

Michael H Dickinson

List of Publications by Year in descending order

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108
papers

14,983
citations

18482
62
h-index

27406
106
g-index

124
all docs

124
docs citations

124
times ranked

5905
citing authors

#	ARTICLE	IF	CITATIONS
1	High-throughput ethomics in large groups of <i>Drosophila</i> . <i>Nature Methods</i> , 2009, 6, 451-457.	19.0	690
2	Spanwise flow and the attachment of the leading-edge vortex on insect wings. <i>Nature</i> , 2001, 412, 729-733.	27.8	626
3	The aerodynamic effects of wing rotation and a revised quasi-steady model of flapping flight. <i>Journal of Experimental Biology</i> , 2002, 205, 1087-1096.	1.7	616
4	The control of flight force by a flapping wing: lift and drag production. <i>Journal of Experimental Biology</i> , 2001, 204, 2607-2626.	1.7	601
5	Rotational accelerations stabilize leading edge vortices on revolving fly wings. <i>Journal of Experimental Biology</i> , 2009, 212, 2705-2719.	1.7	489
6	The Aerodynamics of Free-Flight Maneuvers in <i>Drosophila</i> . <i>Science</i> , 2003, 300, 495-498.	12.6	484
7	Unsteady forces and flows in low Reynolds number hovering flight: two-dimensional computations vs robotic wing experiments. <i>Journal of Experimental Biology</i> , 2004, 207, 449-460.	1.7	456
8	Active flight increases the gain of visual motion processing in <i>Drosophila</i> . <i>Nature Neuroscience</i> , 2010, 13, 393-399.	14.8	391
9	Force production and flow structure of the leading edge vortex on flapping wings at high and low Reynolds numbers. <i>Journal of Experimental Biology</i> , 2004, 207, 1063-1072.	1.7	390
10	The aerodynamic effects of wing rotation and a revised quasi-steady model of flapping flight. <i>Journal of Experimental Biology</i> , 2002, 205, 1087-96.	1.7	368
11	The aerodynamics of hovering flight in <i>Drosophila</i> . <i>Journal of Experimental Biology</i> , 2005, 208, 2303-2318.	1.7	287
12	The influence of visual landscape on the free flight behavior of the fruit fly <i>Drosophila melanogaster</i> . <i>Journal of Experimental Biology</i> , 2002, 205, 327-343.	1.7	275
13	A modular display system for insect behavioral neuroscience. <i>Journal of Neuroscience Methods</i> , 2008, 167, 127-139.	2.5	267
14	Visually Mediated Motor Planning in the Escape Response of <i>Drosophila</i> . <i>Current Biology</i> , 2008, 18, 1300-1307.	3.9	245
15	Mosquitoes Use Vision to Associate Odor Plumes with Thermal Targets. <i>Current Biology</i> , 2015, 25, 2123-2129.	3.9	235
16	Flies Evade Looming Targets by Executing Rapid Visually Directed Banked Turns. <i>Science</i> , 2014, 344, 172-177.	12.6	234
17	The functional organization of descending sensory-motor pathways in <i>Drosophila</i> . <i>ELife</i> , 2018, 7, .	6.0	233
18	The Function of Dipteran Flight Muscle. <i>Comparative Biochemistry and Physiology A, Comparative Physiology</i> , 1997, 116, 223-238.	0.6	222

