

# HLAING

# Nandar



PhD Candidate at University of Liège

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Keywords:	Offshore wind turbines, optimal decision making, structural reliability, structural health monitoring, artificial intelligence, digital twins
Publications:	<a href="https://www.researchgate.net/profile/Nandar_Hlaing">https://www.researchgate.net/profile/Nandar_Hlaing</a> <a href="https://orbi.uliege.be/browse?type=authorulg&amp;rpp=20&amp;value=Hlaing%2C+Nandar+p208066">https://orbi.uliege.be/browse?type=authorulg&amp;rpp=20&amp;value=Hlaing%2C+Nandar+p208066</a> <a href="https://orcid.org/0000-0001-5709-3306">https://orcid.org/0000-0001-5709-3306</a> <a href="https://be.linkedin.com/in/nandar-hlaing-060b3a162">https://be.linkedin.com/in/nandar-hlaing-060b3a162</a>

## MISSION

### Phairywind Project

Digital twins are virtual replica models of physical assets, processes or systems on which simulations can run to predict failures before occurrence and improve operation and maintenance. They can receive data from monitoring (which associates with a cost) and can update the model uncertainties. The complexity of a digital twin can be scaled in terms of: if it will represent a single component or the whole system, if every details of the system will be modelled and its condition tracked, and how frequent the model will be updated.

The objective of this PhD project is to optimize between the fidelity (complexity) of digital twin model and the structural health monitoring leading to minimize O&M cost. The research is performed at Université de Liege in collaboration with Vrije Universiteit Brussel.

## EDUCATIONAL BACKGROUND

### Ph.D. Candidate

Université de Liège

July 2019 - Current

Participant of PhairywinD Project.

Dissertation title: *“O&M Optimization of Offshore Wind Turbine Support Structures Using Digital Twins”*

## **M.Sc. in Advanced Ship Design (EMship)**

Université de Liège & École Centrale de Nantes

October 2017 - February 2019

Joint Master Degree consisting in three stages:

- Master in Naval Architecture (Université de Liège)
- Master in Hydrodynamics, Energy and Propulsion (École Centrale de Nantes)
- Complementary Diploma in Ship and Offshore Structures (University of Rostock)

Thesis title: "Comparative Study of Requirements for High Speed Crafts"

## **Bachelor of Engineering in Naval Architecture**

Myanmar Maritime University

December 2010 - November 2015

Thesis title: "Study on Dredger"

## **PUBLICATIONS**

### **Conferences**

- Nandar Hlaing, Pablo G. Morato, Philippe Rigo, Peyman Amirafshari, Athanasios Kolios, Jannie S. Nielsen. "The Effect of Failure Criteria on Risk-based Inspection Planning of Offshore Wind Support Structures". *The Seventh International Symposium on Life-cycle Civil Engineering, IALCCE2020*, Shanghai, China.

### **Others**

- Master Thesis: "Comparative Study of Requirements for High Speed Crafts"

## **WORK EXPERIENCE**

### **Research Intern**

DNVGL Maritime, Hamburg, Germany

July 2018 – November 2018 (5 months)

Hull Structure and Outfitting Department

(EMShip master thesis "Comparative Study of Requirements for High Speed Crafts" was developed.)

### **Weather Analyst**

Weathernews Inc. (Japan), Yangon Operation Centre, Myanmar

October 2016 – May 2017 (8 months)

Voyage Planning Department

### **Teaching Assistant**

Myanmar Maritime University, Yangon, Myanmar

December 2015 – November 2016 (11 months)

Department of Naval Architecture and Ocean Engineering

# SKILLS

## Language Skills

- Burmese (Native)
- English (Fluent)
- French (Basic)
- Spanish (Basic)

## Technical Skills

- ANSYS: Structural analysis
- FINE MARINE and STAR CCM+: Hydrodynamic analysis of flow around different hull shapes
- Maxsurf, Auto CAD, Rhino: Hull modelling and analysis
- Python and Matlab programming
- Machine learning

## Personal Skills

- Being enthusiastic and hardworking
- Well-organized and keen to seek new experiences
- Active to work with team
- Sense of responsibility