Sharon M Swartz

List of Publications by Year
in descending order

94 papers	3,771 citations	117625 34 h-index	144013 57 g-index
99 all docs	99 docs citations	99 times ranked	2114 citing authors

#	Article	IF	Citations
1	A comparison of thermal sensitivities of wing muscle contractile properties from a temperate and tropical bat species. Journal of Experimental Biology, 2022, , .	1.7	1
2	Bats actively modulate membrane compliance to control camber and reduce drag. Journal of Experimental Biology, 2022, 225, .	1.7	15
3	Bats use topography and nocturnal updrafts to fly high and fast. Current Biology, 2021, 31, 1311-1316.e4.	3.9	22
4	A proximalâ€“distal difference in bat wing muscle thermal sensitivity parallels a difference in operating temperatures along the wing. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20210009.	2.6	4
5	Full-scale aeroelastic simulations of hovering bat flight. , 2020, , .		2
6	Warm bodies, cool wings: regional heterothermy in flying bats. Biology Letters, 2019, 15, 20190530.	2.3	14
7	Specialized landing maneuvers in Spix's disk-winged bats (Thyroptera tricolor) reveal linkage between roosting ecology and landing biomechanics. Journal of Experimental Biology, 2019, 222, .	1.7	10
8	Wings as inertial appendages: how bats recover from aerial stumbles. Journal of Experimental Biology, 2019, 222, .	1.7	12
9	The dynamics of hovering flight in hummingbirds, insects and bats with implications for aerial robotics. Bioinspiration and Biomimetics, 2019, 14, 016003.	2.9	17
10	Low thermal dependence of the contractile properties of a wing muscle in the bat Carollia perspicillata. Journal of Experimental Biology, 2018, 221, .	1.7	8
11	Diversity in the organization of elastin bundles and intramembranous muscles in bat wings. Journal of Anatomy, 2017, 230, 510-523.	1.5	20
12	Speed-dependent modulation of wing muscle recruitment intensity and kinematics in two bat species. Journal of Experimental Biology, 2017, 220, 1820-1829.	1.7	15
13	The influence of aspect ratio and stroke pattern on force generation of a bat-inspired membrane wing. Interface Focus, 2017, 7, 20160083.	3.0	10
14	Principles and Patterns of Bat Movements: From Aerodynamics to Ecology. Quarterly Review of Biology, 2017, 92, 267-287.	0.1	46
15	Guidelines for the design and control of bio-inspired hovering robots. , 2017, , .		5
16	Simplifying a wing: diversity and functional consequences of digital joint reduction in bat wings. Journal of Anatomy, 2016, 229, 114-127.	1.5	16
17	Wake structure and kinematics in two insectivorous bats. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150385.	4.0	28
18	Airplane tracking documents the fastest flight speeds recorded for bats. Royal Society Open Science, 2016, 3, 160398.	2.4	54

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19	Advances in animal flight studies. Canadian Journal of Zoology, 2015, 93, v-vi.	1.0	2
20	Nanomechanical properties of wing membrane layers in the house cricket (Acheta domesticus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 70	2.0	11
21	Biaxial mechanical characterization of bat wing skin. Bioinspiration and Biomimetics, 2015, 10, 036004.	2.9	20
22	A wrinkle in flight: the role of elastin fibres in the mechanical behaviour of bat wing membranes. Journal of the Royal Society Interface, 2015, 12, 20141286.	3.4	35
23	Advances in the study of bat flight: the wing and the wind. Canadian Journal of Zoology, 2015, 93, 977-990.	1.0	23
24	Spring or string: does tendon elastic action influence wing muscle mechanics in bat flight?. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20151832.	2.6	30
25	Falling with Style: Bats Perform Complex Aerial Rotations by Adjusting Wing Inertia. PLoS Biology, 2015, 13, e1002297.	5.6	55
26	Hindlimb Motion during Steady Flight of the Lesser Dog-Faced Fruit Bat, Cynopterus brachyotis. PLoS ONE, 2014, 9, e98093.	2.5	18
27	How Does Soft Robotics Drive Research in Animal Locomotion?. Soft Robotics, 2014, 1, 161-168.	8.0	10
28	Membrane muscle function in the compliant wings of bats. Bioinspiration and Biomimetics, 2014, 9, 025007.	2.9	60
29	How wing kinematics affect power requirements and aerodynamic force production in a robotic bat wing. Bioinspiration and Biomimetics, 2014, 9, 025008.	2.9	31
30	Bat-Inspired Flapping Flight. , 2014, , .		9
31	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.	3.4	31
32	Polarized Image Correlation for Large Deformation Fiber Kinematics. Experimental Mechanics, 2013, 53, 1405-1413.	2.0	3
33	Design and characterization of a multi-articulated robotic bat wing. Bioinspiration and Biomimetics, 2013, 8, 016009.	2.9	92
34	Glide performance and aerodynamics of non-equilibrium glides in northern flying squirrels (Glaucomys sabrinus). Journal of the Royal Society Interface, 2013, 10, 20120794.	3.4	54
35	Flight metabolism in relation to speed in Chiroptera: Testing the U-shape paradigm in the short-tailed fruit batCarollia perspicillata. Journal of Experimental Biology, 2013, 216, 2073-80.	1.7	25
36	An aeroelastic instability provides a possible basis for the transition from gliding to flapping flight. Journal of the Royal Society Interface, 2013, 10, 20120940.	3.4	25

