Auke Ijspeert

List of Publications by Year
in descending order

274	15,614	31902	23472
papers	citations	53 h-index	111 g-index

283	283	283	7885
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Central pattern generators for locomotion control in animals and robots: A review. Neural Networks, 2008, 21, 642-653.	3.3	1,493
2	Dynamical Movement Primitives: Learning Attractor Models for Motor Behaviors. Neural Computation, 2013, 25, 328-373.	1.3	1,128
3	From Swimming to Walking with a Salamander Robot Driven by a Spinal Cord Model. Science, 2007, 315, 1416-1420.	6.0	962
4	Movement imitation with nonlinear dynamical systems in humanoid robots. , 0, , .		476
5	Computational approaches to motor learning by imitation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2003, 358, 537-547.	1.8	431
6	Towards dynamic trot gait locomotion: Design, control, and experiments with Cheetah-cub, a compliant quadruped robot. International Journal of Robotics Research, 2013, 32, 932-950.	5.8	386
7	Biorobotics: Using robots to emulate and investigate agile locomotion. Science, 2014, 346, 196-203.	6.0	367
8	A connectionist central pattern generator for the aquatic and terrestrial gaits of a simulated salamander. Biological Cybernetics, 2001, 84, 331-348.	0.6	303
9	Dynamic Hebbian learning in adaptive frequency oscillators. Physica D: Nonlinear Phenomena, 2006, 216, 269-281.	1.3	273
10	AmphiBot I: an amphibious snake-like robot. Robotics and Autonomous Systems, 2005, 50, 163-175.	3.0	265
11	Online Optimization of Swimming and Crawling in an Amphibious Snake Robot. IEEE Transactions on Robotics, 2008, 24, 75-87.	7.3	256
12	iCub: the design and realization of an open humanoid platform for cognitive and neuroscience research. Advanced Robotics, 2007, 21, 1151-1175.	1.1	234
13	Towards a theoretical foundation for morphological computation with compliant bodies. Biological Cybernetics, 2011, 105, 355-370.	0.6	221
14	Salamandra Robotica II: An Amphibious Robot to Study Salamander-Like Swimming and Walking Gaits. IEEE Transactions on Robotics, 2013, 29, 308-320.	7.3	213
15	Dynamics systems vs. optimal control â€" a unifying view. Progress in Brain Research, 2007, 165, 425-445.	0.9	206
16	Roombots: Reconfigurable Robots for Adaptive Furniture. IEEE Computational Intelligence Magazine, 2010, 5, 20-32.	3.4	185
17	The current state and future outlook of rescue robotics. Journal of Field Robotics, 2019, 36, 1171-1191.	3.2	182
18	Simulation and Robotics Studies of Salamander Locomotion: Applying Neurobiological Principles to the Control of Locomotion in Robots. Neuroinformatics, 2005, 3, 171-196.	1.5	166

#	Article	IF	Citations
19	Pattern generators with sensory feedback for the control of quadruped locomotion. , 2008, , .		166
20	Reverse-engineering the locomotion of a stem amniote. Nature, 2019, 565, 351-355.	13.7	165
21	Programmable central pattern generators: an application to biped locomotion control. , 0, , .		164
22	Oscillator-based assistance of cyclical movements: model-based and model-free approaches. Medical and Biological Engineering and Computing, 2011, 49, 1173-1185.	1.6	159
23	Coupling Movement Primitives: Interaction With the Environment and Bimanual Tasks. IEEE Transactions on Robotics, 2014, 30, 816-830.	7.3	155
24	Controlling swimming and crawling in a fish robot using a central pattern generator. Autonomous Robots, 2008, 25, 3-13.	3.2	148
25	On-line learning and modulation of periodic movements withÂnonlinear dynamical systems. Autonomous Robots, 2009, 27, 3-23.	3.2	148
26	Title is missing!. Autonomous Robots, 2001, 11, 149-171.	3.2	143
27	The Human Central Pattern Generator for Locomotion: Does It Exist and Contribute to Walking?. Neuroscientist, 2017, 23, 649-663.	2.6	130
28	Humanâ€“Robot Synchrony: Flexible Assistance Using Adaptive Oscillators. IEEE Transactions on Biomedical Engineering, 2011, 58, 1001-1012.	2.5	129
29	Environmental monitoring using autonomous vehicles: a survey of recent searching techniques. Current Opinion in Biotechnology, 2017, 45, 76-84.	3.3	119
30	The contribution of a central pattern generator in a reflex-based neuromuscular model. Frontiers in Human Neuroscience, 2014, 8, 371.	1.0	115
31	Understanding collective aggregation mechanisms: From probabilistic modelling to experiments with real robots. Robotics and Autonomous Systems, 1999, 29, 51-63.	3.0	113
32	A Macroscopic Analytical Model of Collaboration in Distributed Robotic Systems. Artificial Life, 2001, 7, 375-393.	1.0	113
33	Review of control strategies for lower-limb exoskeletons to assist gait. Journal of NeuroEngineering and Rehabilitation, 2021, 18, 119.	2.4	111
34	Wearable Sensor-Based Real-Time Gait Detection: A Systematic Review. Sensors, 2021, 21, 2727.	2.1	110
35	Learning to Move in Modular Robots using Central Pattern Generators and Online Optimization. International Journal of Robotics Research, 2008, 27, 423-443.	5.8	108
36	Improved Lighthill fish swimming model for bio-inspired robots: Modeling, computational aspects and experimental comparisons. International Journal of Robotics Research, 2014, 33, 1322-1341.	5.8	105

