

## **Research Interest May 2017**

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Currently, I am interested in developing electric machine control algorithms for high efficiency drive operation. Since permanent magnet synchronous machines, induction machines, and reluctance machines are feasible candidates for electric car traction, it is crucial to have related knowledge and expertise on this topic.

To further develop our experience, now we are extending the current Günsel Car Research Group to include a motor and controller research section. This section is going to hire graduate and Phd students to catch up with the latest technologies on motor control. I defend this initiative because it is a transition step for basic research in advanced driverless cars and autonomous vehicles.

During the weeks to come we are planning to collaborate with an industrial partner in order for transferring some key know-how on material choice, heat mitigation techniques, and next-generation power electronic switches.

Secondly, energy management of electric vehicle is another research topic of mine. This is again a hot topic, since target or distance anxiety is the primary psychological barrier against the common use of electric cars. We are planning to make scientific presentation on some technological aspects of Günsel Car as well as energy management of an electric vehicle in some international conferences like ELECO 2017 (International Conference on Electrical and Electronics Engineering).

The topic of energy management of electric car is also a great opportunity for young researchers to get an insight into the different aspects of electric car, like electric machine modelling and optimization algorithms in engineering.