Luis Cea

List of Publications by Year
in descending order

73 papers	2,208 citations	186254 28 h-index	233409 45 g-index
76 all docs	76 docs citations	76 times ranked	1699 citing authors

#	Article	IF	Citations
1	A simple and efficient unstructured finite volume scheme for solving the shallow water equations in overland flow applications. Water Resources Research, 2015, 51, 5464-5486.	4.2	144
2	Experimental validation of two-dimensional depth-averaged models for forecasting rainfall–runoff from precipitation data in urban areas. Journal of Hydrology, 2010, 382, 88-102.	5.4	140
3	Velocity measurements on highly turbulent free surface flow using ADV. Experiments in Fluids, 2007, 42, 333-348.	2.4	129
4	Depth Averaged Modelling of Turbulent Shallow Water Flow with Wet-Dry Fronts. Archives of Computational Methods in Engineering, 2007, 14, 303-341.	10.2	92
5	Dam-break flows over mobile beds: experiments and benchmark tests for numerical models. Journal of Hydraulic Research/De Recherches Hydrauliques, 2012, 50, 364-375.	1.7	91
6	Unstructured finite volume discretisation of bed friction and convective flux in solute transport models linked to the shallow water equations. Journal of Computational Physics, 2012, 231, 3317-3339.	3.8	64
7	An Accelerated Tool for Flood Modelling Based on Iber. Water (Switzerland), 2018, 10, 1459.	2.7	64
8	Application of Several Depth-Averaged Turbulence Models to Simulate Flow in Vertical Slot Fishways. Journal of Hydraulic Engineering, 2007, 133, 160-172.	1.5	62
9	Computer application for the analysis and design of vertical slot fishways in accordance with the requirements of the target species. Ecological Engineering, 2012, 48, 51-60.	3.6	59
10	A rapid flood inundation model for hazard mapping based on least squares support vector machine regression. Journal of Flood Risk Management, 2019, 12, .	3.3	56
11	Bathymetric error estimation for the calibration and validation of estuarine hydrodynamic models. Estuarine, Coastal and Shelf Science, 2012, 100, 124-132.	2.1	55
12	Influence of pool geometry on the biological efficiency of vertical slot fishways. Ecological Engineering, 2010, 36, 1355-1364.	3.6	52
13	Quantifying local rainfall dynamics and uncertain boundary conditions into a nested regional–local flood modeling system. Water Resources Research, 2017, 53, 2770-2785.	4.2	51
14	Effect of rainfall uncertainty on the performance of physically based rainfall–runoff models. Hydrological Processes, 2019, 33, 160-173.	2.6	48
15	Validation of a 1D-2D dual drainage model under unsteady part-full and surcharged sewer conditions. Urban Water Journal, 2017, 14, 74-84.	2.1	47
16	Flood Risk in Urban Areas: Modelling, Management and Adaptation to Climate Change. A Review. Hydrology, 2022, 9, 50.	3.0	46
17	Numerical modelling of tidal flows in complex estuaries including turbulence: an unstructured finite volume solver and experimental validation. International Journal for Numerical Methods in Engineering, 2006, 67, 1909-1932.	2.8	41
18	Global Sensitivity and GLUE-Based Uncertainty Analysis of a 2D-1D Dual Urban Drainage Model. Journal of Hydrologic Engineering - ASCE, 2016, 21, .	1.9	41

