Benedict D Rogers

List of Publications by Year
in descending order

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101 papers	6,843 citations	76031 42 h-index	68831 81 g-index
103 all docs	103 docs citations	103 times ranked	2923 citing authors

#	Article	IF	Citations
1	DualSPHysics: from fluid dynamics to multiphysics problems. Computational Particle Mechanics, 2022, 9, 867-895.	1.5	131
2	Simulation of flow past a sphere on a rough bed using smoothed particle hydrodynamics (SPH). Computational Particle Mechanics, 2022, 9, 927-940.	1.5	3
3	Eulerian incompressible smoothed particle hydrodynamics on multiple GPUs. Computer Physics Communications, 2022, 273, 108263.	3.0	7
4	Implicit iterative particle shifting for meshless numerical schemes using kernel basis functions. Computer Methods in Applied Mechanics and Engineering, 2022, 393, 114716.	3.4	10
5	Focused wave interaction with a partially-immersed rectangular box using 2-D incompressible SPH on a GPU comparing with experiment and linear theory. European Journal of Mechanics, B/Fluids, 2022, 95, 252-275.	1.2	5
6	Experimental and Numerical Investigation of Floating Large Woody Debris Impact on a Masonry Arch Bridge. Journal of Marine Science and Engineering, 2022, 10, 911.	1.2	3
7	Grand challenges for Smoothed Particle Hydrodynamics numerical schemes. Computational Particle Mechanics, 2021, 8, 575-588.	1.5	114
8	High-order velocity and pressure wall boundary conditions in Eulerian incompressible SPH. Journal of Computational Physics, 2021, 434, 109793.	1.9	13
9	Influence of Orientation and Arrangement of Structures on Tsunami Impact Forces: Numerical Investigation with Smoothed Particle Hydrodynamics. Journal of Waterway, Port, Coastal and Ocean Engineering, 2021, 147, 04021006.	0.5	16
10	A fluidâ€“structure interaction model for free-surface flows and flexible structures using smoothed particle hydrodynamics on a GPU. Journal of Fluids and Structures, 2021, 104, 103312.	1.5	46
11	Towards pseudo-spectral incompressible smoothed particle hydrodynamics (ISPH). Computer Physics Communications, 2021, 266, 108028.	3.0	4
12	Large deformation analysis of granular materials with stabilized and noise-free stress treatment in smoothed particle hydrodynamics (SPH). Computers and Geotechnics, 2021, 138, 104356.	2.3	18
13	High-order consistent SPH with the pressure projection method in 2-D and 3-D. Journal of Computational Physics, 2021, 444, 110563.	1.9	15
14	Flood-Induced Hydrodynamic and Debris Impact Forces on Single-Span Masonry Arch Bridge. Journal of Hydraulic Engineering, 2021, 147, .	0.7	11
15	Massively Parallel Particle Hydrodynamics at exa-scale. Computing in Science and Engineering, 2021, , 1-1.	1.2	0
16	An incompressible smoothed particle hydrodynamics scheme for Newtonian/nonâ€Newtonian multiphase flows including semiâ€analytical solutions for twoâ€phase inelastic Poiseuille flows. International Journal for Numerical Methods in Fluids, 2020, 92, 703-726.	0.9	8
17	Review of smoothed particle hydrodynamics: towards converged Lagrangian flow modelling. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20190801.	1.0	76
18	New instability and mixing simulations using SPH and a novel mixing measure. Journal of Hydrodynamics, 2020, 32, 684-698.	1.3	6

