Composite optimisation of a Formula Student race car

We are looking for motivated master students Engineering Technology

Project description:

Formula Electric Belgium (**FEB**) is a team of highly motivated engineering students that build an electric formula student race car. Just like Formula 1 the team builds a brand-new car each year to compete in multiple international competitions during the race season. Formula Student is the largest international engineering and design competition in the world. The competition is characterized by combustion vehicles, electric vehicles and since recently also autonomous vehicles. Formula Electric Belgium strives towards innovations and the raw performance of technologies. It is for this reason that the team will focus on the autonomous/electric race cars. Research and development applications will be made by postgraduate students in collaboration with thesis students from the KU Leuven and bachelor students from Thomas More.

Thesis description:

Each year the composites department strives to reduce the weight and improve the stiffness of the monocoque. The weight reduction will improve the acceleration of the car. Increasing the downforce of the car improves the cornering speed and thus improving the lap time. However adding more wings to the car will result in more weight and thus slower acceleration.

The weight reduction cannot be accompanied by a loss of stiffness of the car. The new layup or the use of new materials must increase the overall stiffness or at least remain the same.

Thesis objective:

The thesis includes doing research to select the right material for the monocoque and the aerodynamic devices. As well as research into layup optimisation belongs to this thesis. To check and analyze the layup you will use Finite Element software of siemens NX.

Profile:

- Interested in FEM
- Interested in composites
- Creative
- Teamplayer

What do you gain?

- A unique engineering– and team experience where hard work and team atmosphere are central.
- Work with innovative technologies in a realistic environment/application.
- Create added value for your curriculum and the team

Are you interested? Please send your resume with accompanying motivation to:
recruitment@formulaelectric.be
Diestsesteenweg 692, 3010 Kessel-Lo