Josef Schmitz

List of Publications by Year
in descending order

43 papers	2,031 citations	236925 25 h-index	315739 38 g-index
46 all docs	46 docs citations	46 times ranked	599 citing authors

#	Article	IF	Citations
1	Walknetâ€"a biologically inspired network to control six-legged walking. Neural Networks, 1998, 11, 1435-1447.	5.9	287
2	Load sensing and control of posture and locomotion. Arthropod Structure and Development, 2004, 33, 273-286.	1.4	162
3	Walknet, a bio-inspired controller for hexapod walking. Biological Cybernetics, 2013, 107, 397-419.	1.3	162
4	Behaviour-based modelling of hexapod locomotion: linking biology and technical application. Arthropod Structure and Development, 2004, 33, 237-250.	1.4	154
5	Segment Specificity of Load Signal Processing Depends on Walking Direction in the Stick Insect Leg Muscle Control System. Journal of Neuroscience, 2007, 27, 3285-3294.	3.6	98
6	Signals From Load Sensors Underlie Interjoint Coordination During Stepping Movements of the Stick Insect Leg. Journal of Neurophysiology, 2004, 92, 42-51.	1.8	96
7	Encoding of force increases and decreases by tibial campaniform sensilla in the stick insect, Carausius morosus. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2011, 197, 851-867.	1.6	66
8	Force encoding in stick insect legs delineates a reference frame for motor control. Journal of Neurophysiology, 2012, 108, 1453-1472.	1.8	63
9	Insect walking is based on a decentralized architecture revealing a simple and robust controller. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2007, 365, 221-250.	3.4	58
10	An improved electrode design for en passant recording from small nerves. Comparative Biochemistry and Physiology A, Comparative Physiology, 1988, 91, 769-772.	0.6	55
11	Nonspiking pathways antagonize the resistance reflex in the thoraco-coxal joint of stick insects. Journal of Neurobiology, 1991, 22, 224-237.	3.6	55
12	Motor flexibility in insects: adaptive coordination of limbs in locomotion and near-range exploration. Behavioral Ecology and Sociobiology, 2018, 72, 1.	1.4	50
13	A hexapod walker using a heterarchical architecture for action selection. Frontiers in Computational Neuroscience, 2013, 7, 126.	2.1	47
14	Joint torques in a freely walking insect reveal distinct functions of leg joints in propulsion and posture control. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20151708.	2.6	46
15	A Biologically Inspired Controller for Hexapod Walking: Simple Solutions by Exploiting Physical Properties. Biological Bulletin, 2001, 200, 195-200.	1.8	43
16	Integrative Biomimetics of Autonomous Hexapedal Locomotion. Frontiers in Neurorobotics, 2019, 13, 88.	2.8	43
17	A load-based mechanism for inter-leg coordination in insects. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20171755.	2.6	41
18	Control of Walking in the Stick Insect: From Behavior and Physiology to Modeling. Autonomous Robots, 1999, 7, 271-288.	4.8	36

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19	Directional specificity and encoding of muscle forces and loads by stick insect tibial campaniform sensilla, including receptors with round cuticular caps. Arthropod Structure and Development, 2013, 42, 455-467.	1.4	36
20	Multimodal Convergence of Presynaptic Afferent Inhibition in Insect Proprioceptors. Journal of Neurophysiology, 1999, 82, 512-514.	1.8	35
21	Convergence of load and movement information onto leg motoneurons in insects. , 2000, 42, 424-436.		29
22	Positive force feedback in development of substrate grip in the stick insect tarsus. Arthropod Structure and Development, 2014, 43, 441-455.	1.4	29
23	Intracellular recordings from nonspiking interneurons in a semiintact, tethered walking insect. Journal of Neurobiology, 1991, 22, 907-921.	3.6	27
24	Premotor interneurons in generation of adaptive leg reflexes and voluntary movements in stick insects. , 1996, 31, 512-531.		27
25	Force feedback reinforces muscle synergies in insect legs. Arthropod Structure and Development, 2015, 44, 541-553.	1.4	27
26	Motor control of an insect leg during level and incline walking. Journal of Experimental Biology, 2019, 222, .	1.7	27
27	No need for a body model: Positive velocity feedback for the control of an 18-DOF robot walker. Applied Bionics and Biomechanics, 2008, 5, 135-147.	1.1	26
28	No Need for a Body Model: Positive Velocity Feedback for the Control of an 18-DOF Robot Walker. Applied Bionics and Biomechanics, 2008, 5, 135-147.	1.1	23
29	Effects of force detecting sense organs on muscle synergies are correlated with their response properties. Arthropod Structure and Development, 2017, 46, 564-578.	1.4	19
30	Decentralized Control of Elastic Limbs in Closed Kinematic Chains. International Journal of Robotics Research, 2006, 25, 913-930.	8.5	18
31	Force dynamics and synergist muscle activation in stick insects: the effects of using joint torques as mechanical stimuli. Journal of Neurophysiology, 2018, 120, 1807-1823.	1.8	17
32	Tight turns in stick insects. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 299-309.	1.6	16
33	HECTOR, A Bio-Inspired and Compliant Hexapod Robot. Lecture Notes in Computer Science, 2014, , 427-429.	1.3	15
34	A Biologically Inspired Active Compliant Joint Using Local Positive Velocity Feedback (LPVF). IEEE Transactions on Systems, Man, and Cybernetics, 2005, 35, 1120-1130.	5.0	13
35	Task-dependent modification of leg motor neuron synaptic input underlying changes in walking direction and walking speed. Journal of Neurophysiology, 2015, 114, 1090-1101.	1.8	12
36	Biomechatronics for Embodied Intelligence of an Insectoid Robot. Lecture Notes in Computer Science, 2011, , 1-11.	1.3	10

#	Article	IF	Citations
37	Obstacle crossing of a real, compliant robot based on local evasion movements and averaging of stance heights using singular value decomposition. , 2015, , .		10
38	Evaluation of force feedback in walking using joint torques as â€œnaturalisticâ€•stimuli. Journal of Neurophysiology, 2021, 126, 227-248.	1.8	8
39	Simulation of Complex Movements Using Artificial Neural Networks. Zeitschrift Fur Naturforschung - Section C Journal of Biosciences, 1998, 53, 628-638.	1.4	6
40	Layout and construction of a hexapod robot with increased mobility. , 2010, , .		5
41	Winching up heavy loads with a compliant arm: a new local joint controller. Biological Cybernetics, 2008, 98, 413-426.	1.3	4
42	DESIGN OF AN INSECTOID ROBOT AS A VERSATILE CARRIER FOR BIOINSPIRED SENSORS. , 2010, , .		1
43	POSITIVE VELOCITY FEEDBACK ON A SIX-LEGGED WALKING ROBOT. , 2009, , .		0