

# Fotis Sotiropoulos

## List of Publications by Citations

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182  
papers

8,269  
citations

52  
h-index

83  
g-index

188  
ext. papers

9,421  
ext. citations

3.9  
avg, IF

6.67  
L-index

#	Paper	IF	Citations
182	A hybrid Cartesian/immersed boundary method for simulating flows with 3D, geometrically complex, moving bodies. <i>Journal of Computational Physics</i> , <b>2005</b> , 207, 457-492	4.1	406
181	Curvilinear Immersed Boundary Method for Simulating Fluid Structure Interaction with Complex 3D Rigid Bodies. <i>Journal of Computational Physics</i> , <b>2008</b> , 227, 7587-7620	4.1	299
180	Numerical investigation of the hydrodynamics of carangiform swimming in the transitional and inertial flow regimes. <i>Journal of Experimental Biology</i> , <b>2008</b> , 211, 1541-58	3	262
179	A Numerical Method for Solving the 3D Unsteady Incompressible Navier-Stokes Equations in Curvilinear Domains with Complex Immersed Boundaries. <i>Journal of Computational Physics</i> , <b>2007</b> , 225, 1782-1809	4.1	262
178	Immersed boundary methods for simulating fluid-structure interaction. <i>Progress in Aerospace Sciences</i> , <b>2014</b> , 65, 1-21	8.8	235
177	Vortex-induced vibrations of two cylinders in tandem arrangement in the proximity-wake interference region. <i>Journal of Fluid Mechanics</i> , <b>2009</b> , 621, 321-364	3.7	172
176	Numerical investigation of the hydrodynamics of anguilliform swimming in the transitional and inertial flow regimes. <i>Journal of Experimental Biology</i> , <b>2009</b> , 212, 576-92	3	164
175	On the role of form and kinematics on the hydrodynamics of self-propelled body/caudal fin swimming. <i>Journal of Experimental Biology</i> , <b>2010</b> , 213, 89-107	3	159
174	On the interaction between a turbulent open channel flow and an axial-flow turbine. <i>Journal of Fluid Mechanics</i> , <b>2013</b> , 716, 658-670	3.7	154
173	Characterization of hemodynamic forces induced by mechanical heart valves: Reynolds vs. viscous stresses. <i>Annals of Biomedical Engineering</i> , <b>2008</b> , 36, 276-97	4.7	142
172	Experimental and computational investigation of local scour around bridge piers. <i>Advances in Water Resources</i> , <b>2012</b> , 37, 73-85	4.7	141
171	On the onset of wake meandering for an axial flow turbine in a turbulent open channel flow. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 744, 376-403	3.7	140
170	A general reconstruction algorithm for simulating flows with complex 3D immersed boundaries on Cartesian grids. <i>Journal of Computational Physics</i> , <b>2003</b> , 191, 660-669	4.1	132
169	Flow in prosthetic heart valves: state-of-the-art and future directions. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 1689-94	4.7	129
168	High-resolution numerical simulation of turbulence in natural waterways. <i>Advances in Water Resources</i> , <b>2011</b> , 34, 98-113	4.7	110
167	Numerical simulation of 3D flow past a real-life marine hydrokinetic turbine. <i>Advances in Water Resources</i> , <b>2012</b> , 39, 33-43	4.7	103
166	Reynolds number dependence of turbulence statistics in the wake of wind turbines. <i>Wind Energy</i> , <b>2012</b> , 15, 733-742	3.4	103

