

PhD research pre-proposal

Code: BEAR-2021/PhD6	
Title: Rich Green Vehicle Routing Problem	
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Host college: College of Management, Rabat Business School	Host research unit: BEAR Lab

SUMMARY OF THE RESEARCH PRE-PROPOSAL

This research project focuses on modeling and solving different variants of rich green transportation problems using autonomous, electric, and hybrid plug-in vehicles and considering realistic energy consumption functions. We call this project as “Rich Green Vehicle Routing Problem (RGVRP)”. This project aims to plan vehicle routes to transport goods with different requirements from their origin to specific locations using a different mode of transportation while respecting side constraints.

Currently, we have great challenges (i) to incorporate different kinds of vehicles and their refueling/recharging stations in the field of RGVRP, (ii) to develop fast and efficient solutions for RGVRP, (iii) and to integrate new constraints to treat the real problem of transport considering this promising mode of transportation.

The objective of this project is not only to develop practical variations of RGVRP with new concepts but also to propose new strategies based on the hybridization of metaheuristics and exact methods to solve the RGVRP.

REQUIRED ACADEMIC QUALIFICATIONS & SKILLS

The required academic qualifications and skills are positioned within the field of green logistics with respect to negative externalities of freight transportation and vehicle routing problems, as well as the basic recognition of the metaheuristics and/or exact methods such as CPLEX or Gurobi.