

Auke Ijspeert

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264
papers

10,582
citations

49
h-index

97
g-index

283
ext. papers

13,478
ext. citations

4.2
avg, IF

6.81
L-index

#	Paper	IF	Citations
264	Central pattern generators for locomotion control in animals and robots: a review. <i>Neural Networks</i> , 2008 , 21, 642-53	9.1	1136
263	Dynamical movement primitives: learning attractor models for motor behaviors. <i>Neural Computation</i> , 2013 , 25, 328-73	2.9	734
262	From swimming to walking with a salamander robot driven by a spinal cord model. <i>Science</i> , 2007 , 315, 1416-20	33.3	686
261	Computational approaches to motor learning by imitation. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2003 , 358, 537-47	5.8	338
260	Movement imitation with nonlinear dynamical systems in humanoid robots		310
259	Towards dynamic trot gait locomotion: Design, control, and experiments with Cheetah-cub, a compliant quadruped robot. <i>International Journal of Robotics Research</i> , 2013 , 32, 932-950	5.7	252
258	Biorobotics: using robots to emulate and investigate agile locomotion. <i>Science</i> , 2014 , 346, 196-203	33.3	236
257	A connectionist central pattern generator for the aquatic and terrestrial gaits of a simulated salamander. <i>Biological Cybernetics</i> , 2001 , 84, 331-48	2.8	225
256	Dynamic Hebbian learning in adaptive frequency oscillators. <i>Physica D: Nonlinear Phenomena</i> , 2006 , 216, 269-281	3.3	209
255	AmphiBot I: an amphibious snake-like robot. <i>Robotics and Autonomous Systems</i> , 2005 , 50, 163-175	3.5	199
254	iCub: the design and realization of an open humanoid platform for cognitive and neuroscience research. <i>Advanced Robotics</i> , 2007 , 21, 1151-1175	1.7	183
253	. <i>IEEE Transactions on Robotics</i> , 2008 , 24, 75-87	6.5	177
252	Dynamics systems vs. optimal control--a unifying view. <i>Progress in Brain Research</i> , 2007 , 165, 425-45	2.9	160
251	Towards a theoretical foundation for morphological computation with compliant bodies. <i>Biological Cybernetics</i> , 2011 , 105, 355-70	2.8	158
250	Roombots: Reconfigurable Robots for Adaptive Furniture. <i>IEEE Computational Intelligence Magazine</i> , 2010 , 5, 20-32	5.6	152
249	Salamandra Robotica II: An Amphibious Robot to Study Salamander-Like Swimming and Walking Gaits. <i>IEEE Transactions on Robotics</i> , 2013 , 29, 308-320	6.5	127
248	On-line learning and modulation of periodic movements with nonlinear dynamical systems. <i>Autonomous Robots</i> , 2009 , 27, 3-23	3	126

