Haecheon Choi

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

139 papers	8,943 citations	46 h-index	93 g-index
147 ext. papers	10,354 ext. citations	3.7 avg, IF	6.37 L-index

#	Paper	IF	Citations
139	An Immersed-Boundary Finite-Volume Method for Simulations of Flow in Complex Geometries. *Journal of Computational Physics*, **2001**, 171, 132-150	4.1	804
138	Control of Flow Over a Bluff Body. *Annual Review of Fluid Mechanics*, **2008**, 40, 113-139	22	591
137	Active turbulence control for drag reduction in wall-bounded flows. *Journal of Fluid Mechanics*, **1994**, 262, 75-110	3.7	491
136	Direct numerical simulation of turbulent flow over riblets. *Journal of Fluid Mechanics*, **1993**, 255, 503	3.7	459
135	Effects of the Computational Time Step on Numerical Solutions of Turbulent Flow. *Journal of Computational Physics*, **1994**, 113, 1-4	4.1	402
134	Grid-point requirements for large eddy simulation: Chapman estimates revisited. *Physics of Fluids*, **2012**, 24, 011702	4.4	293
133	Numerical solutions of flow past a circular cylinder at Reynolds numbers up to 160. *Journal of Mechanical Science and Technology*, **1998**, 12, 1200-1205		240
132	Control of laminar vortex shedding behind a circular cylinder using splitter plates. *Physics of Fluids*, **1996**, 8, 479-486	4.4	224
131	Laminar flow past a rotating circular cylinder. *Physics of Fluids*, **1999**, 11, 3312-3321	4.4	199
130	Drag reduction by polymer additives in a turbulent channel flow. *Journal of Fluid Mechanics*, **2003**, 486, 213-238	3.7	196
129	Immersed boundary method for flow around an arbitrarily moving body. *Journal of Computational Physics*, **2006**, 212, 662-680	4.1	162
128	Feedback control for unsteady flow and its application to the stochastic Burgers equation. *Journal of Fluid Mechanics*, **1993**, 253, 509	3.7	160
127	A Second-Order Time-Accurate Finite Volume Method for Unsteady Incompressible Flow on Hybrid Unstructured Grids. *Journal of Computational Physics*, **2000**, 162, 411-428	4.1	154
126	Suboptimal control of turbulent channel flow for drag reduction. *Journal of Fluid Mechanics*, **1998**, 358, 245-258	3.7	148
125	Distributed forcing of flow over a circular cylinder. *Physics of Fluids*, **2005**, 17, 033103	4.4	146
124	Direct numerical simulation of turbulent supercritical flows with heat transfer. *Physics of Fluids*, **2005**, 17, 105104	4.4	146
123	On the relation of near-wall streamwise vortices to wall skin friction in turbulent boundary layers. *Physics of Fluids A, Fluid Dynamics*, **1993**, 5, 3307-3309		140

122	On the space-time characteristics of wall-pressure fluctuations. *Physics of Fluids A, Fluid Dynamics*, **1990**, 2, 1450-1460		132
121	Very Large-Scale Structures and Their Effects on the Wall Shear-Stress Fluctuations in a Turbulent Channel Flow up to Re□640. *Journal of Fluids Engineering, Transactions of the ASME*, **2004**, 126, 835-843	2.1	121
120	An immersed-boundary finite-volume method for simulation of heat transfer in complex geometries. *Journal of Mechanical Science and Technology*, **2004**, 18, 1026-1035		118
119	Mechanism of drag reduction by dimples on a sphere. *Physics of Fluids*, **2006**, 18, 041702	4.4	117
118	Sources of spurious force oscillations from an immersed boundary method for moving-body problems. *Journal of Computational Physics*, **2011**, 230, 2677-2695	4.1	114
117	Suboptimal feedback control of vortex shedding at low Reynolds numbers. *Journal of Fluid Mechanics*, **1999**, 401, 123-156	3.7	113
116	Magnetohydrodynamic turbulent flow in a channel at low magnetic Reynolds number. *Journal of Fluid Mechanics*, **2001**, 439, 367-394	3.7	102
115	Vortical structures behind a sphere at subcritical Reynolds numbers. *Physics of Fluids*, **2006**, 18, 015102	4.4	98
114	Direct numerical simulation of turbulent thermal boundary layers. *Physics of Fluids*, **2000**, 12, 2555	4.4	98
113	Effects of uniform blowing or suction from a spanwise slot on a turbulent boundary layer flow. *Physics of Fluids*, **1999**, 11, 3095-3105	4.4	97
112	Aerodynamics of Heavy Vehicles. *Annual Review of Fluid Mechanics*, **2014**, 46, 441-468	22	96
111	Drag reduction in flow over a two-dimensional bluff body with a blunt trailing edge using a new passive device. *Journal of Fluid Mechanics*, **2006**, 563, 389	3.7	95
110	Characteristics of flow over a rotationally oscillating cylinder at low Reynolds number. *Physics of Fluids*, **2002**, 14, 2767-2777	4.4	89
109	A dynamic subgrid-scale eddy viscosity model with a global model coefficient. *Physics of Fluids*, **2006**, 18, 125109	4.4	85
108	Large eddy simulation of a circular jet: effect of inflow conditions on the near field. *Journal of Fluid Mechanics*, **2009**, 620, 383-411	3.7	80
107	Maximum drag reduction in a turbulent channel flow by polymer additives. *Journal of Fluid Mechanics*, **2003**, 492, 91-100	3.7	79
106	Instantaneous control of backward-facing step flows. *Applied Numerical Mathematics*, **1999**, 31, 133-158	2.5	78
105	Direct numerical simulation of turbulent channel flow with permeable walls. *Journal of Fluid Mechanics*, **2002**, 450, 259-285	3.7	74

