

# Xiangyu Y Hu

## List of Publications by Year in descending order

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117  
papers

6,070  
citations

87843

38  
h-index

74108

75  
g-index

118  
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118  
docs citations

118  
times ranked

2604  
citing authors

#	ARTICLE	IF	CITATIONS
1	A dynamic relaxation method with operator splitting and random-choice strategy for SPH. <i>Journal of Computational Physics</i> , 2022, 458, 111105.	1.9	5
2	An efficient and generalized solid boundary condition for SPH: Applications to multi-phase flow and fluid-structure interaction. <i>European Journal of Mechanics, B/Fluids</i> , 2022, 94, 276-292.	1.2	16
3	An artificial damping method for total Lagrangian SPH method with application in biomechanics. <i>Engineering Analysis With Boundary Elements</i> , 2022, 143, 1-13.	2.0	16
4	Grand challenges for Smoothed Particle Hydrodynamics numerical schemes. <i>Computational Particle Mechanics</i> , 2021, 8, 575-588.	1.5	114
5	Particle-based simulation of cold spray: Influence of oxide layer on impact process. <i>Additive Manufacturing</i> , 2021, 37, 101517.	1.7	13
6	A multi-resolution SPH method for fluid-structure interactions. <i>Journal of Computational Physics</i> , 2021, 429, 110028.	1.9	81
7	A feature-aware SPH for isotropic unstructured mesh generation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 375, 113634.	3.4	4
8	A CAD-compatible body-fitted particle generator for arbitrarily complex geometry and its application to wave-structure interaction. <i>Journal of Hydrodynamics</i> , 2021, 33, 195-206.	1.3	27
9	Spot the Difference. <i>ACM Transactions on Applied Perception</i> , 2021, 18, 1-15.	1.2	0
10	Numerical investigation of minimum drag profiles in laminar flow using deep learning surrogates. <i>Journal of Fluid Mechanics</i> , 2021, 919, .	1.4	18
11	An integrative smoothed particle hydrodynamics method for modeling cardiac function. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 381, 113847.	3.4	27
12	Modeling of Cavitation Bubble Cloud with Discrete Lagrangian Tracking. <i>Water (Switzerland)</i> , 2021, 13, 2684.	1.2	2
13	An efficient fully Lagrangian solver for modeling wave interaction with oscillating wave surge converter. <i>Ocean Engineering</i> , 2021, 236, 109540.	1.9	18
14	SPHinXsys: An open-source multi-physics and multi-resolution library based on smoothed particle hydrodynamics. <i>Computer Physics Communications</i> , 2021, 267, 108066.	3.0	61
15	A consistency-driven particle-advection formulation for weakly-compressible smoothed particle hydrodynamics. <i>Computers and Fluids</i> , 2021, 230, 105140.	1.3	7
16	A low dissipation method to cure the grid-aligned shock instability. <i>Journal of Computational Physics</i> , 2020, 401, 109004.	1.9	31
17	Deep Learning Methods for Reynolds-Averaged Navier-Stokes Simulations of Airfoil Flows. <i>AIAA Journal</i> , 2020, 58, 25-36.	1.5	216
18	A weakly compressible SPH method for violent multi-phase flows with high density ratio. <i>Journal of Computational Physics</i> , 2020, 402, 109092.	1.9	65

