

# Qihua Liang

## List of Publications by Year in descending order

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108  
papers

3,843  
citations

126708

33  
h-index

138251

58  
g-index

110  
all docs

110  
docs citations

110  
times ranked

2404  
citing authors

#	ARTICLE	IF	CITATIONS
1	Numerical resolution of well-balanced shallow water equations with complex source terms. <i>Advances in Water Resources</i> , 2009, 32, 873-884.	1.7	384
2	Adaptive quadtree simulation of shallow flows with wet-dry fronts over complex topography. <i>Computers and Fluids</i> , 2009, 38, 221-234.	1.3	288
3	Assessing the utility of social media as a data source for flood risk management using a real-time modelling framework. <i>Journal of Flood Risk Management</i> , 2017, 10, 370-380.	1.6	167
4	Flood Simulation Using a Well-Balanced Shallow Flow Model. <i>Journal of Hydraulic Engineering</i> , 2010, 136, 669-675.	0.7	151
5	A deep convolutional neural network model for rapid prediction of fluvial flood inundation. <i>Journal of Hydrology</i> , 2020, 590, 125481.	2.3	126
6	An efficient and stable hydrodynamic model with novel source term discretization schemes for overland flow and flood simulations. <i>Water Resources Research</i> , 2017, 53, 3730-3759.	1.7	123
7	A 2D well-balanced shallow flow model for unstructured grids with novel slope source term treatment. <i>Advances in Water Resources</i> , 2013, 52, 107-131.	1.7	114
8	Real-time Flood Forecasting Based on a High-Performance 2D Hydrodynamic Model and Numerical Weather Predictions. <i>Water Resources Research</i> , 2020, 56, e2019WR025583.	1.7	103
9	Impoundment Effects of the Three-Gorges-Dam on Flow Regimes in Two China's Largest Freshwater Lakes. <i>Water Resources Management</i> , 2014, 28, 5111-5124.	1.9	100
10	A full-scale fluvial flood modelling framework based on a high-performance integrated hydrodynamic modelling system (HiPIMS). <i>Advances in Water Resources</i> , 2019, 132, 103392.	1.7	97
11	Comprehensive evaluation of hydrological drought and its relationships with meteorological drought in the Yellow River basin, China. <i>Journal of Hydrology</i> , 2020, 584, 124751.	2.3	93
12	A 2D shallow flow model for practical dam-break simulations. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2011, 49, 307-316.	0.7	82
13	Towards a generalised GPU/CPU shallow-flow modelling tool. <i>Computers and Fluids</i> , 2013, 88, 334-343.	1.3	80
14	An efficient unstructured MUSCL scheme for solving the 2D shallow water equations. <i>Environmental Modelling and Software</i> , 2015, 66, 131-152.	1.9	80
15	Utilizing GRACE-based groundwater drought index for drought characterization and teleconnection factors analysis in the North China Plain. <i>Journal of Hydrology</i> , 2020, 585, 124849.	2.3	76
16	Neurocomputing in surface water hydrology and hydraulics: A review of two decades retrospective, current status and future prospects. <i>Journal of Hydrology</i> , 2020, 588, 125085.	2.3	75
17	Flood Inundation Modeling with an Adaptive Quadtree Grid Shallow Water Equation Solver. <i>Journal of Hydraulic Engineering</i> , 2008, 134, 1603-1610.	0.7	73
18	Urban flood susceptibility analysis using a GIS-based multi-criteria analysis framework. <i>Natural Hazards</i> , 2019, 97, 455-475.	1.6	60

