

University of Surrey

FACULTY OF ENGINEERING AND PHYSICAL SCIENCES

Division of Mechanical, Medical and Aerospace Engineering

Research Position in Advanced Vehicle Dynamics

(Ref: XXXX)

Salary up to £31,798 per annum

(subject to experience and qualifications)

Vehicle Dynamics Control and Energy Management of Fully Electric Vehicles with Individually Controlled Motor Drives

Applications are invited for a 2-year postdoctoral research position to enhance a simulation model of a fully electric vehicle with individually controlled motors, and to explore the possibility of their advanced optimal control for enhancing energy efficiency, vehicle safety, handling and fun-to-drive. Fully electric vehicle layouts characterised by individual powertrains represent the future of electro-mobility. So far, their benefits have been analysed in terms of packaging and enhanced flexibility in the chassis design, but not extensively from the viewpoint of energy management, yaw moment control, Anti-lock Braking System and Traction Control.

This post is part of EU FP 7 and industrially funded projects that aim to develop new control systems for fully electric vehicles with individually controlled motors. A budget for travel and other expenses will be provided, and there will be several opportunities to attend related conferences. The research will be carried out with collaborators of several industrial and academic institutions all over Europe. The outcomes of the projects will be evaluated on a state-of-the-art vehicle demonstrator.

The successful candidate must have a strong background in control theory and should be a holder of a PhD degree in one of the areas of control systems engineering, automotive engineering or mechanical engineering. Also, expertise in the following areas are highly desirable:

1. Vehicle dynamics simulation;
2. Anti-lock Braking Systems and Traction Control systems;
3. Vehicle Dynamics Control and torque-vectoring.

The appointee will join Surrey's Advanced Vehicle Analysis Group of the Mechanical Engineering Sciences Department, which has research interests in a wide range of topics including active vehicle dynamics, tyre dynamics, electric powertrains, vehicle aerodynamics and novel transmission systems for electric and hybrid electric vehicles. The research group owns a state-of-the-art Hardware-In-the-Loop electric axle rig that is unique in the UK.

Applicants are strongly encouraged to contact the project coordinator, Dr Aldo Sorniotti (tel: +44 (0)1483 689688, email a.sorniotti@surrey.ac.uk), for further information.

For an application pack and to apply on-line please go to our website www.surrey.ac.uk/vacancies. If you are unable to apply online, please contact Miss Louise Wilkinson, HR Assistant, on tel: +44 (0) 1483 686106 or by email: louise.wilkinson@surrey.ac.uk.

Closing date for applications: open until filled

Applicants should be aware that the United Kingdom Border Agency (UKBA) has currently imposed a limit on the number of migrants entering the UK. This limit is affecting the University's ability to sponsor staff under Tier 2 of the points-based system. Applicants should consider whether they can acquire the right to work in the UK on their own accord (e.g. EU national, Tier 1 or Tier 4 status).

We acknowledge, understand and embrace cultural diversity