Tyson L Hedrick

List of Publications by Year
in descending order

74 papers	4,823 citations	126708 33 h-index	102304 66 g-index
79 all docs	79 docs citations	79 times ranked	3094 citing authors

#	Article	IF	Citations
1	Software techniques for two- and three-dimensional kinematic measurements of biological and biomimetic systems. Bioinspiration and Biomimetics, 2008, 3, 034001.	1.5	1,062
2	Xâ€ray reconstruction of moving morphology (XROMM): precision, accuracy and applications in comparative biomechanics research. Journal of Experimental Zoology, 2010, 313A, 262-279.	1.2	310
3	Wingbeat Time and the Scaling of Passive Rotational Damping in Flapping Flight. Science, 2009, 324, 252-255.	6.0	251
4	Neuromechanics: an integrative approach for understanding motor control. Integrative and Comparative Biology, 2007, 47, 16-54.	0.9	226
5	Three-dimensional kinematics of hummingbird flight. Journal of Experimental Biology, 2007, 210, 2368-2382.	0.8	207
6	Quantifying the complexity of bat wing kinematics. Journal of Theoretical Biology, 2008, 254, 604-615.	0.8	154
7	The mechanics and control of pitching manoeuvres in a freely flying hawkmoth (Manduca) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.8	153
8	A protocol and calibration method for accurate multi-camera field videography. Journal of Experimental Biology, 2014, 217, 1843-8.	0.8	143
9	Wing inertia and whole-body acceleration: an analysis of instantaneous aerodynamic force production in cockatiels (Nymphicus hollandicus)flying across a range of speeds. Journal of Experimental Biology, 2004, 207, 1689-1702.	0.8	112
10	Time-Varying Wing-Twist Improves Aerodynamic Efficiency of Forward Flight in Butterflies. PLoS ONE, 2013, 8, e53060.	1.1	111
11	Estimates of circulation and gait change based on a three-dimensional kinematic analysis of flight in cockatiels (Nymphicus hollandicus)and ringed turtle-doves (Streptopelia risoria). Journal of Experimental Biology, 2002, 205, 1389-1409.	0.8	102
12	A multi-fidelity modelling approach for evaluation and optimization of wing stroke aerodynamics in flapping flight. Journal of Fluid Mechanics, 2013, 721, 118-154.	1.4	93
13	A nondestructive method to estimate the chlorophyll content of Arabidopsis seedlings. Plant Methods, 2017, 13, 26.	1.9	91
14	Dynamic pressure maps for wings and tails of pigeons in slow, flapping flight, and their energetic implications. Journal of Experimental Biology, 2005, 208, 355-369.	0.8	87
15	How cockatiels (Nymphicus hollandicus) modulate pectoralis power output across flight speeds. Journal of Experimental Biology, 2003, 206, 1363-1378.	0.8	79
16	3D for the people: multi-camera motion capture in the field with consumer-grade cameras and open source software. Biology Open, 2016, 5, 1334-1342.	0.6	72
17	Clap and fling mechanism with interacting porous wings in tiny insect flight. Journal of Experimental Biology, 2014, 217, 3898-909.	0.8	71
18	Three-dimensional flow and lift characteristics of a hovering ruby-throated hummingbird. Journal of the Royal Society Interface, 2014, 11, 20140541.	1.5	71

