

REDESIGN OF FEB SEMI-ACTIVE SUSPENSION SYSTEM

OUR PROJECT

Formula Electric Belgium is a student-run electric race team which competes in Formula Student, the world's largest competition for engineering students. We aim to push the limits of performance, innovation and sustainability within electric racing every year, which is only possible with the help of our Thesis students. These pioneers are responsible for performance-defining innovations within the team, and we would love for you to join our team of highly ambitious and motivated engineers. As a Thesis student, you will research, design, prototype and test your innovations alongside the full-time members which make sure the team pushes itself and the car to new heights.

AIM AND OBJECTIVE

In 2022-2023 and 2023-2024, FEB is equipping its car with a Semi-Active Suspension system co-developed with Monroe Intelligent Suspension. This is implemented in the form of dampers which can have their damping coefficient continuously adapted by changing hydraulic fluid flow using electro-hydraulic valves.

Currently, there is a bachelor thesis happening within FEB exploring the feasibility of a AMG One style mode-decoupled suspension for a formula student car. A furtherment adapting the results of this thesis to be used with FEB's Semi-Active suspension system, whose dampers currently differ from standard Formula student-spec dampers.

This thesis would encapsulate a redesign of the mechanical suspension parts such as the rockers and especially the Semi-Active Dampers, developing performant suspension geometry (determining motion ratios, spring stiffnesses, etc), and adapting existing Semi-Active control algorithms to function with this new suspension set-up.

PROFILE

- Starting a Master's in Electro-mechanics
- Motivated team player with strong communication skills
- Basic knowledge of CAD and FEM
- Basic knowledge in Vehicle Dynamics and Kinematics
- Diplomatic approach with companies

RETURNS

- Unique experience within a racing team
- Genuine work experience to carry with you into your career
- Exposure to cutting edge technology and software
- Contact with industry-leading corporations
- Chance to network and work with international stakeholders

INTERESTED?



Send us your contact details and field of interest to:

recruitment@formulaelectric.be