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19	Muscle efficiency and elastic storage in the flight motor of <i>Drosophila</i> . <i>Science</i> , 1995, 268, 87-90.	12.6	212
20	Collision-avoidance and landing responses are mediated by separate pathways in the fruit fly, <i>Drosophila melanogaster</i> . <i>Journal of Experimental Biology</i> , 2002, 205, 2785-2798.	1.7	206
21	Free-flight responses of <i>Drosophila melanogaster</i> to attractive odors. <i>Journal of Experimental Biology</i> , 2006, 209, 3001-3017.	1.7	204
22	A Simple Vision-Based Algorithm for Decision Making in Flying <i>Drosophila</i> . <i>Current Biology</i> , 2008, 18, 464-470.	3.9	201
23	Short-amplitude high-frequency wing strokes determine the aerodynamics of honeybee flight. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 18213-18218.	7.1	198
24	Plume-Tracking Behavior of Flying <i>Drosophila</i> Emerges from a Set of Distinct Sensory-Motor Reflexes. <i>Current Biology</i> , 2014, 24, 274-286.	3.9	186
25	Multi-camera real-time three-dimensional tracking of multiple flying animals. <i>Journal of the Royal Society Interface</i> , 2011, 8, 395-409.	3.4	178
26	A comparison of visual and haltere-mediated equilibrium reflexes in the fruit fly <i>Drosophila melanogaster</i> . <i>Journal of Experimental Biology</i> , 2003, 206, 295-302.	1.7	161
27	Automated monitoring and quantitative analysis of feeding behaviour in <i>Drosophila</i> . <i>Nature Communications</i> , 2014, 5, 4560.	12.8	161
28	Haltere-mediated equilibrium reflexes of the fruit fly, <i>Drosophila melanogaster</i> . <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 1999, 354, 903-916.	4.0	159
29	The influence of visual landscape on the free flight behavior of the fruit fly <i>Drosophila melanogaster</i> . <i>Journal of Experimental Biology</i> , 2002, 205, 327-43.	1.7	159
30	Visual Input to the Efferent Control System of a Fly's "Gyroscope". <i>Science</i> , 1998, 280, 289-292.	12.6	155
31	Octopamine Neurons Mediate Flight-Induced Modulation of Visual Processing in <i>Drosophila</i> . <i>Current Biology</i> , 2012, 22, 2294-2302.	3.9	155
32	Spatial organization of visuomotor reflexes in <i>Drosophila</i> . <i>Journal of Experimental Biology</i> , 2004, 207, 113-122.	1.7	151
33	Collision-avoidance and landing responses are mediated by separate pathways in the fruit fly, <i>Drosophila melanogaster</i> . <i>Journal of Experimental Biology</i> , 2002, 205, 2785-98.	1.7	146
34	The visual control of landing and obstacle avoidance in the fruit fly <i>Drosophila melanogaster</i> . <i>Journal of Experimental Biology</i> , 2012, 215, 1783-1798.	1.7	144
35	Haltere Afferents Provide Direct, Electrotonic Input to a Steering Motor Neuron in the Blowfly, <i>Calliphora</i> . <i>Journal of Neuroscience</i> , 1996, 16, 5225-5232.	3.6	142
36	Visual control of flight speed in <i>Drosophila melanogaster</i> . <i>Journal of Experimental Biology</i> , 2009, 212, 1120-1130.	1.7	140

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37	Performance trade-offs in the flight initiation of <i>Drosophila</i> . Journal of Experimental Biology, 2008, 211, 341-353.	1.7	137
38	Sun Navigation Requires Compass Neurons in <i>Drosophila</i> . Current Biology, 2018, 28, 2845-2852.e4.	3.9	133
39	Summation of visual and mechanosensory feedback in <i>Drosophila</i> flight control. Journal of Experimental Biology, 2004, 207, 133-142.	1.7	132
40	Visual stimulation of saccades in magnetically tethered <i>Drosophila</i> . Journal of Experimental Biology, 2006, 209, 3170-3182.	1.7	132
41	Flying <i>Drosophila</i> stabilize their vision-based velocity controller by sensing wind with their antennae. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E1182-91.	7.1	130
42	The role of visual and mechanosensory cues in structuring forward flight in <i>Drosophila melanogaster</i> . Journal of Experimental Biology, 2007, 210, 4092-4103.	1.7	125
43	Idiothetic Path Integration in the Fruit Fly <i>Drosophila melanogaster</i> . Current Biology, 2017, 27, 2227-2238.e3.	3.9	120
44	The aerodynamics and control of free flight manoeuvres in <i>Drosophila</i> . Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150388.	4.0	119
45	Algorithms for Olfactory Search across Species. Journal of Neuroscience, 2018, 38, 9383-9389.	3.6	117
46	A comparison of visual and haltere-mediated feedback in the control of body saccades in <i>Drosophila melanogaster</i> . Journal of Experimental Biology, 2006, 209, 4597-4606.	1.7	115
47	Functional divisions for visual processing in the central brain of flying <i>Drosophila</i> . Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5523-32.	7.1	115
48	Flying <i>Drosophila</i> Orient to Sky Polarization. Current Biology, 2012, 22, 21-27.	3.9	112
49	Odor localization requires visual feedback during free flight in <i>Drosophila melanogaster</i> . Journal of Experimental Biology, 2003, 206, 843-855.	1.7	109
50	Body saccades of <i>Drosophila</i> consist of stereotyped banked turns. Journal of Experimental Biology, 2015, 218, 864-875.	1.7	102
51	Social structures depend on innate determinants and chemosensory processing in <i>Drosophila</i> . Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 17174-17179.	7.1	93
52	Insect flight. Current Biology, 2006, 16, R309-R314.	3.9	88
53	Wing and body motion during flight initiation in <i>Drosophila</i> revealed by automated visual tracking. Journal of Experimental Biology, 2009, 212, 1307-1323.	1.7	87
54	An Array of Descending Visual Interneurons Encoding Self-Motion in <i>Drosophila</i> . Journal of Neuroscience, 2016, 36, 11768-11780.	3.6	87