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37	Online trajectory generation in an amphibious snake robot using a lamprey-like central pattern generator model. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	100
38	Roombots: A hardware perspective on 3D self-reconfiguration and locomotion with a homogeneous modular robot. Robotics and Autonomous Systems, 2014, 62, 1016-1033.	3.0	97
39	From cineradiography to biorobots: an approach for designing robots to emulate and study animal locomotion. Journal of the Royal Society Interface, 2016, 13, 20151089.	1.5	97
40	Sensing Pressure Distribution on a Lower-Limb Exoskeleton Physical Human-Machine Interface. Sensors, 2011, 11, 207-227.	2.1	96
41	Trajectory formation for imitation with nonlinear dynamical systems. , 0, , .		93
42	Evolution and Development of a Central Pattern Generator for the Swimming of a Lamprey. Artificial Life, 1999, 5, 247-269.	1.0	92
43	Climbing favours the tripod gait over alternative faster insect gaits. Nature Communications, 2017, 8, 14494.	5.8	86
44	Engineering entrainment and adaptation in limit cycle systems. Biological Cybernetics, 2006, 95, 645-664.	0.6	82
45	JammJoint: A Variable Stiffness Device Based on Granular Jamming for Wearable Joint Support. IEEE Robotics and Automation Letters, 2017, 2, 849-855.	3.3	80
46	Evolving Swimming Controllers for a Simulated Lamprey with Inspiration from Neurobiology. Adaptive Behavior, 1999, 7, 151-172.	1.1	76
47	The role of feedback in morphological computation with compliant bodies. Biological Cybernetics, 2012, 106, 595-613.	0.6	73
48	Fractional Multi-models of the Frog Gastrocnemius Muscle. JVC/Journal of Vibration and Control, 2008, 14, 1415-1430.	1.5	72
49	On-line frequency adaptation and movement imitation for rhythmic robotic tasks. International Journal of Robotics Research, 2011, 30, 1775-1788.	5.8	72
50	Organisation of the spinal central pattern generators for locomotion in the salamander: Biology and modelling. Brain Research Reviews, 2008, 57, 147-161.	9.1	71
51	Modeling discrete and rhythmic movements through motor primitives: a review. Biological Cybernetics, 2010, 103, 319-338.	0.6	69
52	Benefits of an active spine supported bounding locomotion with a small compliant quadruped robot. , 2013, , .		69
53	Emergence of robust self-organized undulatory swimming based on local hydrodynamic force sensing. Science Robotics, 2021, 6, .	9.9	67
54	Self-organized adaptive legged locomotion in a compliant quadruped robot. Autonomous Robots, 2008, 25, 331-347.	3.2	64

