PhD position: Simulations of offshore wind farm turbulence

Job description
Are you fascinated by the effect of turbulence on wind energy production? Are you highly motivated to do a PhD in a dynamic research environment? We are looking for a PhD student to study flow dynamics in wind farms using state-of-the-art computer simulations!

Advancements in wind turbine technology have resulted in growing use of wind energy to reduce carbon emissions. Modern wind turbines and wind farms are becoming so large that their performance is affected by atmospheric turbulence flow phenomena that are not yet well explored. In this PhD project, you will develop novel large-eddy simulation techniques to study how atmospheric turbulence and wind-wave interactions affect the power production and structural loading experienced by wind turbines in an offshore environment.

Location
Work is carried out in the Physics of Fluids group at the University of Twente in the Netherlands. We study various fluid mechanical problems using experiments, simulations, and theoretical methods. The group is embedded in the Max Planck Center for Complex Fluid Dynamics, and the J.M. Burgerscentrum for Fluid Mechanics. For further information, you are encouraged to visit us at https://stevensrijm.github.io/Website/ and http://pof.tnw.utwente.nl, where you can read more on our research.

Profile
We seek highly motivated early-career researchers with an excellent background in fluid dynamics, mechanical engineering, computational physics, applied physics, or closely related areas! Programming experience (Fortran, C/C++, MATLAB, Python) is a plus. Must enjoy working in an internationally oriented environment and contributing to the research of team-members. We welcome strong interpersonal skills and interest in sharing knowledge at conferences and meetings. Proficiency in English is required, both spoken and written.

Our offer
This position plays a key role in the wind farm project and is embedded in a dynamic research group with colleagues working on similar topics.
- Full-time 4-year PhD position.
- Full status as an employee, including pension and health care benefits. Salary and conditions are in accordance with the collective labor agreement for Dutch universities.
- We provide a stimulating, modern research environment with world-class research facilities, including access to top supercomputers.
- A personal development program within the Twente Graduate School, combined with excellent mentorship
- Gross monthly salary of € 2.395 in the first year, increasing each year up to € 3.061 in the fourth year.
- A holiday allowance of 8% of the gross annual salary and a year-end bonus of 8.3%
- Between 29 and 41 leave days in case of full-time employment.
- The university is situated on a green campus with facilities for sports and other activities.
- Researchers from outside the Netherlands may qualify for a tax-free allowance equal to 30% of their taxable salary (the 30% tax regulation).

Information and application
Please submit your application to Richard Stevens (r.j.a.m.stevens@utwente.nl), including:
- A cover letter outlining your specific interest, qualifications and motivation to apply for this position.
- A detailed CV.
- Transcripts from your Bachelor and Master degrees.
- Contact information of two scientific staff members (one should be the supervisor of your MSc thesis project) who are willing to provide a recommendation letter at our request.
- An interview and a scientific presentation will be part of the selection procedure.

We are an equal opportunity employer and value diversity at our university. 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. Please contact us to request accommodation.