Alejandro Crespo

List of Publications by Year
in descending order

71 papers	4,584 citations

101543

36 h-index	

128289

60 g-index	

74 all docs	74 docs citations

74 times ranked	2181 citing authors

#	Article	IF	Citations
1	VisualSPHysics: advanced fluid visualization for SPH models. Computational Particle Mechanics, 2022, 9, 897-910.	3.0	4
2	DualSPHysics: from fluid dynamics to multiphysics problems. Computational Particle Mechanics, 2022, 9, 867-895.	3.0	131
3	Modified dynamic boundary conditions (mDBC) for general-purpose smoothed particle hydrodynamics (SPH): application to tank sloshing, dam break and fish pass problems. Computational Particle Mechanics, 2022, 9, 1-15.	3.0	59
4	A DEM approach for simulating flexible beam elements with the Project Chrono core module in DualSPHysics. Computational Particle Mechanics, 2022, 9, 969-985.	3.0	15
5	Smoothed Particle Hydrodynamics simulations of reef surf zone processes driven by plunging irregular waves. Ocean Modelling, 2022, 171, 101945.	2.4	8
6	A numerical study of a taut-moored point-absorber wave energy converter with a linear power take-off system under extreme wave conditions. Applied Energy, 2022, 311, 118629.	10.1	25
7	Numerical Assessment of a Tension-Leg Platform Wind Turbine in Intermediate Water Using the Smoothed Particle Hydrodynamics Method. Energies, 2022, 15, 3993.	3.1	9
8	Modelling a Heaving Point-Absorber with a Closed-Loop Control System Using the DualSPHysics Code. Energies, 2021, 14, 760.	3.1	18
9	Performance Assessment of a Planing Hull Using the Smoothed Particle Hydrodynamics Method. Journal of Marine Science and Engineering, 2021, 9, 244.	2.6	20
10	Efficient response of an onshore Oscillating Water Column Wave Energy Converter using a one-phase SPH model coupled with a multiphysics library. Applied Ocean Research, 2021, 115, 102856.	4.1	22
11	Simulation of random wave overtopping by a WCSPH model. Applied Ocean Research, 2021, 116, 102888.	4.1	25
12	ON THE DEVELOPMENT OF A NOVEL APPROACH FOR SIMULATING ELASTIC BEAMS IN DUALSPHYSICS WITH THE USE OF THE PROJECT CHRONO LIBRARY. , 2021, , .		3
13	A numerical tool for modelling oscillating wave surge converter with nonlinear mechanical constraints. Renewable Energy, 2020, 146, 2024-2043.	8.9	59
14	Efficiency and survivability analysis of a point-absorber wave energy converter using DualSPHysics. Renewable Energy, 2020, 162, 1763-1776.	8.9	46
15	Numerical modelling of a multi-chambered low-reflective caisson. Applied Ocean Research, 2020, 103, 102325.	4.1	9
16	SPH Simulations of Real Sea Waves Impacting a Large-Scale Structure. Journal of Marine Science and Engineering, 2020, 8, 826.	2.6	33
17	Efficiency and Survivability of a Floating Oscillating Water Column Wave Energy Converter Moored to the Seabed: An Overview of the EsflOWC MaRINET2 Database. Water (Switzerland), 2020, 12, 992.	2.7	6
18	A NEW OPEN SOURCE SOLVER FOR MODELLING FLUID-STRUCTURE INTERACTION: CASE STUDY OF A POINT-ABSORBER WAVE ENERGY CONVERTER WITH POWER TAKE-OFF UNIT. , 2020, , .		7

