Kenneth S Breuer

List of Publications by Year in Descending Order

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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.

157 papers	6,327 citations	44 h-index	75 g-index
179 ext. papers	7,371 ext. citations	3.7 avg, IF	5.98 L-index

#	Paper	IF	Citations
157	Aerosol transmission in passenger car cabins: Effects of ventilation configuration and driving speed.. *Physics of Fluids*, **2022**, 34, 021904	4.4	1
156	Airflows inside passenger cars and implications for airborne disease transmission. *Science Advances*, **2021**, 7,	14.3	42
155	Wake-foil interactions and energy harvesting efficiency in tandem oscillating foils. *Physical Review Fluids*, **2021**, 6,	2.8	3
154	Effects of confinement on the dynamics and correlation scales in kinesin-microtubule active fluids. *Physical Review E*, **2021**, 104, 034601	2.4	2
153	Nonlinear modeling and characterization of ultrasoft silicone elastomers. *Applied Physics Letters*, **2020**, 116, 203702	3.4	1
152	A bioinspired Separated Flow wing provides turbulence resilience and aerodynamic efficiency for miniature drones. *Science Robotics*, **2020**, 5,	18.6	8
151	Effects of shear-thinning viscosity and viscoelastic stresses on flagellated bacteria motility. *Physical Review Fluids*, **2020**, 5,	2.8	7
150	Optimization of the recursive least squares algorithm for capacitive strain sensing. *Engineering Research Express*, **2020**, 2, 046001	0.9	
149	Full-scale aeroelastic simulations of hovering bat flight **2020**,		1
148	Nonlinear flow-induced instability of an elastically mounted pitching wing. *Journal of Fluid Mechanics*, **2020**, 899,	3.7	6
147	Wings as inertial appendages: how bats recover from aerial stumbles. *Journal of Experimental Biology*, **2019**, 222,	3	4
146	Control of Separated Flow Using Actuated Compliant Membrane Wings. *AIAA Journal*, **2019**, 57, 3801-3811	1.1	6
145	Resonant response and optimal energy harvesting of an elastically mounted pitching and heaving hydrofoil. *Physical Review Fluids*, **2019**, 4,	2.8	8
144	Scaling of the performance of insect-inspired passive-pitching flapping wings. *Journal of the Royal Society Interface*, **2019**, 16, 20190609	4.1	7
143	Confinement effects on energy harvesting by a heaving and pitching hydrofoil. *Journal of Fluids and Structures*, **2019**, 84, 233-242	3.1	11
142	Thrust, drag and wake structure in flapping compliant membrane wings. *Journal of Fluid Mechanics*, **2019**, 862, 871-888	3.7	17
141	Steady blowing to control the lift and drag on a free shear layer airfoil **2019**,		1