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55	Robotics and Neuroscience. Current Biology, 2014, 24, R910-R920.	1.8	64
56	Sensory feedback plays a significant role in generating walking gait and in gait transition in salamanders: a simulation study. Frontiers in Neurorobotics, 2011, 5, 3.	1.6	63
57	Where are we in understanding salamander locomotion: biological and robotic perspectives on kinematics. Biological Cybernetics, 2013, 107, 529-544.	0.6	61
58	Comparing the effect of different spine and leg designs for a small bounding quadruped robot. , 2015, , .		60
59	An Adaptive Neuromuscular Controller for Assistive Lower-Limb Exoskeletons: A Preliminary Study on Subjects with Spinal Cord Injury. Frontiers in Neurorobotics, 2017, 11, 30.	1.6	58
60	Finding Resonance: Adaptive Frequency Oscillators for Dynamic Legged Locomotion. , 2006, , .		57
61	Real-Time Estimate of Velocity and Acceleration of Quasi-Periodic Signals Using Adaptive Oscillators. IEEE Transactions on Robotics, 2013, 29, 783-791.	7.3	56
62	Passive compliant quadruped robot using Central Pattern Generators for locomotion control. , 2008, , .		55
63	Roombots-mechanical design of self-reconfiguring modular robots for adaptive furniture. , 2009, , .		55
64	Swimming and Crawling with an Amphibious Snake Robot. , 0, , .		54
65	Walking with Salamanders: From Molecules to Biorobotics. Trends in Neurosciences, 2020, 43, 916-930.	4.2	54
66	Segmental Oscillators in Axial Motor Circuits of the Salamander: Distribution and Bursting Mechanisms. Journal of Neurophysiology, 2010, 104, 2677-2692.	0.9	53
67	Symbitron Exoskeleton: Design, Control, and Evaluation of a Modular Exoskeleton for Incomplete and Complete Spinal Cord Injured Individuals. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 330-339.	2.7	52
68	Toward simple control for complex, autonomous robotic applications: combining discrete and rhythmic motor primitives. Autonomous Robots, 2011, 31, 155-181.	3.2	51
69	Frequency analysis with coupled nonlinear oscillators. Physica D: Nonlinear Phenomena, 2008, 237, 1705-1718.	1.3	49
70	Horse-like walking, trotting, and galloping derived from kinematic Motion Primitives (kMPs) and their application to walk/trot transitions in a compliant quadruped robot. Biological Cybernetics, 2013, 107, 309-320.	0.6	49
71	Aibo and Webots: Simulation, wireless remote control and controller transfer. Robotics and Autonomous Systems, 2006, 54, 472-485.	3.0	48
72	Adaptive Frequency Oscillators and Applications. Open Cybernetics and Systemics Journal, 2009, 3, 64-69.	0.3	48

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73	Biped gait controller for large speed variations, combining reflexes and a central pattern generator in a neuromuscular model. , 2015, , .		46
74	Spinal joint compliance and actuation in a simulated bounding quadruped robot. Autonomous Robots, 2017, 41, 437-452.	3.2	46
75	Biologically inspired neural controllers for motor control in a quadruped robot. , 2000, , .		45
76	Learning robot gait stability using neural networks as sensory feedback function for Central Pattern Generators. , 2013, , .		45
77	Exploring adaptive locomotion with YaMoR, a novel autonomous modular robot with Bluetooth interface. Industrial Robot, 2006, 33, 285-290.	1.2	44
78	Adaptive oscillators with human-in-the-loop: Proof of concept for assistance and rehabilitation. , 2010, , .		43
79	Online optimization of modular robot locomotion. , 0, , .		42
80	A general family of morphed nonlinear phase oscillators with arbitrary limit cycle shape. Physica D: Nonlinear Phenomena, 2013, 263, 41-56.	1.3	42
81	A multidirectional gravity-assist algorithm that enhances locomotor control in patients with stroke or spinal cord injury. Science Translational Medicine, 2017, 9, .	5.8	42
82	Amphibious and Sprawling Locomotion: From Biology to Robotics and Back. Annual Review of Control, Robotics, and Autonomous Systems, 2020, 3, 173-193.	7.5	42
83	Distributed Central Pattern Generator Model for Robotics Application Based on Phase Sensitivity Analysis. Lecture Notes in Computer Science, 2004, , 333-349.	1.0	41
84	Versatile and robust 3D walking with a simulated humanoid robot (Atlas): A model predictive control approach. , 2014, , .		40
85	Decoding the essential interplay between central and peripheral control in adaptive locomotion of amphibious centipedes. Scientific Reports, 2019, 9, 18288.	1.6	39
86	From lamprey to salamander: an exploratory modeling study on the architecture of the spinal locomotor networks in the salamander. Biological Cybernetics, 2013, 107, 565-587.	0.6	38
87	Flexibility of the axial central pattern generator network for locomotion in the salamander. Journal of Neurophysiology, 2015, 113, 1921-1940.	0.9	38
88	Bio-inspired controller achieving forward speed modulation with a 3D bipedal walker. International Journal of Robotics Research, 2018, 37, 168-196.	5.8	38
89	Movement generation using dynamical systems : a humanoid robot performing a drumming task. , 2006, , .		37
90	Roombots extended: Challenges in the next generation of self-reconfigurable modular robots and their application in adaptive and assistive furniture. Robotics and Autonomous Systems, 2020, 127, 103467.	3.0	37