165	An overset-grid method for 3D unsteady incompressible flows. <i>Journal of Computational Physics</i> , <b>2003</b> , 191, 567-600	4.1	101
164	Toward patient-specific simulations of cardiac valves: state-of-the-art and future directions. <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 217-28	2.9	100
163	Physics-driven CFD modeling of complex anatomical cardiovascular flows-a TCPC case study. <i>Annals of Biomedical Engineering</i> , <b>2005</b> , 33, 284-300	4.7	97
162	A review of state-of-the-art numerical methods for simulating flow through mechanical heart valves. <i>Medical and Biological Engineering and Computing</i> , <b>2009</b> , 47, 245-56	3.1	92
161	Computational study and modeling of turbine spacing effects in infinite aligned wind farms. <i>Physics of Fluids</i> , <b>2012</b> , 24, 115107	4.4	89
160	Curvilinear immersed boundary method for simulating coupled flow and bed morphodynamic interactions due to sediment transport phenomena. <i>Advances in Water Resources</i> , <b>2011</b> , 34, 829-843	4.7	87
159	High-resolution fluid-structure interaction simulations of flow through a bi-leaflet mechanical heart valve in an anatomic aorta. <i>Annals of Biomedical Engineering</i> , <b>2010</b> , 38, 326-44	4.7	83
158	A numerical approach for simulating fluid structure interaction of flexible thin shells undergoing arbitrarily large deformations in complex domains. <i>Journal of Computational Physics</i> , <b>2015</b> , 300, 814-843 <sup>4.1</sup>	4.1	81
157	Fluid Mechanics of Heart Valves and Their Replacements. <i>Annual Review of Fluid Mechanics</i> , <b>2016</b> , 48, 259-283	2.2	79
156	Numerical simulation of sand waves in a turbulent open channel flow. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 753, 150-216	3.7	77
155	Level set immersed boundary method for coupled simulation of air/water interaction with complex floating structures. <i>Journal of Computational Physics</i> , <b>2014</b> , 277, 201-227	4.1	76
154	Turbulent Flow Properties Around a Staggered Wind Farm. <i>Boundary-Layer Meteorology</i> , <b>2011</b> , 141, 349-367	3.7	76
153	Natural snowfall reveals large-scale flow structures in the wake of a 2.5-MW wind turbine. <i>Nature Communications</i> , <b>2014</b> , 5, 4216	17.4	75
152	The three-dimensional structure of confined swirling flows with vortex breakdown. <i>Journal of Fluid Mechanics</i> , <b>2001</b> , 426, 155-175	3.7	75
151	Hydrodynamics of the bluegill sunfish C-start escape response: three-dimensional simulations and comparison with experimental data. <i>Journal of Experimental Biology</i> , <b>2012</b> , 215, 671-84	3	74
150	Longitudinal curvature effects in turbulent boundary layers. <i>Progress in Aerospace Sciences</i> , <b>1997</b> , 33, 1-70	8.8	74
149	Disentangling the functional roles of morphology and motion in the swimming of fish. <i>Integrative and Comparative Biology</i> , <b>2010</b> , 50, 1140-54	2.8	73
148	Estimation of Power Spectra of Acoustic-Doppler Velocimetry Data Contaminated with Intermittent Spikes. <i>Journal of Hydraulic Engineering</i> , <b>2010</b> , 136, 368-378	1.8	71