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19	The Evolution of Early Qing Regulations on Fugitive Slaves. <i>Modern China</i> , 2020, 46, 642-675.	0.3	0
20	Dual-criteria time stepping for weakly compressible smoothed particle hydrodynamics. <i>Journal of Computational Physics</i> , 2020, 404, 109135.	1.9	30
21	An L2-norm regularized incremental-stencil WENO scheme for compressible flows. <i>Computers and Fluids</i> , 2020, 213, 104721.	1.3	5
22	SPHinXsys: An open-source meshless, multi-resolution and multi-physics library. <i>Software Impacts</i> , 2020, 6, 100033.	0.8	29
23	Experimental study on a three-dimensional pulsating heat pipe with tandem tapered nozzles. <i>Experimental Thermal and Fluid Science</i> , 2020, 119, 110201.	1.5	17
24	Flame behaviours and deflagration severities of aluminium powder-air mixture in a 20-L sphere: Computational fluid dynamics modelling and experimental validation. <i>Fuel</i> , 2020, 276, 118028.	3.4	21
25	CFD analysis and experimental study on the effect of oxygen level, particle size, and dust concentration on the flame evolution characteristics and explosion severity of cornstarch dust cloud deflagration in a spherical chamber. <i>Powder Technology</i> , 2020, 372, 585-599.	2.1	29
26	Transient temperature evolution of pulverized coal cloud deflagration in a methane-oxygen atmosphere. <i>Powder Technology</i> , 2020, 366, 294-304.	2.1	18
27	A consistent parallel isotropic unstructured mesh generation method based on multi-phase SPH. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 363, 112881.	3.4	13
28	Influence of ignition delay on explosion severities of the methane-coal particle hybrid mixture at elevated injection pressures. <i>Powder Technology</i> , 2020, 367, 860-876.	2.1	27
29	Supervised learning mixing characteristics of film cooling in a rocket combustor using convolutional neural networks. <i>Acta Astronautica</i> , 2020, 175, 11-18.	1.7	24
30	Qualitative and quantitative characterisation for explosion severity and gaseous-solid residues during methane-coal particle hybrid explosions: An approach to estimating the safety degree for underground coal mines. <i>Chemical Engineering Research and Design</i> , 2020, 141, 150-166.	2.7	46
31	Adaptive Anisotropic Unstructured Mesh Generation Method Based on Fluid Relaxation Analogy. <i>Communications in Computational Physics</i> , 2020, 27, 1275-1308.	0.7	1
32	Free-stream preserving linear-upwind and WENO schemes on curvilinear grids. <i>Journal of Computational Physics</i> , 2019, 399, 108907.	1.9	12
33	A Lagrangian Inertial Centroidal Voronoi Particle method for dynamic load balancing in particle-based simulations. <i>Computer Physics Communications</i> , 2019, 239, 53-63.	3.0	6
34	Partial characteristic decomposition for multi-species Euler equations. <i>Computers and Fluids</i> , 2019, 181, 364-382.	1.3	6
35	A species-clustered splitting scheme for the integration of large-scale chemical kinetics using detailed mechanisms. <i>Combustion and Flame</i> , 2019, 205, 41-54.	2.8	6
36	A weakly compressible SPH method with WENO reconstruction. <i>Journal of Computational Physics</i> , 2019, 392, 1-18.	1.9	43

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37	An isotropic unstructured mesh generation method based on a fluid relaxation analogy. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 350, 396-431.	3.4	18
38	Parallel fast-neighbor-searching and communication strategy for particle-based methods. <i>Engineering Computations</i> , 2019, 36, 899-929.	0.7	9
39	A split random time-stepping method for stiff and nonstiff detonation capturing. <i>Combustion and Flame</i> , 2019, 204, 397-413.	2.8	6
40	Improved Five- and Six-Point Targeted Essentially Nonoscillatory Schemes with Adaptive Dissipation. <i>AIAA Journal</i> , 2019, 57, 1143-1158.	1.5	32
41	A new multi-resolution parallel framework for SPH. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 346, 1156-1178.	3.4	36
42	A Targeted ENO Scheme as Implicit Model for Turbulent and Genuine Subgrid Scales. <i>Communications in Computational Physics</i> , 2019, 26, 311-345.	0.7	26
43	A conservative interface-interaction method for compressible multi-material flows. <i>Journal of Computational Physics</i> , 2018, 371, 870-895.	1.9	23
44	SPH modeling of fluid-structure interaction. <i>Journal of Hydrodynamics</i> , 2018, 30, 62-69.	1.3	55
45	High-resolution method for evolving complex interface networks. <i>Computer Physics Communications</i> , 2018, 225, 10-27.	3.0	4
46	An incremental-stencil WENO reconstruction for simulation of compressible two-phase flows. <i>International Journal of Multiphase Flow</i> , 2018, 104, 20-31.	1.6	32
47	High-order time-marching reinitialization for regional level-set functions. <i>Journal of Computational Physics</i> , 2018, 354, 311-319.	1.9	7
48	Liquid Splash Modeling with Neural Networks. <i>Computer Graphics Forum</i> , 2018, 37, 171-182.	1.8	44
49	A Consistent Analytical Formulation for Volume Estimation of Geometries Enclosed by Implicitly Defined Surfaces. <i>SIAM Journal of Scientific Computing</i> , 2018, 40, A1523-A1543.	1.3	3
50	A new class of adaptive high-order targeted ENO schemes for hyperbolic conservation laws. <i>Journal of Computational Physics</i> , 2018, 374, 724-751.	1.9	62
51	Numerical investigation of homogeneous cavitation nucleation in a microchannel. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	6
52	Phenomenology of bubble-collapse-driven penetration of biomaterial-surrogate liquid-liquid interfaces. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	10
53	A weakly compressible SPH method based on a low-dissipation Riemann solver. <i>Journal of Computational Physics</i> , 2017, 335, 605-620.	1.9	119
54	A physics-motivated Centroidal Voronoi Particle domain decomposition method. <i>Journal of Computational Physics</i> , 2017, 335, 718-735.	1.9	15

