

Time domain modelling and multidisciplinary design optimization of floating offshore wind turbines

Arash Shakouri (arash.Shakouri@strath.ac.uk)

Supervisors: Dr Maurizio Collu

Introduction

- Floating Offshore Wind Turbines (FOWT) is require to access to superior wind resource.
- Three main classes (Fig. 1) comparison

Aims, Objectives and Methodology

- To develop a Multi-disciplinary Design, Analysis Optimization(MDAO) of Floater Offshore Wind Turbines
- To get the provisional results in three classes of FOWT
- Literature review on FOWT
- Plan the project time scale by Gantt-chart
- Consider Optimization methodology
- Applying proper Design methodology
- Applying OpentFast and SEASAM DNV GL tools

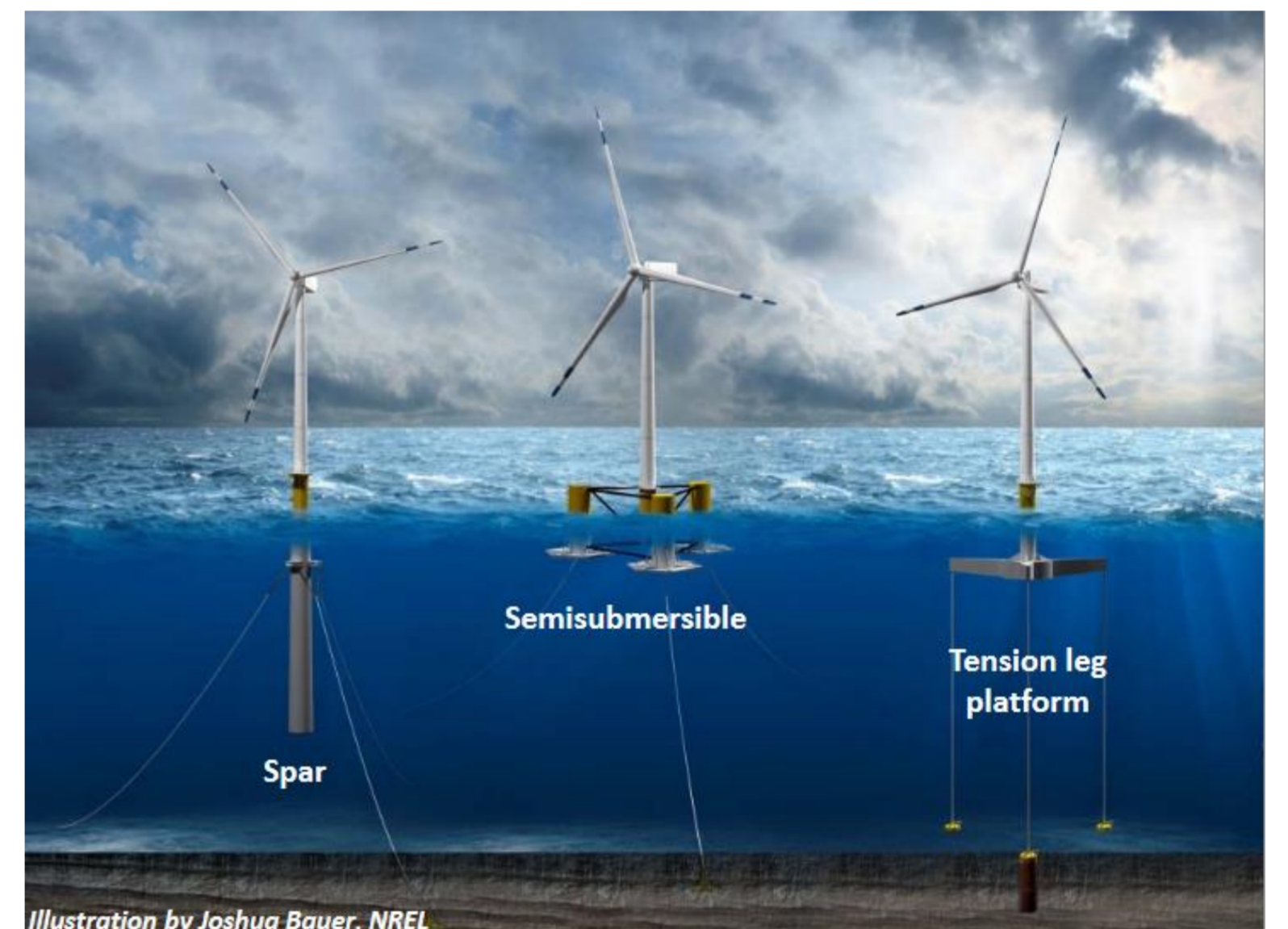


Figure1 Classification of FOWT technologies

Conclusions and Future work

- To optimize the engineering design modelling of FOWT
- To design the time domain response model of the system
- To consider the model response to the turbulent winds and irregular waves

Reference

- Karimi, M., 2018. *Frequency domain modelling and multidisciplinary design optimization of floating offshore wind turbines* (Doctoral dissertation).
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- Clauss, G.F. and Birk, L., 1996. Hydrodynamic shape optimization of large offshore structures. *Applied Ocean Research*, 18(4), pp.157-171.