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19	A stable 2D unstructured shallow flow model for simulations of wetting and drying over rough terrains. <i>Computers and Fluids</i> , 2013, 82, 132-147.	1.3	59
20	A high-performance integrated hydrodynamic modelling system for urban flood simulations. <i>Journal of Hydroinformatics</i> , 2015, 17, 518-533.	1.1	59
21	A new efficient implicit scheme for discretising the stiff friction terms in the shallow water equations. <i>Advances in Water Resources</i> , 2018, 117, 87-97.	1.7	58
22	City-scale hydrodynamic modelling of urban flash floods: the issues of scale and resolution. <i>Natural Hazards</i> , 2019, 96, 473-496.	1.6	53
23	A new copula-based standardized precipitation evapotranspiration streamflow index for drought monitoring. <i>Journal of Hydrology</i> , 2020, 585, 124793.	2.3	50
24	A GPU-accelerated smoothed particle hydrodynamics (SPH) model for the shallow water equations. <i>Environmental Modelling and Software</i> , 2016, 75, 28-43.	1.9	49
25	Well-balanced RKDG2 solutions to the shallow water equations over irregular domains with wetting and drying. <i>Computers and Fluids</i> , 2010, 39, 2040-2050.	1.3	46
26	Shallow flow simulation on dynamically adaptive cut cell quadtree grids. <i>International Journal for Numerical Methods in Fluids</i> , 2007, 53, 1777-1799.	0.9	40
27	Locally Limited and Fully Conserved RKDG2 Shallow Water Solutions with Wetting and Drying. <i>Journal of Scientific Computing</i> , 2012, 50, 120-144.	1.1	39
28	Balancing the source terms in a SPH model for solving the shallow water equations. <i>Advances in Water Resources</i> , 2013, 59, 25-38.	1.7	38
29	A discontinuous Galerkin algorithm for the two-dimensional shallow water equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2010, 199, 3356-3368.	3.4	37
30	A novel 1D-2D coupled model for hydrodynamic simulation of flows in drainage networks. <i>Advances in Water Resources</i> , 2020, 137, 103519.	1.7	37
31	Remote-sensing disturbance detection index to identify spatio-temporal varying flood impact on crop production. <i>Agricultural and Forest Meteorology</i> , 2019, 269-270, 180-191.	1.9	36
32	Catchment-scale High-resolution Flash Flood Simulation Using the GPU-based Technology. <i>Procedia Engineering</i> , 2016, 154, 975-981.	1.2	35
33	A new depth-averaged model for flow-like landslides over complex terrains with curvatures and steep slopes. <i>Engineering Geology</i> , 2018, 234, 174-191.	2.9	35
34	Hydraulic correction method (HCM) to enhance the efficiency of SRTM DEM in flood modeling. <i>Journal of Hydrology</i> , 2018, 559, 56-70.	2.3	35
35	Dynamically adaptive grid based discontinuous Galerkin shallow water model. <i>Advances in Water Resources</i> , 2012, 37, 23-39.	1.7	32
36	A two-dimensional hydro-morphological model for river hydraulics and morphology with vegetation. <i>Environmental Modelling and Software</i> , 2017, 88, 10-21.	1.9	31

