



Radiator modeling

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

The aim of this master's thesis is to develop a reliable and computationally efficient radiator model for use in CFD simulations within a Formula Student electric race car context. The primary objective is to create an in-house CFD representation of the radiator that accurately captures its thermal and flow behavior, enabling informed cooling system design decisions for Formula Electric Belgium.

Particular emphasis is placed on modeling the heat transfer and pressure loss characteristics of the radiator in CFD, while maintaining a level of model complexity that is compatible with full-vehicle or subsystem simulations. The work will focus on defining appropriate modeling approaches, boundary conditions, and assumptions, ensuring a good balance between physical accuracy and simulation robustness.

Optionally, based on the outcomes of the modeling work, a conceptual or preliminary design of an in-house radiator may be developed to complement the CFD model and support future physical implementation.

PROFILE

- Interested in **heat transfer and fluid dynamics**
- Interested in **CFD simulations**
- Mechanical, electromechanical, aerospace **engineering**
- Analytical mindset
- Motivated to apply theoretical knowledge to a **real Formula Student engineering problem**

RETURNS

- Unique experience within a racing team
- Genuine work experience to carry with you into your career
- Exposure to cutting edge technology and software

INTERESTED?



Send us your contact details and field of interest to

recruitment@formulaelectric.be