140	Changes in the flagellar bundling time account for variations in swimming behavior of flagellated bacteria in viscous media. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 1707-1712	11.5	17
139	The dynamics of hovering flight in hummingbirds, insects and bats with implications for aerial robotics. *Bioinspiration and Biomimetics*, **2018**, 14, 016003	2.6	12
138	Energy harvesting performance and flow structure of an oscillating hydrofoil with finite span. *Journal of Fluids and Structures*, **2017**, 70, 314-326	3.1	43
137	Speed-dependent modulation of wing muscle recruitment intensity and kinematics in two bat species. *Journal of Experimental Biology*, **2017**, 220, 1820-1829	3	9
136	Camber and aerodynamic performance of compliant membrane wings. *Journal of Fluids and Structures*, **2017**, 68, 390-402	3.1	12
135	The influence of aspect ratio and stroke pattern on force generation of a bat-inspired membrane wing. *Interface Focus*, **2017**, 7, 20160083	3.9	5
134	A scaling for vortex formation on swept and unswept pitching wings. *Journal of Fluid Mechanics*, **2017**, 832, 697-720	3.7	16
133	Unsteady high-lift mechanisms from heaving flat plate simulations. *International Journal of Heat and Fluid Flow*, **2017**, 67, 230-239	2.4	7
132	Guidelines for the design and control of bio-inspired hovering robots **2017**,		2
131	Wake structure and kinematics in two insectivorous bats. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2016**, 371,	5.8	19
130	A reduced order model for dielectric elastomer actuators over a range of frequencies and prestrains. *Applied Physics Letters*, **2016**, 109, 133506	3.4	13
129	Vortex formation and shedding from a cyber-physical pitching plate. *Journal of Fluid Mechanics*, **2016**, 793, 229-247	3.7	33
128	Simplifying a wing: diversity and functional consequences of digital joint reduction in bat wings. *Journal of Anatomy*, **2016**, 229, 114-27	2.9	7
127	Large apparent slip at a moving contact line. *Physics of Fluids*, **2015**, 27, 091703	4.4	14
126	Large amplitude flow-induced oscillations and energy harvesting using a cyber-physical pitching plate. *Journal of Fluids and Structures*, **2015**, 55, 262-275	3.1	28
125	Falling with Style: Bats Perform Complex Aerial Rotations by Adjusting Wing Inertia. *PLoS Biology*, **2015**, 13, e1002297	9.7	32
124	How wing kinematics affect power requirements and aerodynamic force production in a robotic bat wing. *Bioinspiration and Biomimetics*, **2014**, 9, 025008	2.6	18
123	Helical motion of the cell body enhances Caulobacter crescentus motility. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 11252-6	11.5	61

122	Bat-Inspired Flapping Flight **2014**,		7
121	The aerodynamic cost of flight in the short-tailed fruit bat (Carollia perspicillata): comparing theory with measurement. *Journal of the Royal Society Interface*, **2014**, 11, 20140147	4.1	22
120	Aerodynamic Characterization of a Wing Membrane with Variable Compliance. *AIAA Journal*, **2014**, 52, 1749-1756	2.1	26
119	Hindlimb motion during steady flight of the lesser dog-faced fruit bat, Cynopterus brachyotis. *PLoS ONE*, **2014**, 9, e98093	3.7	14
118	Propulsion by a helical flagellum in a capillary tube. *Physics of Fluids*, **2014**, 26, 011701	4.4	33
117	Membrane muscle function in the compliant wings of bats. *Bioinspiration and Biomimetics*, **2014**, 9, 025007	2.6	46
116	Design and characterization of a multi-articulated robotic bat wing. *Bioinspiration and Biomimetics*, **2013**, 8, 016009	2.6	71
115	Glide performance and aerodynamics of non-equilibrium glides in northern flying squirrels (Glaucomys sabrinus). *Journal of the Royal Society Interface*, **2013**, 10, 20120794	4.1	34
114	Helical swimming in Stokes flow using a novel boundary-element method. *Physics of Fluids*, **2013**, 25, 061902	4.4	13
113	Speed of a swimming sheet in Newtonian and viscoelastic fluids. *Physical Review E*, **2013**, 87, 013015	2.4	46
112	An aeroelastic instability provides a possible basis for the transition from gliding to flapping flight. *Journal of the Royal Society Interface*, **2013**, 10, 20120940	4.1	19
111	Changes in kinematics and aerodynamics over a range of speeds in Tadarida brasiliensis, the Brazilian free-tailed bat. *Journal of the Royal Society Interface*, **2012**, 9, 1120-30	4.1	58
110	Upstroke wing flexion and the inertial cost of bat flight. *Proceedings of the Royal Society B: Biological Sciences*, **2012**, 279, 2945-50	4.4	43
109	Fog deposition and accumulation on smooth and textured hydrophobic surfaces. *Langmuir*, **2012**, 28, 12771-8	4	25
108	Accurate measurement of streamwise vortices using dual-plane PIV. *Experiments in Fluids*, **2012**, 53, 1487-1500	2.5	15
107	Kinematic plasticity during flight in fruit bats: individual variability in response to loading. *PLoS ONE* , **2012**, 7, e36665	3.7	21
106	Biomechanics of smart wings in a bat robot: morphing wings using SMA actuators. *Bioinspiration and Biomimetics*, **2012**, 7, 036006	2.6	55
105	Energetically Optimal Short-Range Gliding Trajectories for Gliding Animals. *AIAA Journal*, **2011**, 49, 2650-2657	2.1	8

