Curriculum Vitae	*Updated March 2023*
Personal Information	
First Name	**Alessandro**
Family Name	**IAFRATI**
Citizenship	Italian
Birth	17th February, 1967
Place of Birth	Rome, Italy
Work	
Address	Via di Vallerano, 139, 00128, Roma
Phone/Mobile/Fax	+39.06.50299217 / +39.3497419761 /+39.06.5070619
E-mail	alessandro.iafrati@cnr.it
Web Page	https://www.inm.cnr.it/people/alessandro-iafrati/
Appointments and Responsibilities at CNR-INM/INSEAN	
Level	Research Director
Period	August 2019-present
Role	**INM Institute Director**
Activities and Responsibilities	Coordinates the institute activities and is responsible, in the programming framework of the National Research Council (CNR) of the activities carried out by the institute on the research programs and projects committed to the Insitute. In carrying out his activities, the Director of the Institute of Marine Engineering refers to the Director of the CNR Department of Engineering, ICT and Technologies for Energy and Transportation.
Level	Senior Research Scientist/Research Director
Period	February 2018-June 2021
Role	**Technical Responsible of CNR-INM**
Activities and Responsibilities	Supervises all the activities related to the preparation and conduction of experimental tests in the large experimental facilities of the Institute; coordinates all laboratories, workshops and experimental facilities in the preparation of models, instrumentation experimental setups and testing; participates to the preparation of proposals involving experimental activities for both industrial or research projects
Level	Senior Research Scientist
Period	March 2018-July 2019
Role	**Head of testing and models laboratory (Interim)**
Activities and Responsibilities	Coordinates the personnel and activities in the laboratories and define the schedule in order to ensure a timely preparation of the experimental setups for the testing activities
Level	Senior Research Scientist
Period	2016 – June 2021
Role	**Scientific Responsible for the High Speed Ditching Facility**
Activities and Responsibilities	Management, scientific planning and design of experimental activities to be carried out on the facility; coordination of the technical personnel assigned, either permanently or temporarily, to the facility.
Level	Senior Research Scientist
Period	2014 – 2018
Role	**Member of the Board of CNR-INSEAN**
Appointment and Directions in INSEAN	*INSEAN (the Italian Ship Model Basin) has been an independent National Research Institution until 2010 when it was transformed into an institute of the National Research Council-CNR (from 1st January 2011).*

Role	Senior Research Scientist
Period	2009 – 2010
Role	**Director of the "Resistance and Optimization" Scientific Unit**
Main responsibilities	Direction of the scientific unit, preparation of the research plans and research proposals in national, international, and industrial contexts

Scientific Career

At INSEAN or CNR-INSEAN/INM	March 2020 – present: Research Director 2003 – February 2020: Senior Research Scientist 1997 – 2002: Research Scientist
At CIRA *Italian Aerospace Research Centre, Capua (CE), Italy*	1992 - 1997 Research Scientist

Education

Typology	**Professor on *Modélisation expérimentale en hydrodynamique à surface libre***
Date	10/06/2017
Title	**Full-Professor, First ranked posistion n. 4045, section 60 (Mécanique, génie mécanique, génie civil)**
Organization	Ecole Centrale de Nantes (France)
Typology	**National Habilitation**
Validity	from 03/02/2014 to 03/02/2020
Title	**Habilitation to Full Professor, Sector 09/A1 (Aeronautical, Aerospace and Naval Engineering)**
Organization	Italian Ministry of Education, University and Research
Typology	**PhD**
Period	2008-2009
Title	**PhD by Publication in Applied Mathematics**
Organization	School of Mathematics, University of East Anglia (UK)
Typology	**Degree (Master Degree equivalent)**
Years	1985-1991
Title	**Degree in Mechanical Engineering**
Vote	110/110 summa cum laudae
Organization	Department of Mechanics and Aeronautics, Univ. of Rome "La Sapienza"

Scientific Activity

Bibliometric indicators (updated March 2023)

