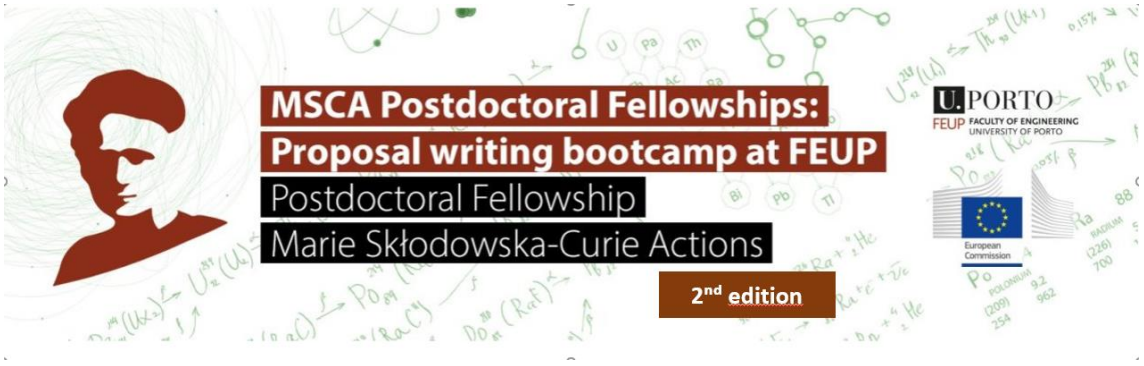

SUPERVISOR INFORMATION	
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Department	Department of Mechanical Engineering
Field(s) of research	Nanotechnology; Biomaterials
PROJECT PROPOSAL	
Title (optional)	Nanotech supplementation natural compounds-based to improve the well-being of elderly pets

Brief project description

Nowadays, pets live more years, and with age, they begin to experience age-related problems, including dementia, which is painful for their owners, and makes caring for those animals more challenging. Until now, there is no cure for that problem. In that sense, the majority of pet owners are willing to spend more money to buy a solution to prevent that age-related conditions.

So, the aim of this project is to produce a nano-based food for pets over 10 years old. It is intended to supplement the current dry food with bioactive compounds that proved to have cognition improvements encapsulated in biocompatible nanoparticles. These natural compounds could also prevent other age-related diseases, including cancer and hypertension. Despite their enormous potential, most of the bioactive compounds have pharmacokinetic drawbacks, including low bioavailability.

Using drug delivery systems (DDS) based on nanoparticles could be the perfect solution to overcomethese issues. That way, this project aims to develop a nanoparticle-based formulation that simultaneously incorporates different bioactive compounds with synergic effects.

This innovative strategy could represent a yet unexplored opportunity for engineering nano-based foods for dogs and cats to prevent age-related diseases in pets.