

NUMERICAL MODELING OF FLEXIBLE STRUCTURES IN OFFSHORE ENVIRONMENT

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ABSTRACT

This invited session was originally organized as “Numerical Modeling and Characterization of Nets for Marine Applications” at Marine 2013 (Hamburg, Germany) and Marine 2015 (Rome, Italy). Starting from Marine 2017 (Nantes, France) it is run under a more general title “Numerical Modeling of Flexible Structures in Offshore Environment”.

Traditionally, the majority of the contributions deal with design, numerical analysis and testing of offshore aquaculture systems such as fishfarms, mussel lines and macroalgae growing facilities. However, there are also presentations on modeling of fishing nets, and offshore moorings for protective barriers and ocean energy devices. The numerical tools utilized in the papers include structural dynamic analysis software (both FEA and discretized mass-spring models) and computational fluid dynamics packages.

The objective of the session is to facilitate collaboration and exchange of expertise between researches involved in numerical modeling and design of all kinds of flexible structures in marine environment, including complex mooring systems, netting, aquaculture growing installations, protective barriers, moored weather buoys and other monitoring devices. We invite papers on numerical analysis, testing and model-based design of such systems.