247	Oscillator-based assistance of cyclical movements: model-based and model-free approaches. <i>Medical and Biological Engineering and Computing</i> , 2011 , 49, 1173-85	3.1	125
246	Pattern generators with sensory feedback for the control of quadruped locomotion 2008 ,		123
245	Programmable central pattern generators: an application to biped locomotion control		122
244	Simulation and robotics studies of salamander locomotion: applying neurobiological principles to the control of locomotion in robots. <i>Neuroinformatics</i> , 2005 , 3, 171-95	3.2	117
243	Controlling swimming and crawling in a fish robot using a central pattern generator. <i>Autonomous Robots</i> , 2008 , 25, 3-13	3	113
242	Human-robot synchrony: flexible assistance using adaptive oscillators. <i>IEEE Transactions on Biomedical Engineering</i> , 2011 , 58, 1001-12	5	109
241	Coupling Movement Primitives: Interaction With the Environment and Bimanual Tasks. <i>IEEE Transactions on Robotics</i> , 2014 , 30, 816-830	6.5	108
240	Collaboration Through the Exploitation of Local Interactions in Autonomous Collective Robotics: The Stick Pulling Experiment. <i>Autonomous Robots</i> , 2001 , 11, 149-171	3	104
239	A macroscopic analytical model of collaboration in distributed robotic systems. <i>Artificial Life</i> , 2001 , 7, 375-93	1.4	90
238	Understanding collective aggregation mechanisms: From probabilistic modelling to experiments with real robots. <i>Robotics and Autonomous Systems</i> , 1999 , 29, 51-63	3.5	88
237	Reverse-engineering the locomotion of a stem amniote. <i>Nature</i> , 2019 , 565, 351-355	50.4	88
236	Learning to Move in Modular Robots using Central Pattern Generators and Online Optimization. <i>International Journal of Robotics Research</i> , 2008 , 27, 423-443	5.7	83
235	Environmental monitoring using autonomous vehicles: a survey of recent searching techniques. <i>Current Opinion in Biotechnology</i> , 2017 , 45, 76-84	11.4	79
234	Sensing pressure distribution on a lower-limb exoskeleton physical human-machine interface. <i>Sensors</i> , 2011 , 11, 207-27	3.8	79
233	The current state and future outlook of rescue robotics. <i>Journal of Field Robotics</i> , 2019 , 36, 1171-1191	6.7	73
232	The contribution of a central pattern generator in a reflex-based neuromuscular model. <i>Frontiers in Human Neuroscience</i> , 2014 , 8, 371	3.3	72
231	The Human Central Pattern Generator for Locomotion: Does It Exist and Contribute to Walking?. <i>Neuroscientist</i> , 2017 , 23, 649-663	7.6	69
230	Evolution and development of a central pattern generator for the swimming of a lamprey. <i>Artificial Life</i> , 1999 , 5, 247-69	1.4	69

229	Engineering entrainment and adaptation in limit cycle systems : From biological inspiration to applications in robotics. <i>Biological Cybernetics</i> , 2006 , 95, 645-64	2.8	66
228	On-line frequency adaptation and movement imitation for rhythmic robotic tasks. <i>International Journal of Robotics Research</i> , 2011 , 30, 1775-1788	5.7	64
227	Online trajectory generation in an amphibious snake robot using a lamprey-like central pattern generator model. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , 2007 ,		62
226	JammJoint: A Variable Stiffness Device Based on Granular Jamming for Wearable Joint Support. <i>IEEE Robotics and Automation Letters</i> , 2017 , 2, 849-855	4.2	58
225	Roombots: A hardware perspective on 3D self-reconfiguration and locomotion with a homogeneous modular robot. <i>Robotics and Autonomous Systems</i> , 2014 , 62, 1016-1033	3.5	58
224	Improved Lighthill fish swimming model for bio-inspired robots: Modeling, computational aspects and experimental comparisons. <i>International Journal of Robotics Research</i> , 2014 , 33, 1322-1341	5.7	57
223	Modeling discrete and rhythmic movements through motor primitives: a review. <i>Biological Cybernetics</i> , 2010 , 103, 319-38	2.8	57
222	Evolving Swimming Controllers for a Simulated Lamprey with Inspiration from Neurobiology. <i>Adaptive Behavior</i> , 1999 , 7, 151-172	1.1	57
221	The role of feedback in morphological computation with compliant bodies. <i>Biological Cybernetics</i> , 2012 , 106, 595-613	2.8	56
220	Trajectory formation for imitation with nonlinear dynamical systems		56
219	Self-organized adaptive legged locomotion in a compliant quadruped robot. <i>Autonomous Robots</i> , 2008 , 25, 331-347	3	53
218	From cineradiography to biorobots: an approach for designing robots to emulate and study animal locomotion. <i>Journal of the Royal Society Interface</i> , 2016 , 13,	4.1	52
217	Organisation of the spinal central pattern generators for locomotion in the salamander: biology and modelling. <i>Brain Research Reviews</i> , 2008 , 57, 147-61		49
216	Fractional Multi-models of the Frog Gastrocnemius Muscle. <i>JVC/Journal of Vibration and Control</i> , 2008 , 14, 1415-1430	2	49
215	Passive compliant quadruped robot using Central Pattern Generators for locomotion control 2008 ,		44
214	Benefits of an active spine supported bounding locomotion with a small compliant quadruped robot 2013 ,		42
213	Real-Time Estimate of Velocity and Acceleration of Quasi-Periodic Signals Using Adaptive Oscillators. <i>IEEE Transactions on Robotics</i> , 2013 , 29, 783-791	6.5	41
212	Toward simple control for complex, autonomous robotic applications: combining discrete and rhythmic motor primitives. <i>Autonomous Robots</i> , 2011 , 31, 155-181	3	41