104	A fractional four-step finite element formulation of the unsteady incompressible Navier-Stokes equations using SUPG and linear equal-order element methods. *Computer Methods in Applied Mechanics and Engineering*, **1997**, 143, 333-348	5.7	72
103	Discretization errors in large eddy simulation: on the suitability of centered and upwind-biased compact difference schemes. *Journal of Computational Physics*, **2004**, 198, 580-616	4.1	71
102	Active wall motions for skin-friction drag reduction. *Physics of Fluids*, **2000**, 12, 3301-3304	4.4	71
101	Laminar flow past a sphere rotating in the streamwise direction. *Journal of Fluid Mechanics*, **2002**, 461, 365-386	3.7	68
100	Direct numerical simulation of heated vertical air flows in fully developed turbulent mixed convection. *International Journal of Heat and Mass Transfer*, **2003**, 46, 1613-1627	4.9	56
99	Effect of spatial discretization schemes on numerical solutions of viscoelastic fluid flows. *Journal of Non-Newtonian Fluid Mechanics*, **2001**, 100, 27-47	2.7	56
98	Aerodynamic characteristics of flying fish in gliding flight. *Journal of Experimental Biology*, **2010**, 213, 3269-79	3	51
97	Active control of flow over a sphere for drag reduction at a subcritical Reynolds number. *Journal of Fluid Mechanics*, **2004**, 517, 113-129	3.7	51
96	On the steady simple shear flows of the one-mode Giesekus fluid. *Rheologica Acta*, **1989**, 28, 13-24	2.3	48
95	Immersed boundary methods for fluid-structure interaction: A review. *International Journal of Heat and Fluid Flow*, **2019**, 75, 301-309	2.4	46
94	Skin-friction generation by attached eddies in turbulent channel flow. *Journal of Fluid Mechanics*, **2016**, 808, 511-538	3.7	46
93	Mixing enhancement behind a backward-facing step using tabs. *Physics of Fluids*, **2007**, 19, 105103	4.4	43
92	A discrete-forcing immersed boundary method for the fluid–structure interaction of an elastic slender body. *Journal of Computational Physics*, **2015**, 280, 529-546	4.1	41
91	Sectional lift coefficient of a flapping wing in hovering motion. *Physics of Fluids*, **2010**, 22, 071703	4.4	40
90	Effects of large density variation on strongly heated internal air flows. *Physics of Fluids*, **2006**, 18, 075102	4.4	39
89	Control of Flow-Induced Noise Behind a Circular Cylinder Using Splitter Plates. *AIAA Journal*, **1998**, 36, 1961-1967	2.1	39
88	Space–time characteristics of the wall shear-stress fluctuations in a low-Reynolds-number channel flow. *Physics of Fluids*, **1999**, 11, 3084-3094	4.4	39
87	Suboptimal feedback control of turbulent flow over a backward-facing step. *Journal of Fluid Mechanics*, **2002**, 463, 201-227	3.7	38

