CURRICULUM VITAE

FORMATO EUROPEO / EUROPEAN FORMAT

INFORMAZIONI PERSONALI/ PERSONAL INFORMATION

Nome, Cognome/Name, Surname	Claudio Lugni
Indirizzo/Address Via, numero civico, c.a.p., città, nazione/ House number, street name, postcode, city, country	
Telefono/Telephone	
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E-mail	**claudio.lugni@cnr.it**
Sito web/Website	**http://www.insean.cnr.it/en/content/LUGNI-CLAUDIO**
Nazionalità/Nationality	**Italian**
Luogo e data di nascita/ Place and Date of birth	

ESPERIENZA PROFESSIONALE /WORK EXPERIENCE

In ordine di data /Dates (from – to)	2010-to date
Nome e indirizzo del datore di lavoro / Name and address of employer	CNR-INM (ex INSEAN), Via di Vallerano 139, 00128 Roma
Tipo o settore di attività / Type of business or sector	*National Research Council*
Funzione o posto occupato / Occupation or position held	*Senior Researcher at CNR-INM. Adjunct Professor at NTNU .* *High Level Foreign Expert for the Chinese MInistry of Science and Technology and Professor at Harbin Univ (China).* Italian delegate of the IWG 'Offshore Wind" within the EU SET-Plan
Principali mansion e responsabilità / Main activities and responsibilities	Research, Research Project Management INSEAN Responsible for the RP-NSCS ('Numerical Simulation of Complex Systems') funded by Norwegian Research Council . Responsible of the CNR-Research Line "Sustainable exploitation of the marine environment " Visiting Researcher at NTNU/CeSOS (Trondheim, Norway) Visiting Researcher at NTNU/AMOS (Trondheim, Norway) In 2016, he has been key scientist of the INSEAN team investigating the sinking of the vessel El Faro on October 1, 2015, near the Crooked Islands, Bahamas. The Italian team was involved by the US National Transportation Safety Board. Coordinator of the scientific activity of the Work Package WP2 "Environmental Sustainability" within the SP1'Teconologie Marine' of the Flagship Project RITMARE Qualified as Full Professor in the Italian University System (MIUR) in Aeronautical, Aerospatial and Naval engineering Co-founder and Project Manager of the CNR Spin-Off 'REMOCEAN' (*http://www.remocean.com/index.php/en/team*) INM Coordinator for the RP-Autonomous Marine Operation Systems funded by AMOS-NTNU (2014-2023).

	INM Coordinator for the RP-Closed Cage for Aquaculture funded by Norwegian Research Council (2019-2021). CNR coordinator of the "Teorema" Project: (2019-2021 –MIUR Funding. 700 kEuro). CNR coordinator of the "Ricerca di Sistema" Project: " Energia Elettrica dal mare" (2019-2021 – MiSE Funding. 2.5 MEuro).
In ordine di data /Dates (from – to)	2008-2010
Nome e indirizzo del datore di lavoro / Name and address of employer	INSEAN, Via di Vallerano 139, 00128 Roma
Tipo o settore di attività / Type of business or sector	*Research Institute*
Funzione o posto occupato / Occupation or position held	*Senior Researcher.*
Principali mansion e responsabilità / Main activities and responsibilities	Research, Research Project Management *Director of the INSEAN Scientific Unit 3.0: "Seakeeping e Manovrabilita'".* *Affiliated Reseacher at the Centre of Excellence CeSOS (Centre for Ship and Ocean Structures), Trondheim, NTNU, Norway*
In ordine di data /Dates (from – to)	2006-2009
Nome e indirizzo del datore di lavoro / Name and address of employer	INSEAN, Via di Vallerano 139, 00128 Roma
Tipo o settore di attività / Type of business or sector	*Research Institute*
Funzione o posto occupato / Occupation or position held	*Senior Researcher.*
Principali mansion e responsabilità / Main activities and responsibilities	Research, Research Project Management *Scientific Responsible and Management of the RP '6DOF-RANSE- Phase II (Funding: 3064 kEuro) funded by the Italian Minister of Defence, for the development of verification, and validation of numerical solvers for violent fluid-structure interaction. The Research Project was framed within a Memorandum of Understanding (MoU) with the U.S. Navy, including INSEAN,David Taylor Model Basin (DTMB, U.S. Navy Research Center) and the Iowa University.* *Affiliated Reseacher at the Centre of Excellence CeSOS and AMOS, Trondheim, NTNU, Norway*