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37	A structured but non-uniform Cartesian grid-based model for the shallow water equations. <i>International Journal for Numerical Methods in Fluids</i> , 2011, 66, 537-554.	0.9	27
38	Efficient urban flood simulation using a GPU-accelerated SPH model. <i>Environmental Earth Sciences</i> , 2015, 74, 7285-7294.	1.3	27
39	Integrated remote sensing imagery and two-dimensional hydraulic modeling approach for impact evaluation of flood on crop yields. <i>Journal of Hydrology</i> , 2017, 553, 262-275.	2.3	27
40	A conservative high-order discontinuous Galerkin method for the shallow water equations with arbitrary topography. <i>International Journal for Numerical Methods in Engineering</i> , 2011, 86, 47-69.	1.5	26
41	Towards a hydrodynamic modelling framework appropriate for applications in urban flood assessment and mitigation using heterogeneous computing. <i>Urban Water Journal</i> , 2015, 12, 67-78.	1.0	23
42	Climatic influence on the magnitude of COVID-19 outbreak: a stochastic model-based global analysis. <i>International Journal of Environmental Health Research</i> , 2022, 32, 1095-1110.	1.3	23
43	A quantitative multi-hazard risk assessment framework for compound flooding considering hazard inter-dependencies and interactions. <i>Journal of Hydrology</i> , 2022, 607, 127477.	2.3	23
44	A positivity-preserving zero-inertia model for flood simulation. <i>Computers and Fluids</i> , 2011, 46, 505-511.	1.3	22
45	Numerical evaluation of flow regime changes induced by the Three Gorges Dam in the Middle Yangtze. <i>Hydrology Research</i> , 2016, 47, 149-160.	1.1	22
46	Efficient surface water flow simulation on static Cartesian grid with local refinement according to key topographic features. <i>Computers and Fluids</i> , 2018, 176, 117-134.	1.3	22
47	Ongoing Drainage Reorganization Driven by Rapid Lake Growths on the Tibetan Plateau. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL095795.	1.5	21
48	A simplified adaptive Cartesian grid system for solving the 2D shallow water equations. <i>International Journal for Numerical Methods in Fluids</i> , 2012, 69, 442-458.	0.9	20
49	Multislope MUSCL method applied to solve shallow water equations. <i>Computers and Mathematics With Applications</i> , 2014, 68, 2012-2027.	1.4	20
50	RKDG2 shallow-water solver on non-uniform grids with local time steps: Application to 1D and 2D hydrodynamics. <i>Applied Mathematical Modelling</i> , 2015, 39, 1317-1340.	2.2	20
51	New prospects for computational hydraulics by leveraging high-performance heterogeneous computing techniques. <i>Journal of Hydrodynamics</i> , 2016, 28, 977-985.	1.3	20
52	A coupled hydrological and hydrodynamic model for flood simulation. <i>Hydrology Research</i> , 2019, 50, 589-606.	1.1	20
53	Investigation of the drainage loss effects with a street view based drainage calculation method in hydrodynamic modelling of pluvial floods in urbanized area. <i>Journal of Hydrology</i> , 2022, 605, 127365.	2.3	19
54	A deterministic approach for assessing tsunami-induced building damage through quantification of hydrodynamic forces. <i>Coastal Engineering</i> , 2019, 144, 1-14.	1.7	17

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55	Extraction of connected river networks from multi-temporal remote sensing imagery using a path tracking technique. <i>Remote Sensing of Environment</i> , 2020, 246, 111868.	4.6	16
56	An improved hydrostatic reconstruction method for shallow water model. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2014, 52, 432-439.	0.7	15
57	Computationally Efficient Tsunami Modeling on Graphics Processing Units (GPUs). <i>International Journal of Offshore and Polar Engineering</i> , 2016, 26, 154-160.	0.3	15
58	Assessing Slope Forest Effect on Flood Process Caused by a Short-Duration Storm in a Small Catchment. <i>Water (Switzerland)</i> , 2018, 10, 1256.	1.2	14
59	Well-balancing issues related to the RKDG2 scheme for the shallow water equations. <i>International Journal for Numerical Methods in Fluids</i> , 2010, 62, 428-448.	0.9	13
60	A Coupled Morphodynamic Model for Applications Involving Wetting and Drying. <i>Journal of Hydrodynamics</i> , 2011, 23, 273-281.	1.3	13
61	Contradiction between the C-property and mass conservation in adaptive grid based shallow flow models: cause and solution. <i>International Journal for Numerical Methods in Fluids</i> , 2015, 78, 17-36.	0.9	13
62	Hydrodynamic modelling of flow impact on structures under extreme flow conditions. <i>Journal of Hydrodynamics</i> , 2016, 28, 267-274.	1.3	13
63	Multi-phase flow simulation of landslide dam formation process based on extended coupled DEM-CFD method. <i>Computers and Geotechnics</i> , 2021, 140, 104438.	2.3	13
64	Improving the performance of city-scale hydrodynamic flood modelling through a GIS-based DEM correction method. <i>Natural Hazards</i> , 2022, 112, 2313-2335.	1.6	13
65	Novel variable reconstruction and friction term discretisation schemes for hydrodynamic modelling of overland flow and surface water flooding. <i>Advances in Water Resources</i> , 2022, 163, 104187.	1.7	13
66	Wind-induced chaotic advection in shallow flow geometries. Part II: Non-circular basins. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2006, 44, 180-188.	0.7	12
67	A robust coupled model for solute transport driven by severe flow conditions. <i>Journal of Hydro-Environment Research</i> , 2015, 9, 49-60.	1.0	12
68	Analytical and numerical investigation of trapped ocean waves along a submerged ridge. <i>Journal of Fluid Mechanics</i> , 2021, 915, .	1.4	12
69	Wind-induced chaotic advection in shallow flow geometries. Part I: Circular basins. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2006, 44, 170-79.	0.7	11
70	A Well-balanced and Non-negative Numerical Scheme for Solving the Integrated Shallow Water and Solute Transport Equations. <i>Communications in Computational Physics</i> , 2010, 7, 1049-1075.	0.7	11
71	Cause analysis for a new type of devastating flash flood. <i>Hydrology Research</i> , 2020, 51, 1-16.	1.1	10
72	Large-scale flood risk assessment under different development strategies: the Luanhe River Basin in China. <i>Sustainability Science</i> , 2022, 17, 1365-1384.	2.5	10