86	On the effect of riblets in fully developed laminar channel flows. *Physics of Fluids A, Fluid Dynamics*, **1991**, 3, 1892-1896		38
85	Stabilization of absolute instability in spanwise wavy two-dimensional wakes. *Journal of Fluid Mechanics*, **2013**, 727, 346-378	3.7	37
84	Laminar convective heat transfer of a Bingham plastic in a circular pipe. Numerical approach hydrodynamically developing flow and simultaneously developing flow. *International Journal of Heat and Mass Transfer*, **1997**, 40, 3689-3701	4.9	37
83	Flow around a helically twisted elliptic cylinder. *Physics of Fluids*, **2016**, 28, 053602	4.4	37
82	Flow characteristics in a volute-type centrifugal pump using large eddy simulation. *International Journal of Heat and Fluid Flow*, **2018**, 72, 52-60	2.4	35
81	Dynamic global model for large eddy simulation of transient flow. *Physics of Fluids*, **2010**, 22, 075106	4.4	35
80	Control of absolute instability by basic-flow modification in a parallel wake at low Reynolds number. *Journal of Fluid Mechanics*, **2006**, 560, 465	3.7	33
79	The function of the alula in avian flight. *Scientific Reports*, **2015**, 5, 9914	4.9	30
78	Large eddy simulations of turbulent channel and boundary layer flows at high Reynolds number with mean wall shear stress boundary condition. *Physics of Fluids*, **2013**, 25, 110808	4.4	30
77	Scale interactions and spectral energy transfer in turbulent channel flow. *Journal of Fluid Mechanics* , **2018**, 854, 474-504	3.7	30
76	Laminar convective heat transfer of a Bingham plastic in a circular pipe. Analytical approach thermally fully developed flow and thermally developing flow (the Graetz problem extended). *International Journal of Heat and Mass Transfer*, **1997**, 40, 3025-3037	4.9	29
75	Vortex pairing in an axisymmetric jet using two-frequency acoustic forcing at low to moderate strouhal numbers. *Experiments in Fluids*, **1998**, 25, 305-315	2.5	29
74	Effects of the air layer of an idealized superhydrophobic surface on the slip length and skin-friction drag. *Journal of Fluid Mechanics*, **2016**, 790,	3.7	29
73	A weak-coupling immersed boundary method for fluid structure interaction with low density ratio of solid to fluid. *Journal of Computational Physics*, **2018**, 359, 296-311	4.1	27
72	Inverse Magnus effect on a rotating sphere: when and why. *Journal of Fluid Mechanics*, **2014**, 754,	3.7	27
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70	Unsteady Simulation of Jets in a Cross Flow. *Journal of Computational Physics*, **1997**, 134, 342-356	4.1	26
69	Large Eddy Simulation of Flow and Heat Transfer in a Channel Roughened by Square or Semicircle Ribs. *Journal of Turbomachinery*, **2005**, 127, 263-269	1.8	26

68	Does the sailfish skin reduce the skin friction like the shark skin?. *Physics of Fluids*, **2008**, 20, 101510	4.4	25
67	Kinematic control of aerodynamic forces on an inclined flapping wing with asymmetric strokes. *Bioinspiration and Biomimetics*, **2012**, 7, 016008	2.6	24
66	Effect of free-stream turbulence on the flow over a sphere. *Physics of Fluids*, **2010**, 22, 045101	4.4	23
65	Active control of turbulent flow over a model vehicle for drag reduction. *Journal of Turbulence*, **2004**, 5,	2.1	23
64	Dissimilarity between the velocity and temperature fields in a perturbed turbulent thermal boundary layer. *Physics of Fluids*, **2001**, 13, 1466-1479	4.4	23
63	Predictions of the effective slip length and drag reduction with a lubricated micro-groove surface in a turbulent channel flow. *Journal of Fluid Mechanics*, **2019**, 874, 797-820	3.7	22
62	Laminar flow past a hemisphere. *Physics of Fluids*, **2003**, 15, 2457-2460	4.4	21
61	Optimal Shape Design of a Two-Dimensional Asymmetric Diffuser in Turbulent Flow. *AIAA Journal*, **2004**, 42, 1154-1169	2.1	21
60	Toward improved consistency of a priori tests with a posteriori tests in large eddy simulation. *Physics of Fluids*, **2005**, 17, 015103	4.4	19
59	A scaling law for the lift of hovering insects. *Journal of Fluid Mechanics*, **2015**, 782, 479-490	3.7	18
58	Aerodynamic Performance of a Gliding Swallowtail Butterfly Wing Model. *Experimental Mechanics*, **2010**, 50, 1313-1321	2.6	18
57	A modified fractional step method of keeping a constant mass flow rate in fully developed channel and pipe flows. *Journal of Mechanical Science and Technology*, **2000**, 14, 547-552		18
56	On the modification of the near-wall coherent structure in a three-dimensional turbulent boundary layer on a free rotating disk. *Physics of Fluids*, **1998**, 10, 2315-2322	4.4	18
55	Two-dimensional mechanism of hovering flight by single flapping wing. *Journal of Mechanical Science and Technology*, **2007**, 21, 207-221	1.6	17
54	Characteristics of laminar flow past a sphere in uniform shear. *Physics of Fluids*, **2005**, 17, 103602	4.4	17
53	A proportional-integral-differential control of flow over a circular cylinder. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2011**, 369, 1540-55	3	16
52	Large eddy simulation of flow and heat transfer in a rotating ribbed channel. *International Journal of Heat and Mass Transfer*, **2007**, 50, 4937-4947	4.9	16
51	Toward neural-network-based large eddy simulation: application to turbulent channel flow. *Journal of Fluid Mechanics*, **2021**, 914,	3.7	16