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37	Specialized bat tongue is a hemodynamic nectar mop. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8852-8857.	7.1	61
38	Large-Eddy Simulations of a Flapping Plate. , 2012, , .		1
39	A mixed Von Mises distribution for modeling soft biological tissues with two distributed fiber properties. International Journal of Solids and Structures, 2012, 49, 2914-2923.	2.7	21
40	Changes in kinematics and aerodynamics over a range of speeds inTadarida brasiliensis, the Brazilian free-tailed bat. Journal of the Royal Society Interface, 2012, 9, 1120-1130.	3.4	68
41	Upstroke wing flexion and the inertial cost of bat flight. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 2945-2950.	2.6	61
42	A bird? A plane? No, it's a bat: an introduction to the biomechanics of bat flight. , 2012, , 317-352.		25
43	Kinematic Plasticity during Flight in Fruit Bats: Individual Variability in Response to Loading. PLoS ONE, 2012, 7, e36665.	2.5	28
44	A Self-Excited Flapping Wing: Lift, Drag and the Implications for Biological Flight. , 2011, , .		1
45	Energetically Optimal Short-Range Gliding Trajectories for Gliding Animals. AIAA Journal, 2011, 49, 2650-2657.	2.6	10
46	Measurement of the wake behind a bat-like flapper and the influence of the flapping frequency on lift generation. , 2011, , .		0
47	3D reconstruction of bat flight kinematics from sparse multiple views. , 2011, , .		22
48	Climbing flight performance and load carrying in lesser dog-faced fruit bats (Cynopterus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 302 T	1.7	21
49	Whole-body kinematics of a fruit bat reveal the influence of wing inertia on body accelerations. Journal of Experimental Biology, 2011, 214, 1546-1553.	1.7	54
50	In-Flight Wing-Membrane Strain Measurements on Bats. Conference Proceedings of the Society for Experimental Mechanics, 2011, , 437-445.	0.5	2
51	Variation in withinâ€bone stiffness measured by nanoindentation in mice bred for high levels of voluntary wheel running. Journal of Anatomy, 2010, 216, 121-131.	1.5	22
52	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, 4110-4122.	1.7	73
53	Wake structure and wing kinematics: the flight of the lesser dog-faced fruit bat,Cynopterus brachyotis. Journal of Experimental Biology, 2010, 213, 3427-3440.	1.7	120
54	Time-resolved wake structure and kinematics of bat flight. , 2010, , 371-381.		8

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55	Bats go head-under-heels: the biomechanics of landing on a ceiling. Journal of Experimental Biology, 2009, 212, 945-953.	1.7	50
56	Time-resolved wake structure and kinematics of bat flight. Experiments in Fluids, 2009, 46, 933-943.	2.4	93
57	Energetically Optimal Flight Trajectories for Short Range Gliding Animals. , 2009, , .		0
58	Quantifying the complexity of bat wing kinematics. Journal of Theoretical Biology, 2008, 254, 604-615.	1.7	154
59	The relative importance of genetics and phenotypic plasticity in dictating bone morphology and mechanics in aged mice: Evidence from an artificial selection experiment. Zoology, 2008, 111, 135-147.	1.2	23
60	Aeromechanics of Membrane Wings with Implications for Animal Flight. AIAA Journal, 2008, 46, 2096-2106.	2.6	210
61	Aerodynamic Behavior of Compliant Membranes as Related to Bat Flight. , 2008, , .		13
62	The Aero-Mechanics of Low Aspect Ratio Compliant Membrane Wings, with Applications to Animal Flight. , 2008, , .		18
63	Multifidelity Approaches for the Computational Analysis and Design of Effective Flapping Wing Vehicles. , 2008, , .		16
64	Scientific Sketching for Collaborative VR Visualization Design. IEEE Transactions on Visualization and Computer Graphics, 2008, 14, 835-847.	4.4	44
65	Biomechanics of the Bat Limb Skeleton: Scaling, Material Properties and Mechanics. Cells Tissues Organs, 2008, 187, 59-84.	2.3	82
66	Kinematics of slow turn maneuvering in the fruit batCynopterus brachyotis. Journal of Experimental Biology, 2008, 211, 3478-3489.	1.7	71
67	Kinematics and Aerodynamics of Bat Flight. , 2008, , .		0
68	Aeromechanics in aeroecology: flight biology in the aerosphere. Integrative and Comparative Biology, 2007, 48, 85-98.	2.0	18
69	A Computational Framework for Fluid Structure Interaction in Biologically Inspired Flapping Flight. , 2007, , .		37
70	Wing Structure and the Aerodynamic Basis of Flight in Bats. , 2007, , .		56
71	Aeroecology: probing and modeling the aerosphere. Integrative and Comparative Biology, 2007, 48, 1-11.	2.0	89
72	Direct Measurements of the Kinematics and Dynamics of Bat Flight. , 2006, , .		7

