

Doctoral position in  
“Analytical calculations to assess the crashworthiness of a  
semi-submersible floating offshore wind turbine  
impacted by a ship “

University of Liege, Belgium

The research group **ANAST** (Naval Architecture and Offshore Wind Structures) of the University of Liege (Belgium) is seeking doctoral candidates for conducting research on scientific topics related to crashworthiness of floating offshore wind structures (FOWT).

Follow this link to discover the group ANAST: <http://www.anast.ulg.ac.be/>

In ANAST, we contribute to the **crashworthiness analysis** of floating and fixed offshore wind structures. We analyze the possible collision scenarios for each structure by means of Nonlinear Finite Element (NLFE) simulations. We are in the mission of **analysing the consequences of a ship collision with OWT** from a risk perspective.

All our activities are best presented through our core competences:

- Structural reliability / Optimal decision making under uncertainty
- Optimization and crashworthiness of marine structures
- Reinforcement learning / Machine learning
- Experimental and numerical ship hydrodynamics

The group ANAST is part of the Research unit *Urban & Environmental Engineering* ([link](#)), with 25 faculty staff and 100+ researchers.



Research group ANAST  
Research unit *Urban and Environmental Engineering*  
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### Function

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We are looking for a highly motivated doctoral candidate to join our group and contribute to an on-going scientific research project dealing with crashworthiness analysis of floating offshore wind structures. The topic will relate to the following subject under the project COLFLOWT, within the framework of GREENWIN - Plan MARSHAL: 2021-2023 ([link](#)):

- Development of analytical methodologies based on the super-element method and theory of plasticity for **analysing the crashworthiness of a semi-submersible floating offshore wind turbine**, including NLFEA simulations for the validation and verification of results;

### Profile

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Applicants for doctoral position must have completed a master's degree in a field closely related to civil engineering, naval architecture, mechanical engineering or physics.

Excellent written and verbal English communication skills are required. Preference will be given to candidates with a strong interest and some level of proficiency in computer programming (Matlab, Python).

### We offer

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Candidate will be fully funded (tax-free monthly allowance, approx. 2,100 € at the doctoral level) for up to 4 years (doctoral level). He/she will benefit from a dynamic working environment, with stimulating scientific support, state-of-the-art laboratory facilities and advanced computational modelling tools. He/she may be requested to apply for extra funding.

The University of Liège offers a comprehensive and innovative training program ([link](#)), which enables early-career scientists to carry out their research in the best possible conditions, in compliance with the European Charter for Researchers ([link](#)).

### How to apply?

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Outstanding candidates should apply by email to [ph.rigo@uliege.be](mailto:ph.rigo@uliege.be) with a curriculum vitae, full transcripts of Bachelor and Master studies, and one reference letter. Short-listed candidates will have to take part in an oral interview at the University of Liege. The positions will remain open until filled; but the selection will start from June 1<sup>st</sup>, 2021. Starting date is expected in September 2021, or earlier.



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