147	Large-eddy simulation of turbulent flow past wind turbines/farms: the Virtual Wind Simulator (VWiS). <i>Wind Energy</i> , <b>2015</b> , 18, 2025-2045	3.4	70
146	Correction of pulmonary arteriovenous malformation using image-based surgical planning. <i>JACC: Cardiovascular Imaging</i> , <b>2009</b> , 2, 1024-30	8.4	70
145	The discrete continuity equation in primitive variable solutions of incompressible flow. <i>Journal of Computational Physics</i> , <b>1991</b> , 95, 212-227	4.1	70
144	Fluid-structure interaction of an aortic heart valve prosthesis driven by an animated anatomic left ventricle. <i>Journal of Computational Physics</i> , <b>2013</b> , 244, 41-62	4.1	68
143	Lagrangian model of bed-load transport in turbulent junction flows. <i>Journal of Fluid Mechanics</i> , <b>2011</b> , 666, 36-76	3.7	66
142	River Training and Ecological Enhancement Potential Using In-Stream Structures. <i>Journal of Hydraulic Engineering</i> , <b>2010</b> , 136, 967-980	1.8	65
141	Chaotic advection in three-dimensional stationary vortex-breakdown bubbles: Il'nikov's chaos and the devil's staircase. <i>Journal of Fluid Mechanics</i> , <b>2001</b> , 444, 257-297	3.7	65
140	Flow phenomena and mechanisms in a field-scale experimental meandering channel with a pool-riffle sequence: Insights gained via numerical simulation. <i>Journal of Geophysical Research</i> , <b>2011</b> , 116,		61
139	Numerical simulation of flow in mechanical heart valves: grid resolution and the assumption of flow symmetry. <i>Journal of Biomechanical Engineering</i> , <b>2003</b> , 125, 709-18	2.1	61
138	Reynolds Number Effects on the Coherent Dynamics of the Turbulent Horseshoe Vortex System. <i>Flow, Turbulence and Combustion</i> , <b>2011</b> , 86, 231-262	2.5	60
137	Computational and experimental investigation of scour past laboratory models of stream restoration rock structures. <i>Advances in Water Resources</i> , <b>2013</b> , 54, 191-207	4.7	57
136	Turbulence effects on a full-scale 2.5 MW horizontal-axis wind turbine under neutrally stratified conditions. <i>Wind Energy</i> , <b>2015</b> , 18, 339-349	3.4	55
135	Numerical Simulation of Swirling Flow in Complex Hydroturbine Draft Tube Using Unsteady Statistical Turbulence Models. <i>Journal of Hydraulic Engineering</i> , <b>2005</b> , 131, 441-456	1.8	55
134	On the statistics of wind turbine wake meandering: An experimental investigation. <i>Physics of Fluids</i> , <b>2015</b> , 27, 075103	4.4	54
133	Numerical modeling of 3D turbulent free surface flow in natural waterways. <i>Advances in Water Resources</i> , <b>2012</b> , 40, 23-36	4.7	54
132	Drag reduction of large wind turbine blades through riblets: Evaluation of riblet geometry and application strategies. <i>Renewable Energy</i> , <b>2013</b> , 50, 1095-1105	8.1	54
131	Initial stages of erosion and bed form development in a turbulent flow around a cylindrical pier. <i>Journal of Geophysical Research</i> , <b>2011</b> , 116,		53
130	Coherent Structures in Flat-Bed Abutment Flow: Computational Fluid Dynamics Simulations and Experiments. <i>Journal of Hydraulic Engineering</i> , <b>2003</b> , 129, 177-186	1.8	52