Google Scholar	All	From 2018
Citations	1921	775
h-index	22	17
i 10-index	42	28

Scopus	All	From 2018
Citations	1257	555
h-index	19	NA

The bibliometric indicators for Google Scholar are available on internet by using the ID ***DgSIcVoAAAAJ&hl=en*** or directly at the link ***https://scholar.google.it/citations?hl=it&user=DgSIcVoAAAAJ***
Alternatively, with the Scopus ID ***6603614776*** or directly at the link https://www.scopus.com/cto2/main.uri?ctoId=CTODS_770980617&authors=6603614776&origin=AuthorNamesList

Scientific Reviewer for International research agencies	• External Reviewer for the *Research Foundation – Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO), Belgium* (one proposal - June 2013) • External Reviewer for PRACE: *Partneship for Advanced Computing in Europe, Belgium* (one proposal - November 2013) • External Reviewer for NSERC: *Natural Sciences and Engineering Research Council of Canada*, (one proposal - November 2017) • External Reviewer for the *Dutch Research Council* (NWO) (one proposal - August 2019) • External Reviewer for the *Research Council KU Leuven* (one proposal - March 2020) • External Reviewer for the *US-Israel Binational Science Foundation* (one proposal – September 2022)
Scientific Reviewer for National research agencies	• Reviewer and Scientific/Technical expert for proposals and projects of the Italian Ministry of Economic Development (1 proposal on Sustainable Growth Funds, 1 proposal on Research Investments Funds, 1 proposal on Smart Industry) • Reviewer for the PRIN (Research Projects of National Interest) programme (2017 Call of the Italian Ministry of Education) • Reviewer for the VQR (Valutazione Qualità della Ricerca) 2015-2019
Reviewer for academic/research positions	• Member of the jury for the Habilitation to Research Director of Dr. Olivier Kimmoun, Université d'Aix-Marseille, France (2016) • Member of the Doctoral Committee for Doctoral candidate G.K. Kapsenberg, T.U. Delft, The Netherlands (2018) • Tenure reviewer for a professor position at the School of Naval Architecture, Ocean & Civile Engineering, Shanghai Jao Tong Univ. (2017, 2018) • Member of the Doctoral Committee for Doctoral candidate Rui Shi, Univ. of Queensland, Australia (2022)
Scientific Appointments in International context	• Member of the *Technical Advisory Panel for International joint Research Laboratory on Offshore Oil & Gas Engineering* (Dalian Univ. of Technology & Univ. Western Australia), from July 2019 • Chairman of the *Specialist Committee on Modelling of Environmental Conditions, 29th* ITTC, from September 2017 to September 2020 • Chairman of the *Specialist Committee on Modelling of Environmental Conditions, 28th* ITTC, from September 2014 to September 2017 • Member of the Technical Committee on *Computational Fluid Dynamics* of the ECCOMAS - *European Community on Computational Methods in Applied Sciences* – on behalf of SIMAI – Italian Society on Applied and Industrial Mathematics (since May, 2014). https://www.eccomas.org/comittees/eccomas-technical-committees-etc/computational-fluid-dynamics/ • Member of the *General Council of the International Association for Computational Mechanics* (IACM) on behalf of the Italian Group of Computational Mechanics (GIMC) of the AIMETA - Italian Association of Theoretical and Applied Mechanics (December, 2016 – December, 2020). • External Associate Supervisor for Doctoral and Master Courses at the Swinburne University of Technology, Hawthorn (VI), Australia (October, 2014).
Scientific Appointments in the National Context	• Member, as INSEAN Representative, of the Directive Board of the SIMAI – Italian Society for Applied and Industrial Mathematics (March, 2009- March, 2013). • Member, as CNR representative, of the Scientific Committee of the National Technology Cluster Trasporti Italia (July, 2020) • Member, as CNR representative, of the Scientific and Technical Committee of the MareFVG Technology Cluster (May, 2021)
Organization of International Conferences	• Member of the Scientific Committee of the *B'WAVES 2023 Workshop* – Bordeaux, France, 2023 • Member of the Scientific Committee of the *X International Conference on Computational Methods in Marine Engineering* (MARINE 2023), Madrid, Spain, 2023. • Co-Organizer of the *International Conference on Hydroelasticity in Marine Technology,* Roma,

Italy, 2022.

