







SUMMER SCHOOL on FLOATING OFFSHORE WIND TURBINES

When: 5-7 June 2025

Where: Senigallia (An), Italy – Public Library (Senigallia.library.maps)

Aim: The summer school is aimed at illustrating the state-of-the-art and the main scientific and technological challenges in the development of Floating Offshore Wind Turbines, that is one of the most promising green energy source for the future.

To deepen the discussed topics, to strengthen networking between attendees and to developed successive collaborations (including eventually a joint paper), three working groups are planned on the following topics (that participants are requested to select during their application):

- 1) Computational aspects (Chairs: Marino, Ferri)
- 2) Structural aspects (Chairs: Serpilli, Lenci)
- 3) Fluid dynamics aspects (Chairs: Tomasicchio, Brocchini)





Fees: *The participation is free*, but for organization reasons it is requested to register at the following link: <u>Senigallia.summer.school.form</u>

The summer school is a satellite event of the IUTAM Symposium on *Nonlinear dynamics of systems and structures for green energy generation* (IUTAM.symposium.ga22-11), and will be held on the same venue, the Senigallia Public Library (IUTAM.symposium.ga22-11.location).

Organizers:

- Event organized and funded by the DICEA Dipartimento di Eccellenza 2023/27 (<u>DICEA.Univpm</u>)
- PRIN Project Neptune (Neptune.Prin)

For more information please email to lenci@univpm.it.

PROGRAM

Thursday 5 June 2025		Friday 6 June 2025		Saturday 7 June 2025	
IUTAM Symposium on Nonlinear dynamics of systems and structures for green energy generation		9.00-9.45	Marco Belloli Wind tunnel testing of floating wind turbines and farms	9.00-9.45	Elisa Leone Wind effects on mooring line tension in FOWT
		9.45-10.30	Claudio Lugni Sustainable design of offshore renewable energy systems	9.45-10.30	Agostino Lauria FOWT power performance curve from CFD numerical models
		10.30-11.00	Coffee break	10.30-11.30	Coffee break + Planned work by subgroups
		11.00-11.45	Gianmaria Sannino Ocean modelling for Marine Energy: Simulating and Predicting Renewable Resources	11.30-12.15	Giovanni Bracco Unified Momentum Model-based macrodynamic rotor modeling for floating offshore wind turbines
		11.45-12.30	Roberto Tomasicchio Meteocean impact on FOWT under climate change	12.15-13.00	Gianluca Zitti Numerical modelling of FOWT interaction with waves: from potential to fully nonlinear models
14.30-14.45	Welcome address Stefano Lenci, Maurizio Brocchini, Claudio Borri, Enrico Quagliarini (Head of DICEA)	12.30-14.00	Lunch	13.00	Closing
14.45-15.15	Student self-presentation (short background and research interest, max 5 minutes each, slides can be used)	14.00-14.45	Enzo Marino Nonlinear dynamics of mooring cables: theoretical and computational aspects		
15.15-16.45	Charalampos Baniotopoulos New challenges for FOWTs	14.45-15.30	Giulio Ferri Platform and mooring lines optimization for FOWTs		
16.45-17.15	Coffee break	15.30-16.30	Coffee break + Planned work by subgroups		
17.15-18.45	Carlos Rebelo FOWTs and the COST Action Modenerlands	16.30-17.15	Valeria Settimi Vibrations problems in FOWT		
		17.15-18.00	Michele Serpilli Theoretical and numerical models for FOWT's structural components		
		20.00	Pizza together		