Fotis Sotiropoulos

List of Publications by Year in Descending Order

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	Numerical simulation of interaction between multiphase flows and thin flexible structures. *Journal of Computational Physics*, **2022**, 448, 110691	4.1	2
181	Computational Methods for Fluid-Structure Interaction Simulation of Heart Valves in Patient-Specific Left Heart Anatomies. *Fluids*, **2022**, 7, 94	1.6	1
180	Time-Averaged Wind Turbine Wake Flow Field Prediction Using Autoencoder Convolutional Neural Networks. *Energies*, **2022**, 15, 41	3.1	5
179	A computational study of expiratory particle transport and vortex dynamics during breathing with and without face masks. *Physics of Fluids*, **2021**, 33, 066605	4.4	14
178	Assessment of Parshall flumes for discharge measurement of open-channel flows: A comparative numerical and field case study. *Measurement: Journal of the International Measurement Confederation*, **2021**, 167, 108292	4.6	5
177	Mean flow and turbulence characteristics around single-arm instream structures. *Journal of Hydraulic Research/De Recherches Hydrauliques*, **2021**, 59, 404-419	1.9	1
176	High-fidelity simulations and field measurements for characterizing wind fields in a utility-scale wind farm. *Applied Energy*, **2021**, 281, 116115	10.7	9
175	A quasi-coupled wind wave experimental framework for testing offshore wind turbine floating systems. *Theoretical and Applied Mechanics Letters*, **2021**, 11, 100294	1.8	1
174	Performance and Wake Characterization of a Model Hydrokinetic Turbine: The Reference Model 1 (RM1) Dual Rotor Tidal Energy Converter. *Energies*, **2020**, 13, 5145	3.1	1
173	A short note on the simulation of turbulent stratified flow and mobile bed interaction using the continuum coupled flow and morphodynamics model. *Environmental Fluid Mechanics*, **2020**, 20, 1511-1525	2.2	5
172	Wake Statistics of Different-Scale Wind Turbines under Turbulent Boundary Layer Inflow. *Energies*, **2020**, 13, 3004	3.1	0
171	A thin-walled composite beam model for light-weighted structures interacting with fluids. *Journal of Fluids and Structures*, **2020**, 95, 102968	3.1	4
170	Mean Flow and Turbulence Characteristics around Multiple-Arm Instream Structures and Comparison with Single-Arm Structures. *Journal of Hydraulic Engineering*, **2020**, 146, 04020030	1.8	5
169	Coupling the Curvilinear Immersed Boundary Method with Rotation-Free Finite Elements for Simulating Fluid–Structure Interaction: Concepts and Applications. *Computational Methods in Engineering & the Sciences*, **2020**, 107-138	0.3	
168	Water exit dynamics of jumping archer fish: Integrating two-phase flow large-eddy simulation with experimental measurements. *Physics of Fluids*, **2020**, 32, 011904	4.4	18
167	Fluid dynamics simulations show that facial masks can suppress the spread of COVID-19 in indoor environments. *AIP Advances*, **2020**, 10, 125109	1.5	24
166	On the genesis and evolution of barchan dunes: Hydrodynamics. *Physics of Fluids*, **2020**, 32, 086602	4.4	11

165	Scour depth prediction at the base of longitudinal walls: a combined experimental, numerical, and field study. *Environmental Fluid Mechanics*, **2020**, 20, 459-478	2.2	5
164	Eulerian-Eulerian large eddy simulation of two-phase dilute bubbly flows. *Chemical Engineering Science*, **2019**, 208, 115156	4.4	3
163	Effect of wind turbine nacelle on turbine wake dynamics in large wind farms. *Journal of Fluid Mechanics*, **2019**, 869, 1-26	3.7	26
162	Hydraulic Engineering in the Era of Big Data and Extreme Computing: Can Computers Simulate River Turbulence?. *Journal of Hydraulic Engineering*, **2019**, 145, 02519002	1.8	3