104	The motion, stability and breakup of a stretching liquid bridge with a receding contact line. *Journal of Fluid Mechanics*, **2011**, 666, 554-572	3.7	50
103	Force-free swimming of a model helical flagellum in viscoelastic fluids. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 19516-20	11.5	140
102	3D reconstruction of bat flight kinematics from sparse multiple views **2011**,		19
101	Climbing flight performance and load carrying in lesser dog-faced fruit bats (Cynopterus brachyotis). *Journal of Experimental Biology*, **2011**, 214, 786-93	3	19
100	Whole-body kinematics of a fruit bat reveal the influence of wing inertia on body accelerations. *Journal of Experimental Biology*, **2011**, 214, 1546-53	3	40
99	In-Flight Wing-Membrane Strain Measurements on Bats. *Conference Proceedings of the Society for Experimental Mechanics*, **2011**, 437-445	0.3	2
98	The effect of body size on the wing movements of pteropodid bats, with insights into thrust and lift production. *Journal of Experimental Biology*, **2010**, 213, 4110-22	3	62
97	Wake structure and wing kinematics: the flight of the lesser dog-faced fruit bat, Cynopterus brachyotis. *Journal of Experimental Biology*, **2010**, 213, 3427-40	3	96
96	Oscillatory motions of a prestrained compliant membrane caused by fluid–membrane interaction. *Journal of Fluids and Structures*, **2010**, 26, 339-358	3.1	23
95	Time-resolved wake structure and kinematics of bat flight **2010**, 371-381		7
94	Minimal model for synchronization induced by hydrodynamic interactions. *Physical Review E*, **2009**, 80, 061919	2.4	73
93	Micron-scale droplet deposition on a hydrophobic surface using a retreating syringe. *Physical Review Letters*, **2009**, 102, 164502	7.4	28
92	Time-resolved wake structure and kinematics of bat flight. *Experiments in Fluids*, **2009**, 46, 933-943	2.5	72
91	High-speed quantum dot tracking and velocimetry using evanescent wave illumination. *Experiments in Fluids*, **2009**, 47, 1059-1066	2.5	8
90	On Drag Reduction in Turbulent Channel Flow over Superhydrophobic Surfaces. *Springer Proceedings in Physics*, **2009**, 233-236	0.2	19
89	The effects of hindered mobility and depletion of particles in near-wall shear flows and the implications for nanovelocimetry. *Journal of Fluid Mechanics*, **2009**, 637, 241-265	3.7	27
88	Aeromechanics of Membrane Wings with Implications for Animal Flight. *AIAA Journal*, **2008**, 46, 2096-2106	2.1	156
87	Shape transition and propulsive force of an elastic rod rotating in a viscous fluid. *Physical Review Letters*, **2008**, 100, 078101	7.4	50

