The **Laboratorio de Ingeniería Mecánica** (Mechanical Engineering Laboratory – http://lim.ii.udc.es) at the University of A Coruña (Ferrol, Spain) is looking for a PhD candidate to join their team.

The topic of this PhD thesis will be the development of strategies to **predict and monitor the evolution of clearances in industrial machinery**. The research project aims to determine the feasibility of using state observers, e.g., Kalman filters, to detect the existence of clearances by mean of indirect sensor readings. The candidate will work together with the members of the vehicle dynamics team to formulate monitoring strategies based on these observers, and to establish a monitoring framework that will integrate these strategies and others based on alternative approaches, such as data-driven definition and update of models, sensitivity analysis and uncertainty quantification. The goals of this thesis will be attained by means of mathematical analysis, computer simulations, and experimental tests. The expected outcome of the research is to arrive at a reliable, experimentally validated framework for the early detection and monitoring of clearances in industrial machines.

Candidates must hold a bachelor's and a Master's degree on Mechanical Engineering, Computer Science, or a related field. Programming skills, especially in Matlab, C++, and python, will be positively valued.

Applications and inquiries must be addressed to Prof. Francisco González (f.gonzalez@udc.es). Applicants must submit a CV and a transcript of their bachelor's and Master's degrees qualifications.

Ferrol, September 7th 2023