- Co-Organizer of the *37th International Workshop on Water Waves and Floating Bodies* (IWWWFB), Giardini Naxos (CT), Italy, 2022.
- Member of the Scientific Committee of the *IX International Conference on Computational Methods in Marine Engineering* (MARINE 2021), Edinburgh, UK, June 2021.
- Member of the Scientific Committee of the *VIII International Conference on Computational Methods in Marine Engineering* (MARINE 2019), Goteborg, Sweden, May 2019.
- Member of the Scientific Committee of the *B'WAVES 2018 Workshop – Marseille, France, May 2018*
- Member of the Scientific Committee of the *19th International Conference on Ship and Shipping Research*, Trieste, Italy, 2018.
- Member of the Scientific Commitee of the *VII International Conference on Computational Methods in Marine Engineering* (MARINE 2017), Nantes, France, 2017.
- Member of the Scientific Committee of the ECCOMAS 2016 – *European Congress on Computational Methods in Applied Sciences,* Crete Island, Greece, 2016.
- Member of the International Organizing and Scientific Committee of the *SuperFAST2008 – International Conference on Superfast Marine Vehicles moving above, under and in water surface, St.* Petersburg, Russia, 2008.
- Secretary and Member of the Local Organizing Committee of the *26th ONR Symposium on Naval Hydrodynamics,* Rome, Italy, 2006.
- Member of the *Organizing and Paper Committee of the 19th International Workshop on Water Waevs and Floating Bodies,* IWWWFB, Cortona, Italy, 2004.

Organization of Minisyposia in International Coferences

- Organizer of the Invited Session on Water Impact and Water Entry Problems, *MARINE 2019 Conference*, Goteborg, 2019
- Organizer of the minisymposium on *Numerical Modelling of Water Entry Flows,* 7th ECFD (*European Conference on Computational Fluid Dynamics*), Glasgow, UK, 2018
- Co-organizer of the minisymposium on *Splashes and Slamming on Structures,* 11th EFMC (*European Fluid Mechanics Conference*) Seville, Spain, 2016
- Co-Organizer of the minisimposium on *Water-Structure Impact,* 11th WCCM (*World Conference on Computational Mechanics*), Barcelona, Spain, 2014

Visiting Research Periods (most relevant)

- *Visiting Researcher* at the *State Key Laboratory of Coastal and Offshore Engineering, Dalian Univ. of Technology, Dalian (CN),* September 2018.
- *Visiting Researcher* at the *Department of Naval Architecture and Ocean Engineering, Shanghai Jiao Tong Univ. (CN),* August 2018.
- *Visiting Researcher* at the *Department of Naval Architecture and Ocean Engineering, Shanghai Jiao Tong Univ. (CN),* August 2017.
- *Visiting Researcher* at the *Department of Naval Architecture and Ocean Engineering, Shanghai Jiao Tong Univ. (CN),* August 2016.
- *Visiting Researcher* at the *Faculty of Science, Engineering and Technology at Swinburne University, Hawthorn, Victoria (AU)*, September 2014.
- *Visiting Researcher* at the *Department of Mathematics of the Izmir Institute of Technology, Izmir, Turkey,* September 2013.
- *Visiting Researcher* at the *Department of Mathematics of the Izmir Institute of Technology, Izmir, Turkey,* August 2012.
- *Visiting Researcher* at the *School of Mathematics, Univ East Anglia, UK*, June 2009.
- *Visiting Researcher* at the *School of Mathematics, Univ East Anglia, UK*, Maggio 2008
- *Visiting Researcher* at the *Lavrentiev Institute of Hydrodynamics – Siberian Branch Russian Academy of Science, Novosibirsk, Russia*, September-October 2004
- *Visiting Researcher* at the *Lavrentiev Institute of Hydrodynamics – Siberian Branch Russian Academy of Science, Novosibirsk, Russia*, September 2001.

