

Day 0 Sunday, 1st September

	Time	Topic	Presenter
Registration & Welcome Drink	18:30 - 21:00	Roma Tre University - Via Vito Volterra 62, 00146 Roma	

Day 1 Monday, 2nd September

	Time	Topic	Presenter
Welcome Speech	8:30-8:45	Chairmen Introduction	Dr. C. Lugni and Prof. J. Serafini
	8:45-9:10	The making of INSEAN's research group: a tribute to Paolo Bulgarelli	Dr. E. F. Campana (CNR)
Plenary Session	9:15-10:15	Wave-current and forward-speed interaction on floating structures	Prof. O. M. Faltinsen
Coffee break	10:15-10:45		
Session 1	10:45-11:45	Fluid Structure Interaction (FSI) (Room A)	Chair Dr. E. F. Campana
		Analytical solution for large deflection of clamped square plates under uniform hydraulic pressure	Mrs. Liu Ling
		Numerical analysis of a containership vertical bending moment in steep regular waves	PhD Sabine Akkari
		On the wave-current interaction effect on linear motion for floating bridges	Dr. Arnt Gunvald Fredriksen
Parallel Session 1	10:45-11:45	Ship Hydrodynamics & Maneuvering (Room B)	Chair Dr. Alessandro Iafrazi
		Formulations of added resistances	Dr. Chen Xiaobo
		Potential analysis for coupling effect of ship motion with liquid sloshing	Dr. Sheng-chao Jiang
		Numerical simulation of breaking bow waves using a multi-resolution sph method	PhD Wenhao Tang
Session 2	11:45-12:45	Fluid Structure Interaction (FSI) (Room A)	Chair Prof. O. M. Faltinsen
		Numerical investigation on springing responses of ultra large container ship with potential and viscous flow methods	Prof. Chao Tian
		Research on numerical simulation of platform mooring system design for floating offshore wind turbine	Prof. Zhijun Wei
		Nonlinear hydroelastic interactions of the bottom mounted vertical circular cylinder with water waves	Dr. Andro Bakica
Parallel Session 2	11:45-12:30	Ship Hydrodynamics & Maneuvering (Room B)	Chair Prof. Trygve Kristiansen
		List: a linearized seakeeping time domain model based on an indirect potential flow formulation	PhD Claire Monin
		Numerical validation on sloshing-coupled effect for ship forward motion in waves	Dr. Zhang Zhu
Light lunch	13:00-14:00		
Session 3	14:15-15:00	Bio-Inspired Robots (Room A)	Chair Prof M. S. Triantafyllou
		Numerical study of balistidae's c-start	Prof. Wenrong Hu
		Numerical analysis and experimental verification of the evolution characteristics of vortex flow field during zebrafish maneuvering motion	Dr. Mengchen Gao
		Role of morphology and flexibility in manoeuvring for fish and bio-inspired marine robots	Prof. Marilena Greco
Parallel Session 3	14:15-15:15	Free Surface Flow – NonLinear Waves & Current (Room B)	Chair Dr. Andrea Colagrossi
		On the (assumed) equivalence of forward speed and current speed in wave drift damping *	Dr. Arnt Gunvald Fredriksen
		Influence of an adverse pressure gradient on the redistribution of tke in a gravity current	PhD Giovanni Di Lollo
		Experimental investigation on the mode-2 internal solitary waves generated by bidirectional gravity collapse	Dr. Shaodong Wang
		Numerical simulation of internal solitary waves interaction with background shear currents	PhD. Zhuoyue Li
Coffee break	15:25-16:00		
Session 4	16:00-17:20	Renewable Energy (Room A)	Chair Dr. Sergej Antonello Sirigu
		Comparison of dynamic responses of blade during installation process using jack-up and floating vessels	PhD Li Yin
		A gradient-based model predictive control method for energy capture optimization of heaving wave energy converters	PhD Xianzhi Wang
		Six-phase pmsg drive in marine energy generation units with foc control method	Ms. Mona Shayeghan
		Hydraulic performance estimation and optimization of high-output pelton turbine	Prof. Yi An
Parallel Session 4	16:00-17:00	Cavitations and multi-phase flows (Room B)	Chair Dr. Enrico De Bernardis
		Numerical investigation of unsteady cavitating flows in the wake of a cylinder	Prof. Eric Goncalves
		Multi-scale characteristics of mixture properties within cloud cavitation	Dr. Hao Zhang
		Numerical simulation of fast depressurization using 4-equation and 6-equation models	PhD Anil Kemal Gun