211	Finding Resonance: Adaptive Frequency Oscillators for Dynamic Legged Locomotion 2006 ,		40
210	Adaptive Frequency Oscillators and Applications. <i>Open Cybernetics and Systemics Journal</i> , 2009 , 3, 64-69		40
209	Climbing favours the tripod gait over alternative faster insect gaits. <i>Nature Communications</i> , 2017 , 8, 14494	17.4	39
208	Robotics and neuroscience. <i>Current Biology</i> , 2014 , 24, R910-R920	6.3	39
207	Sensory feedback plays a significant role in generating walking gait and in gait transition in salamanders: a simulation study. <i>Frontiers in Neurorobotics</i> , 2011 , 5, 3	3.4	39
206	Roombots-mechanical design of self-reconfiguring modular robots for adaptive furniture 2009 ,		39
205	Frequency analysis with coupled nonlinear oscillators. <i>Physica D: Nonlinear Phenomena</i> , 2008 , 237, 1705-1718	3.3	39
204	Where are we in understanding salamander locomotion: biological and robotic perspectives on kinematics. <i>Biological Cybernetics</i> , 2013 , 107, 529-44	2.8	37
203	Horse-like walking, trotting, and galloping derived from kinematic Motion Primitives (kMPs) and their application to walk/trot transitions in a compliant quadruped robot. <i>Biological Cybernetics</i> , 2013 , 107, 309-20	2.8	36
202	Exploring adaptive locomotion with YaMoR, a novel autonomous modular robot with Bluetooth interface. <i>Industrial Robot</i> , 2006 , 33, 285-290	1.4	36
201			36
200	Biologically inspired neural controllers for motor control in a quadruped robot 2000 ,		36
199	Segmental oscillators in axial motor circuits of the salamander: distribution and bursting mechanisms. <i>Journal of Neurophysiology</i> , 2010 , 104, 2677-92	3.2	35
198	Swimming and Crawling with an Amphibious Snake Robot		35
197	An Adaptive Neuromuscular Controller for Assistive Lower-Limb Exoskeletons: A Preliminary Study on Subjects with Spinal Cord Injury. <i>Frontiers in Neurorobotics</i> , 2017 , 11, 30	3.4	34
196	Adaptive oscillators with human-in-the-loop: Proof of concept for assistance and rehabilitation 2010 ,		34
195	Comparing the effect of different spine and leg designs for a small bounding quadruped robot 2015 ,		33
194	Spinal joint compliance and actuation in a simulated bounding quadruped robot. <i>Autonomous Robots</i> , 2017 , 41, 437-452	3	32