161	On the dispersion of contaminants released far upwind of a cubical building for different turbulent inflows. *Building and Environment*, **2019**, 154, 324-335	6.5	9
160	Image-Guided Fluid-Structure Interaction Simulation of Transvalvular Hemodynamics: Quantifying the Effects of Varying Aortic Valve Leaflet Thickness. *Fluids*, **2019**, 4, 119	1.6	9
159	Wake characteristics of a utility-scale wind turbine under coherent inflow structures and different operating conditions. *Physical Review Fluids*, **2019**, 4,	2.8	15
158	Moving least squares reconstruction for sharp interface immersed boundary methods. *International Journal for Numerical Methods in Fluids*, **2019**, 90, 57-80	1.9	6
157	A Review on the Meandering of Wind Turbine Wakes. *Energies*, **2019**, 12, 4725	3.1	12
156	High Resolution Simulation of Diastolic Left Ventricular Hemodynamics Guided by Four-Dimensional Flow Magnetic Resonance Imaging Data. *Flow, Turbulence and Combustion*, **2019**, 102, 3-26	2.5	8
155	Measurement-Based Numerical Study of the Effects of Realistic Land Topography and Stratification on the Coastal Marine Atmospheric Surface Layer. *Boundary-Layer Meteorology*, **2019**, 171, 289-314	3.4	7
154	Large-eddy simulation of the Mississippi River under base-flow condition: hydrodynamics of a natural diffluence-confluence region. *Journal of Hydraulic Research/De Recherches Hydrauliques*, **2019**, 57, 836-851	1.9	14
153	Similarity of wake meandering for different wind turbine designs for different scales. *Journal of Fluid Mechanics*, **2018**, 842, 5-25	3.7	34
152	Simulation-based optimization of in-stream structures design: rock vanes. *Environmental Fluid Mechanics*, **2018**, 18, 695-738	2.2	14
151	A new class of actuator surface models for wind turbines. *Wind Energy*, **2018**, 21, 285-302	3.4	50
150	Large eddy simulation of density current on sloping beds. *International Journal of Heat and Mass Transfer*, **2018**, 120, 1374-1385	4.9	9
149	Flow-Structure Interaction Simulations of the Aortic Heart Valve at Physiologic Conditions: The Role of Tissue Constitutive Model. *Journal of Biomechanical Engineering*, **2018**, 140,	2.1	14
148	Reply to Comment by Sookhak Lari, K. and Davis, G. B. on "Large Eddy Simulation of Turbulence and Solute Transport in a Forested Headwater Stream: Invalid Representation of Scalar Transport by the Act of Diffusion" *Journal of Geophysical Research F: Earth Surface*, **2018**, 123, 1610-1612	3.8	2

147	Performance and resilience of hydrokinetic turbine arrays under large migrating fluvial bedforms. *Nature Energy*, **2018**, 3, 839-846	62.3	26
146	Large-eddy simulation of a utility-scale wind farm in complex terrain. *Applied Energy*, **2018**, 229, 767-777	10.7	48
145	Wake meandering of a model wind turbine operating in two different regimes. *Physical Review Fluids*, **2018**, 3,	2.8	24
144	Fluid–structure interaction simulation of floating structures interacting with complex, large-scale ocean waves and atmospheric turbulence with application to floating offshore wind turbines. *Journal of Computational Physics*, **2018**, 355, 144-175	4.1	24
143	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. *Water Resources Research*, **2018**, 54, 10,188	5.4	10
142	Numerical Study on the Effect of Air–Sea–Land Interaction on the Atmospheric Boundary Layer in Coastal Area. *Atmosphere*, **2018**, 9, 51	2.7	6
141	Simulation-based optimization of in-stream structures design: bendway weirs. *Environmental Fluid Mechanics*, **2017**, 17, 79-109	2.2	10