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91	Development of Adaptive Modular Active Leg (AMAL) using bipedal robotics technology. Robotics and Autonomous Systems, 2009, 57, 603-616.	3.0	36
92	Piecewise linear spine for speedâ€“energy efficiency trade-off in quadruped robots. Robotics and Autonomous Systems, 2013, 61, 1350-1359.	3.0	36
93	A modular bio-inspired architecture for movement generation for the infant-like robot iCub. , 2008, , .		35
94	Decoding the mechanisms of gait generation in salamanders by combining neurobiology, modeling and robotics. Biological Cybernetics, 2013, 107, 545-564.	0.6	35
95	A Salamander's Flexible Spinal Network for Locomotion, Modeled at Two Levels of Abstraction. Integrative and Comparative Biology, 2013, 53, 269-282.	0.9	35
96	Survey and Introduction to the Focused Section on Bio-Inspired Mechatronics. IEEE/ASME Transactions on Mechatronics, 2013, 18, 409-418.	3.7	35
97	Central Pattern Generators augmented with virtual model control for quadruped rough terrain locomotion. , 2013, , .		35
98	Mechanics of very slow human walking. Scientific Reports, 2019, 9, 18079.	1.6	35
99	Adaptive Frequency Oscillators and Applications. Open Cybernetics and Systemics Journal, 2009, 3, 64-69.	0.3	35
100	Improvement of the muscle fractional multimodel for low-rate stimulation. Biomedical Signal Processing and Control, 2007, 2, 226-233.	3.5	34
101	Oscillator-based walking assistance: A model-free approach. , 2011, 2011, 5975352.		34
102	Oncilla Robot: A Versatile Open-Source Quadruped Research Robot With Compliant Pantograph Legs. Frontiers in Robotics and AI, 2018, 5, 67.	2.0	34
103	Neuromuscular Controller Embedded in a Powered Ankle Exoskeleton: Effects on Gait, Clinical Features and Subjective Perspective of Incomplete Spinal Cord Injured Subjects. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1157-1167.	2.7	34
104	BoxyBot: a swimming and crawling fish robot controlled by a central pattern generator. , 0, , .		33
105	Kinematic and Gait Similarities between Crawling Human Infants and Other Quadruped Mammals. Frontiers in Neurology, 2015, 6, 17.	1.1	32
106	Spine Controller for a Sprawling Posture Robot. IEEE Robotics and Automation Letters, 2017, 2, 1195-1202.	3.3	32
107	NeuroMechFly, a neuromechanical model of adult Drosophila melanogaster. Nature Methods, 2022, 19, 620-627.	9.0	32
108	Modular control of limit cycle locomotion over unperceived rough terrain. , 2013, , .		31