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73	Particle mixing and reactive front motion in unsteady open shallow flow “ Modelled using singular value decomposition. <i>Computers and Fluids</i> , 2007, 36, 248-258.	1.3	9
74	Simple treatment of non-aligned boundaries in a Cartesian grid shallow flow model. <i>International Journal for Numerical Methods in Fluids</i> , 2008, 56, 2091-2110.	0.9	9
75	Influence of Total-Variation-Diminishing Slope Limiting on Local Discontinuous Galerkin Solutions of the Shallow Water Equations. <i>Journal of Hydraulic Engineering</i> , 2012, 138, 216-222.	0.7	9
76	Simulation of Tsunami Propagation Using Adaptive Cartesian Grids. <i>Coastal Engineering Journal</i> , 2015, 57, 1550016-1-1550016-30.	0.7	9
77	A coupled hydrodynamic and particle-tracking model for full-process simulation of nonpoint source pollutants. <i>Environmental Modelling and Software</i> , 2021, 136, 104951.	1.9	9
78	A coupled discrete element and depth-averaged model for dynamic simulation of flow-like landslides. <i>Computers and Geotechnics</i> , 2022, 141, 104537.	2.3	9
79	A well-balanced weighted essentially non-oscillatory scheme for pollutant transport in shallow water. <i>International Journal for Numerical Methods in Fluids</i> , 2013, 71, 1566-1587.	0.9	8
80	Robust shallow water models. <i>Environmental Earth Sciences</i> , 2015, 74, 7273-7274.	1.3	8
81	Numerical error control for second-order explicit TVD scheme with limiters in advection simulation. <i>Computers and Mathematics With Applications</i> , 2015, 70, 2197-2209.	1.4	8
82	Simulation of Hydraulic Structures in 2D High-Resolution Urban Flood Modeling. <i>Water (Switzerland)</i> , 2019, 11, 2139.	1.2	8
83	A Godunov-type scheme for modelling 1D channel flow with varying width and topography. <i>Computers and Fluids</i> , 2011, 46, 88-93.	1.3	7
84	A Multi-Scale Mapping Approach Based on a Deep Learning CNN Model for Reconstructing High-Resolution Urban DEMs. <i>Water (Switzerland)</i> , 2020, 12, 1369.	1.2	7
85	Assessing the potential impact of glacial lake outburst floods on individual objects using a high-performance hydrodynamic model and open-source data. <i>Science of the Total Environment</i> , 2022, 806, 151289.	3.9	7
86	Development of an SDG interlinkages analysis model at the river basin scale: a case study in the Luanhe River Basin, China. <i>Sustainability Science</i> , 2022, 17, 1405-1433.	2.5	7
87	Calibrating a High-Performance Hydrodynamic Model for Broad-Scale Flood Simulation: Application to Thames Estuary, London, UK. <i>Procedia Engineering</i> , 2016, 154, 967-974.	1.2	5
88	A new 1D coupled hydrodynamic discrete element model for floating debris in violent shallow flows. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2020, 58, 778-789.	0.7	5
89	A GPU-accelerated shallow flow model for tsunami simulations. <i>Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics</i> , 2014, 167, 117-125.	0.4	4
90	A novel two-way method for dynamically coupling a hydrodynamic model with a discrete element model (DEM). <i>Journal of Hydrodynamics</i> , 2018, 30, 966-969.	1.3	4