140	On the genesis and evolution of barchan dunes: morphodynamics. *Journal of Fluid Mechanics*, **2017**, 815, 117-148	3.7	37
139	On the use of spires for generating inflow conditions with energetic coherent structures in large eddy simulation. *Journal of Turbulence*, **2017**, 18, 611-633	2.1	9
138	Experimental and computational study of a high-Reynolds jet flow. *Canadian Journal of Civil Engineering*, **2017**, 44, 569-578	1.3	3
137	Wake characteristics of a TriFrame of axial-flow hydrokinetic turbines. *Renewable Energy*, **2017**, 109, 332-345	8.1	38
136	Uncertainty quantification of infinite aligned wind farm performance using non-intrusive polynomial chaos and a distributed roughness model. *Wind Energy*, **2017**, 20, 945-958	3.4	8
135	Large-eddy simulation of a hydrokinetic turbine mounted on an erodible bed. *Renewable Energy*, **2017**, 113, 1419-1433	8.1	24
134	Non-linear rotation-free shell finite-element models for aortic heart valves. *Journal of Biomechanics* , **2017**, 50, 56-62	2.9	10
133	Fluid Mechanics of Heart Valves and Their Replacements. *Annual Review of Fluid Mechanics*, **2016**, 48, 259-283	22	79
132	Hydrodynamics and sediment transport in a meandering channel with a model axial-flow hydrokinetic turbine. *Water Resources Research*, **2016**, 52, 860-879	5.4	9
131	On the turbulent flow structure around an instream structure with realistic geometry. *Water Resources Research*, **2016**, 52, 7869-7891	5.4	17
130	High-fidelity numerical modeling of the Upper Mississippi River under extreme flood condition. *Advances in Water Resources*, **2016**, 98, 97-113	4.7	22

129	Analytical model for predicting the performance of arbitrary size and layout wind farms. *Wind Energy*, **2016**, 19, 1239-1248	3.4	16
128	Comparative hemodynamics in an aorta with bicuspid and trileaflet valves. *Theoretical and Computational Fluid Dynamics*, **2016**, 30, 67-85	2.3	25
127	Wake meandering statistics of a model wind turbine: Insights gained by large eddy simulations. *Physical Review Fluids*, **2016**, 1,	2.8	43
126	Large eddy simulation of turbulence and solute transport in a forested headwater stream. *Journal of Geophysical Research F: Earth Surface*, **2016**, 121, 146-167	3.8	28
125	Direct numerical simulation of sharkskin denticles in turbulent channel flow. *Physics of Fluids*, **2016**, 28, 035106	4.4	34
124	Coherent dynamics in the rotor tip shear layer of utility-scale wind turbines. *Journal of Fluid Mechanics*, **2016**, 804, 90-115	3.7	28
123	Unstructured Cartesian refinement with sharp interface immersed boundary method for 3D unsteady incompressible flows. *Journal of Computational Physics*, **2016**, 325, 272-300	4.1	32
122	Vortex-induced vibrations of an elastically mounted sphere: The effects of Reynolds number and reduced velocity. *Journal of Fluids and Structures*, **2016**, 66, 54-68	3.1	19
121	Comments on Defining the Contribution of Diastolic Vortex Ring to Left Ventricular Filling. *Journal of the American College of Cardiology*, **2015**, 65, 2573-4	15.1	0
120	Effects of energetic coherent motions on the power and wake of an axial-flow turbine. *Physics of Fluids*, **2015**, 27, 055104	4.4	28
119	Effects of a three-dimensional hill on the wake characteristics of a model wind turbine. *Physics of Fluids*, **2015**, 27, 025103	4.4	47
118	CFD study of aquatic thrust generation by an octopus-like arm under intense prescribed deformations. *Computers and Fluids*, **2015**, 115, 54-65	2.8	16
117	Simulation-based optimization of in-stream structures design: J-hook vanes. *Journal of Hydraulic Research/De Recherches Hydrauliques*, **2015**, 53, 588-608	1.9	9