193	A multidirectional gravity-assist algorithm that enhances locomotor control in patients with stroke or spinal cord injury. <i>Science Translational Medicine</i> , 2017 , 9,	17.5	31
192	Survey and Introduction to the Focused Section on Bio-Inspired Mechatronics. <i>IEEE/ASME Transactions on Mechatronics</i> , 2013 , 18, 409-418	5.5	31
191	Aibo and Webots: Simulation, wireless remote control and controller transfer. <i>Robotics and Autonomous Systems</i> , 2006 , 54, 472-485	3.5	31
190	Learning robot gait stability using neural networks as sensory feedback function for Central Pattern Generators 2013 ,		30
189	Oscillator-based walking assistance: a model-free approach. <i>IEEE International Conference on Rehabilitation Robotics</i> , 2011 , 2011, 5975352	1.3	30
188	Development of Adaptive Modular Active Leg (AMAL) using bipedal robotics technology. <i>Robotics and Autonomous Systems</i> , 2009 , 57, 603-616	3.5	30
187	A general family of morphed nonlinear phase oscillators with arbitrary limit cycle shape. <i>Physica D: Nonlinear Phenomena</i> , 2013 , 263, 41-56	3.3	29
186	Movement generation using dynamical systems : a humanoid robot performing a drumming task 2006 ,		28
185	Distributed Central Pattern Generator Model for Robotics Application Based on Phase Sensitivity Analysis. <i>Lecture Notes in Computer Science</i> , 2004 , 333-349	0.9	28
184	Biped gait controller for large speed variations, combining reflexes and a central pattern generator in a neuromuscular model 2015 ,		26
183	Axial dynamics during locomotion in vertebrates lesson from the salamander. <i>Progress in Brain Research</i> , 2010 , 187, 149-62	2.9	26
182	Improvement of the muscle fractional multimodel for low-rate stimulation. <i>Biomedical Signal Processing and Control</i> , 2007 , 2, 226-233	4.9	26
181	Wearable Sensor-Based Real-Time Gait Detection: A Systematic Review. <i>Sensors</i> , 2021 , 21,	3.8	26
180	Versatile and robust 3D walking with a simulated humanoid robot (Atlas): A model predictive control approach 2014 ,		25
179	A modular bio-inspired architecture for movement generation for the infant-like robot iCub 2008 ,		25
178	Flexibility of the axial central pattern generator network for locomotion in the salamander. <i>Journal of Neurophysiology</i> , 2015 , 113, 1921-40	3.2	24
177	An active connection mechanism for modular self-reconfigurable robotic systems based on physical latching 2008 ,		24
176	From lamprey to salamander: an exploratory modeling study on the architecture of the spinal locomotor networks in the salamander. <i>Biological Cybernetics</i> , 2013 , 107, 565-87	2.8	23

175	Piecewise linear spine for speed-energy efficiency trade-off in quadruped robots. <i>Robotics and Autonomous Systems</i> , 2013 , 61, 1350-1359	3.5	22
174	Central Pattern Generators augmented with virtual model control for quadruped rough terrain locomotion 2013 ,		22
173	A Probabilistic Model for Understanding and Comparing Collective Aggregation Mechanisms. <i>Lecture Notes in Computer Science</i> , 1999 , 575-584	0.9	22
172	Bio-inspired controller achieving forward speed modulation with a 3D bipedal walker. <i>International Journal of Robotics Research</i> , 2018 , 37, 168-196	5.7	21
171	Modular control of limit cycle locomotion over unperceived rough terrain 2013 ,		21
170	BoxyBot: a swimming and crawling fish robot controlled by a central pattern generator		21
169	Roombots extended: Challenges in the next generation of self-reconfigurable modular robots and their application in adaptive and assistive furniture. <i>Robotics and Autonomous Systems</i> , 2020 , 127, 103467	3.5	20
168	Decoding the mechanisms of gait generation in salamanders by combining neurobiology, modeling and robotics. <i>Biological Cybernetics</i> , 2013 , 107, 545-64	2.8	20
167	Kinematic and Gait Similarities between Crawling Human Infants and Other Quadruped Mammals. <i>Frontiers in Neurology</i> , 2015 , 6, 17	4.1	20
166	Learning coupling terms for obstacle avoidance 2014 ,		20
165	Adaptive Frequency Oscillators and Applications. <i>Open Cybernetics and Systemics Journal</i> , 2009 , 3, 64-69		20
164	A salamander's flexible spinal network for locomotion, modeled at two levels of abstraction. <i>Integrative and Comparative Biology</i> , 2013 , 53, 269-82	2.8	19
163	Resonant neurons and bushcricket behaviour. <i>Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology</i> , 2007 , 193, 285-8	2.3	19
162	Mechanics of very slow human walking. <i>Scientific Reports</i> , 2019 , 9, 18079	4.9	19
161	3LP: A linear 3D-walking model including torso and swing dynamics. <i>International Journal of Robotics Research</i> , 2017 , 36, 436-455	5.7	18
160	Oncilla Robot: A Versatile Open-Source Quadruped Research Robot With Compliant Pantograph Legs. <i>Frontiers in Robotics and AI</i> , 2018 , 5, 67	2.8	18
159	A simple model of mechanical effects to estimate metabolic cost of human walking. <i>Scientific Reports</i> , 2018 , 8, 10998	4.9	17
158	Biologically inspired kinematic synergies enable linear balance control of a humanoid robot. <i>Biological Cybernetics</i> , 2011 , 104, 235-49	2.8	17