50	Hydrodynamic role of longitudinal dorsal ridges in a leatherback turtle swimming. *Scientific Reports*, **2016**, 6, 34283	4.9	15
49	Mechanism of drag reduction by a surface trip wire on a sphere. *Journal of Fluid Mechanics*, **2011**, 672, 411-427	3.7	15
48	A bio-inspired device for drag reduction on a three-dimensional model vehicle. *Bioinspiration and Biomimetics*, **2016**, 11, 026004	2.6	14
47	Hydrodynamic characteristics of the sailfish (Istiophorus platypterus) and swordfish (Xiphias gladius) in gliding postures at their cruise speeds. *PLoS ONE*, **2013**, 8, e81323	3.7	14
46	Experimental investigation of tip-leakage flow in an axial flow fan at various flow rates. *Journal of Mechanical Science and Technology*, **2019**, 33, 1271-1278	1.6	13
45	Effect of a casing fence on the tip-leakage flow of an axial flow fan. *International Journal of Heat and Fluid Flow*, **2019**, 77, 157-170	2.4	13
44	Vortical structures around a flexible oscillating panel for maximum thrust in a quiescent fluid. *Journal of Fluids and Structures*, **2016**, 67, 241-260	3.1	13
43	Flow-control approaches to drag reduction in aerodynamics: progress and prospects. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2011**, 369, 1349-51	3	13
42	Drag Reduction with a Sliding Wall in Flow over a Circular Cylinder. *AIAA Journal*, **2000**, 38, 715-717	2.1	12
41	Iterative Feedback Tuning of the Proportional-Integral-Differential Control of Flow Over a Circular Cylinder. *IEEE Transactions on Control Systems Technology*, **2019**, 27, 1385-1396	4.8	12
40	Resonance in Axisymmetric Jet Under Controlled Helical, Fundamental, and Axisymmetric Subharmonic Forcing. *AIAA Journal*, **2000**, 38, 434-441	2.1	11
39	Control of streamwise vortices with uniform magnetic fluxes. *Physics of Fluids*, **1998**, 10, 1997-2005	4.4	11
38	Control of laminar vortex shedding behind a circular cylinder using tabs. *Journal of Mechanical Science and Technology*, **2014**, 28, 1721-1725	1.6	10
37	Machine-learning-based feedback control for drag reduction in a turbulent channel flow. *Journal of Fluid Mechanics*, **2020**, 904,	3.7	10
36	Flight of a falling maple seed. *Physical Review Fluids*, **2017**, 2,	2.8	9
35	Flow structure modifications by leading-edge tubercles on a 3D wing. *Bioinspiration and Biomimetics*, **2018**, 13, 066011	2.6	9
34	Direct numerical simulation of a turbulent core-annular flow with water-lubricated high viscosity oil in a vertical pipe. *Journal of Fluid Mechanics*, **2018**, 849, 419-447	3.7	8
33	Illustration of Wing Deformation Effects in Three-Dimensional Flapping Flight. *AIAA Journal*, **2015**, 53, 2607-2620	2.1	8