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19	Impact of Urban Growth and Changes in Land Use on River Flood Hazard in Villahermosa, Tabasco (Mexico). Water (Switzerland), 2019, 11, 304.	2.7	40
20	IberWQ: new simulation tool for 2D water quality modelling in rivers and shallow estuaries. Journal of Hydroinformatics, 2016, 18, 816-830.	2.4	39
21	Experimental validation of a 2D overland flow model using high resolution water depth and velocity data. Journal of Hydrology, 2014, 513, 142-153.	5.4	36
22	Modelling Pluvial Flooding in Urban Areas Coupling the Models Iber and SWMM. Water (Switzerland), 2020, 12, 2647.	2.7	36
23	Numerical modelling of river inundations. IngenierÃa Del Agua, 2014, 18, 68.	0.4	31
24	Assessing the Effects of Climate Change on Compound Flooding in Coastal River Areas. Water Resources Research, 2021, 57, .	4.2	31
25	Overland flow computations in urban and industrial catchments from direct precipitation data using a two-dimensional shallow water model. Water Science and Technology, 2010, 62, 1998-2008.	2.5	30
26	Uncertainty and sensitivity analysis of a depth-averaged water quality model for evaluation of Escherichia Coli concentration in shallow estuaries. Environmental Modelling and Software, 2011, 26, 1526-1539.	4.5	30
27	Incorporating Antecedent Moisture Conditions and Intraevent Variability of Rainfall on Flood Frequency Analysis in Poorly Gauged Basins. Water Resources Research, 2018, 54, 8774-8791.	4.2	28
28	Unstructured finite volume discretization of twoâ€dimensional depthâ€averaged shallow water equations with porosity. International Journal for Numerical Methods in Fluids, 2010, 63, 903-930.	1.6	27
29	Experimental study of the water depth and rainfall intensity effects on the bed roughness coefficient used in distributed urban drainage models. Journal of Hydrology, 2013, 505, 266-275.	5.4	26
30	A continuous simulation approach for the estimation of extreme flood inundation in coastal river reaches affected by meso- and macrotides. Natural Hazards, 2018, 93, 1337-1358.	3.4	25
31	A Robust Method to Update Local River Inundation Maps Using Global Climate Model Output and Weather Typing Based Statistical Downscaling. Water Resources Management, 2020, 34, 4345-4362.	3.9	25
32	Impact of model simplifications on soil erosion predictions: application of the GLUE methodology to a distributed eventâ€based model at the hillslope scale. Hydrological Processes, 2016, 30, 1096-1113.	2.6	24
33	Global and local sensitivity analysis to improve the understanding of physically-based urban wash-off models from high-resolution laboratory experiments. Science of the Total Environment, 2020, 709, 136152.	8.0	24
34	Nonâ€hydrostatic 3D free surface layerâ€structured finite volume model for short wave propagation. International Journal for Numerical Methods in Fluids, 2009, 61, 382-410.	1.6	17
35	An immersed boundary method for unstructured meshes in depth averaged shallow water models. International Journal for Numerical Methods in Fluids, 2016, 81, 672-688.	1.6	16
36	Experimental and numerical analysis of solitary waves generated by bed and boundary movements. International Journal for Numerical Methods in Fluids, 2004, 46, 793-813.	1.6	15

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37	Characterization of the water flow through concrete based on parameter estimation from infiltration tests. Cement and Concrete Research, 2006, 36, 1575-1582.	11.0	15
38	MERLIN: a flood hazard forecasting system for coastal river reaches. Natural Hazards, 2020, 100, 1171-1193.	3.4	15
39	Vertically Averaged and Moment Equations for Dam-Break Wave Modeling: Shallow Water Hypotheses. Water (Switzerland), 2020, 12, 3232.	2.7	14
40	Hydraulic model study of the intake-outlet of a pumped-storage hydropower plant. Engineering Applications of Computational Fluid Mechanics, 2017, 11, 483-495.	3.1	13
41	Quantifying the role of individual flood drivers and their correlations in flooding of coastal river reaches. Stochastic Environmental Research and Risk Assessment, 2019, 33, 1851-1861.	4.0	13
42	Analysis of two sources of variability of basin outflow hydrographs computed with the 2D shallow water model Iber: Digital Terrain Model and unstructured mesh size. Journal of Hydrology, 2022, 612, 128182.	5.4	13
43	Experimental validation of a sediment transport two-dimensional depth-averaged numerical model using PIV and 3D Scanning technologies. Journal of Hydraulic Research/De Recherches Hydrauliques, 2008, 46, 489-503.	1.7	12
44	Analysis of a new Kolgan-type scheme motivated by the shallow water equations. Applied Numerical Mathematics, 2012, 62, 489-506.	2.1	12
45	Numerical Modeling of the Impact of a Pumped-Storage Hydroelectric Power Plant on the Reservoirs' Thermal Stratification Structure: a Case Study in NW Spain. Environmental Modeling and Assessment, 2018, 23, 71-85.	2.2	12
46	IberWQ: A GPU Accelerated Tool for 2D Water Quality Modeling in Rivers and Estuaries. Water (Switzerland), 2020, 12, 413.	2.7	12
47	Introducing Excel spreadsheet calculations and numerical simulations with professional software into an undergraduate hydraulic engineering course. Computer Applications in Engineering Education, 2020, 28, 193-206.	3.4	11
48	Coupling artificial neural networks with the artificial bee colony algorithm for global calibration of hydrological models. Neural Computing and Applications, 2021, 33, 8479-8494.	5.6	11
49	A bedload transport equation for the Cerastoderma edule cockle. Journal of Marine Systems, 2013, 111-112, 189-195.	2.1	10
50	Rainwater Harvesting Techniques to Face Water Scarcity in African Drylands: Hydrological Efficiency Assessment. Water (Switzerland), 2020, 12, 2646.	2.7	10
51	Modelización de los impactos por DSU en el río Miño (Lugo). Ingeniería Del Agua, 2015, 19, 105.	0.4	10
52	Extension of the two‐component pressure approach for modeling mixed free‐surface‐pressurized flows with the two‐dimensional shallow water equations. International Journal for Numerical Methods in Fluids, 2021, 93, 628-652.	1.6	8
53	How do modeling choices and erosion zone locations impact the representation of connectivity and the dynamics of suspended sediments in a multi-source soil erosion model?. Earth Surface Dynamics, 2021, 9, 123-144.	2.4	8
54	Conversion of Vertical Slot Fishways to Deep Slot Fishways to Maintain Operation during Low Flows: Implications for Hydrodynamics. Sustainability, 2018, 10, 2406.	3.2	6