116	Riblet drag reduction in mild adverse pressure gradients: A numerical investigation. *International Journal of Heat and Fluid Flow*, **2015**, 56, 251-260	2.4	21
115	Large-Eddy Simulation of Three-Dimensional Turbulent Free Surface Flow Past a Complex Stream Restoration Structure. *Journal of Hydraulic Engineering*, **2015**, 141, 04015022	1.8	16
114	A numerical approach for simulating fluid structure interaction of flexible thin shells undergoing arbitrarily large deformations in complex domains. *Journal of Computational Physics*, **2015**, 300, 814-843	4.1	81
113	Turbulence effects on a full-scale 2.5 MW horizontal-axis wind turbine under neutrally stratified conditions. *Wind Energy*, **2015**, 18, 339-349	3.4	55
112	Large-eddy simulation of turbulent flow past wind turbines/farms: the Virtual Wind Simulator (VWiS). *Wind Energy*, **2015**, 18, 2025-2045	3.4	70

111	Numerical simulation of large dunes in meandering streams and rivers with in-stream rock structures. *Advances in Water Resources*, **2015**, 81, 45-61	4.7	34
110	On the statistics of wind turbine wake meandering: An experimental investigation. *Physics of Fluids*, **2015**, 27, 075103	4.4	54
109	Numerical study of flow dynamics around a stream restoration structure in a meandering channel. *Journal of Hydraulic Research/De Recherches Hydrauliques*, **2015**, 53, 178-185	1.9	10
108	Hydraulics in the era of exponentially growing computing power. *Journal of Hydraulic Research/De Recherches Hydrauliques*, **2015**, 53, 547-560	1.9	13
107	Prediction of Glossosoma biomass spatial distribution in Valley Creek by field measurements and a three-dimensional turbulent open-channel flow model. *Water Resources Research*, **2015**, 51, 1457-1471	5.4	9
106	Immersed boundary methods for simulating fluid–structure interaction. *Progress in Aerospace Sciences*, **2014**, 65, 1-21	8.8	235
105	Simulation-Based Approach for Stream Restoration Structure Design: Model Development and Validation. *Journal of Hydraulic Engineering*, **2014**, 140, 04014042	1.8	28
104	Level set immersed boundary method for coupled simulation of air/water interaction with complex floating structures. *Journal of Computational Physics*, **2014**, 277, 201-227	4.1	76
103	Natural snowfall reveals large-scale flow structures in the wake of a 2.5-MW wind turbine. *Nature Communications*, **2014**, 5, 4216	17.4	75
102	Numerical simulation of sand waves in a turbulent open channel flow. *Journal of Fluid Mechanics*, **2014**, 753, 150-216	3.7	77
101	A novel bioreactor for mechanobiological studies of engineered heart valve tissue formation under pulmonary arterial physiological flow conditions. *Journal of Biomechanical Engineering*, **2014**, 136, 121009	2.1	22
100	On the onset of wake meandering for an axial flow turbine in a turbulent open channel flow. *Journal of Fluid Mechanics*, **2014**, 744, 376-403	3.7	140
99	Variable-sized wind turbines are a possibility for wind farm optimization. *Wind Energy*, **2014**, 17, 1483-1494	3.4	19
98	Design Methods for In-Stream Flow Control Structures **2014**,		7
97	Computational and experimental investigation of scour past laboratory models of stream restoration rock structures. *Advances in Water Resources*, **2013**, 54, 191-207	4.7	57
96	Fluid-structure interaction of an aortic heart valve prosthesis driven by an animated anatomic left ventricle. *Journal of Computational Physics*, **2013**, 244, 41-62	4.1	68
95	Three-dimensional flow visualization in the wake of a miniature axial-flow hydrokinetic turbine. *Experiments in Fluids*, **2013**, 54, 1	2.5	38