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109	An active connection mechanism for modular self-reconfigurable robotic systems based on physical latching. , 2008, , .		30
110	Axial dynamics during locomotion in vertebrates. Progress in Brain Research, 2010, 187, 149-162.	0.9	30
111	Learning coupling terms for obstacle avoidance. , 2014, , .		30
112	A simple model of mechanical effects to estimate metabolic cost of human walking. Scientific Reports, 2018, 8, 10998.	1.6	29
113	3LP: A linear 3D-walking model including torso and swing dynamics. International Journal of Robotics Research, 2017, 36, 436-455.	5.8	28
114	Decentralized control with cross-coupled sensory feedback between body and limbs in sprawling locomotion. Bioinspiration and Biomimetics, 2019, 14, 066010.	1.5	27
115	Human Intention Detection as a Multiclass Classification Problem: Application in Physical Humanâ€“Robot Interaction While Walking. IEEE Robotics and Automation Letters, 2018, 3, 4171-4178.	3.3	26
116	Kinematic primitives for walking and trotting gaits of a quadruped robot with compliant legs. Frontiers in Computational Neuroscience, 2014, 8, 27.	1.2	25
117	Inverse kinematics and reflex based controller for body-limb coordination of a salamander-like robot walking on uneven terrain. , 2015, , .		25
118	Accelerated Sensorimotor Learning of Compliant Movement Primitives. IEEE Transactions on Robotics, 2018, 34, 1636-1642.	7.3	24
119	Online Gait Transitions and Disturbance Recovery for Legged Robots via the Feasible Impulse Set. IEEE Robotics and Automation Letters, 2019, 4, 1611-1618.	3.3	24
120	Resonant neurons and bushcricket behaviour. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2007, 193, 285-288.	0.7	23
121	Biologically inspired kinematic synergies enable linear balance control of a humanoid robot. Biological Cybernetics, 2011, 104, 235-249.	0.6	23
122	Friction and damping of a compliant foot based on granular jamming for legged robots. , 2016, , .		23
123	Analysis of the terrestrial locomotion of a salamander robot. , 2009, , .		22
124	Biologically Inspired Robotics. Springer Handbooks, 2016, , 2015-2034.	0.3	22
125	Graph Signature for Self-Reconfiguration Planning. , 2008, , .		21
126	Reproducing Five Motor Behaviors in a Salamander Robot With Virtual Muscles and a Distributed CPG Controller Regulated by Drive Signals and Proprioceptive Feedback. Frontiers in Neurorobotics, 2020, 14, 604426.	1.6	21

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127	Robust and Agile 3D Biped Walking With Steering Capability Using a Footstep Predictive Approach. , 0, , .		21
128	Graph signature for self-reconfiguration planning of modules with symmetry. , 2009, , .		20
129	Multi-physics model of an electric fish-like robot: Numerical aspects and application to obstacle avoidance. , 2011, , .		19
130	On designing an active tail for legged robots: simplifying control via decoupling of control objectives. Industrial Robot, 2016, 43, 338-346.	1.2	19
131	Effects of a neuromuscular controller on a powered ankle exoskeleton during human walking. , 2016, , .		19
132	Adaptive Natural Oscillator to exploit natural dynamics for energy efficiency. Robotics and Autonomous Systems, 2017, 97, 51-60.	3.0	19
133	Roombots—Towards decentralized reconfiguration with self-reconfiguring modular robotic metamodules. , 2010, , .		18
134	Natural dynamics modification for energy efficiency: A data-driven parallel compliance design method. , 2014, , .		18
135	Real-time full body motion imitation on the COMAN humanoid robot. Robotica, 2015, 33, 1049-1061.	1.3	18
136	Lower body realization of the baby humanoid - ‘iCub’. , 2007, , .		17
137	Biologically inspired kinematic synergies provide a new paradigm for balance control of humanoid robots. , 2007, , .		17
138	Experimental study of limit cycle and chaotic controllers for the locomotion of centipede robots. , 2008, , .		17
139	Soft artificial tactile sensors for the measurement of human-robot interaction in the rehabilitation of the lower limb. , 2010, 2010, 1279-82.		17
140	Envirobot: A bio-inspired environmental monitoring platform. , 2016, , .		17
141	A spiking central pattern generator for the control of a simulated lamprey robot running on SpiNNaker and Loihi neuromorphic boards. Neuromorphic Computing and Engineering, 2021, 1, 014005.	2.8	17
142	Biologically inspired CPG based above knee active prosthesis. , 2008, , .		16
143	Automatic gait generation in modular robots: “to oscillate or to rotate; that is the question”. , 2010, , .		16
144	Bio-inspired control of joint torque and knee stiffness in a robotic lower limb exoskeleton using a central pattern generator. , 2017, 2017, 1387-1394.		16