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19	Wing kinematics of avian flight across speeds. Journal of Avian Biology, 2003, 34, 177-184.	0.6	66
20	Low speed maneuvering flight of the rose-breasted cockatoo (Eolophus roseicapillus). I. Kinematic and neuromuscular control of turning. Journal of Experimental Biology, 2007, 210, 1897-1911.	0.8	65
21	Flight mechanics and control of escape manoeuvres in hummingbirds I. Flight kinematics. Journal of Experimental Biology, 2016, 219, 3518-3531.	0.8	65
22	Hawkmoth flight stability in turbulent vortex streets. Journal of Experimental Biology, 2013, 216, 4567-79.	0.8	62
23	Bristles reduce the force required to â€˜flingâ€™ wings apart in the smallest insects. Journal of Experimental Biology, 2016, 219, 3759-3772.	0.8	61
24	Morphological and kinematic basis of the hummingbird flight stroke: scaling of flight muscle transmission ratio. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 1986-1992.	1.2	60
25	Regional patterns of pectoralis fascicle strain in the pigeon Columba livia during level flight. Journal of Experimental Biology, 2005, 208, 771-786.	0.8	59
26	Estimates of circulation and gait change based on a three-dimensional kinematic analysis of flight in cockatiels (Nymphicus hollandicus) and ringed turtle-doves (Streptopelia risoria). Journal of Experimental Biology, 2002, 205, 1389-409.	0.8	53
27	Vibrational control: A hidden stabilization mechanism in insect flight. Science Robotics, 2020, 5, .	9.9	52
28	Neuromuscular and biomechanical compensation for wing asymmetry in insect hovering flight. Journal of Experimental Biology, 2012, 215, 3631-8.	0.8	44
29	Using Computational and Mechanical Models to Study Animal Locomotion. Integrative and Comparative Biology, 2012, 52, 553-575.	0.9	42
30	Neuromuscular control of free-flight yaw turns in the hawkmothManduca sexta. Journal of Experimental Biology, 2012, 215, 1766-1774.	0.8	41
31	Effects of flight speed upon muscle activity in hummingbirds. Journal of Experimental Biology, 2010, 213, 2515-2523.	0.8	39
32	Hummingbird flight. Current Biology, 2012, 22, R472-R477.	1.8	39
33	Three-dimensional trajectories and network analyses of group behaviour within chimney swift flocks during approaches to the roost. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20162602.	1.2	39
34	Recent developments in the study of insect flight. Canadian Journal of Zoology, 2015, 93, 925-943.	0.4	37
35	Data Management Rubric for Video Data in Organismal Biology. Integrative and Comparative Biology, 2017, 57, 33-47.	0.9	35
36	Field Flight Dynamics of Hummingbirds during Territory Encroachment and Defense. PLoS ONE, 2015, 10, e0125659.	1.1	32

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37	Western and Clark's grebes use novel strategies for running on water. Journal of Experimental Biology, 2015, 218, 1235-1243.	0.8	31
38	The mechanics and behavior of Cliff Swallows during tandem flights. Journal of Experimental Biology, 2014, 217, 2717-25.	0.8	28
39	Hawkmoth flight performance in tornado-like whirlwind vortices. Bioinspiration and Biomimetics, 2014, 9, 025003.	1.5	27
40	Tracking a large number of objects from multiple views. , 2009, , .		26
41	Three-dimensional simulation for fast forward flight of a calliope hummingbird. Royal Society Open Science, 2016, 3, 160230.	1.1	26
42	Asymmetry costs: Effects of wing damage on hovering flight performance in the hawkmothManduca sexta. Journal of Experimental Biology, 2017, 220, 3649-3656.	0.8	26
43	Flight mechanics and control of escape manoeuvres in hummingbirds II. Aerodynamic force production, flight control and performance limitations. Journal of Experimental Biology, 2016, 219, 3532-3543.	0.8	25
44	Within-wingbeat damping: dynamics of continuous free-flight yaw turns in Manduca sexta. Biology Letters, 2010, 6, 422-425.	1.0	24
45	Damping in flapping flight and its implications for manoeuvring, scaling and evolution. Journal of Experimental Biology, 2011, 214, 4073-4081.	0.8	22
46	Direct lateral maneuvers in hawkmoths. Biology Open, 2016, 5, 72-82.	0.6	20
47	Mechanism and scaling of wing tone generation in mosquitoes. Bioinspiration and Biomimetics, 2020, 15, 016008.	1.5	20
48	Foraging at the edge of the world: low-altitude, high-speed manoeuvering in barn swallows. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150391.	1.8	19
49	Gliding for a free lunch: biomechanics of foraging flight in common swifts (Apus apus). Journal of Experimental Biology, 2018, 221, .	0.8	19
50	Centripetal Acceleration Reaction: An Effective and Robust Mechanism for Flapping Flight in Insects. PLoS ONE, 2015, 10, e0132093.	1.1	17
51	Wing-pitching mechanism of hovering Ruby-throated hummingbirds. Bioinspiration and Biomimetics, 2015, 10, 016007.	1.5	17
52	Compound-V formations in shorebird flocks. ELife, 2019, 8, .	2.8	17
53	Using collision cones to assess biological deconfliction methods. Journal of the Royal Society Interface, 2016, 13, 20160502.	1.5	16
54	Detecting intermittent switching leadership in coupled dynamical systems. Scientific Reports, 2018, 8, 10338.	1.6	15