86	Aerodynamic Behavior of Compliant Membranes as Related to Bat Flight **2008**,		9
85	The Aero-Mechanics of Low Aspect Ratio Compliant Membrane Wings, with Applications to Animal Flight **2008**,		15
84	Multifidelity Approaches for the Computational Analysis and Design of Effective Flapping Wing Vehicles **2008**,		12
83	Catch strip assay for the relative assessment of two-dimensional protein association kinetics. *Analytical Chemistry*, **2008**, 80, 944-50	7.8	7
82	Quantifying the complexity of bat wing kinematics. *Journal of Theoretical Biology*, **2008**, 254, 604-15	2.3	118
81	Simultaneous, ensemble-averaged measurement of near-wall temperature and velocity in steady micro-flows using single quantum dot tracking. *Experiments in Fluids*, **2008**, 45, 157-166	2.5	19
80	Microfluidic pump powered by self-organizing bacteria. *Small*, **2008**, 4, 111-8	11	73
79	Aeromechanics in aeroecology: flight biology in the aerosphere. *Integrative and Comparative Biology*, **2008**, 48, 85-98	2.8	15
78	Models for Adaptive Feedforward Control of Turbulence. *IUTAM Symposium on Cellular, Molecular and Tissue Mechanics*, **2008**, 219-227	0.3	
77	Controlled mixing in microfluidic systems using bacterial chemotaxis. *Analytical Chemistry*, **2007**, 79, 955-9	7.8	74
76	Direct measurement of slip length in electrolyte solutions. *Physics of Fluids*, **2007**, 19, 028104	4.4	42
75	Visualization and Tracking of Electrospray Droplet Emissions Using Fluorescence and Holographic Techniques **2007**, 1047		
74	Direct measurement of anisotropic near-wall hindered diffusion using total internal reflection velocimetry. *Physical Review E*, **2007**, 76, 046307	2.4	66
73	Use of Bacterial Carpets to Enhance Mixing in Microfluidic Systems. *Journal of Fluids Engineering, Transactions of the ASME*, **2007**, 129, 319-324	2.1	61
72	The role of lubricin in the mechanical behavior of synovial fluid. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 6194-9	11.5	189
71	A Computational Investigation of Bio-Inspired Formation Flight and Ground Effect **2007**,		11
70	Wing Structure and the Aerodynamic Basis of Flight in Bats **2007**,		41
69	Dynamics of a Compliant Membrane as Related to Mammalian Flight **2007**,		22

68	Direct measurements of the kinematics and dynamics of bat flight. *Bioinspiration and Biomimetics*, **2006**, 1, S10-8	2.6	116
67	Direct measurement of slip velocities using three-dimensional total internal reflection velocimetry. *Journal of Fluid Mechanics*, **2006**, 566, 447	3.7	100
66	Colloid lithography-induced polydimethylsiloxane microstructures and their application to cell patterning. *Biotechnology Letters*, **2006**, 28, 169-73	3	22
65	Statistical particle tracking velocimetry using molecular and quantum dot tracer particles. *Experiments in Fluids*, **2006**, 41, 869-880	2.5	33
64	Active Control of Tip Clearance Flow in Axial Compressors. *Journal of Turbomachinery*, **2005**, 127, 352-362	1.8	37
63	. *Journal of Microelectromechanical Systems*, **2005**, 14, 141-152	2.5	102
62	Fluid effects in vibrating micromachined structures. *Journal of Microelectromechanical Systems*, **2005**, 14, 770-781	2.5	50
61	Statistical Particle Tracking Velocimetry Using Molecular and Quantum Dot Tracer Particles **2005**, 235		1
60	Direct Measurement of Slip Velocities Using Three-Dimensional Total Internal Reflection Velocimetry **2005**, 213		1
59	CONTROL OF TURBULENT FLOWS USING LORENTZ FORCE ACTUATION. *Lecture Notes Series, Institute for Mathematical Sciences*, **2005**, 325-356	0.1	
58	Enhanced diffusion due to motile bacteria. *Physics of Fluids*, **2004**, 16, L78-L81	4.4	143
57	INFRARED DIAGNOSTICS FOR MEASURING FLUID AND SOLID MOTION INSIDE SILICON MICRODEVICES. *Microscale Thermophysical Engineering*, **2004**, 8, 169-182		12
56	Actuation and control of a turbulent channel flow using Lorentz forces. *Physics of Fluids*, **2004**, 16, 897-907	4.4	76
55	Particle image velocimetry experiments on a macro-scale model for bacterial flagellar bundling. *Experiments in Fluids*, **2004**, 37, 782-788	2.5	60
54	Near-surface velocimetry using evanescent wave illumination. *Experiments in Fluids*, **2004**, 37, 825-833	2.5	83
53	Computer-aided calibration of X-probes using a look-up table. *Experiments in Fluids*, **2004**, 6, 115-118	2.5	63
52	Moving fluid with bacterial carpets. *Biophysical Journal*, **2004**, 86, 1863-70	2.9	297
51	Drag Reduction in Turbulent Flows Using Lorentz Force Actuation. *Fluid Mechanics and Its Applications*, **2004**, 315-318	0.2	1