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55	A generalized transport-velocity formulation for smoothed particle hydrodynamics. Journal of Computational Physics, 2017, 337, 216-232.	1.9	68
56	Targeted ENO schemes with tailored resolution property for hyperbolic conservation laws. Journal of Computational Physics, 2017, 349, 97-121.	1.9	85
57	Single-step reinitialization and extending algorithms for level-set based multi-phase flow simulations. Computer Physics Communications, 2017, 221, 63-80.	3.0	12
58	A novel partitioning method for block-structured adaptive meshes. Journal of Computational Physics, 2017, 341, 447-473.	1.9	13
59	Perceptual evaluation of liquid simulation methods. ACM Transactions on Graphics, 2017, 36, 1-12.	4.9	11
60	Simulation of Individual Polymer Chains and Polymer Solutions with Smoothed Dissipative Particle Dynamics. Fluids, 2016, 1, 7.	0.8	20
61	Curvature boundary condition for a moving contact line. Journal of Computational Physics, 2016, 310, 329-341.	1.9	19
62	Simple gradient-based error-diffusion method. Journal of Electronic Imaging, 2016, 25, 043029.	0.5	8
63	On the convergence of the weakly compressible sharp-interface method for two-phase flows. Journal of Computational Physics, 2016, 324, 94-114.	1.9	6
64	Numerical study on super/hypersonic flow, mixing, and combustion phenomena, 2015. Advances in Mechanical Engineering, 2016, 8, 168781401663293.	0.8	0
65	Efficient formulation of scale separation for multi-scale modeling of interfacial flows. Journal of Computational Physics, 2016, 308, 411-420.	1.9	11
66	A family of high-order targeted ENO schemes for compressible-fluid simulations. Journal of Computational Physics, 2016, 305, 333-359.	1.9	218
67	A SPH Model for Incompressible Turbulence. Procedia IUTAM, 2015, 18, 66-75.	1.2	12
68	A conservative sharp interface method for incompressible multiphase flows. Journal of Computational Physics, 2015, 284, 547-565.	1.9	41
69	Towards consistence and convergence of conservative SPH approximations. Journal of Computational Physics, 2015, 301, 394-401.	1.9	32
70	An efficient low-dissipation hybrid weighted essentially non-oscillatory scheme. Journal of Computational Physics, 2015, 301, 415-424.	1.9	36
71	Scale separation for multi-scale modeling of free-surface and two-phase flows with the conservative sharp interface method. Journal of Computational Physics, 2015, 280, 387-403.	1.9	17
72	Considerations for Hydrodynamic Slug Analysis in Pipelines. , 2014, , .		0

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73	Mesoscopic simulation of the transient behavior of semi-diluted polymer solution in a microchannel following extensional flow. <i>Microfluidics and Nanofluidics</i> , 2014, 16, 257-264.	1.0	9
74	Quantification of initial-data uncertainty on a shock-accelerated gas cylinder. <i>Physics of Fluids</i> , 2014, 26, 026101.	1.6	12
75	Adaptive multi-resolution method for compressible multi-phase flows with sharp interface model and pyramid data structure. <i>Journal of Computational Physics</i> , 2014, 262, 131-152.	1.9	49
76	Numerical Study on Super/Hypersonic Flow, Mixing, and Combustion Phenomena. <i>Advances in Mechanical Engineering</i> , 2014, 6, 765315.	0.8	0
77	On the Richtmyer–Meshkov instability evolving from a deterministic multimode planar interface. <i>Journal of Fluid Mechanics</i> , 2014, 755, 429-462.	1.4	91
78	A physically consistent weakly compressible high-resolution approach to underresolved simulations of incompressible flows. <i>Computers and Fluids</i> , 2013, 86, 109-124.	1.3	17
79	Positivity-preserving method for high-order conservative schemes solving compressible Euler equations. <i>Journal of Computational Physics</i> , 2013, 242, 169-180.	1.9	163
80	A transport-velocity formulation for smoothed particle hydrodynamics. <i>Journal of Computational Physics</i> , 2013, 241, 292-307.	1.9	156
81	Reinstating the Authority of the Five Punishments: A New Perspective on Legal Privilege for Bannermen. <i>Late Imperial China</i> , 2013, 34, 28-51.	0.2	5
82	Numerical simulation of a Richtmyer–Meshkov instability with an adaptive central-upwind sixth-order WENO scheme. <i>Physica Scripta</i> , 2013, T155, 014016.	1.2	15
83	On the Kolmogorov inertial subrange developing from Richtmyer-Meshkov instability. <i>Physics of Fluids</i> , 2013, 25, .	1.6	26
84	Numerical investigation of collapsing cavity arrays. <i>Physics of Fluids</i> , 2012, 24, .	1.6	61
85	A generalized wall boundary condition for smoothed particle hydrodynamics. <i>Journal of Computational Physics</i> , 2012, 231, 7057-7075.	1.9	532
86	Numerical modelling and investigation of symmetric and asymmetric cavitation bubble dynamics. <i>Computers and Fluids</i> , 2012, 69, 1-19.	1.3	140
87	Anti-diffusion interface sharpening technique for two-phase compressible flow simulations. <i>Journal of Computational Physics</i> , 2012, 231, 4304-4323.	1.9	102
88	Scale separation for implicit large eddy simulation. <i>Journal of Computational Physics</i> , 2011, 230, 7240-7249.	1.9	72
89	Wavelet-based adaptive multi-resolution solver on heterogeneous parallel architecture for computational fluid dynamics. <i>Computer Science - Research and Development</i> , 2011, 26, 197-203.	2.7	8
90	Anti-diffusion method for interface steepening in two-phase incompressible flow. <i>Journal of Computational Physics</i> , 2011, 230, 5155-5177.	1.9	56