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19	Vector-based discrete element method for solid elastic materials. Computer Physics Communications, 2020, 254, 107353.	3.0	7
20	Local uniform stencil (LUST) boundary condition for arbitrary 3-D boundaries in parallel smoothed particle hydrodynamics (SPH) models. Computers and Fluids, 2019, 190, 346-361.	1.3	109
21	Modelling shore-side pressure distributions from violent wave breaking at a seawall. Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, 2019, 172, 118-123.	0.4	3
22	Numerical wave basin using incompressible smoothed particle hydrodynamics (ISPH) on a single GPU with vertical cylinder test cases. Computers and Fluids, 2019, 179, 543-562.	1.3	32
23	Flexible slender body fluid interaction: Vector-based discrete element method with Eulerian smoothed particle hydrodynamics. Computers and Fluids, 2019, 179, 563-578.	1.3	18
24	Eulerian weakly compressible smoothed particle hydrodynamics (SPH) with the immersed boundary method for thin slender bodies. Journal of Fluids and Structures, 2019, 84, 263-282.	1.5	25
25	Incompressible SPH (ISPH) with fast Poisson solver on a GPU. Computer Physics Communications, 2018, 226, 81-103.	3.0	74
26	Multi-phase SPH model for simulation of erosion and scouring by means of the shields and Druckerâ€“Prager criteria.. Advances in Water Resources, 2018, 117, 98-114.	1.7	52
27	An Eulerianâ€“Lagrangian incompressible SPH formulation (ELI-SPH) connected with a sharp interface. Computer Methods in Applied Mechanics and Engineering, 2018, 329, 532-552.	3.4	44
28	Numerical modelling of wave downfall pressures on the deck landward of a vertical breakwater. , 2018, , .		0
29	New massively parallel scheme for Incompressible Smoothed Particle Hydrodynamics (ISPH) for highly nonlinear and distorted flow. Computer Physics Communications, 2018, 233, 16-28.	3.0	45
30	On the Coupling of Incompressible SPH with a Finite Element Potential Flow Solver for Nonlinear Free-Surface Flows. International Journal of Offshore and Polar Engineering, 2018, 28, 248-254.	0.3	15
31	Landslides and tsunamis predicted by incompressible smoothed particle hydrodynamics (SPH) with application to the 1958 Lituya Bay event and idealized experiment. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20160674.	1.0	30
32	Unsteady open boundaries for SPH using semi-analytical conditions and Riemann solver in 2D. Computer Physics Communications, 2017, 210, 29-44.	3.0	33
33	Smoothed Particle Hydrodynamics (SPH) modelling of transient heat transfer in pulsed laser ablation of Al and associated free-surface problems. Computational Materials Science, 2017, 127, 161-179.	1.4	41
34	A multi-phase particle shifting algorithm for SPH simulations of violent hydrodynamics with a large number of particles. Journal of Hydraulic Research/De Recherches Hydrauliques, 2017, 55, 143-162.	0.7	78
35	Editorial: efficient design in a modern engineering world â€“ the challenges. Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, 2017, 170, 89-90.	0.4	0
36	A theoretical model for quantifying expansion of intumescent coating under different heating conditions. Polymer Engineering and Science, 2016, 56, 798-809.	1.5	25

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37	Modelling multi-phase liquid-sediment scour and resuspension induced by rapid flows using Smoothed Particle Hydrodynamics (SPH) accelerated with a Graphics Processing Unit (GPU). Advances in Water Resources, 2016, 92, 186-199.	1.7	125
38	Modelling of tsunami-induced bore and structure interaction. Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, 2016, 169, 109-125.	0.4	14
39	Fixed and moored bodies in steep and breaking waves using SPH with the Froudeâ€“Krylov approximation. Journal of Ocean Engineering and Marine Energy, 2016, 2, 331-354.	0.9	23
40	Composite modelling of subaerial landslideâ€“tsunamis in different water body geometries and novel insight into slide and wave kinematics. Coastal Engineering, 2016, 109, 20-41.	1.7	114
41	Assessment of the thermal conductivity of intumescent coatings in fire. Fire Safety Journal, 2016, 81, 74-84.	1.4	80
42	Incompressibleâ€“compressible flows with a transient discontinuous interface using smoothed particle hydrodynamics (SPH). Journal of Computational Physics, 2016, 309, 129-147.	1.9	71
43	Smoothed particle hydrodynamics (SPH) for free-surface flows: past, present and future. Journal of Hydraulic Research/De Recherches Hydrauliques, 2016, 54, 1-26.	0.7	358
44	Variable resolution for SPH in three dimensions: Towards optimal splitting and coalescing for dynamic adaptivity. Computer Methods in Applied Mechanics and Engineering, 2016, 300, 442-460.	3.4	73
45	On the approximate zeroth and firstâ€order consistency in the presence of 2â€D irregular boundaries in SPH obtained by the virtual boundary particle methods. International Journal for Numerical Methods in Fluids, 2015, 78, 475-501.	0.9	27
46	INCOMPRESSIBLE SMOOTHED PARTICLE HYDRODYNAMICS (ISPH) MODELLING OF BREAKWATER OVERTOPPING. Coastal Engineering Proceedings, 2015, 1, 6.	0.1	2
47	Numerical predictions of waterâ€“air wave slam using incompressibleâ€“compressible smoothed particle hydrodynamics. Applied Ocean Research, 2015, 49, 57-71.	1.8	74
48	Automotive fuel cell sloshing under temporally and spatially varying high acceleration using GPU-based Smoothed Particle Hydrodynamics (SPH). Advances in Engineering Software, 2015, 83, 31-44.	1.8	21
49	An incompressible SPH scheme with improved pressure predictions for free-surface generalised Newtonian flows. Journal of Non-Newtonian Fluid Mechanics, 2015, 218, 1-15.	1.0	38
50	Multi-phase SPH modelling of violent hydrodynamics on GPUs. Computer Physics Communications, 2015, 196, 304-316.	3.0	89
51	DNS and LES of 3-D wall-bounded turbulence using Smoothed Particle Hydrodynamics. Computers and Fluids, 2015, 115, 86-97.	1.3	46
52	DualSPHysics: Open-source parallel CFD solver based on Smoothed Particle Hydrodynamics (SPH). Computer Physics Communications, 2015, 187, 204-216.	3.0	549
53	THE IMPORTANCE OF LONG WAVE REFLECTIONS IN TIDAL MODELLING ON A CONTINENTAL SHELF. Coastal Engineering Proceedings, 2015, 1, 27.	0.1	1
54	MODELLING THE IMPACT OF TSUNAMIS ON COASTAL DEFENCES IN THE UK. Coastal Engineering Proceedings, 2015, 1, 36.	0.1	2