15th International Conference on Hydrodynamics | 2-6 September 2024 | Rome

Detailed programme

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Day 2 Tuesday, 3rd September			
Plenary session	9:15-10:15	Tuna-inspired morphing fins are shown to dynamically alter the stability and maneuvering properties of the self-propelled underwater vehicle Morpheus.	<i>Prof M. S. Triantafyllou</i>
Coffee break	10:15-10:45		
Session 1	10:45-11:45	Fluid Structure Interaction (FSI) (Room A)	Chair. Dr. David Kristiansen
		Experimental investigation of two floating closed rigid fish cages interacting with waves	PhD. Burhan Turgut Ozbar
		Experiment of a single particle settling in a vibrating riser	Ms. Mingzhu Wei
		Numerical study on the coupling of hydroelasticity and air cushioning effect during water impact of an elastic plate	Mr. Xiaohang Shi
Parallel Session 1	10:45-11:45	Vortex dynamics and Turbulent flow (Room B)	Chair Dr. Matteo Mancinelli
		Boundary layer dynamics of wave-current flows over cylindrical canopies	Mr. Junao Kan
		Froude number-dependent highly variable density turbulence in the transom stern wake of an amphibious vehicle	Dr. M. Reza Rastan
		Expressing small-scale spatiotemporal nonlinear dynamics through low-dimensional manifold	PhD Pengyu Lai
Session 2	11:45-13:05	Renewable Energy (Room A)	Chair Prof. Zhijun Wei
		Improved modelling of a floating membrane solar island in waves	PhD Aurora Skare
		Dynamic behavior and load analysis of a modular multi-purpose	Dr. Sergej Antonello Sirigu
		Experimental validation of extreme response in wave energy converters using dualphysics and star-ccm+	PhD Francesco Niosi
		Hydrodynamic analysis of the hydrogen offshore transfer system (hots) *	Prof. Zhi-Ming Yuan
Parallel Session 2	11:45-13:05	Ship Hydrodynamics & Maneuvering (Room B)	Chair Dr. Xiaobo Chen
		Numerical computations of the hydrodynamic forces on the wigley hull moving with a large drift angle	Dr. Wei Zhang
		Numerical investigation of hydrodynamic aspects of free-running vessels in stern quartering seas	PhD. Dimantha Harshapriya
		Research on hydrodynamic and motion characteristics of an underwater vehicle at different wave angle	Prof. Miaomiao Huang
		Hull wake characteristics for twin shaft ships maneuvering in calm water	Mr. Federico Franciosa
Light lunch	13:10-14:10		
Session 3	14:15-15:15	Ship Hydrodynamics & Maneuvering (Room A)	Chair Dr. Riccardo Broglia
		The application of extrapolation of failure rate over wave height in direct stability assessment	Dr. Ke Zeng
		Hull-form optimization including the effects of added resistance	Mr. Shuguang Wang
		Dual single phase approach for computing both water and air flow around a ship	Dr. Hiroshi Kobayashi
Parallel Session 3	14:15-15:35	Coastal, Ocean & Enviromental Engineering (Room B)	Chair Prof. Chang Lin
		Effect of sea level rise om storm surge induced coastal inundation in yangtze estuary	Prof. Hua Liu
		Study on the design automation of mooring systems for a large-scale floating plarform with special configuration in shallow water	Dr. Bo Wu
		Hydrodynamic performance of a surface-piercing body fixed in the surf zone	Dr. Pengda Cheng
		Experimental Investigation of Forces on a Horizontal circular Cylinder and a Horizontal square Cylinder Exerted by Oblique Internal Solitary Waves	Prof. Hui Du
Coffee break	15:45-16:15		
Session 4	16:15-17:15	Bio-Inspired Robots (Room A)	Chair Prof. Giorgio Graziani
		Drag reduction characteristics using natural yam mucilage as a new drag reduction agent	Prof. Xie Luo
		Hydrodynamic characteristics of distinct bioinspired underwater body configurations	Mr. Swapnil jagadale
		Bio-inspired flow sensing for autonomous underwater vehicles; a passive sensing digital twin for object detection and localisation	PhD Casper Potter
Parallel Session 4	16:15-17:15	Cavitations and multi-phase flows (Room B)	Chair Prof. Marilena Greco
		Numerical investigations of transient sheet/cloud cavitating flow around hydrofoil via incompressible and compressible methods	Dr. Tingyun Yin
		Numerical study of bubble collapse near a deformable wall using a partitioned coupling and a penalization method	PhD. Lucas Ménez
		Effect of nanoscale nuclei on the dynamics of laser-induced cavitation	Dr. Mingbo Li
	17:30 - 19:30Enjoying a pre-dinner drink	