157	Robust and Agile 3D Biped Walking With Steering Capability Using a Footstep Predictive Approach		17
156	Amphibious and Sprawling Locomotion: From Biology to Robotics and Back. <i>Annual Review of Control, Robotics, and Autonomous Systems</i> , 2020 , 3, 173-193	11.8	17
155	Neuromuscular Controller Embedded in a Powered Ankle Exoskeleton: Effects on Gait, Clinical Features and Subjective Perspective of Incomplete Spinal Cord Injured Subjects. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020 , 28, 1157-1167	4.8	16
154	Inverse kinematics and reflex based controller for body-limb coordination of a salamander-like robot walking on uneven terrain 2015 ,		16
153	Multi-physics model of an electric fish-like robot: Numerical aspects and application to obstacle avoidance 2011 ,		16
152	Graph Signature for Self-Reconfiguration Planning 2008 ,		16
151	Walking with Salamanders: From Molecules to Biorobotics. <i>Trends in Neurosciences</i> , 2020 , 43, 916-930	13.3	16
150	Real-time full body motion imitation on the COMAN humanoid robot. <i>Robotica</i> , 2015 , 33, 1049-1061	2.1	15
149	Effects of a neuromuscular controller on a powered ankle exoskeleton during human walking 2016 ,		15
148	Adaptive Natural Oscillator to exploit natural dynamics for energy efficiency. <i>Robotics and Autonomous Systems</i> , 2017 , 97, 51-60	3.5	15
147	Soft artificial tactile sensors for the measurement of human-robot interaction in the rehabilitation of the lower limb. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2010 , 2010, 1279-82	0.9	15
146	Analysis of the terrestrial locomotion of a salamander robot 2009 ,		15
145	Biologically Inspired Robotics 2016 , 2015-2034		15
144	Accelerated Sensorimotor Learning of Compliant Movement Primitives. <i>IEEE Transactions on Robotics</i> , 2018 , 34, 1636-1642	6.5	14
143	Natural dynamics modification for energy efficiency: A data-driven parallel compliance design method 2014 ,		14
142	Roombots¶owards decentralized reconfiguration with self-reconfiguring modular robotic metamodules 2010 ,		14
141	Graph signature for self-reconfiguration planning of modules with symmetry 2009 ,		14
140	Biologically inspired CPG based above knee active prosthesis 2008 ,		14

