

PhD position: Simulations of large scale wind farm dynamics

Job description

Are you fascinated by physics and the application of state-of-the-art fluid dynamics computer simulations of real-world applications? Are you curious about the potential applications of wind energy? Are you ambitious and multifaceted? We are looking for a PhD student to carry out state-of-the-art research on wind farm dynamics! Wind turbines interact with the environment over a wide range of length scales ranging from millimeters (viscous scales) and meters (wakes and tip vortices) up to kilometers (wind farms). Due to the large separation of scales wind farm dynamics are very rich. A detailed understanding of the relevant physics is essential to improve design of future wind farms and to increase the potential of wind energy. High-fidelity numerical simulations are an ideal tool to enhance our fundamental insight into the performance of wind farms. Simulations allow us to visualize the flow in wind farms and study important physical effects under controlled and reproducible conditions. In this PhD project you will further develop and use state-of-the-art large wind farm simulations.

Location

You will work in the Physics of Fluids group at the University of Twente (UT) in the Netherlands. The research in our group covers a variety of aspects in fluid mechanics. Our group focuses on understanding fundamental fluid physics phenomena using experiments, simulations, and theory. Our group is embedded in the Twente Max Planck Center, the J.M. Burgers Research Center for fluid mechanics, and the MESA+ and MIRA Institutes. Our group has access to several top supercomputers in Europe and the US. For further information, you are encouraged to look at <https://stevensrjam.github.io/Website/> and <http://pof.tnw.utwente.nl> to read our recent publications on the topic.

Your profile

You have a background in applied physics or mechanical engineering or a closely related subject area. You have strong communication skills, including fluency in written and spoken English. You are enthusiastic and highly motivated to do a Ph.D. Programming experience in C or Fortran is a plus.

Our offer

We want you to play a key role in an ambitious project in an inspiring and stimulating international work environment.

- We provide excellent mentorship and a stimulating, state-of-the-art research environment with world-class research facilities.
- You will have an employment contract for 4 years and can participate in all employee benefits the UT offers.
- You are an excellent teammate in an enthusiastic and hardworking group of scientists.
- You can make use of excellent facilities for professional and personal development.
- You will follow a high-quality personalized educational program.
- The research will result in a Ph.D. thesis at the end of the employment period.
- We strive for diversity and fairness in hiring.

How to apply

Potential applicants are encouraged to apply to Dr. Richard Stevens (r.j.a.m.stevens@utwente.nl).

Applications should include the following documents:

- A motivation letter describing why you want to apply for this position.
- Description of your research interests.
- A detailed CV.
- Academic transcripts from your Bachelor's and Master's degrees.
- Email addresses of at least two references who are willing to send a letter of recommendation on your behalf.
- An interview with a scientific presentation will be part of the interview process.

We are an equal opportunity employer and value diversity at our university. We are committed to enhancing and sustaining diversity in the composition of our staff. We do not discriminate on the basis of race, religion, color, national origin, gender, sexual orientation, age, marital status, veteran status, or disability status. We will ensure that individuals with disabilities are provided reasonable accommodation to participate in the job application or interview process, to perform essential job functions, and to receive other benefits and privileges of employment.