* Extended Abstract

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Day 3 Wednesday, 4th September			
Plenary session	9:15-10:15	Climate Change: What ice says about past, present and future	<i>Prof. Massimo Frezzotti</i>
Coffee break	10:15-10:45		
Session 1	10:45-11:45	Vortex dynamics and Turbulent flow (Room A)	Chair Dr. Stefano Meloni
		Drag reduction performance of peo/dg binary polymer solutions	Mr. Shi Pengfei
		Adapability of turbulence models for fluid dynamics and vortex-induced vibration at Reynolds number of 2.5×10^5	PhD Yigang Gong
		Numerical study on wakes behind deformable and rigid spheres at same Reynolds number	PhD Ye Xinwei
Parallel Session 1	10:45-11:45	Ship Hydrodynamics & Maneuvering (Room B)	Chair Dr. Hiroshi Kobayashi
		Effect of movement speeds and hull forms on wave drag reduction in a single-file ship formation	Mr. Fengshen Zhu
		An experimental study on breaking bow waves	Haocheng Lu
		Hydrodynamic digital twin for efficient planning of fully electric harbour craft	Dr. Kudupudi Ravindra Babu
Session 2	11:45-12:45	Fluid Structure Interaction (FSI) (Room A)	Chair Prof. Harry B. Bingham
		Numerical simulation of nodule extractors for deep-sea mining based on coupled CFD-DEM method	Prof. Zhijun Wei
		Predictive analysis of structural damage in submerged structures: a case study approach using machine learning	Alexandre Brás dos Santos
		Hydrodynamic interaction between square cylinders in two-dimensional high- Kc flow	Prof. Trygve Kristiansen
Parallel Session 2	11:45-13:05	Coastal, Ocean & Environmental Engineering (Room B)	Chair Prof. Hua Liu
		The characteristics of hydrodynamic under wave-current interaction during typhoon impact in the Yangtze river estuary	PhD Wang Jie
		Numerical study for the design of experiments on the interaction of tip vortices in water with bounded surfaces.	Prof. Gianluca Zitti
		Characteristics of vortex structure and reduction of run-up height induced by solitary wave propagating over three submerged barriers	Prof. Chang Lin
		Experimental investigation on submarine landslides and the nearfield characteristics of generated tsunami waves	PhD Tianqing Lu
Light lunch	13:00-14:00		
Session 3	14:15-15:35	Renewable Energy (Room A)	Chair Dr. Zhiming Yuan
		Advancing offshore wind turbine foundation analysis: integrating numerical model results into Stokes-Gaussian process machine learning models	Dr. Haoyu Ding
		One-Way VS. Two-Way energy capture from an oscillating water column wave energy device*	Prof. Harry B. Bingham
		Numerical study of the hydroelastic response of floating wind turbines via computational fluid dynamics	Dr. Benjamin Bouscasse
		Mid and high-fidelity analysis of a moored semi-submersible floating wind turbine under regular waves	Mr. Daniele Aromatario
Parallel Session 3	14:15-15:35	Cavitations and multi-phase flows (Room B)	Chair Prof. Eric Goncalves
		Role of nanoscale gas nuclei in the non-equilibrium water vapor phase transition at cavitation onset	PhD Yuhan Li
		Numerical simulation method of unsteady cloud cavitation based on statistical characteristics of bubbles	PhD Qiuyi Wang
		A numerical investigation of the natural cavitation hydrodynamic noise around a disk cavitator	PhD Sezer Kefeli
		Effect of parallel ice crevice boundary on water entry of a sphere: a computational	Dr. Zhaoxin Gong

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Day 4 Thursday, 5th September			
Plenary session	9:15-10:15	Wave-current interactions for the sea-river dynamics at microtidal systems	<i>Prof Maurizio Brocchini</i>
Coffee break	10:15-10:45		
Session 1	10:45-11:45	Fluid Structure Interaction (FSI) (Room A)	Chair Dr. Benjamin Bouscasse
		Numerical study of the damping effect of multi-floating particles on free-surface flow	PhD Limin Shen
		Numerical simulation of hydrodynamics for an inclined monopile under regular waves	Prof. Sun Shuzheng
		A weak-scatterer solution to nonlinear wave-body interaction based on a 3d immersed-boundary adaptive harmonic polynomial cell method	Dr. Yanlin Shao
Parallel Session 1	10:45-11:25	Water Entry (Room B)	Chair Dr. Alessandro Iafrati
		2D+t method development based on extended von karman's momentum theory: application to free-falling water entry	Dr. A. Del Buono
		Experimental investigation on ditching performance of a scaled blended wing body aircraft	Mr. Peizhe Zhou
Session 2	11:45-12:45	Vortex dynamics and Turbulent flow (Room A)	Chair Prof. Maurizio Brocchini
		Study on bath-tub vortex characteristics by considering air core kinetic modes	PhD Taijin Liu
		Experimental study of studs turbulence stimulation in a flat plate boundary layer	Prof. Jiahn-Horng Chen
		Interfacial instability analysis of two-phase shear flows	PhD Gong Minjiang
Parallel Session 2	11:45-12:45	Water Entry (Room B)	Chair Dr. Yanlin Shao
		Numerical analysis on impact pressure peak and normal force of a 2D flat plate during ditching	Dr. Yunlong Zheng
		Vertical water entry of a 3d fuselage: comparison between a potential-flow multisection approach and a fully 3d cfd solution	Dr. A. Del Buono
		Fast force prediction on the 2d continuous water entry and exit problem using the force decomposition approach and the data-driven model	Mr. Xupeng Sui
Light lunch	13:00-14:00		
Gala Dinner	19:30: 23:30	Terrazza Caffarelli - Piazzale Caffarelli, 4, 00186 Roma RM	
Day 5 Friday, 6th September			
CNR-INM Facilities	9:00-12:00		