Referee for Scientific Journals	**Reviewer for:** Applied Ocean Research, Applied Mathematical Modelling, ASME J. Fluid Engineering, Chinese Journal of Oceanology and Limnology, Communication in Applied and Industrial Mathematics, European Journal of Mechanics/B Fluids, Engineering Analysis with Boundary Elements, Engineering Applications of Computational Fluid Mechanics, Int. J. for Numerical Methods in Fluids, Int. J. of Computational Fluid Dynamics, Int. J. of Offshore and Polar Engineering (IJOPE), International Journal of Multiphase Flow, Iranian J. of Science and Technology, J. Computational Physics, J. Engineering Mathematics, J. Fluids and Structures, J. Fluid Mechanics, J. Geophysical Research - Ocean, J. Hydrodynamics, J. Marine Science and Technology, J. Ship Research, J. Sound and Vibrations, Ocean Engineering, Ocean Modelling, Physics of Fluids, Quarterly J. Mechanics and Applied Mathematics, Ships and Offshore Structures, Theoretical and Computational Fluid Dynamics.
Journal Editor	Associated Editor for the international journal MECCANICA – Springer, since 2021

Invited Lectures

Event, Role	Title
1. *12th International Workshop on Ship and Marine Hydrodynamics, AALTO Univ. (FI), September 2023.* *Keynote Lecturer*	Fluid-structure interaction during the water impact at high-horizontal speed
2. *School of Aeronautic Science and Engineering, Beihang Univ., Bejing (CN), September 2018.* *Invited Lecturer*	Aircraft ditching hydrodynamic and structural aspects via numerical modeling and experimental observation
3. *State Key Laboratory of Coastal and Offshore Engineering, Dalian Univ. of Technology, Dalian (CN), September 2018.* *Invited Lecturer*	• Two-fluids modeling of wave breaking flows: numerical methods and physical aspects • Domain decomposition approaches combining potential and two-fluids Navier-Stokes models
4. *International Summer School on Naval Architecture and Ocean Engineering, Shanghai Jiao Tong Univ. (CN), August 2018* *Invited Lecturer*	Analysis of the breaking induced by Modulational Instability in Wind and No-Wind conditions
5. B'WAVES 2018, *A workshop focused on wave breaking in oceanic and coastal water, IRPHE - Ecole Centrale Marseille, (FR), May, 2018* *Invited Speaker* bwaves2018.sciencesconf.org/program	Analysis of the breaking induced by modulational instability in wind and no-wind conditions
6. *International Summer School on Naval Architecture and Ocean Engineering, Shanghai Jiao Tong Univ. (CN), August 2017* *Invited Lecturer*	Water Impact and Fluid-Structure Interaction Aspects
7. *International Summer School on Naval Architecture and Ocean Engineering, Shanghai Jiao Tong Univ. (CN), August 2016* *Invited Lecturer* naoce.sjtu.edu.cn/tzgall/3936.html	• Water Entry Problems: an Overview of Physical Aspects and Investigation Methods • Air-sea Interaction and Energy Dissipation Processes in the Breaking of Water Waves
8. B'WAVES 2016, *A workshop focused on wave breaking in oceanic and coastal water, Univ. Bergen (NO), June, 2016* *Invited Speaker* www.uib.no/en/bwaves2016/93546/program	Effects of wind intensity on the wave breaking induced by the modulational instability
9. *Dept. Naval Arch. and Marine Engineering, Univ. of Michigan (US), November 2015* *Invited Lecturer*	High speed water entry of a flat plate: hydrodynamics and fluid-structure interaction aspects