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19	FIRST-YEAR UNIVERSITY STUDENTS LEARNING BACKGROUND: AN INTERREGIONAL STUDY OF THE IMPORTANCE AND RELEVANCE OF ACADEMIC CHOICES. , 2020, , .		0
20	SPH simulation of floating structures with moorings. Coastal Engineering, 2019, 153, 103560.	4.0	90
21	Experimental Study of a Moored Floating Oscillating Water Column Wave-Energy Converter and of a Moored Cubic Box. Energies, 2019, 12, 1834.	3.1	16
22	On the accuracy of DualSPHysics to assess violent collisions with coastal structures. Computers and Fluids, 2019, 179, 604-612.	2.5	46
23	Numerical modelling of hydrological safety assignment in dams with IBER. Sustainable Water Resources Management, 2019, 5, 347-358.	2.1	5
24	DualSPHysics: A numerical tool to simulate real breakwaters. Journal of Hydrodynamics, 2018, 30, 95-105.	3.2	44
25	Extending DualSPHysics with a Differential Variational Inequality: modeling fluid-mechanism interaction. Applied Ocean Research, 2018, 76, 88-97.	4.1	47
26	Analysis of the hydrological safety of dams combining two numerical tools: Iber and DualSPHysics. Journal of Hydrodynamics, 2018, 30, 87-94.	3.2	10
27	Floating Moored Oscillating Water Column With Meshless SPH Method. , 2018, , .		1
28	Coupling methodology for smoothed particle hydrodynamics modelling of non-linear wave-structure interactions. Coastal Engineering, 2018, 138, 184-198.	4.0	60
29	A versatile algorithm for the treatment of open boundary conditions in Smoothed particle hydrodynamics GPU models. Computer Methods in Applied Mechanics and Engineering, 2018, 342, 604-624.	6.6	100
30	Long-crested wave generation and absorption for SPH-based DualSPHysics model. Coastal Engineering, 2017, 127, 37-54.	4.0	183
31	Towards simulating floating offshore oscillating water column converters with Smoothed Particle Hydrodynamics. Coastal Engineering, 2017, 126, 11-26.	4.0	103
32	Resolved Simulation of a Granular-Fluid Flow with a Coupled SPH-DCDEM Model. Journal of Hydraulic Engineering, 2017, 143, .	1.5	43
33	Study of the Bed Velocity Induced by Twin Propellers. Journal of Waterway, Port, Coastal and Ocean Engineering, 2017, 143, .	1.2	12
34	Parallel CPU/GPU Computing for Smoothed Particle Hydrodynamics Models. Environmental Science and Engineering, 2016, , 477-491.	0.2	1
35	Quasi-static mooring solver implemented in SPH. Journal of Ocean Engineering and Marine Energy, 2016, 2, 381-396.	1.7	22
36	SPH–DCDEM model for arbitrary geometries in free surface solid–fluid flows. Computer Physics Communications, 2016, 202, 131-140.	7.5	98

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37	Launch Environment Water Flow Simulation Using Smoothed Particle Hydrodynamics. , 2015, , .		2
38	A HYBRID NUMERICAL MODEL FOR COASTAL ENGINEERING PROBLEMS. Coastal Engineering Proceedings, 2015, 1, 60.	0.1	7
39	Smoothed Particle Hydrodynamics for Free-Surface Flows. Environmental Science and Engineering, 2015, , 119-136.	0.2	0
40	Hybridization of the Wave Propagation Model SWASH and the Meshfree Particle Method SPH for Real Coastal Applications. Coastal Engineering Journal, 2015, 57, 1550024-1-1550024-34.	1.9	50
41	A Smooth Particle Hydrodynamics discretization for the modelling of free surface flows and rigid body dynamics. International Journal for Numerical Methods in Fluids, 2015, 78, 581-593.	1.6	66
42	Applicability of Smoothed Particle Hydrodynamics for estimation of sea wave impact on coastal structures. Coastal Engineering, 2015, 96, 1-12.	4.0	189
43	DualSPHysics: Open-source parallel CFD solver based on Smoothed Particle Hydrodynamics (SPH). Computer Physics Communications, 2015, 187, 204-216.	7.5	549
44	Integration of UAV Photogrammetry and SPH Modelling of Fluids to Study Runoff on Real Terrains. PLoS ONE, 2014, 9, e111031.	2.5	24
45	Validation DualSPHysics Code for Liquid Sloshing Phenomena. , 2014, , .		4
46	Numerical modelling of armour block sea breakwater with smoothed particle hydrodynamics. Computers and Structures, 2014, 130, 34-45.	4.4	125
47	Numerical modeling of complex solid-fluid flows with meshless methods. , 2014, , 133-139.		1
48	Smoothed Particle Hydrodynamics for coastal engineering problems. Computers and Structures, 2013, 120, 96-106.	4.4	77
49	Towards accelerating smoothed particle hydrodynamics simulations for free-surface flows on multi-GPU clusters. Journal of Parallel and Distributed Computing, 2013, 73, 1483-1493.	4.1	51
50	Optimization strategies for CPU and GPU implementations of a smoothed particle hydrodynamics method. Computer Physics Communications, 2013, 184, 617-627.	7.5	129
51	New multi-GPU implementation for smoothed particle hydrodynamics on heterogeneous clusters. Computer Physics Communications, 2013, 184, 1848-1860.	7.5	142
52	Evaluation of wave energy transmission through a floating breakwater using the SPH method. WIT Transactions on the Built Environment, 2013, , .	0.0	1
53	Smoothed particle hydrodynamics applied in fluid structure interactions. WIT Transactions on the Built Environment, 2013, , .	0.0	2
54	SPHysics â€" development of a free-surface fluid solver â€" Part 1: Theory and formulations. Computers and Geosciences, 2012, 48, 289-299.	4.2	270

