Thomas J Roberts

List of Publications by Year in descending order

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62 papers	4,550 citations	126907 33 h-index	128289 60 g-index
62 all docs	62 docs citations	62 times ranked	3049 citing authors

#	Article	IF	Citations
1	Muscular Force in Running Turkeys: The Economy of Minimizing Work. Science, 1997, 275, 1113-1115.	12.6	680
2	Flexible mechanisms: the diverse roles of biological springs in vertebrate movement. Journal of Experimental Biology, 2011, 214, 353-361.	1.7	313
3	Variable gearing in pennate muscles. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1745-1750.	7.1	295
4	Energetics of Bipedal Running: I. Metabolic Cost of Generating Force. Journal of Experimental Biology, 1998, 201, 2745-2751.	1.7	212
5	Energetics of bipedal running. I. Metabolic cost of generating force. Journal of Experimental Biology, 1998, 201, 2745-51.	1.7	169
6	Swimming muscles power suction feeding in largemouth bass. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8690-8695.	7.1	153
7	Contribution of elastic tissues to the mechanics and energetics of muscle function during movement. Journal of Experimental Biology, 2016, 219, 266-275.	1.7	143
8	Evidence for a vertebrate catapult: elastic energy storage in the plantaris tendon during frog jumping. Biology Letters, 2012, 8, 386-389.	2.3	131
9	Mechanical function of two ankle extensors in wild turkeys: shifts from energy production to energy absorption during inclineversusdecline running. Journal of Experimental Biology, 2004, 207, 2277-2288.	1.7	112
10	Interpreting muscle function from EMG: lessons learned from direct measurements of muscle force. Integrative and Comparative Biology, 2008, 48, 312-320.	2.0	107
11	Muscle performance during frog jumping: influence of elasticity on muscle operating lengths. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 1523-1530.	2.6	103
12	Design of the Oxygen and Substrate Pathways: II. Defining the Upper Limits of Carbohydrate and Fat Oxidation. Journal of Experimental Biology, 1996, 199, 1651-1658.	1.7	103
13	Energetics Of Bipedal Running II. Limb Design and Running Mechanics. Journal of Experimental Biology, 1998, 201, 2753-2762.	1.7	101
14	The series elastic shock absorber: tendon elasticity modulates energy dissipation by muscle during burst deceleration. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20142800.	2.6	100
15	Skeletal muscle mechanics, energetics and plasticity. Journal of NeuroEngineering and Rehabilitation, 2017, 14, 108.	4.6	99
16	Muscle power attenuation by tendon during energy dissipation. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 1108-1113.	2.6	98
17	How Tendons Buffer Energy Dissipation by Muscle. Exercise and Sport Sciences Reviews, 2013, 41, 186-193.	3.0	94
18	Long-axis rotation: a missing degree of freedom in avian bipedal locomotion. Journal of Experimental Biology, 2014, 217, 2770-82.	1.7	89

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19	The series-elastic shock absorber: tendons attenuate muscle power during eccentric actions. Journal of Applied Physiology, 2010, 109, 396-404.	2.5	85
20	The mechanics of elastic loading and recoil in anuran jumping. Journal of Experimental Biology, 2014, 217, 4372-4378.	1.7	82
21	Design of the oxygen and substrate pathways. II. Defining the upper limits of carbohydrate and fat oxidation. Journal of Experimental Biology, 1996, 199, 1651-8.	1.7	76
22	Energetics of bipedal running. II. Limb design and running mechanics. Journal of Experimental Biology, 1998, 201, 2753-62.	1.7	75
23	Forceâ€“velocity properties of two avian hindlimb muscles. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2004, 137, 711-721.	1.8	63
24	Geared up to stretch: pennate muscle behavior during active lengthening. Journal of Experimental Biology, 2014, 217, 376-381.	1.7	63
25	Stuck in gear: age-related loss of variable gearing in skeletal muscle. Journal of Experimental Biology, 2016, 219, 998-1003.	1.7	62
26	Structural Determinants of Muscle Gearing During Dynamic Contractions. Integrative and Comparative Biology, 2018, 58, 207-218.	2.0	56
27	The weak link: do muscle properties determine locomotor performance in frogs?. Philosophical Transactions of the Royal Society B: Biological Sciences, 2011, 366, 1488-1495.	4.0	55
28	Incompressible fluid plays a mechanical role in the development of passive muscle tension. Biology Letters, 2017, 13, 20160630.	2.3	46
29	Design of the Oxygen and Substrate Pathways: III. Partitioning Energy Provision from Carbohydrates. Journal of Experimental Biology, 1996, 199, 1659-1666.	1.7	45
30	Design of the Oxygen and Substrate Pathways: I. Model and Strategy to Test Symmorphosis in a Network Structure. Journal of Experimental Biology, 1996, 199, 1643-1649.	1.7	44
31	Chasing maximal performance: a cautionary tale from the celebrated jumping frogs of Calaveras County. Journal of Experimental Biology, 2013, 216, 3947-3953.	1.7	42
32	The energetic benefits of tendon springs in running: is the reduction of muscle work important?. Journal of Experimental Biology, 2014, 217, 4365-71.	1.7	42
33	Fluoromicrometry: A Method for Measuring Muscle Length Dynamics with Biplanar Videofluoroscopy. Journal of Experimental Zoology, 2016, 325, 399-408.	1.2	37
34	3â€Ð range of motion envelopes reveal interacting degrees of freedom in avian hind limb joints. Journal of Anatomy, 2017, 231, 906-920.	1.5	37
35	The Multi-Scale, Three-Dimensional Nature of Skeletal Muscle Contraction. Physiology, 2019, 34, 402-408.	3.1	34
36	Muscle strain is modulated more with running slope than speed in wild turkey knee and hip extensors. Journal of Experimental Biology, 2007, 210, 2510-2517.	1.7	33