94	On the interaction between a turbulent open channel flow and an axial-flow turbine. *Journal of Fluid Mechanics*, **2013**, 716, 658-670	3.7	154

93	Numerical and experimental investigation of pulsatile hemodynamics in the total cavopulmonary connection. *Journal of Biomechanics*, **2013**, 46, 373-82	2.9	13
92	Toward patient-specific simulations of cardiac valves: state-of-the-art and future directions. *Journal of Biomechanics*, **2013**, 46, 217-28	2.9	100
91	A parallel overset-curvilinear-immersed boundary framework for simulating complex 3D incompressible flows. *Computers and Fluids*, **2013**, 77, 76-96	2.8	46
90	Nonlinear rotation-free three-node shell finite element formulation. *International Journal for Numerical Methods in Engineering*, **2013**, 95, 740-770	2.4	14
89	Vortex phenomena in sidewall aneurysm hemodynamics: experiment and numerical simulation. *Annals of Biomedical Engineering*, **2013**, 41, 2157-70	4.7	32
88	Drag reduction of large wind turbine blades through riblets: Evaluation of riblet geometry and application strategies. *Renewable Energy*, **2013**, 50, 1095-1105	8.1	54
87	Modeling the Role of Oscillator Flow and Dynamic Mechanical Conditioning on Dense Connective Tissue Formation in Mesenchymal Stem Cell-Derived Heart Valve Tissue Engineering. *Journal of Medical Devices, Transactions of the ASME*, **2013**, 7, 0409271-409272	1.3	1
86	High Resolution Simulation of Tri-Leaflet Aortic Heart Valve in an Idealized Aorta. *Journal of Medical Devices, Transactions of the ASME*, **2013**, 7,	1.3	4
85	DES of turbulent flow over wall-mounted obstacles using wall functions. *KSCE Journal of Civil Engineering*, **2012**, 16, 189-196	1.9	3
84	Experimentally Validated Hemodynamics Simulations of Mechanical Heart Valves in Three Dimensions. *Cardiovascular Engineering and Technology*, **2012**, 3, 88-100	2.2	16
83	On the evolution of turbulent scales in the wake of a wind turbine model. *Journal of Turbulence*, **2012**, 13, N27	2.1	49
82	On the three-dimensional vortical structure of early diastolic flow in a patient-specific left ventricle. *European Journal of Mechanics, B/Fluids*, **2012**, 35, 20-24	2.4	51
81	Experimental and computational investigation of local scour around bridge piers. *Advances in Water Resources*, **2012**, 37, 73-85	4.7	141
80	Numerical simulation of 3D flow past a real-life marine hydrokinetic turbine. *Advances in Water Resources*, **2012**, 39, 33-43	4.7	103
79	Numerical modeling of 3D turbulent free surface flow in natural waterways. *Advances in Water Resources*, **2012**, 40, 23-36	4.7	54
78	Effect of flow pulsatility on modeling the hemodynamics in the total cavopulmonary connection. *Journal of Biomechanics*, **2012**, 45, 2376-81	2.9	19
77	Assessing the predictive capabilities of isotropic, eddy viscosity Reynolds-averaged turbulence models in a natural-like meandering channel. *Water Resources Research*, **2012**, 48,	5.4	36
76	Marine-hydrokinetic energy and the environment: Observations, modeling, and basic processes. *Eos* , **2012**, 93, 111-111	1.5	5

75	Computational study and modeling of turbine spacing effects in infinite aligned wind farms. *Physics of Fluids*, **2012**, 24, 115107	4.4	89
74	Reynolds number dependence of turbulence statistics in the wake of wind turbines. *Wind Energy*, **2012**, 15, 733-742	3.4	103
73	Computational Fluid Dynamics for Medical Device Design and Evaluation: Are We There Yet?. *Cardiovascular Engineering and Technology*, **2012**, 3, 137-138	2.2	13
72	A numerical investigation of blood damage in the hinge area of aortic bileaflet mechanical heart valves during the leakage phase. *Annals of Biomedical Engineering*, **2012**, 40, 1468-85	4.7	42
