Richard J Bomphrey

List of Publications by Year
in descending order

44	2,597	236833 25	289141 40
papers	citations	h-index	g-index

50	50	50	2027
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Details of Insect Wing Design and Deformation Enhance Aerodynamic Function and Flight Efficiency. Science, 2009, 325, 1549-1552.	6.0	390
2	Dragonfly flight: free-flight and tethered flow visualizations reveal a diverse array of unsteady lift-generating mechanisms, controlled primarily via angle of attack. Journal of Experimental Biology, 2004, 207, 4299-4323.	0.8	276
3	Smart wing rotation and trailing-edge vortices enable high frequency mosquito flight. Nature, 2017, 544, 92-95.	13.7	181
4	Jumping robots: a biomimetic solution to locomotion across rough terrain. Bioinspiration and Biomimetics, 2007, 2, S65-S82.	1.5	167
5	The aerodynamics of Manduca sexta: digital particle image velocimetry analysis of the leading-edge vortex. Journal of Experimental Biology, 2005, 208, 1079-1094.	0.8	158
6	Morphomechanical Innovation Drives Explosive Seed Dispersal. Cell, 2016, 166, 222-233.	13.5	128
7	Rhythmic actomyosin-driven contractions induced by sperm entry predict mammalian embryo viability. Nature Communications, 2011, 2, 417.	5.8	107
8	Flight of the dragonflies and damselflies. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150389.	1.8	97
9	Smoke visualization of free-flying bumblebees indicates independent leading-edge vortices on each wing pair. Experiments in Fluids, 2009, 46, 811-821.	1.1	91
10	Application of digital particle image velocimetry to insect aerodynamics: measurement of the leading-edge vortex and near wake of a Hawkmoth. Experiments in Fluids, 2006, 40, 546-554.	1.1	80
11	A CFD-informed quasi-steady model of flapping-wing aerodynamics. Journal of Fluid Mechanics, 2015, 783, 323-343.	1.4	70
12	Enhanced flight performance by genetic manipulation of wing shape in Drosophila. Nature Communications, 2016, 7, 10851.	5.8	63
13	The effect of aspect ratio on the leading-edge vortex over an insect-like flapping wing. Bioinspiration and Biomimetics, 2015, 10, 056020.	1.5	61
14	New experimental approaches to the biology of flight control systems. Journal of Experimental Biology, 2008, 211, 258-266.	0.8	46
15	Aerodynamic imaging by mosquitoes inspires a surface detector for autonomous flying vehicles. Science, 2020, 368, 634-637.	6.0	46
16	Iodine vapor staining for atomic number contrast in backscattered electron and Xâ€ray imaging. Microscopy Research and Technique, 2014, 77, 1044-1051.	1.2	45
17	Vision-based flight control in the hawkmothHyles lineata. Journal of the Royal Society Interface, 2014, 11, 20130921.	1.5	43
18	Efficiency of Lift Production in Flapping and Gliding Flight of Swifts. PLoS ONE, 2014, 9, e90170.	1.1	41

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19	Digital particle image velocimetry measurements of the downwash distribution of a desert locust Schistocerca gregaria. Journal of the Royal Society Interface, 2006, 3, 311-317.	1.5	37
20	Span efficiency in hawkmoths. Journal of the Royal Society Interface, 2013, 10, 20130099.	1.5	34
21	High aerodynamic lift from the tail reduces drag in gliding raptors. Journal of Experimental Biology, 2020, 223, .	0.8	34
22	Tomographic particle image velocimetry of desert locust wakes: instantaneous volumes combine to reveal hidden vortex elements and rapid wake deformation. Journal of the Royal Society Interface, 2012, 9, 3378-3386.	1.5	33
23	The complex aerodynamic footprint of desert locusts revealed by large-volume tomographic particle image velocimetry. Journal of the Royal Society Interface, 2015, 12, 20150119.	1.5	31
24	The Typical Flight Performance of Blowflies: Measuring the Normal Performance Envelope of Calliphora vicina Using a Novel Corner-Cube Arena. PLoS ONE, 2009, 4, e7852.	1.1	30
25	Bird wings act as a suspension system that rejects gusts. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20201748.	1.2	30
26	Advances in Animal Flight Aerodynamics Through Flow Measurement. Evolutionary Biology, 2012, 39, 1-11.	0.5	26
27	Time-varying span efficiency through the wingbeat of desert locusts. Journal of the Royal Society Interface, 2012, 9, 1177-1186.	1.5	25
28	Petiolate wings: effects on the leading-edge vortex in flapping flight. Interface Focus, 2017, 7, 20160084.	1.5	25
29	Insects in flight: direct visualization and flow measurements. Bioinspiration and Biomimetics, 2006, 1, S1-S9.	1.5	24
30	Insect and insect-inspired aerodynamics: unsteadiness, structural mechanics and flight control. Current Opinion in Insect Science, 2018, 30, 26-32.	2.2	23
31	Raptor wing morphing with flight speed. Journal of the Royal Society Interface, 2021, 18, 20210349.	1.5	23
32	Insect Flight Dynamics and Control. , 2006, , .		21
33	Systematic characterization of wing mechanosensors that monitor airflow and wing deformations. IScience, 2022, 25, 104150.	1.9	14
34	Low Reynolds Number Acceleration of Flat Plate Wings at High Incidence (Invited). , 2016, , .		13
35	See-saw rocking: an in vitro model for mechanotransduction research. Journal of the Royal Society Interface, 2014, 11, 20140330.	1.5	12
36	Leading Edge Vortex Evolution and Lift Production on Rotating Wings (Invited). , 2016, , .		10

#	Article	IF	Citations
37	Wake Development behind Paired Wings with Tip and Root Trailing Vortices: Consequences for Animal Flight Force Estimates. PLoS ONE, 2014, 9, e91040.	1.1	8
38	Recent progress on the flight of dragonflies and damselflies. International Journal of Odonatology, 2020, 23, 41-49.	0.5	7
39	Virtual manipulation of tail postures of a gliding barn owl (Tyto alba) demonstrates drag minimization when gliding. Journal of the Royal Society Interface, 2022, 19, 20210710.	1.5	7
40	Stability and manoeuvrability in animal movement: lessons from biology, modelling and robotics. Proceedings of the Royal Society B: Biological Sciences, 2022, 289, 20212492.	1.2	6
41	Jumping robots: a biomimetic solution to locomotion across rough terrain. Bioinspiration and Biomimetics, 2008, 3, 039801.	1.5	5
42	Smoke visualization of free-flying bumblebees indicates independent leading-edge vortices on each wing pair. , 2010, , 249-259.		4
43	Swimming performance of a subcarangiform, the blind Mexican cave fish (Astyanax fasciatus). Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2007, 146, S119.	0.8	1
44	W053001 Bio-inspiration from Nature's fliers. The Proceedings of Mechanical Engineering Congress Japan, 2014, 2014, _W053001-1-_W053001-4.	0.0	0