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37	Robust jumping performance and elastic energy recovery from compliant perches in tree frogs. Journal of Experimental Biology, 2015, 218, 3360-3363.	1.7	32
38	Timing matters: tuning the mechanics of a muscle-tendon unit by adjusting stimulation phase during cyclic contractions. Journal of Experimental Biology, 2015, 218, 3150-9.	1.7	32
39	Determinants of aponeurosis shape change during muscle contraction. Journal of Biomechanics, 2016, 49, 1812-1817.	2.1	32
40	Internal fluid pressure influences muscle contractile force. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 1772-1778.	7.1	32
41	Power amplification in an isolated muscle-tendon is load dependent. Journal of Experimental Biology, 2015, 218, 3700-9.	1.7	31
42	Guineafowl with a twist: asymmetric limb control in steady bipedal locomotion. Journal of Experimental Biology, 2015, 218, 3836-3844.	1.7	31
43	Aponeurosis influences the relationship between muscle gearing and force. Journal of Applied Physiology, 2018, 125, 513-519.	2.5	31
44	Bluegill sunfish use high power outputs from axial muscles to generate powerful suction-feeding strikes. Journal of Experimental Biology, 2018, 221, .	1.7	27
45	Diversity of extracellular matrix morphology in vertebrate skeletal muscle. Journal of Morphology, 2020, 281, 160-169.	1.2	26
46	Magnetomicrometry. Science Robotics, 2021, 6, .	17.6	26
47	Relative shortening velocity in locomotor muscles: turkey ankle extensors operate at low V/V_{max}. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2008, 294, R200-R210.	1.8	25
48	Variable gearing in a biologically inspired pneumatic actuator array. Bioinspiration and Biomimetics, 2013, 8, 026002.	2.9	25
49	Evidence of a tunable biological spring: elastic energy storage in aponeuroses varies with transverse strain in vivo. Proceedings of the Royal Society B: Biological Sciences, 2019, 286, 20182764.	2.6	17
50	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
51	Passive muscle tension increases in proportion to intramuscular fluid volume. Journal of Experimental Biology, 2019, 222, .	1.7	15
52	Release of fascial compartment boundaries reduces muscle force output. Journal of Applied Physiology, 2019, 126, 593-598.	2.5	13
53	Conference report on contractures in musculoskeletal and neurological conditions. Muscle and Nerve, 2020, 61, 740-744.	2.2	13
54	Patterns of musculoskeletal growth and dimensional changes associated with selection and developmental plasticity in domestic and wild strain turkeys. Ecology and Evolution, 2018, 8, 3229-3239.	1.9	9

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55	Loading Rate Has Little Influence on Tendon Fascicle Mechanics. Frontiers in Physiology, 2020, 11, 255.	2.8	9
56	Waddle and shuffle: Gait alterations associated with domestication in turkeys. Journal of Experimental Biology, 2018, 221, .	1.7	8
57	The need for speed: functional specializations of locomotor and feeding muscles in Anolis lizards. Journal of Experimental Biology, 2020, 223, .	1.7	7
58	Some Challenges of Playing with Power: Does Complex Energy Flow Constrain Neuromuscular Performance?. Integrative and Comparative Biology, 2019, 59, 1619-1628.	2.0	6
59	The time course of calf muscle fluid volume during prolonged running. Physiological Reports, 2020, 8, e14414.	1.7	6
60	Passive skeletal muscle can function as an osmotic engine. Biology Letters, 2021, 17, 20200738.	2.3	2
61	Relationship between gene expression networks and muscle contractile physiology differences in Anolis lizards. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 0, , .	1.5	1
62	Gastrocnemius Muscle Structural and Functional Changes Associated with Domestication in the Turkey. Animals, 2021, 11, 1850.	2.3	0