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55	The correlation between wing kinematics and steering muscle activity in the blowfly <i>Calliphora vicina</i> . Journal of Experimental Biology, 2001, 204, 4213-4226.	1.7	87
56	Molecular dynamics of cyclically contracting insect flight muscle in vivo. Nature, 2005, 433, 330-334.	27.8	85
57	The Function and Organization of the Motor System Controlling Flight Maneuvers in Flies. Current Biology, 2017, 27, 345-358.	3.9	84
58	Motor output reflects the linear superposition of visual and olfactory inputs in <i>Drosophila</i> . Journal of Experimental Biology, 2004, 207, 123-131.	1.7	83
59	Visual Control of Altitude in Flying <i>Drosophila</i> . Current Biology, 2010, 20, 1550-1556.	3.9	83
60	Convergent Mechanosensory Input Structures the Firing Phase of a Steering Motor Neuron in the Blowfly, <i>Calliphora</i> . Journal of Neurophysiology, 1999, 82, 1916-1926.	1.8	82
61	Role of calcium in the regulation of mechanical power in insect flight. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 4311-4315.	7.1	82
62	Modulation of Host Learning in <i>Aedes aegypti</i> Mosquitoes. Current Biology, 2018, 28, 333-344.e8.	3.9	82
63	Fly Flight. Neuron, 2001, 32, 385-388.	8.1	75
64	Death Valley, <i>Drosophila</i> , and the Devonian Toolkit. Annual Review of Entomology, 2014, 59, 51-72.	11.8	75
65	Distinct activity-gated pathways mediate attraction and aversion to CO ₂ in <i>Drosophila</i> . Nature, 2018, 564, 420-424.	27.8	75
66	Transforming representations of movement from body- to world-centric space. Nature, 2022, 601, 98-104.	27.8	71
67	Neuromuscular control of aerodynamic forces and moments in the blowfly, <i>Calliphora vicina</i> . Journal of Experimental Biology, 2004, 207, 3813-3838.	1.7	70
68	Active and Passive Antennal Movements during Visually Guided Steering in Flying <i>Drosophila</i> . Journal of Neuroscience, 2011, 31, 6900-6914.	3.6	70
69	A Descending Neuron Correlated with the Rapid Steering Maneuvers of Flying <i>Drosophila</i> . Current Biology, 2017, 27, 1200-1205.	3.9	68
70	Anatomical Reconstruction and Functional Imaging Reveal an Ordered Array of Skylight Polarization Detectors in <i>Drosophila</i> . Journal of Neuroscience, 2016, 36, 5397-5404.	3.6	66
71	Motmot, an open-source toolkit for realtime video acquisition and analysis. Source Code for Biology and Medicine, 2009, 4, 5.	1.7	65
72	Visual-Olfactory Integration in the Human Disease Vector Mosquito <i>Aedes aegypti</i> . Current Biology, 2019, 29, 2509-2516.e5.	3.9	64