	10. *VI International Conference on Computational Methods in Marine Engineering (MARINE 2015), Roma (IT), June 2015* *Plenary speaker* http://congress.cimne.com/marine2015/frontal/plenarylectures.asp	Highly resolved simulations of air-water interaction during the breaking of extreme waves
	11. *Centre for Ocean Engineering, Science and Technology, Swinburne Univ. of Technology, Hawthorn, Victoria (AU), September 2014* *Invited Lecturer* http://www.swinburne.edu.au/fset/assets/phpfunctions/seminars/archive.php?semID=3 or http://www.swinburne.edu.au/research/ocean-engineering/events-seminars/	Numerical modeling of the air-water interaction in wave breaking phenomena
	12. B'WAVES 2014*, Breaking Wave Workshop, INRIA, Bordeax (FR), August 2014* *Keynote Speaker* http://bwaves.bordeaux.inria.fr/program.html	Numerical simulation of air flow above breaking waves
	13. *Mathematics of Splashing Workshop, International Centre for Mathematical Sciences, Edinburgh (UK), May 2013* Invited Speaker http://www.icms.org.uk/workshops/splashing	Splashes in water entry problems
	14. *Workshop on air-sea interactions under tropical cyclones (hurricanes), Providence, Rhode Island (US), April 2010* *Invited Speaker*	Numerical investigation of air-water interaction in breaking
	15. *School of Mathematics, Univ. East Anglia (UK), June 2009* *Invited Lecturer* https://archive.uea.ac.uk/~h064/seminars/applied-sem-spr09.html	Air-water interaction problems modeled by a Level-Set approach
	16. *School of Mathematics, Univ. East Anglia (UK), May 2008* *Invited Lecturer*	Non-linear free-surface flows in ship hydrodynamics
	17. *RIAM Symposium: Analyses of Strongly Nonlinear Flows Around Moving Boundaries, Fukuoka (JP), January 2006,* *Keynote Speaker*	Numerical investigation of highly nonlinear free surface flows through interface capturing methods

Responsibility in International Research Projects

EU funded Projects

- **Call: HORIZON-CL5-2022-D5-01-04**
  Grant Agreement: 101096068
  Project RETROFIT55 - *RETROFIT SOLUTIONS TO ACHIEVE 55%GHG REDUCTION BY 2030*
  Duration: January 2023, December 2025
  Total Budget: 6.691.135 Euro – EU partners 5.626.300 Euro, UK partners 1.064.835 Euro (financed 4.998.459 Euro, EU Partners 4.109.030 Euro),
  CNR Budget: 732.500 Euro
  Role within the Project: *Project Coordinator*
  Role within CNR: Coordination and Responsible for the CNR activities

- **Call: H2020-MG-2016-2017, Topic: MG-3.1-2016 (RIA)**
  Grant Agreement: 724139
  Project: SARAH – *Increased Safety and robust certification for ditching of aircrafts and helicopters*
  Duration: Oct 2016, March 2020