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55	SPHysics â€" development of a free-surface fluid solver â€" Part 2: Efficiency and test cases. Computers and Geosciences, 2012, 48, 300-307.	4.2	110
56	Atmospheric modes influence on Iberian Poleward Current variability. Continental Shelf Research, 2011, 31, 425-432.	1.8	20
57	Comparative analysis of upwelling influence between the western and northern coast of the Iberian Peninsula. Continental Shelf Research, 2011, 31, 388-399.	1.8	100
58	Neighbour lists in smoothed particle hydrodynamics. International Journal for Numerical Methods in Fluids, 2011, 67, 2026-2042.	1.6	115
59	GPUs, a New Tool of Acceleration in CFD: Efficiency and Reliability on Smoothed Particle Hydrodynamics Methods. PLoS ONE, 2011, 6, e20685.	2.5	175
60	The state of climate in NW Iberia. Climate Research, 2011, 48, 109-144.	1.1	77
61	State-of-the-art of classical SPH for free-surface flows. Journal of Hydraulic Research/De Recherches Hydrauliques, 2010, 48, 6-27.	1.7	281
62	Foreword: SPH for free-surface flows. Journal of Hydraulic Research/De Recherches Hydrauliques, 2010, 48, 3-5.	1.7	39
63	SPHysics-FUNWAVE hybrid model for coastal wave propagation. Journal of Hydraulic Research/De Recherches Hydrauliques, 2010, 48, 85-93.	1.7	43
64	Spatioâ€temporal Upwelling Trends along the Canary Upwelling System (1967â€"2006). Annals of the New York Academy of Sciences, 2008, 1146, 320-337.	3.8	37
65	Characterization of fallâ€"winter upwelling recurrence along the Galician western coast (NW Spain) from 2000 to 2005: Dependence on atmospheric forcing. Journal of Marine Systems, 2008, 72, 145-158.	2.1	36
66	Hybridation of generation propagation models and SPH model to study severe sea states in Galician Coast. Journal of Marine Systems, 2008, 72, 135-144.	2.1	8
67	Modeling Dam Break Behavior over a Wet Bed by a SPH Technique. Journal of Waterway, Port, Coastal and Ocean Engineering, 2008, 134, 313-320.	1.2	136
68	Influence of atmospheric modes on coastal upwelling along the western coast of the Iberian Peninsula, 1985 to 2005. Climate Research, 2008, 36, 169-179.	1.1	50
69	Smoothed Particle Hydrodynamics for Water Waves. , 2007, , 321.		4
70	3D SPH Simulation of large waves mitigation with a dike. Journal of Hydraulic Research/De Recherches Hydrauliques, 2007, 45, 631-642.	1.7	82
71	Green water overtopping analyzed with a SPH model. Ocean Engineering, 2005, 32, 223-238.	4.3	162