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73	Central complex neurons exhibit behaviorally gated responses to visual motion in <i>Drosophila</i> . Journal of Neurophysiology, 2014, 111, 62-71.	1.8	63
74	Cellular mechanisms for integral feedback in visually guided behavior. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5700-5705.	7.1	63
75	Object preference by walking fruit flies, <i>Drosophila melanogaster</i> , is mediated by vision and graviperception. Journal of Experimental Biology, 2010, 213, 2494-2506.	1.7	62
76	Imaging neural activity in the ventral nerve cord of behaving adult <i>Drosophila</i> . Nature Communications, 2018, 9, 4390.	12.8	62
77	Flying <i>Drosophila</i> maintain arbitrary but stable headings relative to the angle of polarized light. Journal of Experimental Biology, 2018, 221, .	1.7	59
78	Celestial navigation in <i>Drosophila</i> . Journal of Experimental Biology, 2019, 222, .	1.7	59
79	Position-specific central projections of mechanosensory neurons on the haltere of the blow fly, <i>Calliphora vicina</i> . , 1996, 369, 405-418.		57
80	The influence of sensory delay on the yaw dynamics of a flapping insect. Journal of the Royal Society Interface, 2012, 9, 1685-1696.	3.4	55
81	The Control of Mechanical Power in Insect Flight. American Zoologist, 1998, 38, 718-728.	0.7	53
82	Discriminating External and Internal Causes for Heading Changes in Freely Flying <i>Drosophila</i> . PLoS Computational Biology, 2013, 9, e1002891.	3.2	52
83	The long-distance flight behavior of <i>Drosophila</i> supports an agent-based model for wind-assisted dispersal in insects. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	52
84	Multifunctional Wing Motor Control of Song and Flight. Current Biology, 2018, 28, 2705-2717.e4.	3.9	51
85	Directional Sensitivity and Mechanical Coupling Dynamics of Campaniform Sensilla During Chord-Wise Deformations of the Fly Wing. Journal of Experimental Biology, 1992, 169, 221-233.	1.7	51
86	Closing the loop between neurobiology and flight behavior in <i>Drosophila</i> . Current Opinion in Neurobiology, 2004, 14, 729-736.	4.2	48
87	A Systematic Nomenclature for the <i>Drosophila</i> Ventral Nerve Cord. Neuron, 2020, 107, 1071-1079.e2.	8.1	48
88	History dependence in insect flight decisions during odor tracking. PLoS Computational Biology, 2018, 14, e1005969.	3.2	47
89	Diverse Food-Sensing Neurons Trigger Idiothetic Local Search in <i>Drosophila</i> . Current Biology, 2019, 29, 1660-1668.e4.	3.9	47
90	Flies Regulate Wing Motion via Active Control of a Dual-Function Gyroscope. Current Biology, 2019, 29, 3517-3524.e3.	3.9	44

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91	Flies compensate for unilateral wing damage through modular adjustments of wing and body kinematics. <i>Interface Focus</i> , 2017, 7, 20160103.	3.0	40
92	A population of descending neurons that regulates the flight motor of <i>Drosophila</i> . <i>Current Biology</i> , 2022, 32, 1189-1196.e6.	3.9	36
93	A task-level model for optomotor yaw regulation in <i>drosophila melanogaster</i> : A frequency-domain system identification approach. , 2012, , .		33
94	Burst muscle performance predicts the speed, acceleration, and turning performance of Anna's hummingbirds. <i>ELife</i> , 2015, 4, e11159.	6.0	29
95	Antennal Mechanosensory Neurons Mediate Wing Motor Reflexes in Flying <i>Drosophila</i> . <i>Journal of Neuroscience</i> , 2015, 35, 7977-7991.	3.6	28
96	Octopaminergic modulation of the visual flight speed regulator of <i>Drosophila</i> . <i>Journal of Experimental Biology</i> , 2014, 217, 1737-44.	1.7	27
97	Superhydrophobic diving flies (<i>Ephydra hians</i>) and the hypersaline waters of Mono Lake. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 13483-13488.	7.1	23
98	Flow Structure and Force Generation on Flapping Wings at Low Reynolds Numbers Relevant to the Flight of Tiny Insects. <i>Fluids</i> , 2018, 3, 45.	1.7	23
99	Visual motion speed determines a behavioral switch from forward flight to expansion avoidance in <i>Drosophila</i> . <i>Journal of Experimental Biology</i> , 2013, 216, 719-32.	1.7	19
100	<i>Drosophila</i> re-zero their path integrator at the center of a fictive food patch. <i>Current Biology</i> , 2021, 31, 4534-4546.e5.	3.9	17
101	Genome editing in non-model organisms opens new horizons for comparative physiology. <i>Journal of Experimental Biology</i> , 2020, 223, .	1.7	15
102	The Generation of Forces and Moments during Visual-Evoked Steering Maneuvers in Flying <i>Drosophila</i> . <i>PLoS ONE</i> , 2009, 4, e4883.	2.5	14
103	Fly with a little flap from your friends. <i>Nature</i> , 2014, 505, 295-296.	27.8	14
104	The effects of target contrast on <i>Drosophila</i> courtship. <i>Journal of Experimental Biology</i> , 2019, 222, .	1.7	12
105	Animal Locomotion: A New Spin on Bat Flight. <i>Current Biology</i> , 2008, 18, R468-R470.	3.9	9
106	Visual Sensory Signals Dominate Tactile Cues during Docked Feeding in Hummingbirds. <i>Frontiers in Neuroscience</i> , 2017, 11, 622.	2.8	9
107	Motor Control: How Dragonflies Catch Their Prey. <i>Current Biology</i> , 2015, 25, R232-R234.	3.9	8
108	jumps with greater velocity and acceleration than previously reported. <i>MicroPublication Biology</i> , 2021, 2021, .	0.1	0