Design and anlysis of an electric over-actuated vehicle suspension

ITRL have developed a Research Concept Vehicle (RCV) back in 2012 that is electric and that have an over-actuated suspension system meaning it can steer, camber, drive and brake individually on each wheel of the vehicle. It is now time to update the vehicle with a new design learning from the later versions of the RCV-E and creating a more dynamically capable platform to do more high dynamics tests with.

**This aim of the thesis** is to develop a new suspension system with integrated electric wheel motor, electric steering actuator, electric camber actuator and if possible active suspension.

**We seek one student,** preferably with background in vehicle dynamics, mechatronics or mechanical design. Could also be combined with a student interested in building electrical machines that can be integrated to the wheel.

The thesis work is hosted by Integrated Transport Research Lab (ITRL) and Vehicle Dynamics division at KTH. The thesis will also link to Electrical Machines and Power Electronics research group.

Depending on timing and results, you may also have the opportunity to write a scientific paper based on your work.

**Your application, including CV and a motivation letter, is welcome to** Mikael Nybacka – [mnybacka@kth.se](mailto:mnybacka@kth.se)

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| Application deadline | 2019-11-25 |
| Selection process end | 2019-12-02 |
| Start period | January 2019 |
| End period | June 2019 |

**About Integrated Transport Research Lab - ITRL**

ITRL is a multidisciplinary and multi-stakeholder arena that brings together experts from various fields in order to contribute to the development of a sustainable transport system. The main research question is *How can new technology contribute to a sustainable transport system?ow How*

More information at: [www.itrl.kth.se](http://www.itrl.kth.se).