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55	An Augmented Reality Facility to Run Hybrid Physical-Numerical Flood Models. Water (Switzerland), 2020, 12, 3290.	2.7	6
56	Comparison of three different numerical implementations to model rainfall–runoff transformation on roofs. Hydrological Processes, 2022, 36, .	2.6	6
57	Hydraulic Modeling of Bridges in Two-Dimensional Shallow Water Models. Journal of Hydraulic Engineering, 2022, 148, .	1.5	5
58	Modelling Weirs in Two-Dimensional Shallow Water Models. Water (Switzerland), 2021, 13, 2152.	2.7	4
59	Determinación de la inundación en tramos de ríos afectados por marea basada en la simulación continúa de nivel. Ingeniería Del Agua, 2017, 21, 231.	0.4	4
60	Nonintrusive Method to Compute Water Discharge in Pipes with a Low Depth-to-Diameter Ratio Using Ultrasonic Doppler Velocimetry. Journal of Hydraulic Engineering, 2015, 141, 06014024.	1.5	3
61	MERLIN: Una nueva herramienta para la predicción del riesgo de inundaciones en la demarcación hidrográfica Galicia-Costa. Ingeniería Del Agua, 2021, 25, 215.	0.4	2
62	Rapid flood inundation modelling in a coastal urban area using a surrogate model of the 2D shallow water equations. , 2016, , 850-855.		2
63	Iber applications basic guide. Two-dimensional modelling of free surface shallow water flows. , 2019, , .		2
64	Genetic Programming for Prediction of Water Flow and Transport of Solids in a Basin. Lecture Notes in Computer Science, 2011, , 223-232.	1.3	1
65	Evaluación de corrientes litorales y frentes de marea mediante modelización bidimensional en rías y desembocaduras de ríos. Ingeniería Del Agua, 2009, 16, .	0.4	1
66	High order upwind scheme for modelling turbulent shallow water flow in hydraulic structures. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1100205-1100206.	0.2	0
67	Filtering ADV data on highly turbulent free surface flow. , 2006, , .		0
68	High order methods for hyperbolic conservation laws. , 2012, , 285-328.		0
69	Combined PIV-LIF measurements and numerical modeling of stratified flows over a dune and an array of dunes. , 2016, , .		0
70	A methodology to account for rainfall uncertainty at the event scale in fully distributed rainfall runoff models. , 2016, , 891-895.		0
71	Evaluating future climate-driven changes in flood hazard in Northwest Spain coastal river reaches. , 2020, , 2021-2024.		0
72	Contributions to the Mathematical Technology Transfer with Finite Volume Methods. , 2020, , 21-27.		0

#	Article	IF	Citations
73	Desarrollo e integración de aplicaciones Excel y software profesional de simulación numérica en una clase al revés en ingeniería hidráulica. , 0, , 17-32.		0