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145	Control theory in biology and medicine. Biological Cybernetics, 2019, 113, 1-6.	0.6	16
146	Sensory modulation of gait characteristics in human locomotion: A neuromusculoskeletal modeling study. PLoS Computational Biology, 2021, 17, e1008594.	1.5	16
147	Model predictive control based framework for CoM control of a quadruped robot. , 2017, , .		15
148	Compliant universal grippers as adaptive feet in legged robots. Advanced Robotics, 2018, 32, 825-836.	1.1	15
149	An Optimal Planning Framework to Deploy Self-Reconfigurable Modular Robots. IEEE Robotics and Automation Letters, 2019, 4, 4278-4285.	3.3	15
150	Design and development of the efficient anguilliform swimming robotâ€" MAR. Bioinspiration and Biomimetics, 2020, 15, 035001.	1.5	15
151	A Multi-robot System for Adaptive Exploration of a Fast-changing Environment: Probabilistic Modeling and Experimental Study. Connection Science, 1999, 11, 359-379.	1.8	14
152	Real-time estimate of period derivatives using adaptive oscillators: Application to impedance-based walking assistance. , 2012, , .		14
153	Modulation of motor primitives using force feedback: Interaction with the environment and bimanual tasks. , 2013, , .		14
154	AQuRo: A Cat-like Adaptive Quadruped Robot With Novel Bio-Inspired Capabilities. Frontiers in Robotics and AI, 2021, 8, 562524.	2.0	14
155	A Point-Wise Model of Adhesion Suitable for Real-Time Applications of Bio-Inspired Climbing Robots. Journal of Bionic Engineering, 2008, 5, 98-105.	2.7	13
156	MODEM: a multi-agent hierarchical structure to model the human motor control system. Biological Cybernetics, 2009, 101, 361-377.	0.6	13
157	Engineering intelligent electronic systems based on computational neuroscience [scanning the issue]. Proceedings of the IEEE, 2014, 102, 646-651.	16.4	13
158	Practical considerations in using inverse dynamics on a humanoid robot: Torque tracking, sensor fusion and Cartesian control laws. , 2015, , .		13
159	Compliant snake robot locomotion on horizontal pipes. , 2015, , .		13
160	Haptic Feedback Perception and Learning With Cable-Driven Guidance in Exosuit Teleoperation of a Simulated Drone. IEEE Transactions on Haptics, 2019, 12, 375-385.	1.8	13
161	Bipedal walking and push recovery with a stepping strategy based on time-projection control. International Journal of Robotics Research, 2019, 38, 587-611.	5.8	13
162	Towards rich motion skills with the lightweight quadruped robot Serval. Adaptive Behavior, 2020, 28, 129-150.	1.1	13

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163	Gait Transition from Swimming to Walking: Investigation of Salamander Locomotion Control Using Nonlinear Oscillators. , 2006, , 177-188.		12
164	Where to place cameras on a snake robot: Focus on camera trajectory and motion blur. , 2015, , .		12
165	Optimal search strategies for pollutant source localization. , 2016, , .		12
166	Benchmarking Agility For Multilegged Terrestrial Robots. IEEE Transactions on Robotics, 2019, 35, 529-535.	7.3	12
167	Exploring the Contribution of Proprioceptive Reflexes to Balance Control in Perturbed Standing. Frontiers in Bioengineering and Biotechnology, 2020, 8, 866.	2.0	12
168	Interactive locomotion: Investigation and modeling of physically-paired humans while walking. PLoS ONE, 2017, 12, e0179989.	1.1	12
169	Hand placement during quadruped locomotion in a humanoid robot: A dynamical system approach. , 2007, , .		11
170	Estimation of relative position and coordination of mobile underwater robotic platforms through electric sensing. , 2012, , .		11
171	Gait optimization for roombots modular robots — Matching simulation and reality. , 2013, , .		11
172	Bio-inspired walking for humanoid robots using feet with human-like compliance and neuromuscular control. , 2015, , .		11
173	Role of compliance on the locomotion of a reconfigurable modular snake robot. , 2015, , .		11
174	Neuromuscular model achieving speed control and steering with a 3D bipedal walker. Autonomous Robots, 2019, 43, 1537-1554.	3.2	11
175	Kubits: Solid-State Self-Reconfiguration With Programmable Magnets. IEEE Robotics and Automation Letters, 2020, 5, 6443-6450.	3.3	11
176	Sprawling Quadruped Robot Driven by Decentralized Control With Cross-Coupled Sensory Feedback Between Legs and Trunk. Frontiers in Neurorobotics, 2020, 14, 607455.	1.6	11
177	Co-evolution of Structures and Controllers for Neubot Underwater Modular Robots. Lecture Notes in Computer Science, 2005, , 189-199.	1.0	11
178	A 3-D Biomechanical Model of the Salamander. Lecture Notes in Computer Science, 2000, , 225-234.	1.0	11
179	Assistance using adaptive oscillators: Robustness to errors in the identification of the limb parameters. , 2011, 2011, 5975351.		10
180	Combining Reflexes and External Sensory Information in a Neuromusculoskeletal Model to Control a Quadruped Robot. IEEE Transactions on Cybernetics, 2022, 52, 7981-7994.	6.2	10