71	Vortex formation and instability in the left ventricle. *Physics of Fluids*, **2012**, 24, 91110	4.4	17
70	Hydrodynamics of the bluegill sunfish C-start escape response: three-dimensional simulations and comparison with experimental data. *Journal of Experimental Biology*, **2012**, 215, 671-84	3	74
69	Initial stages of erosion and bed form development in a turbulent flow around a cylindrical pier. *Journal of Geophysical Research*, **2011**, 116,		53
68	Flow phenomena and mechanisms in a field-scale experimental meandering channel with a pool-riffle sequence: Insights gained via numerical simulation. *Journal of Geophysical Research*, **2011**, 116,		61
67	Lagrangian model of bed-load transport in turbulent junction flows. *Journal of Fluid Mechanics*, **2011**, 666, 36-76	3.7	66
66	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. *Journal of Thoracic and Cardiovascular Surgery*, **2011**, 141, 1170-7	1.5	38
65	On the structure of vortex rings from inclined nozzles. *Journal of Fluid Mechanics*, **2011**, 686, 451-483	3.7	37
64	Vortex-induced vibrations of an elastically mounted sphere with three degrees of freedom at Re = 300: hysteresis and vortex shedding modes. *Journal of Fluid Mechanics*, **2011**, 686, 426-450	3.7	34
63	Turbulent Flow Properties Around a Staggered Wind Farm. *Boundary-Layer Meteorology*, **2011**, 141, 349-367	3.4	76
62	Reynolds Number Effects on the Coherent Dynamics of the Turbulent Horseshoe Vortex System. *Flow, Turbulence and Combustion*, **2011**, 86, 231-262	2.5	60
61	High-resolution numerical simulation of turbulence in natural waterways. *Advances in Water Resources*, **2011**, 34, 98-113	4.7	110
60	Curvilinear immersed boundary method for simulating coupled flow and bed morphodynamic interactions due to sediment transport phenomena. *Advances in Water Resources*, **2011**, 34, 829-843	4.7	87
59	IDeC(k): A new velocity reconstruction algorithm on arbitrarily polygonal staggered meshes. *Journal of Computational Physics*, **2011**, 230, 6583-6604	4.1	9
58	Disentangling the functional roles of morphology and motion in the swimming of fish. *Integrative and Comparative Biology*, **2010**, 50, 1140-54	2.8	73

57	Special Issue on River Flow Hydrodynamics: Physical and Ecological Aspects. *Journal of Hydraulic Engineering*, **2010**, 136, 965-966	1.8	
56	Pulsatile flow effects on the hemodynamics of intracranial aneurysms. *Journal of Biomechanical Engineering*, **2010**, 132, 111009	2.1	39
55	River Training and Ecological Enhancement Potential Using In-Stream Structures. *Journal of Hydraulic Engineering*, **2010**, 136, 967-980	1.8	65
54	On the role of form and kinematics on the hydrodynamics of self-propelled body/caudal fin swimming. *Journal of Experimental Biology*, **2010**, 213, 89-107	3	159
53	On the role of copepod antennae in the production of hydrodynamic force during hopping. *Journal of Experimental Biology*, **2010**, 213, 3019-35	3	23
52	Coherent Structure Dynamics in Turbulent Flows Past In-Stream Structures: Some Insights Gained via Numerical Simulation. *Journal of Hydraulic Engineering*, **2010**, 136, 981-993	1.8	34
51	Estimation of Power Spectra of Acoustic-Doppler Velocimetry Data Contaminated with Intermittent Spikes. *Journal of Hydraulic Engineering*, **2010**, 136, 368-378	1.8	71
50	Numerical simulation of strongly swirling turbulent flows through an abrupt expansion. *International Journal of Heat and Fluid Flow*, **2010**, 31, 390-400	2.4	28
