Become part of our team!

We search for a

**PhD Student (m/f/d)**

**Research focus:**
Application and enhancement of an OpenFOAM-based engine simulation methodology

**Task description**
We are looking for a motivated PhD student to extend, test and apply an in-house OpenFOAM workflow for internal combustion engine simulations. The goal of this project is to make engine simulations in OpenFOAM feasible for everyday engine development work and thus facilitate the transition of large engines from fossil fuels to fuels with net zero CO₂ emissions.

The work includes automation and programming, in both Python and C++ programming languages, model development, verification and validation, and case setups. The task includes the theoretical derivation of new models, their implementation in program code up to the application to real examples and actual engine cases. The complexity of the tasks requires a high level of precision and independence. Additionally, good knowledge of computational methods, fluid mechanics and programming skills are required to successfully fulfil all project tasks. Basic combustion engine knowledge is an asset. We offer an interesting work, embedded in a research project with motivated partners and colleagues.

**Responsibility**
- Handle the OpenFOAM workflow and assess all parts of the simulation setup
- Apply the workflow to real world cases and identify potential gaps
- Improve existing models and potentially develop new ones
- Communicate the project results in regular meetings, both internal and external
- Disseminate the project results in the form of scientific publications and a doctoral thesis

**Your profile**
- Qualified degree (MSc, Dipl.-Ing.) in applied mathematics, physics, chemical engineering or mechanical engineering
- Profound programming skills
- Knowledge of fluid mechanics, basic knowledge of combustion engines
- Basic knowledge of OpenFOAM
- High level of precision and independence
- Technical writing skills
- Fluent in English and/or German

**Our offer**
- Doctoral thesis related to an exciting research project
- Outstanding research infrastructure
- Independent work in an excellent team and close cooperation with international partners
- Excellent possibilities for further professional and personal development
- Personal and professional development opportunities
- Full-time position with a monthly gross salary of € 3,277,-
- Earliest starting date: immediately

The LEC supports equal opportunities and diversity. We are looking for dedicated and motivated individuals with research talent.

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Become part of our LEC team!  
We look forward to receiving your application.