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91	Numerical simulation of tethered DNA in shear flow. Journal of Physics Condensed Matter, 2011, 23, 184118.	0.7	14
92	A conservative SPH method for surfactant dynamics. Journal of Computational Physics, 2010, 229, 1909-1926.	1.9	64
93	A conservative immersed interface method for Large-Eddy Simulation of incompressible flows. Journal of Computational Physics, 2010, 229, 6300-6317.	1.9	97
94	A new surface-tension formulation for multi-phase SPH using a reproducing divergence approximation. Journal of Computational Physics, 2010, 229, 5011-5021.	1.9	218
95	A splitting scheme for highly dissipative smoothed particle dynamics. Journal of Computational Physics, 2010, 229, 5457-5464.	1.9	35
96	An adaptive central-upwind weighted essentially non-oscillatory scheme. Journal of Computational Physics, 2010, 229, 8952-8965.	1.9	249
97	Particle-layering effect in wall-bounded dissipative particle dynamics. Physical Review E, 2010, 82, 066704.	0.8	11
98	Numerical Investigation of the Micromechanical Behavior of DNA Immersed in a Hydrodynamic Flow. , 2010, , 147-160.		0
99	An Immersed Interface Method in the Framework of Implicit Large-Eddy Simulation. ERCOFTAC Series, 2010, , 109-115.	0.1	0
100	Self-diffusion coefficient in smoothed dissipative particle dynamics. Journal of Chemical Physics, 2009, 130, 021101.	1.2	38
101	A constant-density approach for incompressible multi-phase SPH. Journal of Computational Physics, 2009, 228, 2082-2091.	1.9	106
102	On the HLLC Riemann solver for interface interaction in compressible multi-fluid flow. Journal of Computational Physics, 2009, 228, 6572-6589.	1.9	86
103	Shock-induced collapse of bubbles in liquid. , 2009, , 931-936.		1
104	Moving Contact Line with Balanced Stress Singularities. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 87-94.	0.1	0
105	Splitting for Highly Dissipative Smoothed Particle Dynamics. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 207-218.	0.1	0
106	Smoothed dissipative particle dynamics model for polymer molecules in suspension. Physical Review E, 2008, 77, 066703.	0.8	55
107	An incompressible multi-phase SPH method. Journal of Computational Physics, 2007, 227, 264-278.	1.9	388
108	A multi-phase SPH method for macroscopic and mesoscopic flows. Journal of Computational Physics, 2006, 213, 844-861.	1.9	537

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109	A conservative interface method for compressible flows. Journal of Computational Physics, 2006, 219, 553-578.	1.9	198
110	Angular-momentum conservative smoothed particle dynamics for incompressible viscous flows. Physics of Fluids, 2006, 18, 101702.	1.6	65
111	The structure and evolution of a two-dimensional H <sub>2</sub> /O <sub>2</sub> /Ar cellular detonation. Shock Waves, 2005, 14, 37-44.	1.0	35
112	Numerical studies on shock cell interaction. , 2005, , 1205-1210.		0
113	The cellular structure of a two-dimensional H <sub>2</sub> /O <sub>2</sub> /Ar detonation wave. Combustion Theory and Modelling, 2004, 8, 339-359.	1.0	61
114	Kinetic energy fix for low internal energy flows. Journal of Computational Physics, 2004, 193, 243-259.	1.9	11
115	An interface interaction method for compressible mult fluids. Journal of Computational Physics, 2004, 198, 35-64.	1.9	111
116	Numerical Studies on the Reaction Zones in a Detonation Wave with a Detailed Chemical Reaction Model. , 2003, , 502-507.		0
117	Analytical study of idealized two-dimensional cellular detonations. Shock Waves, 2002, 11, 475-480.	1.0	6