129	On the three-dimensional vortical structure of early diastolic flow in a patient-specific left ventricle. <i>European Journal of Mechanics, B/Fluids</i> , <b>2012</b> , 35, 20-24	2.4	51
128	A new class of actuator surface models for wind turbines. <i>Wind Energy</i> , <b>2018</b> , 21, 285-302	3.4	50
127	On the evolution of turbulent scales in the wake of a wind turbine model. <i>Journal of Turbulence</i> , <b>2012</b> , 13, N27	2.1	49
126	Coherent structure dynamics upstream of a long rectangular block at the side of a large aspect ratio channel. <i>Physics of Fluids</i> , <b>2005</b> , 17, 115104	4.4	49
125	Large-eddy simulation of a utility-scale wind farm in complex terrain. <i>Applied Energy</i> , <b>2018</b> , 229, 767-777	10.7	48
124	Flow simulations in arbitrarily complex cardiovascular anatomies [An unstructured Cartesian grid approach. <i>Computers and Fluids</i> , <b>2009</b> , 38, 1749-1762	2.8	48
123	Effects of a three-dimensional hill on the wake characteristics of a model wind turbine. <i>Physics of Fluids</i> , <b>2015</b> , 27, 025103	4.4	47
122	A parallel overset-curvilinear-immersed boundary framework for simulating complex 3D incompressible flows. <i>Computers and Fluids</i> , <b>2013</b> , 77, 76-96	2.8	46
121	Detached eddy simulation of flow around two wall-mounted cubes in tandem. <i>International Journal of Heat and Fluid Flow</i> , <b>2009</b> , 30, 286-305	2.4	46
120	Wake meandering statistics of a model wind turbine: Insights gained by large eddy simulations. <i>Physical Review Fluids</i> , <b>2016</b> , 1,	2.8	43
119	A numerical investigation of blood damage in the hinge area of aortic bileaflet mechanical heart valves during the leakage phase. <i>Annals of Biomedical Engineering</i> , <b>2012</b> , 40, 1468-85	4.7	42
118	Pulsatile flow effects on the hemodynamics of intracranial aneurysms. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 111009	2.1	39
117	Numerical investigation of laminar flows through 90-degree diversions of rectangular cross-section. <i>Computers and Fluids</i> , <b>1996</b> , 25, 95-118	2.8	39
116	Wake characteristics of a TriFrame of axial-flow hydrokinetic turbines. <i>Renewable Energy</i> , <b>2017</b> , 109, 332-345	8.1	38
115	Three-dimensional flow visualization in the wake of a miniature axial-flow hydrokinetic turbine. <i>Experiments in Fluids</i> , <b>2013</b> , 54, 1	2.5	38
114	Individualized computer-based surgical planning to address pulmonary arteriovenous malformations in patients with a single ventricle with an interrupted inferior vena cava and azygous continuation. <i>Journal of Thoracic and Cardiovascular Surgery</i> , <b>2011</b> , 141, 1170-7	1.5	38
113	3D Unsteady RANS Modeling of Complex Hydraulic Engineering Flows. II: Model Validation and Flow Physics. <i>Journal of Hydraulic Engineering</i> , <b>2005</b> , 131, 809-820	1.8	38
112	On the genesis and evolution of barchan dunes: morphodynamics. <i>Journal of Fluid Mechanics</i> , <b>2017</b> , 815, 117-148	3.7	37

111	On the structure of vortex rings from inclined nozzles. <i>Journal of Fluid Mechanics</i> , <b>2011</b> , 686, 451-483	3-7	37
110	Simulation of the three-dimensional hinge flow fields of a bileaflet mechanical heart valve under aortic conditions. <i>Annals of Biomedical Engineering</i> , <b>2010</b> , 38, 841-53	4-7	37
109	3D Unsteady RANS Modeling of Complex Hydraulic Engineering Flows. I: Numerical Model. <i>Journal of Hydraulic Engineering</i> , <b>2005</b> , 131, 800-808	1.8	37
108	Turbulence anisotropy and near-wall modeling in predicting three-dimensional shear-flows. <i>AIAA Journal</i> , <b>1995</b> , 33, 504-514	2.1	37
107	Assessing the predictive capabilities of isotropic, eddy viscosity Reynolds-averaged turbulence models in a natural-like meandering channel. <i>Water Resources Research</i> , <b>2012</b> , 48,	5-4	36
106	Numerical simulation of large dunes in meandering streams and rivers with in-stream rock structures. <i>Advances in Water Resources</i> , <b>2015</b> , 81, 45-61	4-7	34
105	Similarity of wake meandering for different wind turbine designs for different scales. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 842, 5-25	3-7	34
104	Vortex-induced vibrations of an elastically mounted sphere with three degrees of freedom at $Re = 300$ : hysteresis and vortex shedding modes. <i>Journal of Fluid Mechanics</i> , <b>2011</b> , 686, 426-450	3-7	34
103	Coherent Structure Dynamics in Turbulent Flows Past In-Stream Structures: Some Insights Gained via Numerical Simulation. <i>Journal of Hydraulic Engineering</i> , <b>2010</b> , 136, 981-993	1.8	34
102	Direct numerical simulation of sharkskin denticles in turbulent channel flow. <i>Physics of Fluids</i> , <b>2016</b> , 28, 035106	4.4	34
101	A primitive variable method for the solution of three-dimensional incompressible viscous flows. <i>Journal of Computational Physics</i> , <b>1992</b> , 103, 336-349	4.1	33
100	Vortex phenomena in sidewall aneurysm hemodynamics: experiment and numerical simulation. <i>Annals of Biomedical Engineering</i> , <b>2013</b> , 41, 2157-70	4-7	32
99	Experiments on Lagrangian transport in steady vortex-breakdown bubbles in a confined swirling flow. <i>Journal of Fluid Mechanics</i> , <b>2002</b> , 466, 215-248	3-7	32
98	Unstructured Cartesian refinement with sharp interface immersed boundary method for 3D unsteady incompressible flows. <i>Journal of Computational Physics</i> , <b>2016</b> , 325, 272-300	4.1	32
97	Transition from bubble-type vortex breakdown to columnar vortex in a confined swirling flow. <i>International Journal of Heat and Fluid Flow</i> , <b>1998</b> , 19, 446-458	2.4	31
96	Strongly-Coupled Multigrid Method for 3-D Incompressible Flows Using Near-Wall Turbulence Closures. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , <b>1997</b> , 119, 314-324	2.1	30
95	Effects of energetic coherent motions on the power and wake of an axial-flow turbine. <i>Physics of Fluids</i> , <b>2015</b> , 27, 055104	4.4	28
94	Simulation-Based Approach for Stream Restoration Structure Design: Model Development and Validation. <i>Journal of Hydraulic Engineering</i> , <b>2014</b> , 140, 04014042	1.8	28