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73	The Aerodynamics of Compliant Membrane Wings Modeled on Mammalian Flight Mechanics. , 2006, , .		42
74	Direct measurements of the kinematics and dynamics of bat flight. Bioinspiration and Biomimetics, 2006, 1, S10-S18.	2.9	136
75	Feature article - Particle flurries synoptic 3d pulsatile flow visualization. IEEE Computer Graphics and Applications, 2004, 24, 76-85.	1.2	36
76	Marvelous Machines Made of Meat. Science, 2002, 295, 1650-1650.	12.6	0
77	A COMPUTATIONAL MODEL FOR ESTIMATING THE MECHANICS OF HORIZONTAL FLAPPING FLIGHT IN BATS. Journal of Experimental Biology, 2001, 204, 2873-2898.	1.7	35
78	EVOLUTION:Into Jurassic Air. , 1998, 281, 355-356.		1
79	Allometric patterning in the limb skeleton of bats: Implications for the mechanics and energetics of powered flight. Journal of Morphology, 1997, 234, 277-294.	1.2	66
80	Ontogenetic and anatomic variation in mineralization of the wing skeleton of the Mexican freeâ€tailed bat, Tadarida brasiliensis. Journal of Zoology, 1996, 240, 411-426.	1.7	61
81	Mechanical properties of bat wing membrane skin. Journal of Zoology, 1996, 239, 357-378.	1.7	135
82	Biomechanical adaptation of ulnar cross-sectional morphology in brachiating primates. Journal of Morphology, 1995, 224, 111-123.	1.2	10
83	Wing bone stresses in free flying bats and the evolution of skeletal design for flight. Nature, 1992, 359, 726-729.	27.8	164
84	Sutural complexity in artificially deformed human (Homo sapiens) crania. Journal of Morphology, 1992, 214, 321-332.	1.2	52
85	THE â€˜LAW OF BONE TRANSFORMATIONâ€™: A CASE OF CRYING WOLFF?. Biological Reviews, 1991, 66, 245-273.	10.4	195
86	Strain Analysis as a Tool for Functional Morphology. American Zoologist, 1991, 31, 655-669.	0.7	5
87	Curvature of the forelimb bones of anthropoid primates: Overall allometric patterns and specializations in suspensory species. American Journal of Physical Anthropology, 1990, 83, 477-498.	2.1	55
88	Pendular mechanics and the kinematics and energetics of brachiating locomotion. International Journal of Primatology, 1989, 10, 387-418.	1.9	34
89	Telemetered in vivo strain analysis of locomotor mechanics of brachiating gibbons. Nature, 1989, 342, 270-272.	27.8	105
90	The functional morphology of weight bearing: limb joint surface area allometry in anthropoid primates. Journal of Zoology, 1989, 218, 441-460.	1.7	51

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91	Skeletal biomechanics and suspensory locomotion: An in vivo bone strain analysis of brachiating gibbons. Journal of Biomechanics, 1987, 20, 895.	2.1	0
92	Bone modeling during growth: Dynamic strain equilibrium in the chick tibiotarsus. Calcified Tissue International, 1986, 39, 390-395.	3.1	153
93	Biochemical and Biophysical Applications of Electron Spin Resonance. Methods of Biochemical Analysis, 1983, 29, 207-324.	0.2	17
94	Allometric patterning in the limb skeleton of bats: Implications for the mechanics and energetics of powered flight. , 0, .		1