Reinhard Blickhan

List of Publications by Year
in descending order

90 papers	4,767 citations	101543 36 h-index	98798 67 g-index
91 all docs	91 docs citations	91 times ranked	2572 citing authors

#	Article	IF	Citations
1	Compliant leg behaviour explains basic dynamics of walking and running. Proceedings of the Royal Society B: Biological Sciences, 2006, 273, 2861-2867.	2.6	744
2	A movement criterion for running. Journal of Biomechanics, 2002, 35, 649-655.	2.1	410
3	Spring-mass running: simple approximate solution and application to gait stability. Journal of Theoretical Biology, 2005, 232, 315-328.	1.7	238
4	Positive force feedback in bouncing gaits?. Proceedings of the Royal Society B: Biological Sciences, 2003, 270, 2173-2183.	2.6	210
5	Intelligence by mechanics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2007, 365, 199-220.	3.4	183
6	Joint stiffness of the ankle and the knee in running. Journal of Biomechanics, 2002, 35, 1459-1474.	2.1	169
7	Locomotion Energetics of the Ghost Crab: II. Mechanics of the Centre of Mass During Walking and Running. Journal of Experimental Biology, 1987, 130, 155-174.	1.7	141
8	Titin-induced force enhancement and force depression: A â€˜sticky-springâ€™ mechanism in muscle contractions?. Journal of Theoretical Biology, 2009, 259, 350-360.	1.7	124
9	Running on uneven ground: leg adjustment to vertical steps and self-stability. Journal of Experimental Biology, 2008, 211, 2989-3000.	1.7	107
10	Strains in the exoskeleton of spiders. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1985, 157, 115-147.	1.6	104
11	Stable operation of an elastic three-segment leg. Biological Cybernetics, 2001, 84, 365-382.	1.3	96
12	Nonlinearities make a difference: comparison of two common Hill-type models with real muscle. Biological Cybernetics, 2008, 98, 133-143.	1.3	88
13	The tri-segmented limbs of therian mammals: kinematics, dynamics, and self-stabilizationâ€”a review. Journal of Experimental Zoology Part A, Comparative Experimental Biology, 2006, 305A, 935-952.	1.3	85
14	Low back pain affects trunk as well as lower limb movements during walking and running. Journal of Biomechanics, 2015, 48, 1009-1014.	2.1	84
15	Running on uneven ground: Leg adjustments by muscle pre-activation control. Human Movement Science, 2010, 29, 299-310.	1.4	70
16	Running on uneven ground: Leg adjustments to altered ground level. Human Movement Science, 2010, 29, 578-589.	1.4	70
17	DEALING WITH SKIN MOTION AND WOBBLING MASSES IN INVERSE DYNAMICS. Journal of Mechanics in Medicine and Biology, 2003, 03, 309-335.	0.7	66
18	All leg joints contribute to quiet human stance: A mechanical analysis. Journal of Biomechanics, 2009, 42, 2739-2746.	2.1	64

#	Article	IF	Citations
19	Muscle force depends on the amount of transversal muscle loading. Journal of Biomechanics, 2014, 47, 1822-1828.	2.1	63
20	ELECTRO-MECHANICAL DELAY IN HILL-TYPE MUSCLE MODELS. Journal of Mechanics in Medicine and Biology, 2012, 12, 1250085.	0.7	58
21	Kinetic and kinematic adjustments during perturbed walking across visible and camouflaged drops in ground level. Journal of Biomechanics, 2014, 47, 2286-2291.	2.1	58
22	Three-Dimensional Muscle Architecture and Comprehensive Dynamic Properties of Rabbit Gastrocnemius, Plantaris and Soleus: Input for Simulation Studies. PLoS ONE, 2015, 10, e0130985.	2.5	54
23	Stabilizing function of antagonistic neuromusculoskeletal systems: an analytical investigation. Biological Cybernetics, 2003, 89, 71-79.	1.3	52
24	Trunk orientation causes asymmetries in leg function in small bird terrestrial locomotion. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20141405.	2.6	52
25	Three-dimensional surface geometries of the rabbit soleus muscle during contraction: input for biomechanical modelling and its validation. Biomechanics and Modeling in Mechanobiology, 2013, 12, 1205-1220.	2.8	51
26	Level locomotion in wood ants: evidence for grounded running. Journal of Experimental Biology, 2014, 217, 2358-70.	1.7	51
27	Work partitioning of transversally loaded muscle: experimentation and simulation. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 217-229.	1.6	51
28	Characterization of isovelocity extension of activated muscle: A Hill-type model for eccentric contractions and a method for parameter determination. Journal of Theoretical Biology, 2008, 255, 176-187.	1.7	47
29	Dynamics and kinematics of ant locomotion: do wood ants climb on level surfaces?. Journal of Experimental Biology, 2009, 212, 2426-2435.	1.7	46
30	Leg adjustments during running across visible and camouflaged incidental changes in ground level. Journal of Experimental Biology, 2012, 215, 3072-3079.	1.7	46
31	Adjustments of global and hindlimb local properties during the terrestrial locomotion of the common quail (Coturnix coturnix). Journal of Experimental Biology, 2013, 216, 3906-16.	1.7	46
32	Vortex re-capturing and kinematics in human underwater undulatory swimming. Human Movement Science, 2011, 30, 998-1007.	1.4	45
33	Energy Storage by Elastic Mechanisms in the Tail of Large Swimmersâ€"a Re-evaluation. Journal of Theoretical Biology, 1994, 168, 315-321.	1.7	43
34	Three-dimensional relation of skin markers to lumbar vertebrae of healthy subjects in different postures measured by open MRI. European Spine Journal, 2006, 15, 742-751.	2.2	42
35	Bending Moment Distribution along Swimming Fish. Journal of Theoretical Biology, 1994, 168, 337-348.	1.7	40
36	Preparing the leg for ground contact in running: the contribution of feed-forward and visual feedback. Journal of Experimental Biology, 2015, 218, 451-7.	1.7	40