139	Review of control strategies for lower-limb exoskeletons to assist gait. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2021 , 18, 119	5.3	14
138	Human Intention Detection as a Multiclass Classification Problem: Application in Physical HumanRobot Interaction While Walking. <i>IEEE Robotics and Automation Letters</i> , 2018 , 3, 4171-4178	4.2	13
137	Experimental study of limit cycle and chaotic controllers for the locomotion of centipede robots 2008 ,		13
136	Biologically inspired kinematic synergies provide a new paradigm for balance control of humanoid robots 2007 ,		13
135	A Multi-robot System for Adaptive Exploration of a Fast-changing Environment: Probabilistic Modeling and Experimental Study. <i>Connection Science</i> , 1999 , 11, 359-379	2.8	13
134	Envirobot: A bio-inspired environmental monitoring platform 2016 ,		13
133	Friction and damping of a compliant foot based on granular jamming for legged robots 2016 ,		13
132	Symbitron Exoskeleton: Design, Control, and Evaluation of a Modular Exoskeleton for Incomplete and Complete Spinal Cord Injured Individuals. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2021 , 29, 330-339	4.8	13
131	Emergence of robust self-organized undulatory swimming based on local hydrodynamic force sensing. <i>Science Robotics</i> , 2021 , 6,	18.6	13
130	Online Gait Transitions and Disturbance Recovery for Legged Robots via the Feasible Impulse Set. <i>IEEE Robotics and Automation Letters</i> , 2019 , 4, 1611-1618	4.2	12
129	Engineering Intelligent Electronic Systems Based on Computational Neuroscience. <i>Proceedings of the IEEE</i> , 2014 , 102, 646-651	14.3	12
128	Kinematic primitives for walking and trotting gaits of a quadruped robot with compliant legs. <i>Frontiers in Computational Neuroscience</i> , 2014 , 8, 27	3.5	12
127	Real-time estimate of period derivatives using adaptive oscillators: Application to impedance-based walking assistance 2012 ,		12
126	2010 ,		12
125	On designing an active tail for legged robots: simplifying control via decoupling of control objectives. <i>Industrial Robot</i> , 2016 , 43, 338-346	1.4	12
124	Decoding the essential interplay between central and peripheral control in adaptive locomotion of amphibious centipedes. <i>Scientific Reports</i> , 2019 , 9, 18288	4.9	12
123	A Dynamical Systems Approach to Learning: A Frequency-Adaptive Hopper Robot. <i>Lecture Notes in Computer Science</i> , 2005 , 210-220	0.9	12
122	Spine Controller for a Sprawling Posture Robot. <i>IEEE Robotics and Automation Letters</i> , 2017 , 2, 1195-1202.	2.2	11

121	Compliant universal grippers as adaptive feet in legged robots. <i>Advanced Robotics</i> , 2018 , 32, 825-836	1.7	11
120	Bio-inspired walking for humanoid robots using feet with human-like compliance and neuromuscular control 2015 ,		11
119	MODEM: a multi-agent hierarchical structure to model the human motor control system. <i>Biological Cybernetics</i> , 2009 , 101, 361-77	2.8	11
118	Compliant snake robot locomotion on horizontal pipes 2015 ,		10
117	Gait Transition from Swimming to Walking: Investigation of Salamander Locomotion Control Using Nonlinear Oscillators 2006 , 177-188		10
116	Hand placement during quadruped locomotion in a humanoid robot: A dynamical system approach 2007 ,		10
115	Benchmarking Agility For Multilegged Terrestrial Robots. <i>IEEE Transactions on Robotics</i> , 2019 , 35, 529-536	3.5	10
114	Bipedal walking and push recovery with a stepping strategy based on time-projection control. <i>International Journal of Robotics Research</i> , 2019 , 38, 587-611	5.7	9
113	Haptic Feedback Perception and Learning With Cable-Driven Guidance in Exosuit Teleoperation of a Simulated Drone. <i>IEEE Transactions on Haptics</i> , 2019 , 12, 375-385	2.7	9
112	Bio-inspired control of joint torque and knee stiffness in a robotic lower limb exoskeleton using a central pattern generator. <i>IEEE International Conference on Rehabilitation Robotics</i> , 2017 , 2017, 1387-1394	1.3	9
111	Model predictive control based framework for CoM control of a quadruped robot 2017 ,		9
110	Practical considerations in using inverse dynamics on a humanoid robot: Torque tracking, sensor fusion and Cartesian control laws 2015 ,		9
109	Assistance using adaptive oscillators: robustness to errors in the identification of the limb parameters. <i>IEEE International Conference on Rehabilitation Robotics</i> , 2011 , 2011, 5975351	1.3	9
108	Gait optimization for roombots modular robots [Matching simulation and reality 2013 ,		8
107	Where to place cameras on a snake robot: Focus on camera trajectory and motion blur 2015 ,		8
106	Predictive gaze stabilization during periodic locomotion based on Adaptive Frequency Oscillators 2012 ,		8
105	Modulation of motor primitives using force feedback: Interaction with the environment and bimanual tasks 2013 ,		8
104	Estimation of relative position and coordination of mobile underwater robotic platforms through electric sensing 2012 ,		8