	Total Budget: 6.636.394 Euro (100% financed), **CNR Budget**:1.280.000 Euro (100% financed) **Role within the Project:** *Work Package Leader* for WP5 (*Validation Tests*) **Role within CNR**: Responsible for the CNR-INM activities • **Call: FP7-AAT-2010-RTD-1, Activity codes: AAT.2010.3.3.1** Aerostructures **Grant Agreement: 266172** **Project: SMAES –** *Smart Aircraft in Emergency Situations* **Duration:** Feb 2011, Oct 2014 **Total Budget:** 5.732.493 Euro (financed 3.828.124 Euro) **CNR Budget**: 755.894 Euro (financed 567.670 Euro) **Role within the Project:** *Work Package Leader* for WP4 (*Experimental Campaign*) **Role within CNR**: Responsible for the CNR-INSEAN activities.
Participation/ Collaboration in International Research Projects	
Collaboration in projects	• **Project Title**: *Combined numerical/asymptotic algorithms in fluid-structure interaction problems: flow and other aspects of dam-breaking* (translated from Turkish) **Funding Organization:** TUBITAK – The Scientific and Technological Research Council of Turkey - Grant n. 111M209 **Duration**: October 2011 – October 2013 **Total funding:** 128.215 Turkish Lira **Role in the Project:** Partner
Responsibility in National Projects	
National Recovery and Resilience Plan (PNRR)	• **Project Title:** *Digital Marine Hub* **Call: DIGITAL-2021-EDIH-01** **Proposal receiving the Seal of Excellence**, financed at the National level within the PNRR **Funding Organization:** Italian Ministry of Enterprises and Made in Italy **Duration**: 2023 – October 2025 **Total Budget:** 3.706.758 Euro **CNR Budget:** 637.506 Euro **Role in the Project:** *Coordinator* • **Project Title**: *National Center for Sustainable Mobility – Spoke 3 - Waterways* **Partners:** Univ. Genova, Univ. Napoli Federico II, Univ. Napoli Parthenope, Univ. Palermo, Fincantieri **Funding Organization:** Italian Ministry of University and Research **Duration**: September 2022 – August 2025 **Total Budget:** 15.015.981 Euro (financed 13.515.981 Euro) **CNR Budget:** 4.677.251 Euro **Role in the Project:** *Coordination of the Spoke*
Industrial Research Projects	• **Title**: THALES-IXV – *Scaled Model Experimental Test Campaign* **Typology/Funding Organization:** Contract with Thales Alenia Space-Italy on behalf of the European Space Agency (ESA) **Duration**: October 2010 – March 2011 **Total funding:** 120.000 Euro **Role:** Principal Investigator • **Title**: USV - *Studio della dinamica di impatto di un veicolo spaziale con comando remoto in fase di ammaraggio* (Study of the dynamics of an unmanned space vehicle during the water landing) **Typology/Funding Organization:** Contract with CIRA- Italian Aerospace Research Center **Duration:** February – December 2005 **Total funding:** 112.225 Euro **Role:** Principal Investigator

Participation in National Research Projects	
Flagship Project RITMARE	• **Title**: RITMARE – The Italian Research for Sea **Typology/Funding Organization:** Italian Ministry of Education, University and Research **Duration**: January, 2012 – December, 2016 **Role:** ◦ Responsible for Action AZ2 (CO2 Reduction) of WP2 (Environmental Sustainability) of the sub-project SP1 (Maritime Technologies); ◦ Participant to the activities of the Operative Unit UO15 of the same action; ◦ Participant to the activities of the Operative Unit UO1 of the action AZ1 (Hydrelasticity) of the WP1 (Structural Integrity) of the sub-project SP1 **Total funding action SP1-WP2-AZ2:** 3.300.349 Euro
Projects supported by the Italian Ministry of Infrastructures and Transports	• **Title**: Programma Ricerche SICUREZZA 2009 **Typology/Funding Organization:** Italian Ministry of Infrastrucures and Transports **Duration**: January 2009 – December 2009 **Role:** Participant • **Title**: Programma Ricerche INSEAN 2007 2009 **Typology/Funding Organization:** Italian Ministry of Infrastrucures and Transports **Total funding:** 856.250 Euro **Budget for the Operative Unit:** 371.250 Euro **Duration**: May 2007 – December 2009 **Role:** Participant • **Title**: Programma Ricerche INSEAN Luglio 2006- Dicembre 2007 **Typology/Funding Organization:** Italian Ministry of Infrastructures and Transports **Total funding**: 1.447.500 Euro **Budget for the Operative Unit**: 298.014 Euro **Duration**: July 2006 – December 2007 **Role:** Participant • **Title**: Programma Ricerche SICUREZZA 2006-2008 **Typology/Funding Organization:** Italian Ministry of Infrastructures and Transports **Total funding:** 1.174.871 Euro **Duration**: June 2006 – December 2008 **Role:** Participant • **Title**: Programma Ricerche SICUREZZA 2003-2005 **Typology/Funding Organization:** Italian Ministry of Infrastructures and Transports **Total Funding**: 1.160.180 Euro **Duration**: July 2003 – December 2005 **Role:** Participant • **Title**: Programma Ricerche INSEAN 2000-02 **Typology/Funding Organization:** Italian Ministry of Infrastructures and Transports **Total Funding**: 6.864.170 Euro **Budget for the Operative Unit**: 1.868.668 Euro **Duration**: January 2000 – December 2002 **Role:** Participant • **Title**: Programma Ricerche INSEAN 1997-99 **Typology/Funding Organization:** Italian Ministry of Infrastructures and Transports **Total Funding**: 5.577.734 Euro **Budget for the Operative Unit**: 1.812.764 Euro **Duration**: January 1998 – December 1999 **Role:** Participant

