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Industrial design and simulation of aquaculture mooring system for deployment in open sea for macro algae farming

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Marine plants or macroalgae are valuable resources for various biomaterial applications. The study involves industrial design and simulation of the mooring system station keeping of an offshore aquaculture system for large scale cultivation of macro algae in the open sea. The study would help to determine a suitable mooring system arrangement for the system. The result of the study would allow increased production of seaweed at less cost. The industrial design involves system engineering and integration of the subsystem design to size the mooring system components that would be deployed at a specific site with its metocean environment. The simulation study involves determination of the behavior of the pontoon-type VLFS (Very Large Floating Structure), when under influence of external forces caused by the ocean environment (current, wave, wind). Bureau VeritasAriane 7 simulation software is used to assess the multibody mooring design, strength and fatigue in the offshore environment and facilitate material selection required to efficiently deploy and maintain the system.

Biography

Oladokun Sulaiman Olanrewaju is a Professor of ocean engineering and maritime technology at University Malaysia Terengganu and visiting Professor at other University. He has PhD in Mechanical Engineering with specialization in Marine Technology. He is chartered engineer with diverse academic and professional background. He has taught and mentor different courses and research projects on issue in maritime field. His specialization is in maritime energy and environment, sustainable maritime system design, risk and reliability for maritime and ocean systems. He has taught and mentor courses and research projects on contemporary issues in maritime field. He published about 80 abstract and presentation in national and international conferences. He has authored and co-authored a total of about more than 120 publications which include proceeding papers, journal papers, and chapters in book, monograph, seminar papers and other types of academic publications. He has patent on marine green technology. He has authored five books in maritime science and technology field.

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