Risk and reliability based development of open water floating platform technology for large scale oceanic macro algae farming

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The Project is a Socio-Economic, Environmental, Technical Sustainability Project involving development and the cultivation of macro-algae on a large commercial scale inshore, off coast and offshore towards contributing to the effort to benefit from the carbon sequestration capability of algae and other marine organisms, reduce acidification, improve food security, fuel, pharmaceuticals, animal feed, coral reef and other marine biotech materials etc. The project involved design and installation of offshore aquaculture system as well as incorporating ocean farming estate management with a modular block cultivation system for inshore and offshore use towards improvement of efficiency in macro-algae cultivation. This paper present the use risk and reliability approach for development of offshore technology to build capability of the traditional breeding method of macro-algae, where modular floating facilities would provide offshore operation, rather than the traditional method that is limited to coastal breeding and suffer from various issues ranging for nutrient requirement, theft, sea concession etc. The system being developed would increase the area of cultivation, and stabilised productivity for marine algae supply for various biotechnology products for sustainable development technologies.

Biography

Oladokun Sulaiman Olanrewaju is an Associate Professor in Ocean Engineering, and Head of Maritime Technology International program, University Malaysia Terengganu. His specialization is in Safety and Environmental risk and reliability for maritime and ocean systems, maritime and ocean energy and environment, sustainable maritime system design, Inland Water Transportations. He is currently conducting research on Marine Hybrid Alternative Energy System, Greenhouse Gas Emission from Marine system and Climate Change Control Technology, Offshore and Near Coastal Aquaculture Systems, Marine Biofuel Systems. He is chartered engineer with diverse academic and professional background. He has authored and co-authored a total of about more than 120 publications, 60 peer review journals and 5 books. He has patented research work on marine green technology. He is Editorial Board Member and Reviewer and is in the scientific committee of several international journals. He has participated as observer to UN rule making for Inland Water Transportation. He is the member of royal Institute of Naval Architecture (RINA), Biomass Society Institute of Marine Engineering, Science and Technology (IMarEST), PIANC, IEEE, ASME.

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