ISTRUZIONE E FORMAZIONE / EDUCATION AND TRAINING

In ordine di data /Dates (from – to)	1997-2000
Nome e tipo d'istituto di istruzione o formazione / Name and type of organisation providing education and training	University of Rome 'La Sapienza'
Principali materie e competenze professionali apprese / Principal subjects occupational skills covered	Naval Hydrodynamics, fluid-structure interaction
Certificato o diploma ottenuto /Title of qualification awarded	Ph.D in Theoretical and Applied Mechanics
Livello nella classificazione nazionale o internazionale / Level in National classification	Doctorate
In ordine di data /Dates (from – to)	1988-1995

Nome e tipo d'istituto di istruzione o formazione / Name and type of organisation providing education and training	University of Rome 'La Sapienza'
Principali materie e competenze professionali apprese / Principal subjects occupational skills covered	Fluid dynamics, fluid-structure interaction
Certificato o diploma ottenuto /Title of qualification awarded	Master Degree in Aeronautical Engineering
Livello nella classificazione nazionale o internazionale / Level in National classification	Laurea

ATTIVITA' DI RICERCA / RESEARCH ACTIVITIES

Attuali campi di ricerca / Research sectors	Nonlynear free-surface wave propagation Nonlinear fluid-structure interaction, Sloshing flows, slamming, Seakeeping, Offshore Wind, Marine Renewable Energy
Recenti attività scientifiche/ Recent Scientific Activities.	His research activities have mainly concerned theoretical, numerical and experimental studies of the violent hydrodynamic phenomena involved in wave-structure interactions. In particular the scientific activity is focused on maritime safety, renewable energy from offshore wind turbine and waves, violent wave-ship interactions, hydroelasticity, sloshing flows from hydro-structural point of view and as wave-energy resource, fish- hydrodynamic and bio-inspired novel marine vehicles, wave impact, dynamic instability of ship, propagation of nonlinear sea state including statistical occurrence of extreme waves, e.g. freak waves, maneuvering of ship in waves.
Pubblicazioni/ Books and Articles	Papers on International Scientific journals form 2014 to 2020)

1. M.A. Siddiqui, M. Greco, C. Lugni, and O.M. Faltinsen. "Experimental studies of a damaged ship section in beam sea waves". In: Applied Ocean Research, 2020, 97, 102090
2. L. Pustina, C. Lugni, Bernardini, G., Serafini, J., Gennaretti, M., Control of power generated by a floating offshore wind turbine perturbed by sea waves, Renewable and Sustainable Energy Reviews, 2020, 132, 109984
3. Ghamari, I, Greco, M., Faltinsen, O.M., Lugni, C., Numerical and experimental study on the parametric roll resonance for a fishing vessel with and without forward speed, Applied Ocean Research, 2020, 101, 102272
4. M.A. Siddiqui, M. Greco, C. Lugni, and O.M. Faltinsen. "Experimental studies of a damaged ship section in forced heave motion". In: Applied Ocean Research 88 (2019), pp. 254– 274. doi: 10.1016/j.apor.2019.04.010. url: https://doi.org/10.1016%2Fj.apor.2019.04.010.
5. A. Mockute, E. Marino, C. Lugni, and C. Borri. "Comparison of nonlinear wave-loading models on rigid cylinders in regular waves". In: Energies 12.21 (2019).
6. J. Wang, O.M. Faltinsen, and C. Lugni. "Unsteady hydrodynamic forces of solid objects vertically entering the water surface". In: Physics of Fluids 31.2 (2019). cited By 0. doi: 10.1063/1.5057744. url: https://www.scopus.com/inward/record. uri?eid=2-s2.0-85061352804&doi=10.1063%2f1.5057744&partnerID=40&md5=3d78f848908d99d5d49d02c4dddecc03.
7. M. Antuono, S. Valenza, C. Lugni, and G. Colicchio. "Validation of a three-dimensional depth-semi-averaged model". In: Physics of Fluids 31.2 (2019). cited By 0. doi: 10.1063/1.5080307. url: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061639181&doi=10.1063%2f1.5080307&partnerID=40&md5=e4c78f994037bcc80972e6d1854e8e23.
8. A. Lucarelli, C. Lugni, M. Falchi, M. Felli, and M. Brocchini. "Extra-strain rates in steady spilling breaking wave". In: Scientific Reports-Nature (2018).
9. Fucile, F., Bulian, G., Lugni, C., A probabilistic approach for the quantification of