49	High-resolution fluid-structure interaction simulations of flow through a bi-leaflet mechanical heart valve in an anatomic aorta. *Annals of Biomedical Engineering*, **2010**, 38, 326-44	4.7	83
48	Simulation of the three-dimensional hinge flow fields of a bileaflet mechanical heart valve under aortic conditions. *Annals of Biomedical Engineering*, **2010**, 38, 841-53	4.7	37
47	Numerical investigation of the performance of three hinge designs of bileaflet mechanical heart valves. *Annals of Biomedical Engineering*, **2010**, 38, 3295-310	4.7	20
46	Numerical investigation of the hydrodynamics of anguilliform swimming in the transitional and inertial flow regimes. *Journal of Experimental Biology*, **2009**, 212, 576-92	3	164
45	Vortex-induced vibrations of two cylinders in tandem arrangement in the proximity-wake interference region. *Journal of Fluid Mechanics*, **2009**, 621, 321-364	3.7	172
44	Flow simulations in arbitrarily complex cardiovascular anatomies An unstructured Cartesian grid approach. *Computers and Fluids*, **2009**, 38, 1749-1762	2.8	48
43	A review of state-of-the-art numerical methods for simulating flow through mechanical heart valves. *Medical and Biological Engineering and Computing*, **2009**, 47, 245-56	3.1	92
42	Detached eddy simulation of flow around two wall-mounted cubes in tandem. *International Journal of Heat and Fluid Flow*, **2009**, 30, 286-305	2.4	46
41	Correction of pulmonary arteriovenous malformation using image-based surgical planning. *JACC: Cardiovascular Imaging*, **2009**, 2, 1024-30	8.4	70
40	Trapping and sedimentation of inertial particles in three-dimensional flows in a cylindrical container with exactly counter-rotating lids. *Journal of Fluid Mechanics*, **2009**, 641, 169-193	3.7	9

39	Three-Dimensional Unsteady RANS Modeling of Discontinuous Gravity Currents in Rectangular Domains. *Journal of Hydraulic Engineering*, **2009**, 135, 505-521	1.8	21
38	Numerical investigation of the hydrodynamics of carangiform swimming in the transitional and inertial flow regimes. *Journal of Experimental Biology*, **2008**, 211, 1541-58	3	262
37	Characterization of hemodynamic forces induced by mechanical heart valves: Reynolds vs. viscous stresses. *Annals of Biomedical Engineering*, **2008**, 36, 276-97	4.7	142
36	Curvilinear Immersed Boundary Method for Simulating Fluid Structure Interaction with Complex 3D Rigid Bodies. *Journal of Computational Physics*, **2008**, 227, 7587-7620	4.1	299
35	Fractional step artificial compressibility schemes for the unsteady incompressible Navier-Stokes equations. *Computers and Fluids*, **2007**, 36, 974-986	2.8	20
34	A Numerical Method for Solving the 3D Unsteady Incompressible Navier-Stokes Equations in Curvilinear Domains with Complex Immersed Boundaries. *Journal of Computational Physics*, **2007**, 225, 1782-1809	4.1	262
33	Numerical Simulation of Swirling Flow in Complex Hydroturbine Draft Tube Using Unsteady Statistical Turbulence Models. *Journal of Hydraulic Engineering*, **2005**, 131, 441-456	1.8	55
32	3D Unsteady RANS Modeling of Complex Hydraulic Engineering Flows. II: Model Validation and Flow Physics. *Journal of Hydraulic Engineering*, **2005**, 131, 809-820	1.8	38
31	Introduction to Statistical Turbulence Modelling for Hydraulic Engineering Flows **2005**, 91-120		8
30	A hybrid Cartesian/immersed boundary method for simulating flows with 3D, geometrically complex, moving bodies. *Journal of Computational Physics*, **2005**, 207, 457-492	4.1	406
29	Physics-driven CFD modeling of complex anatomical cardiovascular flows-a TCPC case study. *Annals of Biomedical Engineering*, **2005**, 33, 284-300	4.7	97
