

CAN I COMBINE SCIENCE AND BUSINESS IN A SINGLE JOB?

# YES.

We'll show you how at Fraunhofer.

CALLING ALL FUTURE EXPERTS IN WIND ENERGY! AT FRAUNHOFER MAKE THE MOST OF YOUR TALENTS BY JOINING OUR WIND ENERGY TEAM. A VACANCY IN THE DIVISION »WIND TURBINE AND SYSTEM TECHNOLOGY« IS IMMEDIATELY AVAILABLE FOR AN:

## INTERNSHIP (M/F):

## FOR THE DEVELOPMENT AND IMPLEMENTATION OF WAVE MODELS IN MODELICA PROGRAMMING LANGUAGE

The Fraunhofer Institute for Wind Energy and Energy System Technology IWES Northwest covers applied research and development for the complete wind-power value chain. Its particular strength lies in the combination of a worldwide unique test infrastructure with extensive expertise in reliability and validation. With more than 250 employees and students at its headquarter in Bremerhaven as well as at its branches in Hanover, Bremen and Oldenburg, IWES Northwest serves national and international clients.

### What we expect from you

- Students with a background in engineering sciences, fluid mechanics, physics or similar disciplines
- Excellent analytical skills, good self-organization and work management
- knowledge in hydrodynamics (preferably also knowledge in some wave theories)
- some experience in programming
- interest in learning about the software tools used in our department
- independent learning of the Modelica programming language is required
- Since IWES works variously at an international level, we require a good command of English.

The application should include a letter of motivation, the curriculum vitae, the latest grade transcript of your current studies as well as the final grade certificate of the recent degree and the internship guidelines (if any are prescribed).

### What you can expect from us

The department »Load Calculation and System Dynamics« at Fraunhofer IWES has developed a computational model for wind turbine load calculations. This model is programmed in the open source object-oriented language Modelica and is stored in a component based library. The library contains models for structure components, aerodynamics, control, power electronics and generator, environment and offshore wind turbine simulation. Further development aims to add new functionality to the library, increase flexibility in the usage of components and also increase component reliability.

The task is to become acquainted with existing wave theories, their range of application, their differences as well as their limitations. After this review, it should be decided which wave models are necessary and feasible to be added to the existing models in the Modelica library. Those should then be implemented in Modelica. Furthermore, test simulations and verification of the implemented wave models should be performed subsequently. A group of research associates will guide and support you towards the accomplishment of your task. Alternatively, there is the option to be employed as a student assistant.

Remuneration according to the federal government guidelines for intern salaries.

The working time consists of 39 hours per week.

The position is initially limited for 3 months.

In case of identical qualifications, preference will be given to severely disabled candidates.

The Fraunhofer-Gesellschaft is committed to providing equal career opportunities for men and women.

Fraunhofer is Europe's largest application-oriented research organization. Our research efforts are geared entirely to people's needs: health, security, communication, energy and the environment. As a result, the work undertaken by our researchers and developers has a significant impact on people's lives. We are creative. We shape technology. We design products. We improve methods and techniques. We open up new vistas.

### If you have any further questions, please contact:

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### Please apply online on our website:

[www.windenergie.iwes.fraunhofer.de](http://www.windenergie.iwes.fraunhofer.de)

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