#	Article	IF	Citations
37	Human leg design: optimal axial alignment under constraints. Journal of Mathematical Biology, 2004, 48, 623-646.	1.9	38
38	Comparing inclined locomotion in a ground-living and a climbing ant species: sagittal plane kinematics. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 1011-1020.	1.6	37
39	Grounded running in quails: Simulations indicate benefits of observed fixed aperture angle between legs before touch-down. Journal of Theoretical Biology, 2013, 335, 97-107.	1.7	37
40	Force direction patterns promote whole body stability even in hip-flexed walking, but not upper body stability in human upright walking. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20170404.	2.1	34
41	Jumping kinematics in the wandering spider Cupiennius salei. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2010, 196, 421-438.	1.6	33
42	Novel microstructural findings in M. plantaris and their impact during active and passive loading at the macro level. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 51, 25-39.	3.1	33
43	Cupiennius salei: biomechanical properties of the tibiaâ€“metatarsus joint and its flexing muscles. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 2010, 180, 199-209.	1.5	30
44	Hydraulic leg extension is not necessarily the main drive in large spiders. Journal of Experimental Biology, 2012, 215, 578-583.	1.7	27
45	Muscle Preactivation Control: Simulation of Ankle Joint Adjustments at Touchdown During Running on Uneven Ground. Journal of Applied Biomechanics, 2012, 28, 718-725.	0.8	27
46	Force reduction induced by unidirectional transversal muscle loading is independent of local pressure. Journal of Biomechanics, 2016, 49, 1156-1161.	2.1	27
47	Positioning the hip with respect to the COM: Consequences for leg operation. Journal of Theoretical Biology, 2015, 382, 187-197.	1.7	25
48	Stiffness of an arthropod leg joint. Journal of Biomechanics, 1986, 19, 375-384.	2.1	24
49	Propulsion in hexapod locomotion: How do desert ants traverse slopes?. Journal of Experimental Biology, 2017, 220, 1618-1625.	1.7	24
50	A 3D-geometric model for the deformation of a transversally loaded muscle. Journal of Theoretical Biology, 2012, 298, 116-121.	1.7	22
51	Increasing trunk flexion morphs human leg function into that of birds despite different leg morphology. Journal of Experimental Biology, 2017, 220, 478-486.	1.7	22
52	Intermuscular pressure between synergistic muscles correlates with muscle force. Journal of Experimental Biology, 2016, 219, 2311-2319.	1.7	21
53	Ultra miniature force plate for measuring triaxial forces in the micro newton range. Journal of Experimental Biology, 2014, 217, 704-10.	1.7	19
54	Watching quiet human stance to shake off its straitjacket. Archive of Applied Mechanics, 2011, 81, 283-302.	2.2	18