93	Numerical simulation of strongly swirling turbulent flows through an abrupt expansion. <i>International Journal of Heat and Fluid Flow</i> , <b>2010</b> , 31, 390-400	2.4	28
92	Three-dimensional numerical model for open-channels with free-surface variations. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , <b>2000</b> , 38, 115-121	1.9	28
91	A Second-Order Godunov Method for Wave Problems in Coupled Solid-Water-Gas Systems. <i>Journal of Computational Physics</i> , <b>1999</b> , 151, 790-815	4.1	28
90	Large eddy simulation of turbulence and solute transport in a forested headwater stream. <i>Journal of Geophysical Research F: Earth Surface</i> , <b>2016</b> , 121, 146-167	3.8	28
89	Coherent dynamics in the rotor tip shear layer of utility-scale wind turbines. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 804, 90-115	3.7	28
88	Effect of wind turbine nacelle on turbine wake dynamics in large wind farms. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 869, 1-26	3.7	26
87	Performance and resilience of hydrokinetic turbine arrays under large migrating fluvial bedforms. <i>Nature Energy</i> , <b>2018</b> , 3, 839-846	62.3	26
86	Comparative hemodynamics in an aorta with bicuspid and trileaflet valves. <i>Theoretical and Computational Fluid Dynamics</i> , <b>2016</b> , 30, 67-85	2.3	25
85	Toward the simulation of complex 3D shear flows using unsteady statistical turbulence models. <i>International Journal of Heat and Fluid Flow</i> , <b>2004</b> , 25, 513-527	2.4	25
84	Prediction of turbulent flow through a transition duct using second-moment closure. <i>AIAA Journal</i> , <b>1994</b> , 32, 2194-2204	2.1	25
83	Large-eddy simulation of a hydrokinetic turbine mounted on an erodible bed. <i>Renewable Energy</i> , <b>2017</b> , 113, 1419-1433	8.1	24
82	Wake meandering of a model wind turbine operating in two different regimes. <i>Physical Review Fluids</i> , <b>2018</b> , 3,	2.8	24
81	Fluid dynamics simulations show that facial masks can suppress the spread of COVID-19 in indoor environments. <i>AIP Advances</i> , <b>2020</b> , 10, 125109	1.5	24
80	Fluid-structure interaction simulation of floating structures interacting with complex, large-scale ocean waves and atmospheric turbulence with application to floating offshore wind turbines. <i>Journal of Computational Physics</i> , <b>2018</b> , 355, 144-175	4.1	24
79	On the role of copepod antennae in the production of hydrodynamic force during hopping. <i>Journal of Experimental Biology</i> , <b>2010</b> , 213, 3019-35	3	23
78	High-fidelity numerical modeling of the Upper Mississippi River under extreme flood condition. <i>Advances in Water Resources</i> , <b>2016</b> , 98, 97-113	4.7	22
77	A novel bioreactor for mechanobiological studies of engineered heart valve tissue formation under pulmonary arterial physiological flow conditions. <i>Journal of Biomechanical Engineering</i> , <b>2014</b> , 136, 121009 <sup>1</sup>	2.1	22
76	Riblet drag reduction in mild adverse pressure gradients: A numerical investigation. <i>International Journal of Heat and Fluid Flow</i> , <b>2015</b> , 56, 251-260	2.4	21