32	Control of Flow Around an Airfoil Using Piezoceramic Actuators. *AIAA Journal*, **2002**, 40, 1008-1010	2.1	8
31	A numerical and theoretical study of the aerodynamic performance of a hovering rhinoceros beetle (Trypoxylus dichotomus). *Journal of Fluid Mechanics*, **2020**, 885,	3.7	8
30	Linear proportional-integral control for skin-friction reduction in a turbulent channel flow. *Journal of Fluid Mechanics*, **2017**, 814, 430-451	3.7	7
29	Aerodynamics of a golf ball with grooves. *Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology*, **2014**, 228, 233-241	0.7	6
28	A dynamic global subgrid-scale model for large eddy simulation of scalar transport in complex turbulent flows. *Journal of Mechanical Science and Technology*, **2012**, 26, 3803-3810	1.6	6
27	Modification of flow behind a circular cylinder by steady and time-periodic blowing. *Physics of Fluids* , **2021**, 33, 115126	4.4	6
26	Scaling law for the lift force of autorotating falling seeds at terminal velocity. *Journal of Fluid Mechanics*, **2018**, 835, 406-420	3.7	6
25	Characteristics of the alula in relation to wing and body size in the Laridae and Sternidae. *Animal Cells and Systems*, **2017**, 21, 63-69	2.3	5
24	Flow structures around a butterfly-shaped low-aspect-ratio wing. *Journal of Mechanical Science and Technology*, **2014**, 28, 2669-2675	1.6	5
23	Suboptimal feedback control of flow over a sphere. *International Journal of Heat and Fluid Flow*, **2010**, 31, 208-216	2.4	5
22	Sensitivity of global instability of spatially developing flow in weakly and fully nonlinear regimes. *Physics of Fluids*, **2008**, 20, 071703	4.4	5
21	Drag reduction on a three-dimensional model vehicle using a wire-to-plate DBD plasma actuator. *Experiments in Fluids*, **2020**, 61, 1	2.5	5
20	Control of flow around a low Reynolds number airfoil using longitudinal strips. *Physical Review Fluids*, **2018**, 3,	2.8	4
19	Control of flow-induced noise behind a circular cylinder using splitter plates. *AIAA Journal*, **1998**, 36, 1961-1967	1.1	4
18	Effect of a localized time-periodic wall motion on a turbulent boundary layer flow. *Physics of Fluids*, **2003**, 15, 265-268	4.4	3
17	Optimal disturbances in the near-wall region of turbulent channel flows. *Physical Review Fluids*, **2016**, 1,	2.8	3
16	A zero-dimensional predictive model for the pressure drop in the stenotic coronary artery based on its geometric characteristics. *Journal of Biomechanics*, **2020**, 113, 110076	2.9	3
15	Control of Flow Separation in a Turbulent Boundary Layer Using Time-Periodic Forcing. *Journal of Fluids Engineering, Transactions of the ASME*, **2016**, 138,	2.1	3

14	Effect of the spanwise computational domain size on the flow over a two-dimensional bluff body with spanwise periodic perturbations at low Reynolds number. *Computers and Fluids*, **2019**, 183, 102-106	2.8	3
13	Sectional lift coefficient of a rotating wing at low Reynolds numbers. *Journal of Mechanical Science and Technology*, **2015**, 29, 4775-4781	1.6	2
12	Boundary treatment for the unsteady surface velocity in an immersed boundary method. *Journal of Mechanical Science and Technology*, **2009**, 23, 2502-2506	1.6	2
11	Effect of local forcing on backward-facing step flow with laminar separation. *Journal of Turbulence*, **2007**, 8, N6	2.1	2
10	Combined effects of polymers and active blowing/suction on drag reduction. *Journal of Non-Newtonian Fluid Mechanics*, **2005**, 131, 53-58	2.7	2
9	Flow over a ski jumper in flight: Prediction of the aerodynamic force and flight posture with higher lift-to-drag ratio. *Journal of Biomechanics*, **2019**, 89, 78-84	2.9	1
8	Effects of pannus formation on the flow around a bileaflet mechanical heart valve. *PLoS ONE*, **2020**, 15, e0234341	3.7	1
7	A predictive model of the drag coefficient for a revolving wing at low Reynolds number. *Bioinspiration and Biomimetics*, **2018**, 13, 054001	2.6	1
6	Fluid-Structure Interactions of Large Amplitude Vibrations. *Lecture Notes in Mechanical Engineering*, **2019**, 191-198	0.4	1
5	Prediction of Sound from Flow over Circular Cylinder Using Modified Green Function. *AIAA Journal*, **2004**, 42, 2612-2615	2.1	1
4	Effect of body angle on the aerodynamics of a rhinoceros beetle: Smoke-wire visualization in a wind tunnel. *Journal of Mechanical Science and Technology*, **2020**, 34, 209-218	1.6	0
3	A predictive model of the drag coefficient of a circular cylinder. *Physics of Fluids*, **2021**, 33, 111702	4.4	0
2	Preface to Special Topic: Turbulence Physics and Control: Papers from a Workshop in Honor of John Kim's 60th Birthday, Stanford, California, September 2007. *Physics of Fluids*, **2008**, 20, 101501	4.4	
1	Large Eddy Simulation of a Free Circular Jet up to Re=100,000(Numerical Simulation). *The Proceedings of the International Conference on Jets Wakes and Separated Flows (ICJWSF)*, **2005**, 2005, 721-724		