50	Diffusion-Limited Evaporation in Long Microchannels **2003**, 673		3
49	Near-Surface Velocimetry Using Evanescent Wave Illumination **2003**, 645		2
48	A novel system for measuring liquid flow rates with nanoliter per minute resolution. *Experiments in Fluids*, **2003**, 34, 635-642	2.5	15
47	Active control of turbulent boundary layers. *Journal of Fluid Mechanics*, **2003**, 495, 209-233	3.7	109
46	Apparent slip flows in hydrophilic and hydrophobic microchannels. *Physics of Fluids*, **2003**, 15, 2897	4.4	359
45	A macroscopic scale model of bacterial flagellar bundling. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 15481-5	11.5	128
44	Lorentz Force Control of Turbulent Channel Flow **2003**,		3
43	Dynamics of Synthetic Jet Arrays for Closed-Loop Flow Control **2003**,		6
42	Challenges for Lubrication in High Speed MEMS **2003**, 197-220		1
41	To Slip or Not to Slip: Water Flows in Hydrophilic and Hydrophobic Microchannels **2002**, 557		25
40	Manufacturing Effects in Microfabricated Gas Bearings: Axially Varying Clearance. *Journal of Tribology*, **2002**, 124, 815-821	1.8	8
39	Oblique transition in a laminar Blasius boundary layer. *Journal of Fluid Mechanics*, **2002**, 453, 177-200	3.7	5
38	Low-Order Models for Very Short Hybrid Gas Bearings. *Journal of Tribology*, **2001**, 123, 368-375	1.8	22
37	Analysis and testing of a silicon intrinsic-point heater in a micropropulsion application. *Sensors and Actuators A: Physical*, **2001**, 91, 249-255	3.9	19
36	Deep reactive ion etching: a promising technology for micro- and nanosatellites. *Smart Materials and Structures*, **2001**, 10, 1135-1144	3.4	40
35	Dynamic Calibration of a Shear-Stress Sensor Using Stokes-Layer Excitation. *AIAA Journal*, **2001**, 39, 819-823		41
34	Mass flow and tangential momentum accommodation in silicon micromachined channels. *Journal of Fluid Mechanics*, **2001**, 437, 29-43	3.7	232
33	Acoustic receptivity and evolution of two-dimensional and oblique disturbances in a Blasius boundary layer. *Journal of Fluid Mechanics*, **2001**, 432, 69-90	3.7	25