28	Flow in prosthetic heart valves: state-of-the-art and future directions. *Annals of Biomedical Engineering*, **2005**, 33, 1689-94	4.7	129
27	Coherent structure dynamics upstream of a long rectangular block at the side of a large aspect ratio channel. *Physics of Fluids*, **2005**, 17, 115104	4.4	49
26	Role of Artificial Dissipation Scaling and Multigrid Acceleration in Numerical Solutions of the Depth-Averaged Free-Surface Flow Equations. *Journal of Hydraulic Engineering*, **2005**, 131, 476-487	1.8	8
25	3D Unsteady RANS Modeling of Complex Hydraulic Engineering Flows. I: Numerical Model. *Journal of Hydraulic Engineering*, **2005**, 131, 800-808	1.8	37
24	Toward the simulation of complex 3D shear flows using unsteady statistical turbulence models. *International Journal of Heat and Fluid Flow*, **2004**, 25, 513-527	2.4	25
23	Numerical simulation of flow in mechanical heart valves: grid resolution and the assumption of flow symmetry. *Journal of Biomechanical Engineering*, **2003**, 125, 709-18	2.1	61
22	Experimental visualization of Lagrangian coherent structures in aperiodic flows. *Physics of Fluids*, **2003**, 15, L25-L28	4.4	18

21	A general reconstruction algorithm for simulating flows with complex 3D immersed boundaries on Cartesian grids. *Journal of Computational Physics*, **2003**, 191, 660-669	4.1	132
20	An overset-grid method for 3D unsteady incompressible flows. *Journal of Computational Physics*, **2003**, 191, 567-600	4.1	101
19	Coherent Structures in Flat-Bed Abutment Flow: Computational Fluid Dynamics Simulations and Experiments. *Journal of Hydraulic Engineering*, **2003**, 129, 177-186	1.8	52
18	Experiments on Lagrangian transport in steady vortex-breakdown bubbles in a confined swirling flow. *Journal of Fluid Mechanics*, **2002**, 466, 215-248	3.7	32
17	The three-dimensional structure of confined swirling flows with vortex breakdown. *Journal of Fluid Mechanics*, **2001**, 426, 155-175	3.7	75
16	Chaotic advection in three-dimensional stationary vortex-breakdown bubbles: I'nikov's chaos and the devil's staircase. *Journal of Fluid Mechanics*, **2001**, 444, 257-297	3.7	65
15	Three-dimensional numerical model for open-ehannels with free-surfaee variations. *Journal of Hydraulic Research/De Recherches Hydrauliques*, **2000**, 38, 115-121	1.9	28
14	A Second-Order Godunov Method for Wave Problems in Coupled Solid□Water□Gas Systems. *Journal of Computational Physics*, **1999**, 151, 790-815	4.1	28
13	Transition from bubble-type vortex breakdown to columnar vortex in a confined swirling flow. *International Journal of Heat and Fluid Flow*, **1998**, 19, 446-458	2.4	31
12	Review of Fundamentals of Turbulence Modeling. *AIAA Journal*, **1998**, 36, 2279-2280	2.1	1
11	Strongly-Coupled Multigrid Method for 3-D Incompressible Flows Using Near-Wall Turbulence Closures. *Journal of Fluids Engineering, Transactions of the ASME*, **1997**, 119, 314-324	2.1	30
10	Longitudinal curvature effects in turbulent boundary layers. *Progress in Aerospace Sciences*, **1997**, 33, 1-70	8.8	74
9	Pressure-Based Residual Smoothing Operators for Multistage Pseudocompressibility Algorithms. *Journal of Computational Physics*, **1997**, 133, 129-145	4.1	15
8	Numerical investigation of laminar flows through 90-degree diversions of rectangular cross-section. *Computers and Fluids*, **1996**, 25, 95-118	2.8	39
7	Turbulence anisotropy and near-wall modeling in predicting three-dimensional shear-flows. *AIAA Journal*, **1995**, 33, 504-514	2.1	37
6	Application of Reynolds-Stress Transport Models to Stern and Wake Flows. *Journal of Ship Research* , **1995**, 39, 263-283	0.9	21
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