#	Article	IF	Citations
55	Body movement distribution with respect to swimmerâ€™s glide position in human underwater undulatory swimming. Human Movement Science, 2014, 38, 305-318.	1.4	18
56	Myosin filament sliding through the Z-disc relates striated muscle fibre structure to function. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20153030.	2.6	18
57	Fast lowâ€angle shot diffusion tensor imaging with stimulated echo encoding in the muscle of rabbit shank. NMR in Biomedicine, 2014, 27, 146-157.	2.8	17
58	Influence of chronic back pain on kinematic reactions to unpredictable arm pulls. Clinical Biomechanics, 2015, 30, 290-295.	1.2	17
59	Packing of muscles in the rabbit shank influences three-dimensional architecture of M. soleus. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 83, 20-27.	3.1	17
60	Global dynamics of bipedal macaques during grounded and aerial running. Journal of Experimental Biology, 2018, 221, .	1.7	17
61	Does weightlifting increase residual force enhancement?. Journal of Biomechanics, 2016, 49, 2047-2052.	2.1	16
62	Posture alteration as a measure to accommodate uneven ground in able-bodied gait. PLoS ONE, 2017, 12, e0190135.	2.5	15
63	Planar covariation of limb elevation angles during bipedal locomotion in common quails (Coturnix) Tj ETQq1 1 0.784314 rgBT /Overlo	1.7	13
64	Stability in skipping gaits. Royal Society Open Science, 2016, 3, 160602.	2.4	13
65	Coping with disturbances. Human Movement Science, 2013, 32, 971-983.	1.4	12
66	Alteration of synergistic muscle activity following neuromuscular electrical stimulation of one muscle. Brain and Behavior, 2012, 2, 640-646.	2.2	11
67	Minimizing the cost of locomotion with inclined trunk predicts crouched leg kinematics of small birds at realistic levels of elastic recoil. Journal of Experimental Biology, 2015, 219, 485-90.	1.7	11
68	Der hydraulische Mechanismus des Spinnenbeines und seine Anwendung fÃ¼r technische Probleme. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 1998, 78, 87-96.	1.6	10
69	Bipedal gait versatility in the Japanese macaque (Macaca fuscata). Journal of Human Evolution, 2018, 125, 2-14.	2.6	10
70	Measuring strain in the exoskeleton of spidersâ€”virtues and caveats. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 207, 191-204.	1.6	10
71	A mechanism accounting for independence on starting length of tension increase in ramp stretches of active skeletal muscle at short half-sarcomere lengths. Journal of Theoretical Biology, 2010, 266, 117-123.	1.7	9
72	MUSCULOSKELETAL STABILIZATION OF THE ELBOW â€” COMPLEX OR REAL. Journal of Mechanics in Medicine and Biology, 2007, 07, 275-296.	0.7	8

#	Article	IF	Citations
73	What does head movement tell about the minimum number of mechanical degrees of freedom in quiet human stance?. Archive of Applied Mechanics, 2012, 82, 333-344.	2.2	8
74	Biomechanical assessment of the injury risk of stomping. International Journal of Legal Medicine, 2016, 130, 827-834.	2.2	8
75	Reduced muscle vascular resistance in intrauterine growth restricted newborn piglets. Experimental and Toxicologic Pathology, 2000, 52, 271-276.	2.1	7
76	Transverse pelvic rotation during quiet human stance. Gait and Posture, 2008, 27, 361-367.	1.4	7
77	The effects of an expected twofold perturbation on able-bodied gait: Trunk flexion and uneven ground surface. Gait and Posture, 2018, 61, 431-438.	1.4	7
78	Humans adjust the height of their center of mass within one step when running across camouflaged changes in ground level. Journal of Biomechanics, 2019, 84, 278-283.	2.1	7
79	Low leg compliance permits grounded running at speeds where the inverted pendulum model gets airborne. Journal of Theoretical Biology, 2020, 494, 110227.	1.7	7
80	GROUP SPECIFIC BEHAVIOR OF BIARTICULAR UPPER LEG MUSCLES EXEMPLIFIED BY SLEDGE. Journal of Mechanics in Medicine and Biology, 2011, 11, 1085-1101.	0.7	6
81	Locomotor stability in able-bodied trunk-flexed gait across uneven ground. Human Movement Science, 2018, 62, 176-183.	1.4	6
82	Trunk and leg kinematics of grounded and aerial running in bipedal macaques. Journal of Experimental Biology, 2020, 224, .	1.7	6
83	Lumbar spine intersegmental motion analysis during lifting. Pathophysiology, 2005, 12, 295-302.	2.2	5
84	Gait information flow indicates complex motor dysfunction. Physiological Measurement, 2005, 26, 545-554.	2.1	4
85	Force depression decays during shortening in the medial gastrocnemius of the rat. Journal of Biomechanics, 2014, 47, 1099-1103.	2.1	4
86	Describing force-patterns: A method for an analytic classification using the example of sledge jumps. Journal of Biomechanics, 2009, 42, 2616-2619.	2.1	3
87	A QUASI-LINEAR VISCOELASTIC MODEL FOR THE PASSIVE PROPERTIES OF THE HUMAN HIP JOINT. Journal of Mechanics in Medicine and Biology, 2012, 12, 1250015.	0.7	3
88	Adjustments of global and local hindlimb properties during the terrestrial locomotion of the common quail (Coturnix coturnix). Journal of Experimental Biology, 2014, 217, 1417-1417.	1.7	1
89	Threeâ€dimensional reconstruction of M. gastrocnemius contraction. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 111-112.	0.2	0
90	The influence of sagittal trunk leans on uneven running mechanics. Journal of Experimental Biology, 2021, 224, .	1.7	0