32	Linear predictive filtering in a numerically simulated turbulent flow. *Physics of Fluids*, **2000**, 12, 3221-3228	4.4	4
31	Microhydraulic transducer technology for actuation and power generation **2000**,		10
30	Acoustic receptivity of a Blasius boundary layer with 2-D and oblique surface waviness **2000**,		1
29	Non-localized acoustic receptivity and subsequent disturbance growth in a Blasius boundary layer **2000**, 79-84		
28	Pseudospectral Orbit Simulation of Nonideal Gas-Lubricated Journal Bearings for Microfabricated Turbomachines. *Journal of Tribology*, **1999**, 121, 604-609	1.8	33
27	System identification and control of a turbulent boundary layer. *Physics of Fluids*, **1997**, 9, 1867-1869	4.4	64
26	Coupled Fluid-Structural Characteristics of Actuators for Flow Control. *AIAA Journal*, **1997**, 35, 832-837	2.1	70
25	The late stages of transition induced by a low-amplitude wavepacket in a laminar boundary layer. *Journal of Fluid Mechanics*, **1997**, 340, 395-411	3.7	27
24	Gaseous slip flow in long microchannels. *Journal of Microelectromechanical Systems*, **1997**, 6, 167-178	2.5	491
23	Numerical Modeling of Micromechanical Devices Using the Direct Simulation Monte Carlo Method. *Journal of Fluids Engineering, Transactions of the ASME*, **1996**, 118, 464-469	2.1	115
22	A wafer-bonded floating-element shear stress microsensor with optical position sensing by photodiodes. *Journal of Microelectromechanical Systems*, **1996**, 5, 307-315	2.5	49
21	Linear and nonlinear evolution of boundary layer instabilities generated by acoustic-receptivity mechanisms **1996**,		1
20	Linear and nonlinear evolution of boundary layer instabilities generated by acoustic-receptivity mechanisms. *Physics of Fluids*, **1996**, 8, 1415-1423	4.4	12
19	Universality of probability density functions in turbulent channel flow. *Physics of Fluids*, **1995**, 7, 1122-1129	4.4	21
18	Heat transfer variation on protuberances and surface roughness elements. *Journal of Thermophysics and Heat Transfer*, **1995**, 9, 175-180	1.3	24
17	Transient growth in two- and three-dimensional boundary layers. *Physics of Fluids*, **1994**, 6, 1983-1993	4.4	35
16	Transient growth in circular pipe flow. II. Nonlinear development. *Physics of Fluids*, **1994**, 6, 3652-3664	4.4	24
15	Localized disturbances in parallel shear flows. *Flow, Turbulence and Combustion*, **1994**, 53, 51-97		15

14	Transient growth in circular pipe flow. I. Linear disturbances. *Physics of Fluids*, **1994**, 6, 3643-3651	4.4	48
13	Bypass transition in two- and three-dimensional boundary layers **1993**,		1
12	On the errors incurred calculating derivatives using Chebyshev polynomials. *Journal of Computational Physics*, **1992**, 99, 56-67	4.1	39
11	The use of the Karhunen-Lo□e procedure for the calculation of linear eigenfunctions. *Journal of Computational Physics*, **1991**, 96, 277-296	4.1	74
10	On the evolution of a wave packet in a laminar boundary layer. *Journal of Fluid Mechanics*, **1991**, 225, 575-606	3.7	62
9	The Subharmonic Growth of a Wave-Packet in a Laminar Boundary Layer **1991**, 142-150		
8	The evolution of a localized disturbance in a laminar boundary layer. Part 1. Weak disturbances. *Journal of Fluid Mechanics*, **1990**, 220, 569-594	3.7	74
7	The evolution of a localized disturbance in a laminar boundary layer. Part 2. Strong disturbances. *Journal of Fluid Mechanics*, **1990**, 220, 595-621	3.7	48
6	The control of transient disturbances in a flat plate boundary layer through active wall motion. *Physics of Fluids A, Fluid Dynamics*, **1989**, 1, 574-582		29
5	A bird? A plane? No, it□s a bat: an introduction to the biomechanics of bat flight317-352		16
4	Performance and scaling of an electro-osmotic mixer		1
3	Cavities Improve the Power Factor of Low-Reynolds-Number Airfoils and Wings. *AIAA Journal*,1-12	2.1	0
2	Wall Distance Effects on Transition to Turbulence in Low-Reynolds-Number Separated Flows. *AIAA Journal*,1-9	2.1	
1	Low-Order Modeling of Flapping Flight with Highly Articulated, Cambered, Heavy Wings. *AIAA Journal*,1-10	2.1	1