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91	Editorial: Smart Approaches to Predict Urban Flooding: Current Advances and Challenges. <i>Frontiers in Earth Science</i> , 2021, 9, .	0.8	4
92	Movement process analysis of the high-speed long-runout Shuicheng landslide over 3-D complex terrain using a depth-averaged numerical model. <i>Landslides</i> , 2021, 18, 3213-3226.	2.7	4
93	Chaotic mixing in a basin due to a sinusoidal wind field. <i>International Journal for Numerical Methods in Fluids</i> , 2005, 47, 871-877.	0.9	3
94	Particle mixing and reactive front motions in chaotic but closed shallow flows. <i>Computers and Fluids</i> , 2009, 38, 382-392.	1.3	3
95	A first-order adaptive solution to rapidly spreading flood waves. <i>Progress in Computational Fluid Dynamics</i> , 2013, 13, 1.	0.1	3
96	Non-negative depth reconstruction for a two-dimensional partial inertial inundation model. <i>Journal of Hydroinformatics</i> , 2014, 16, 1158-1177.	1.1	3
97	Robust absorbing boundary conditions for shallow water flow models. <i>Environmental Earth Sciences</i> , 2015, 74, 7407-7422.	1.3	3
98	Effects of Morphological Change on Fluvial Flood Patterns Evaluated by a Hydro-geomorphological Model. <i>Procedia Engineering</i> , 2016, 154, 441-449.	1.2	3
99	A numerical approach for analysing the performance of a sewage screening chamber. <i>Urban Water Journal</i> , 2016, 13, 360-371.	1.0	2
100	Inflows/outflows driven particle dynamics in an idealised lake. <i>Journal of Hydrodynamics</i> , 2019, 31, 873-886.	1.3	2
101	A deep learning technique-based automatic monitoring method for experimental urban road inundation. <i>Journal of Hydroinformatics</i> , 2021, 23, 764-781.	1.1	2
102	Investigating the Impact of Spatial Distribution of Sustainable Drainage System (SuDS) Components on Their Flood Mitigation Performance in Communities with High Groundwater Levels. <i>Water (Switzerland)</i> , 2022, 14, 1367.	1.2	2
103	A fully coupled hydrodynamic-DEM model for simulating debris dynamics and impact forces. <i>Ocean Engineering</i> , 2022, 255, 111468.	1.9	2
104	Reply to Comment by Lu et al. on "An Efficient and Stable Hydrodynamic Model With Novel Source Term Discretization Schemes for Overland Flow and Flood Simulations". <i>Water Resources Research</i> , 2018, 54, 628-630.	1.7	1
105	A New Physically-Based Simulation Framework for Modelling Flow-Like Landslides. <i>International Journal of Geohazards and Environment</i> , 2015, 1, 94-100.	0.4	1
106	A new GPU-accelerated coupled discrete element and depth-averaged model for simulation of flow-like landslides. <i>Environmental Modelling and Software</i> , 2022, 153, 105412.	1.9	1
107	Tsunami simulation model formulated by a finite volume method using a dynamically adaptive grid system. <i>Journal of Japan Society of Civil Engineers Ser B2 (Coastal Engineering)</i> , 2013, 69, I_1-I_5.	0.0	0
108	Dynamically Adaptive Simulation of Solute Transport Driven by Shallow Flows. <i>Series in Contemporary Applied Mathematics</i> , 2012, , 535-542.	0.8	0