75	Three-Dimensional Unsteady RANS Modeling of Discontinuous Gravity Currents in Rectangular Domains. <i>Journal of Hydraulic Engineering</i> , <b>2009</b> , 135, 505-521	1.8	21
74	Application of Reynolds-Stress Transport Models to Stern and Wake Flows. <i>Journal of Ship Research</i> , <b>1995</b> , 39, 263-283	0.9	21
73	Numerical investigation of the performance of three hinge designs of bileaflet mechanical heart valves. <i>Annals of Biomedical Engineering</i> , <b>2010</b> , 38, 3295-310	4.7	20
72	Fractional step artificial compressibility schemes for the unsteady incompressible Navier-Stokes equations. <i>Computers and Fluids</i> , <b>2007</b> , 36, 974-986	2.8	20
71	Variable-sized wind turbines are a possibility for wind farm optimization. <i>Wind Energy</i> , <b>2014</b> , 17, 1483-1494	3.4	19
70	Effect of flow pulsatility on modeling the hemodynamics in the total cavopulmonary connection. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 2376-81	2.9	19
69	Vortex-induced vibrations of an elastically mounted sphere: The effects of Reynolds number and reduced velocity. <i>Journal of Fluids and Structures</i> , <b>2016</b> , 66, 54-68	3.1	19
68	Experimental visualization of Lagrangian coherent structures in aperiodic flows. <i>Physics of Fluids</i> , <b>2003</b> , 15, L25-L28	4.4	18
67	Water exit dynamics of jumping archer fish: Integrating two-phase flow large-eddy simulation with experimental measurements. <i>Physics of Fluids</i> , <b>2020</b> , 32, 011904	4.4	18
66	On the turbulent flow structure around an in-stream structure with realistic geometry. <i>Water Resources Research</i> , <b>2016</b> , 52, 7869-7891	5.4	17
65	Vortex formation and instability in the left ventricle. <i>Physics of Fluids</i> , <b>2012</b> , 24, 91110	4.4	17
64	CFD study of aquatic thrust generation by an octopus-like arm under intense prescribed deformations. <i>Computers and Fluids</i> , <b>2015</b> , 115, 54-65	2.8	16
63	Large-Eddy Simulation of Three-Dimensional Turbulent Free Surface Flow Past a Complex Stream Restoration Structure. <i>Journal of Hydraulic Engineering</i> , <b>2015</b> , 141, 04015022	1.8	16
62	Analytical model for predicting the performance of arbitrary size and layout wind farms. <i>Wind Energy</i> , <b>2016</b> , 19, 1239-1248	3.4	16
61	Experimentally Validated Hemodynamics Simulations of Mechanical Heart Valves in Three Dimensions. <i>Cardiovascular Engineering and Technology</i> , <b>2012</b> , 3, 88-100	2.2	16
60	Pressure-Based Residual Smoothing Operators for Multistage Pseudocompressibility Algorithms. <i>Journal of Computational Physics</i> , <b>1997</b> , 133, 129-145	4.1	15
59	Wake characteristics of a utility-scale wind turbine under coherent inflow structures and different operating conditions. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	15
58	Simulation-based optimization of in-stream structures design: rock vanes. <i>Environmental Fluid Mechanics</i> , <b>2018</b> , 18, 695-738	2.2	14