Teaching Activity

Courses

- 2003-08, Professorship – Numerical Analysis, Degree in Mechanical/Electrical Engineering, Univ. "La Sapienza"
- 1996-2000, Professorship – Fluid Dynamics, Diploma course in Mechanical Engineering, Univ. of Cassino

Publications
(Updated March 2023)
Alessandro IAFRATI

Publications on ISI Journals

1. Y. Lu, A. Del Buono, T. Xiao, A. Iafrati, J. Xu, S. Deng, J. Chen, **Parametric study on the water impacting of a free-falling symmetric wedge based on the extended von Karman's momentum theory**, *Ocean Engineering*, Vol. 271, 113773, 2023. Doi: 10.1016/j.oceaneng.2023.113773
2. X. Wen, P. Liu, A. Del Buono, Q. Qu, A. Iafrati, **Formulations of hydrodynamic force in the transition stage of the water entry of linear wedges with constant and varying speeds**, *Journal of Fluids and Structures,* Vol. 115, 103759, 2022. Doi: 10.1016/j.jfluidstructs.2022.103759
3. X. Wen, A. Del Buono, P. Liu, Q. Qu, A. Iafrati, **Acceleration effects in slamming and transition stages for the water entry of curved wedges with a varying speed**, Vol. 128, 103294, 2022. Doi: 10.1016/j.apor.2022.103294
4. Y. Lu, A. Del Buono, T. Xiao, A. Iafrati, S. Deng, J. Xu, **On applicability of von Karman's momentum theory in predicting the water entry load of V-shaped structures with varying initial velocity**, *Ocean Engineering*, Vol. 262, 112249, 2022. Doi: 10.1016/j.oceaneng.2022.112249
5. E. Spinosa, R. Broglia, A. Iafrati, **Hydrodynamic analysis of the water landing phase of aircraft fuselages at constant speed and fixed attitude***, Aerospace Science and Technology,* Vol. 130, 107846, 2022. Doi: 10.1016/j.ast.2022.107846
6. S. Di Giorgio, S. Pirozzoli, A. Iafrati, **On coherent vortical structures in wave breaking,** *Journal of Fluid Mechanics,* Vol. 947, A44, 2022. Doi:10.1017/jfm.2022.674
7. F. Hulin, A. Del Buono, A. Tassin, G. Bernardini, A. Iafrati, **Gravity effects in two-dimensional and axisymmetric water impact models,** *Journal of Fluid Mechanics,* Vol. 944, A9, 2022. Doi:10.1017/jfm.2022.448
8. E. Spinosa, A. Iafrati, **A noise reduction method for force measurements in water entry experiments based on the Ensemble Empirical Mode Decomposition**, Vol. 168, 108659, 2022. Doi: 10.1016/j.ymssp.2021.108659
9. A. Del Buono, G. Bernardini, A. Tassin, A. Iafrati, **Water entry and exit of 2D and axisymmetric bodies,** *Journal of Fluids and Structures*, Vol. 103, 103269, 2021. Doi: 10.1016/j.jfluidstructs.2021.103269
10. A. Iafrati, S. Grizzi, F. Olivieri, **Experimental Investigation of Fluid–Structure Interaction Phenomena During Aircraft Ditching**, *AIAA Journal*, Vol. 59, 2021. Doi: 10.2514/1.J059458
11. E. Spinosa, A. Iafrati, **Experimental investigation of the fluid-structure interaction during the water impact of thin aluminum plates at high horizontal speed,** *International Journal of Impact Engineering*, Vol. 147, 103673, 2021. Doi: 10.1016/j.ijimpeng.2020.103673
12. A. Iafrati, S. Grizzi, **Cavitation and ventilation modalities during ditching,** *Physics of Fluids,* Vol. 31, 052101, 2019. Doi: 10.1063/1.5092559
13. A. Alberello, A. Iafrati, **The Velocity Field Underneath a Breaking Rogue Wave: Laboratory Experiments Versus Numerical Simulations**, *Fluids,* Vol. 4, 68, 2019. Doi: 10.3390/fluids4020068
14. S. Pirozzoli, S. Di Giorgio, A. Iafrati**, On algebraic TVD-VOF methods for tracking material interfaces**, *Computers and Fluids*, Vol. 189, pp. 73-81, 2019. Doi: 10.1016/j.compfluid.2019.05.013
15. D.I. Demirel, A. Iafrati, A. Korobkin, O. Yilmaz, **Asymptotic behaviour of dam break flow for small times**, *Journal of Computational Technologies*, Vol. 24, 7-27, 2019. Doi: 10.25743/ICT.2019.24.1.002
16. A. Iafrati, F. De Vita, R. Verzicco, **Effects of the wind on the breaking of modulated wave trains**, *European Journal of Mechanics*, *B Fluids*, Special Issue "Breaking Waves", Vol. 73, pp. 6-23, 2019. Doi: 10.1016/j.euromechflu.2018.03.012
17. F. De Vita, R. Verzicco, A. Iafrati, **Breaking of modulated wave groups: kinematics and energy dissipation processes**, *Journal of Fluid Mechanics,* Vol. 855, pp. 267-298, 2018. Doi: 10.1017/jfm.2018.619
18. A. Iafrati, **Experimental investigation of the water entry of a rectangular plate at high horizontal velocity,** *Journal Fluid Mechanics,* Vol. 799, pp. 637-672, 2016. Doi: 10.1017/jfm.2016.374
19. G. Mannarini, N. Pinardi, G. Coppini, P. Oddo, A. Iafrati, **VISIR-I: small vessels, least time nautical routes using wave forecasts,** *Geoscientific Model Development,* Vol. 9, pp. 1597-1625, 2016. Doi: 10.5194/gmd-9-1597-2016
20. A. Iafrati, S. Grizzi, L. Benitez-Montanes, M. Siemann, **High-speed ditching of a flat plate: Experimental data and uncertainty assessment,** *Journal of Fluids and Structures,* Vol. 55, pp. 501-525, 2015.

