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The ONISILOS research project "WAVEGEM: Wave-Group Generation Methodology for the Prediction of Extreme Loads on Offshore Floating Support Structures" deals with extreme loading conditions and critical dynamic responses on floating structures used for the support of offshore wind turbines. The main objective is the development of a structured methodology based on "Design Wave Groups" (DWGs), facilitating accurate, reliable, time and cost-efficient calculation of extreme structural responses.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie Grant Agreement No 101034403

Graduating from the School of Mechanical Engineering of the National Technical University of Athens (NTUA) in 2014, I went on to complete my Doctoral Dissertation entitled "Applications of Oscillators in Energy Conversion" in 2019, at the Dynamics & Structures Laboratory (DSL), NTUA. In the following years I have been employed as a Postdoctoral Researcher at the DSL, NTUA and later as an Assistant Scientist at the Cyprus Marine and Maritime Institute (CMMI), while also teaching undergraduate courses as a Special Scientist at the Department of Mechanical and Manufacturing Engineering (MME) of the University of Cyprus (UCY).

My research interests revolve around the absorption of energy from oscillatory phenomena, transmitted in waves in solid or fluid media; divided among several engineering fields such as the control of vibrations in rigid and flexible body configurations and discrete systems and the control/exploitation of ambient excitations such as ocean waves and sound. My accumulated research experience and output from my involvement in National and European research projects, teaching and other activities, concerns subjects such as acoustic/elastic meta-materials, low-frequency vibration absorbers, mitigation of seismic excitations, noise control, wave energy converters, vessel navigation, energy flows and hydrodynamics among others.

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Due to the linearity of the superimposed components, this process is computationally cheap allowing thousands of realisations to be further utilized for numerical and experimental validation. Meanwhile, higher-order, non-linear harmonic components arising in the acquired time-histories, are investigated regarding their significance on the induced loads on both the mooring and floater.

The research team of the project is led by the supervisor Dr. Dimitris Stagonas, Lecturer at the Department of Civil and Environmental Engineering, UCY and the co-supervisor Dr. Dimokratis Grigoriadis, Associate Professor at the Department of Mechanical and Manufacturing Engineering, UCY.

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