57	Flow-Structure Interaction Simulations of the Aortic Heart Valve at Physiologic Conditions: The Role of Tissue Constitutive Model. <i>Journal of Biomechanical Engineering</i> , <b>2018</b> , 140,	2.1	14
56	Nonlinear rotation-free three-node shell finite element formulation. <i>International Journal for Numerical Methods in Engineering</i> , <b>2013</b> , 95, 740-770	2.4	14
55	A computational study of expiratory particle transport and vortex dynamics during breathing with and without face masks. <i>Physics of Fluids</i> , <b>2021</b> , 33, 066605	4.4	14
54	Large-eddy simulation of the Mississippi River under base-flow condition: hydrodynamics of a natural difffluence-confluence region. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , <b>2019</b> , 57, 836-851	1.9	14
53	Numerical and experimental investigation of pulsatile hemodynamics in the total cavopulmonary connection. <i>Journal of Biomechanics</i> , <b>2013</b> , 46, 373-82	2.9	13
52	Hydraulics in the era of exponentially growing computing power. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , <b>2015</b> , 53, 547-560	1.9	13
51	Computational Fluid Dynamics for Medical Device Design and Evaluation: Are We There Yet?. <i>Cardiovascular Engineering and Technology</i> , <b>2012</b> , 3, 137-138	2.2	13
50	A computational comparison of two incompressible Navier-Stokes solvers in three-dimensional laminar flows. <i>Computers and Fluids</i> , <b>1994</b> , 23, 627-646	2.8	13
49	Coupled fully implicit solution procedure for the steady incompressible Navier-Stokes equations. <i>Journal of Computational Physics</i> , <b>1990</b> , 87, 328-348	4.1	13
48	A Review on the Meandering of Wind Turbine Wakes. <i>Energies</i> , <b>2019</b> , 12, 4725	3.1	12
47	On the genesis and evolution of barchan dunes: Hydrodynamics. <i>Physics of Fluids</i> , <b>2020</b> , 32, 086602	4.4	11
46	Simulation-based optimization of in-stream structures design: bendway weirs. <i>Environmental Fluid Mechanics</i> , <b>2017</b> , 17, 79-109	2.2	10
45	Non-linear rotation-free shell finite-element models for aortic heart valves. <i>Journal of Biomechanics</i> , <b>2017</b> , 50, 56-62	2.9	10
44	Numerical study of flow dynamics around a stream restoration structure in a meandering channel. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , <b>2015</b> , 53, 178-185	1.9	10
43	Multiresolution Large-Eddy Simulation of an Array of Hydrokinetic Turbines in a Field-Scale River: The Roosevelt Island Tidal Energy Project in New York City. <i>Water Resources Research</i> , <b>2018</b> , 54, 10,188	5.4	10
42	On the use of spires for generating inflow conditions with energetic coherent structures in large eddy simulation. <i>Journal of Turbulence</i> , <b>2017</b> , 18, 611-633	2.1	9
41	On the dispersion of contaminants released far upwind of a cubical building for different turbulent inflows. <i>Building and Environment</i> , <b>2019</b> , 154, 324-335	6.5	9
40	Simulation-based optimization of in-stream structures design: J-hook vanes. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , <b>2015</b> , 53, 588-608	1.9	9

39	Large eddy simulation of density current on sloping beds. <i>International Journal of Heat and Mass Transfer</i> , <b>2018</b> , 120, 1374-1385	4.9	9
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