prediction error in deterministic phase-resolved wave forecasting (2018) Ocean Engineering, 163, pp. 718-736. DOI: 10.1016/j.oceaneng.2018.04.07
10. Antuono, M., Lugni, C. Global force and moment in rectangular tanks through a modal method for wave sloshing (2018) Journal of Fluids and Structures, 77, pp. 1-18. DOI: 10.1016/j.jfluidstructs.2017.11.004
11. Hanssen, F.-C.W., Bardazzi, A., Lugni, C., Greco, M. Free-surface tracking in 2D with the harmonic polynomial cell method: Two alternative strategies (2018) International Journal for Numerical Methods in Engineering, 113 (2), pp. 311-351. DOI: 10.1002/nme.5615
12. Ludeno, G., Postacchini, M., Natale, A., Brocchini, M., Lugni, C., Soldovieri, F., Serafino, F. Normalized Scalar Product Approach for Nearshore Bathymetric Estimation from X-Band Radar Images: An Assessment Based on Simulated and Measured Data (2018) IEEE Journal of Oceanic Engineering, 43 (1), art. no. 8082485, pp. 221-237.
13. F. Fedele, C. Lugni, and A. Chawla. “The sinking of the El Faro: predicting real world rogue waves during Hurricane Joaquin”. In: Scientific Reports-Nature 7.1 (2017). doi: {10.1038/ s41598-017-11505-5}.
14. A. Lucarelli, C. Lugni, M. Falchi, M. Felli, and M. Brocchini. “On a layer model for spilling breakers: A preliminary experimental analysis”. In: European Journal of Mechanics - B/Fluids (2017). issn: 0997-7546. doi: https://doi.org/10.1016/j.euromechflu.2017.07.003. url: http://www.sciencedirect.com/science/article/pii/S0997754617300328.
15. Ling Wan, Marilena Greco, Claudio Lugni, Zhen Gao, and Torgeir Moan. “A combined wind and wave energy-converter concept in survival mode: Numerical and experimental study in regular waves with a focus on water entry and exit”. In: Applied Ocean Research 63 (2017), pp. 200–216.
16. Fedele F., Lugni C., Fucile F., and Campana E.F. “On the prediction of rogue waves during Hurricane Joaquin”. In: NTSB Report. Ed. by National Transportation Safety Board. 2016, pp. 1–37. url: https://dms.ntsb.gov/public/58000-58499/58116/598564.pdf.
17. Ling Wan, Zhen Gao, Torgeir Moan, and Claudio Lugni. “Experimental and numerical comparisons of hydrodynamic responses for a combined wind and wave energy converter concept under operational conditions”. In: RENEWABLE ENERGY 93 (2016), 87–100. issn: 0960-1481. doi: {10.1016/j.renene.2016.01.087}
18. Francesco Serafino, Jochen Horstmann, Jose Carlos Nieto Borge, Claudio Lugni, and Maurizio Brocchini. “Sensors for Coastal Monitoring”. In: JOURNAL OF SENSORS (2016). issn: 1687-725X. doi: {10.1155/2016/1720563}.
19. Peng Li, Odd.M. Faltinsen and Claudio Lugni, “Nonlinear vertical accelerations of a floating torus in regular waves”, accepted for publication on Journal of Fluids and Structures, (2016)
20. Ling Wan, Zhen Gao, Torgeir Moan, and Claudio Lugni. “Comparative experimental study of the survivability of a combined wind and wave energy converter in two testing facilities”. In: Ocean Engineering 111 (2016), pp. 82 –94. issn: 0029-8018. doi: http://dx.doi.org/10.1016/j.oceaneng.2015.10.045. url: http://www.sciencedirect.com/science/article/pii/S0029801815005922.
21. A. Bardazzi, C. Lugni, M. Antuono, G. Graziani, and O.M. Faltinsen. “Generalized {HPC} method for the Poisson equation”. In: Journal of Computational Physics 299 (2015), pp. 630 –648. issn: 0021-9991. doi: http://dx.doi.org/10.1016/j.jcp.2015.07.026. url: http://www.sciencedirect.com/science/article/pii/S0021999115004714.
22. Z-J. Wei, O.M. Faltinsen, C. Lugni, and Q-J. Yue. “Sloshing-induced slamming in screen- equipped rectangular tanks in shallow-water conditions ”. In: Physics of Fluids 27. (2015), 24. doi: {http://dx.doi.org/10.1063/1.4913983}.
23. Jingbo Wang, Claudio Lugni, and Odd Magnus Faltinsen. “Experimental and numerical investigation of a freefall wedge vertically entering the water surface”. In: Applied Ocean Research 51 (2015), pp. 181 –203. issn: 0141-1187. doi: http://dx.doi.org/10.1016/ j.apor.2015.04.003. url: http://www.sciencedirect.com/science/article/pii/ S0141118715000486.
24. J. Wang, C. Lugni, and O.M. Faltinsen. “Analysis of loads, motions and cavity dynamics during freefall wedges vertically entering the water surface ”. In: Applied Ocean Research 51. (2015), 38–53. doi: {http://dx.doi.org/10.1016/j.apor.2015.02.005}.
25. C. Lugni, M. Greco, and O.M. Faltinsen. “Influence of yaw-roll coupling on the behavior of a FPSO: An experimental and numerical investigation”. In: Applied Ocean Research