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55	Numerical modelling of armour block sea breakwater with smoothed particle hydrodynamics. Computers and Structures, 2014, 130, 34-45.	2.4	125
56	Boussinesq modelling of tsunami and storm wave impact. Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, 2014, 167, 106-116.	0.4	7
57	Tsunami wave and structure interaction: an investigation with smoothed-particle hydrodynamics. Proceedings of the Institution of Civil Engineers: Engineering and Computational Mechanics, 2014, 167, 126-138.	0.4	18
58	Investigation of Wave-Structure Interaction Using State of the Art CFD Techniques. Open Journal of Fluid Dynamics, 2014, 04, 18-43.	0.3	42
59	Unified semiâ€analytical wall boundary conditions for inviscid, laminar or turbulent flows in the meshless SPH method. International Journal for Numerical Methods in Fluids, 2013, 71, 446-472.	0.9	182
60	A correction for balancing discontinuous bed slopes in twoâ€dimensional smoothed particle hydrodynamics shallow water modeling. International Journal for Numerical Methods in Fluids, 2013, 71, 850-872.	0.9	19
61	Investigation of wall bounded flows using SPH and the unified semi-analytical wall boundary conditions. Computer Physics Communications, 2013, 184, 2515-2527.	3.0	58
62	Towards accelerating smoothed particle hydrodynamics simulations for free-surface flows on multi-GPU clusters. Journal of Parallel and Distributed Computing, 2013, 73, 1483-1493.	2.7	51
63	Understanding the behaviour of pulsed laser dry and wet micromachining processes by multi-phase smoothed particle hydrodynamics (SPH) modelling. Journal Physics D: Applied Physics, 2013, 46, 095101.	1.3	23
64	SPH for 3D floating bodies using variable mass particle distribution. International Journal for Numerical Methods in Fluids, 2013, 72, 427-452.	0.9	85
65	New multi-GPU implementation for smoothed particle hydrodynamics on heterogeneous clusters. Computer Physics Communications, 2013, 184, 1848-1860.	3.0	142
66	Variable resolution for SPH: A dynamic particle coalescing and splitting scheme. Computer Methods in Applied Mechanics and Engineering, 2013, 256, 132-148.	3.4	184
67	Shallow water SPH for flooding with dynamic particle coalescing and splitting. Advances in Water Resources, 2013, 58, 10-23.	1.7	41
68	Incompressible smoothed particle hydrodynamics (SPH) with reduced temporal noise and generalised Fickian smoothing applied to bodyâ€“water slam and efficient waveâ€“body interaction. Computer Methods in Applied Mechanics and Engineering, 2013, 265, 163-173.	3.4	185
69	An integrated model system for coastal flood prediction with a case history for <scp>W</scp>alcott, <scp>UK</scp>, on 9 <scp>N</scp>ovember 2007. Journal of Flood Risk Management, 2013, 6, 229-252.	1.6	13
70	Modelling sediment resuspension in industrial tanks using SPH. Houille Blanche, 2013, 99, 39-45.	0.3	24
71	Flood Wave Modeling Based on a Two-Dimensional Modified Wave Propagation Algorithm Coupled to a Full-Pipe Network Solver. Journal of Hydraulic Engineering, 2012, 138, 247-259.	0.7	19
72	SPHysics â€“ development of a free-surface fluid solver â€“ Part 1: Theory and formulations. Computers and Geosciences, 2012, 48, 289-299.	2.0	270