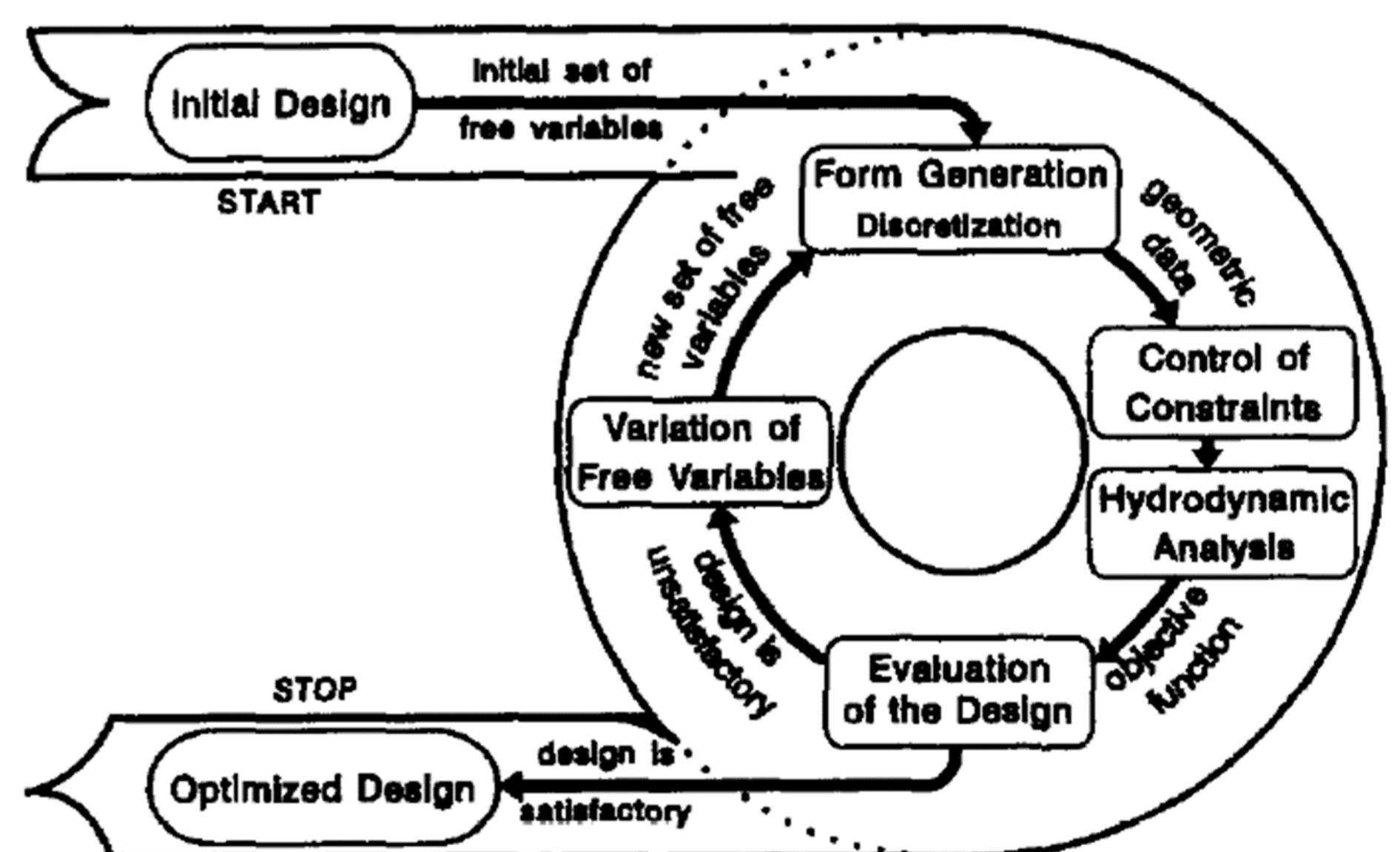


Figure2 MDAO framework of FOWT Design (Clauss and Birk, 1996)