51. (2015), 25–37. doi: {http://dx.doi.org/10.1016/j.apor.2015.02.005}.
26. E. Marino, H. Nguyen, C. Lugni, L. Manuel, and C. Borri. “Irregular Nonlinear Wave Simulation and Associated Loads on O↵shore Wind Turbines”. In: J. O↵shore Mech. Arct. Eng. 137.2 (2015), 9. doi: {10.1115/1.4029212}. 2
27. M. Greco, C. Lugni, and O. M. Faltinsen. “Influence of motion coupling and nonlinear e↵ects on parametric roll for a floating production storage and o oading platform”. In: PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES 373.2033, SI (2015). issn: 1364-503X. doi: {10.1098/rsta.2014.0110}.
28. Matteo Antuono, Andrea Bardazzi, Claudio Lugni, and Maurizio Brocchini. “A shallow-water sloshing model for wave breaking in rectangular tanks”. In: JOURNAL OF FLUID MECHANICS 746 (2014), 437–465. issn: 0022-1120. doi: {10.1017/jfm.2014.127}.
29. C. Lugni, A. Bardazzi, O. M. Faltinsen, and G. Graziani. “Hydroelastic slamming response in the evolution of a flip-through event during shallow-liquid sloshing”. In: PHYSICS OF FLUIDS 26.3 (2014). issn: 1070-6631. doi: {10.1063/1.4868878}.
30. G. Ludeno, S. Flampouris, C. Lugni, F. Soldovieri, and F. Serafino. “A Novel Approach Based on Marine Radar Data Analysis for High-Resolution Bathymetry Map Generation”. In: IEEE GEOSCIENCE AND REMOTE SENSING LETTERS 11.1 (2014), 234–238. issn: 1545-598X. doi: {10.1109/LGRS.2013.2254107}.
31. G. Ludeno, A. Orlandi, C. Lugni, C. Brandini, F. Soldovieri, and F. Serafino. “X-Band Marine Radar System for High-Speed Navigation Purposes: A Test Case on a Cruise Ship”. In: IEEE GEOSCIENCE AND REMOTE SENSING LETTERS 11.1 (2014), 244–248. issn: 1545-598X. doi: {10.1109/LGRS.2013.2254464}.
32. Greco, Marilena; Lugni, Claudio; Faltinsen, Odd Magnus, “Can the water on deck influence the parametric roll of a FPSO? A numerical and experimental investigation”, EUROPEAN JOURNAL OF MECHANICS B-FLUIDS, Vol: 47 pp: 188-201, DOI: 10.1016/j.euromechflu.2014.01.009 Published: SEP-OCT 2014
33. Antuono, Matteo; Bardazzi, Andrea; Lugni, Claudio; Brocchini, Maurizio, “A shallow-water sloshing model for wave breaking in rectangular tanks”, JOURNAL OF FLUID MECHANICS Vol: 746 pp: 437-465, DOI: 10.1017/jfm.2014.12, MAY 2014
34. Claudio Lugni, A. Bardazzi, O.M. Faltinsen, G. Graziani, “Hydroelastic slamming response in the evolution of a flip-through event during shallow-liquid sloshing”, PHYSICS OF FLUIDS, Vol 26 Issue: 3, DOI: 10.1063/1.4868878, MAR 2014.
35. Ludeno, G., Flampouris S., Lugni, C., Soldovieri, F., Serafino, F. “A Novel Approach Based on Marine Radar Data Analysis for High-Resolution Bathymetry Map Generation”, IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, Vol: 11 Issue: 1, pp: 234-238 DOI: 10.1109/LGRS.2013.2254107; JAN 2014
36. Ludeno, G., Orlandi A., Lugni, C., Brandini, C. Soldovieri, F., Serafino, F. “X-Band Marine Radar System for High-Speed Navigation Purposes: A Test Case on a Cruise Ship”, IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, Vol: 11 Issue: 1 pp: 244-248 DOI: 10.1109/LGRS.2013.2254464: JAN 2014