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55	How biomechanics, path planning and sensing enable gliding flight in a natural environment. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20192888.	1.2	15
56	Collision avoidance in biological systems using collision cones. , 2013, , .		12
57	Combined effects of body posture and three-dimensional wing shape enable efficient gliding in flying lizards. Scientific Reports, 2022, 12, 1793.	1.6	12
58	Performance of a quasi-steady model for hovering hummingbirds. Theoretical and Applied Mechanics Letters, 2015, 5, 50-53.	1.3	11
59	An Integrated Study of the Aeromechanics of Hovering Flight in Perturbed Flows. AIAA Journal, 2019, 57, 3753-3764.	1.5	11
60	Functional Morphology of Gliding Flight II. Morphology Follows Predictions of Gliding Performance. Integrative and Comparative Biology, 2020, 60, 1297-1308.	0.9	11
61	Functional Morphology of Gliding Flight I: Modeling Reveals Distinct Performance Landscapes Based on Soaring Strategies. Integrative and Comparative Biology, 2020, 60, 1283-1296.	0.9	10
62	Biobotic insect swarm based sensor networks for search and rescue. , 2014, , .		7
63	Dragonflies use underdamped pursuit to chase conspecifics. Journal of Experimental Biology, 2019, 222, .	0.8	7
64	Comparison of experimental and numerical studies on the flow structures of hovering hawkmoths. Journal of Fluids and Structures, 2021, 107, 103405.	1.5	7
65	Covering Ground: Movement Patterns and Random Walk Behavior in Aquilonastra anomala Sea Stars. Biological Bulletin, 2016, 231, 130-141.	0.7	6
66	Flight motor modulation with speed in the hawkmoth Manduca sexta. Journal of Insect Physiology, 2017, 96, 115-121.	0.9	6
67	Mosquitoes buzz and fruit flies donâ€™t-a comparative aeroacoustic analysis of wing-tone generation. Bioinspiration and Biomimetics, 2021, 16, 046019.	1.5	6
68	Experimental evidence that physical activity inhibits osteoarthritis: Implications for inferring activity patterns from osteoarthritis in archeological human skeletons. American Journal of Biological Anthropology, 2022, 177, 223-231.	0.6	6
69	Competition and cooperation among chimney swifts at roost entry. Bioinspiration and Biomimetics, 2019, 14, 055005.	1.5	3
70	Lift characteristics of a hovering rufous hummingbird. , 2013, , .		2
71	Discovering useful parts for pose estimation in sparsely annotated datasets. , 2016, , .		1
72	Insect flight: Flies use a throttle to steer. Current Biology, 2022, 32, R218-R220.	1.8	1

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73	Aeromechanics of Hovering Flight in Perturbed Flows: Insights from Computational Models and Animal Experiments. , 2017, , .		0
74	Multi-Camera Videography Methods for Aeroecology. , 2017, , 239-257.		0