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181	Salamandra Robotica: A Biologically Inspired Amphibious Robot that Swims and Walks. , 2009, , 35-64.		10
182	Investigation of neural and biomechanical impairments leading to pathological toe and heel gaits using neuromusculoskeletal modelling. Journal of Physiology, 2022, 600, 2691-2712.	1.3	10
183	Towards Rich Motion Skills with the Lightweight Quadruped Robot Serval - A Design, Control and Experimental Study. Lecture Notes in Computer Science, 2018, , 41-55.	1.0	9
184	A Neuro-Inspired Computational Model for a Visually Guided Robotic Lamprey Using Frame and Event Based Cameras. IEEE Robotics and Automation Letters, 2020, 5, 2395-2402.	3.3	9
185	Fractional Multimodels of the Gastrocnemius Muscle for Tetanus Pattern. , 2007, , 271-285.		9
186	Postural Control on a Quadruped Robot Using Lateral Tilt: A Dynamical System Approach. , 2008, , 205-214.		9
187	A Whole-Body Musculoskeletal Model of the Mouse. IEEE Access, 2021, 9, 163861-163881.	2.6	9
188	Nonlinear motion control of CPG-based movement with applications to a class of swimming robots. , 2011, , .		8
189	Design and evaluation of a graphical iPad application for arranging adaptive furniture. , 2012, , .		8
190	Predictive gaze stabilization during periodic locomotion based on Adaptive Frequency Oscillators. , 2012, , .		8
191	Collaborative manipulation and transport of passive pieces using the self-reconfigurable modular robots roombots. , 2013, , .		8
192	Experimental validation of a bio-inspired controller for dynamic walking with a humanoid robot. , 2015, , .		8
193	Interfacing a salamander brain with a salamander-like robot: Control of speed and direction with calcium signals from brainstem reticulospinal neurons. , 2016, , .		8
194	Spatiotemporal Maps of Proprioceptive Inputs to the Cervical Spinal Cord During Three-Dimensional Reaching and Grasping. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1668-1677.	2.7	8
195	CPG-Based Control of Humanoid Robot Locomotion. , 2017, , 1-35.		8
196	Rich periodic motor skills on humanoid robots: Riding the pedal racer. , 2014, , .		7
197	Symmetric virtual constraints for periodic walking of legged robots. , 2016, , .		7
198	Decoding the Neural Mechanisms Underlying Locomotion Using Mathematical Models and Bio-inspired Robots: From Lamprey to Human Locomotion. Springer Proceedings in Advanced Robotics, 2018, , 177-186.	0.9	7

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199	Stiffness Variability in Jamming of Compliant Granules and a Case Study Application in Climbing Vertical Shafts. , 2018, , .		7
200	Spontaneous Gait Transitions of Sprawling Quadruped Locomotion by Sensory-Driven Bodyâ€“Limb Coordination Mechanisms. Frontiers in Neurorobotics, 2021, 15, 645731.	1.6	7
201	Haptic Guidance with a Soft Exoskeleton Reduces Error in Drone Teleoperation. Lecture Notes in Computer Science, 2018, , 404-415.	1.0	7
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