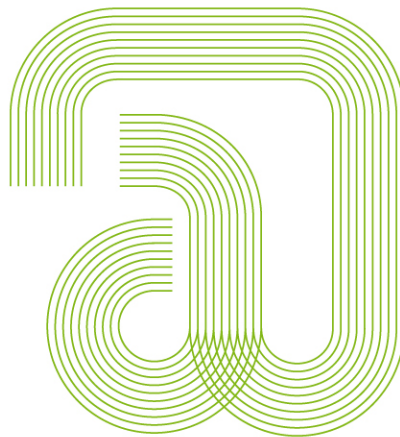


Universidade de Vigo

# Evolutionary Computation – Lab-Session 4



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Remind we have changed the due dates for the two homeworks as announced already:

- **March 3rd** for the minimization of the real-valued functions and the TSP problem applying genetic algorithms.
- **March 31st** for the topics to be still ahead...

## 1. Fourth Week

**Objectives:** Finish the already started tasks and prepare the deliverable, i.e., homework to be uploaded or sent by email (formella@uvigo.es) til Sunday 3rd of March.

1. Take a deeper look into the Guofei-package and find out which types of recombination/crossover, mutation, selection, initialization, and stopping criteria, the package implements.
2. Implement and run (using the Guofei-package) the minimization of the Schaffer-function and (3d- or 4d-) Rosenbrock function with both encodings in a Monte Carlo loop and log the minimum, mean, and variance of the objective function.

Argue why you took the decisions when choosing your parameter set.

3. Use the Guofei-package to find a sufficiently good tour with the genetic algorithm approach, on some of the smaller instances from the TSPLIB. Compute minimum, mean, and variance of the objective function whenever you use a Monte Carlo approach. Compare to the three more simple heuristics (nearest neighbor, quick tour, and pair-center tour).

Argue why you took the decisions when choosing your parameter set.

Use a python notebook to implement, execute, and document your homework.