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73	SPHysics â€“ development of a free-surface fluid solver â€“ Part 2: Efficiency and test cases. Computers and Geosciences, 2012, 48, 300-307.	2.0	110
74	SPH Modeling of Shallow Flow with Open Boundaries for Practical Flood Simulation. Journal of Hydraulic Engineering, 2012, 138, 530-541.	0.7	106
75	Three-phase 3D modelling of a laser cutting process using smoothed particle hydrodynamics (SPH). , 2012, , .		2
76	Smoothed Particle Hydrodynamics: Approximate zeroâ€consistent 2â€D boundary conditions and still shallowâ€water tests. International Journal for Numerical Methods in Fluids, 2012, 69, 226-253.	0.9	51
77	Accurate particle splitting for smoothed particle hydrodynamics in shallow water with shock capturing. International Journal for Numerical Methods in Fluids, 2012, 69, 1377-1410.	0.9	72
78	Smoothed particle hydrodynamics method applied to pulsatile flow inside a rigid twoâ€dimensional model of left heart cavity. International Journal for Numerical Methods in Biomedical Engineering, 2012, 28, 1121-1143.	1.0	24
79	Incompressible smoothed particle hydrodynamics for free-surface flows: A generalised diffusion-based algorithm for stability and validations for impulsive flows and propagating waves. Journal of Computational Physics, 2012, 231, 1499-1523.	1.9	496
80	Wave body interaction in 2D using smoothed particle hydrodynamics (SPH) with variable particle mass. International Journal for Numerical Methods in Fluids, 2012, 68, 686-705.	0.9	86
81	iCOASST â€“ INTEGRATING COASTAL SEDIMENT SYSTEMS. Coastal Engineering Proceedings, 2012, 1, 100.	0.1	20
82	On the approximation of local efflux/influx bed discharge in the shallow water equations based on a wave propagation algorithm. International Journal for Numerical Methods in Fluids, 2011, 66, 1295-1314.	0.9	10
83	GPUs, a New Tool of Acceleration in CFD: Efficiency and Reliability on Smoothed Particle Hydrodynamics Methods. PLoS ONE, 2011, 6, e20685.	1.1	175
84	State-of-the-art of classical SPH for free-surface flows. Journal of Hydraulic Research/De Recherches Hydrauliques, 2010, 48, 6-27.	0.7	281
85	SMOOTHED PARTICLE HYDRODYNAMICS FOR WATER WAVES. Series on Quality, Reliability and Engineering Statistics, 2010, , 465-495.	0.2	5
86	Simulation of caisson breakwater movement using 2-D SPH. Journal of Hydraulic Research/De Recherches Hydrauliques, 2010, 48, 135-141.	0.7	92
87	Foreword: SPH for free-surface flows. Journal of Hydraulic Research/De Recherches Hydrauliques, 2010, 48, 3-5.	0.7	39
88	SPH MODELING OF FLOATING BODIES IN THE SURF ZONE. , 2009, , .		5
89	The Effects of Building Representation and Clustering in Large-Eddy Simulations of Flows in Urban Canopies. Boundary-Layer Meteorology, 2009, 132, 415-436.	1.2	72
90	SPH MODELING OF TSUNAMI WAVES. Series on Quality, Reliability and Engineering Statistics, 2008, , 75-100.	0.2	37

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91	Smoothed Particle Hydrodynamics for Water Waves. , 2007, , 321.		4
92	A NOTE ON WAVE CELERITIES ON A COMPRESSIBLE FLUID. , 2007, , .		3
93	Numerical modeling of water waves with the SPH method. Coastal Engineering, 2006, 53, 141-147.	1.7	557
94	SPH MODELING OF BREAKING WAVES. , 2005, , .		10
95	Godunov-type adaptive grid model of waveâ€“current interaction at cuspate beaches. International Journal for Numerical Methods in Fluids, 2004, 46, 569-606.	0.9	8
96	Mathematical balancing of flux gradient and source terms prior to using Roeâ€™s approximate Riemann solver. Journal of Computational Physics, 2003, 192, 422-451.	1.9	165
97	GODUNOV-TYPE MODEL OF WAVE-INDUCED NEARSHORE CURRENTS AT A MULTI-CUSPED BEACH IN THE UKCRF. , 2003, , .		1
98	Godunov Solution of Shallow Water Equations on Curvilinear and Quadtree Grids. , 2001, , 141-148.		0
99	Q-Tree Model of Nearshore Flows at Multi-Cusps. , 2001, , 3419.		0
100	Adaptive Q-tree Godunov-type scheme for shallow water equations. International Journal for Numerical Methods in Fluids, 2001, 35, 247-280.	0.9	95
101	Seaweed ingress of cooling water intakes with predictions for Torness power station. Journal of Ocean Engineering and Marine Energy, 0, , 1.	0.9	0