Training School "Hands-on course on experimental and numerical modelling of wave-structure

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General Information

The course aims to introduce experimental and numerical modelling approaches for simulating **wave-structure interactions**, with a focus on Wave Energy Converters (WEC). The same structure and wave condition will be modelled both in a physical wave tank and in its numerical counterpart. The course will include lectures on experimental modelling, fundamentals of wave energy and WECs, laboratory practice and project works based on the collected laboratory data. The theoretical background of SPH and two hands-on sessions with the **DualSPHysics** software will be provided on the fourth and fifth days. The course will be in English, and in presence only.

Schedule

Dates	Description
01/07/2024 09.00-17.00	Fundamental of experimental modelling: dimensional analysis and basics of similarity in maritime models. Introduction and fundamentals of wave energy and conversion. Introduction to the laboratory practice.
02/07/2024 09.00-16.00	Laboratory practice at LABIMA, www.labima.unifi.it
03/07/2024 09.00-13.00	Trainee's teamwork project based on laboratory data collected.
04/07/2024 09.00-17.00	Introduction to Smoothed Particle Hydrodynamics model. Introduction to the DualSPHysics package. Practice with the numerical model I: cases to learn.
05/07/2024 09.00-16.00	Practice with the numerical model II: Simulation of the fixed structure tested in the laboratory. Practice with the numerical model III: simulation of the floating moored device. Discussion of teamwork projects by trainees.
	Total 30 Hours - 5 Credits

Other information

Up-to-date information, detailed programme and info for registration can be found here:

https://sites.google.com/unifi.it/hands-on-course-2024

Registration is required.

For any information www.indicee.unifi.it - dott-dicea@unifi.it