    Doi: 10.1016/j.jfluidstructs.2015.03.019
21. F. De Vita, R. Verzicco, A. Iafrati, **Energy dissipation and transfer processes during the breaking of modulated wave trains,** *Journal of Physics: Conference Series, Vol.* 655, 012037, 2015. Doi:10.1088/1742-6596/655/1/012037.

22. A. Iafrati, A. Babanin, M. Onorato, **Modelling of ocean-atmosphere interaction phenomena during the breaking of modulated wave trains,** *Journal Computational Physics,* Vol.271, pp. 151-171, 2014. Doi: 10.1016/j.jcp.2013.12.045
23. A. Iafrati, A. Babanin, M. Onorato, **Modulational instability, wave breaking and formation of large scale dipoles in the atmosphere,** *Physical Review Letters,* Vol.110, 184504, 2013. Doi: 10.1103/PhysRevLett.110.184504
24. O. Yilmaz, A. Korobkin, A. Iafrati, **The initial stage of a dam-break flow of two immiscible fluids. Linear analysis of global flow,** *Applied Ocean Research,* Vol. 42, pp. 60-69, 2013. Doi: 10.1016/j.apor.2013.04.003
25. A. Iafrati, **Energy dissipation mechanisms in wave breaking processes: spilling and highly aerated plunging breaking events**, *Journal of Geophysical Research*, Vol.116, C07024, 2011. Doi:10.1029/2011JC007038
26. A. Iafrati, A. Korobkin, **Asymptotic estimates of hydrodynamic loads in the early stage of water entry of a circular disc**, *Journal of Engineering Mathematics*, Vol. 69, pp. 199-224, 2011. Doi: 10.1007/s10665-010-9411-y.
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