103	A Point-Wise Model of Adhesion Suitable for Real-Time Applications of Bio-Inspired Climbing Robots. <i>Journal of Bionic Engineering</i> , 2008 , 5, 98-105	2.7	8
102	Lower body realization of the baby humanoid - iCub 2007 ,		8
101	Postural Control on a Quadruped Robot Using Lateral Tilt: A Dynamical System Approach 2008 , 205-214		8
100	Co-evolution of Structures and Controllers for Neobot Underwater Modular Robots. <i>Lecture Notes in Computer Science</i> , 2005 , 189-199	0.9	8
99	Decentralized control with cross-coupled sensory feedback between body and limbs in sprawling locomotion. <i>Bioinspiration and Biomimetics</i> , 2019 , 14, 066010	2.6	7
98	Role of compliance on the locomotion of a reconfigurable modular snake robot 2015 ,		7
97	Experimental validation of a bio-inspired controller for dynamic walking with a humanoid robot 2015 ,		7
96	Rich periodic motor skills on humanoid robots: Riding the pedal racer 2014 ,		7
95	Design and evaluation of a graphical iPad application for arranging adaptive furniture 2012 ,		7
94	Interactive locomotion: Investigation and modeling of physically-paired humans while walking. <i>PLoS ONE</i> , 2017 , 12, e0179989	3.7	7
93	Optimal search strategies for pollutant source localization 2016 ,		7
92	A 3-D Biomechanical Model of the Salamander. <i>Lecture Notes in Computer Science</i> , 2000 , 225-234	0.9	7
91	A Neuro-Inspired Computational Model for a Visually Guided Robotic Lamprey Using Frame and Event Based Cameras. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 2395-2402	4.2	6
90	Nonlinear motion control of CPG-based movement with applications to a class of swimming robots 2011 ,		6
89	Salamandra Robotica: A Biologically Inspired Amphibious Robot that Swims and Walks 2009 , 35-64		6
88	Kubits: Solid-State Self-Reconfiguration With Programmable Magnets. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 6443-6450	4.2	6
87	Symmetric virtual constraints for periodic walking of legged robots 2016 ,		6
86	Neuromuscular model achieving speed control and steering with a 3D bipedal walker. <i>Autonomous Robots</i> , 2019 , 43, 1537-1554	3	6

85	Sprawling Quadruped Robot Driven by Decentralized Control With Cross-Coupled Sensory Feedback Between Legs and Trunk. <i>Frontiers in Neurorobotics</i> , 2020 , 14, 607455	3.4	6
84	An Optimal Planning Framework to Deploy Self-Reconfigurable Modular Robots. <i>IEEE Robotics and Automation Letters</i> , 2019 , 4, 4278-4285	4.2	5
83	Adaptive Four Legged Locomotion Control Based on Nonlinear Dynamical Systems. <i>Lecture Notes in Computer Science</i> , 2006 , 138-149	0.9	5
82	Haptic Guidance with a Soft Exoskeleton Reduces Error in Drone Teleoperation. <i>Lecture Notes in Computer Science</i> , 2018 , 404-415	0.9	5
81	Distributed Online Learning of Central Pattern Generators in Modular Robots. <i>Lecture Notes in Computer Science</i> , 2010 , 402-412	0.9	5
80	Reproducing Five Motor Behaviors in a Salamander Robot With Virtual Muscles and a Distributed CPG Controller Regulated by Drive Signals and Proprioceptive Feedback. <i>Frontiers in Neurorobotics</i> , 2020 , 14, 604426	3.4	5
79	Bio-inspired balance controller for a humanoid robot 2016 ,		5
78	Towards rich motion skills with the lightweight quadruped robot Serval. <i>Adaptive Behavior</i> , 2020 , 28, 129-150	1.1	5
77	Stiffness Variability in Jamming of Compliant Granules and a Case Study Application in Climbing Vertical Shafts 2018 ,		5
76	Fractional Multimodels of the Gastrocnemius Muscle for Tetanus Pattern 2007 , 271-285		5
75	Interfacing a salamander brain with a salamander-like robot: Control of speed and direction with calcium signals from brainstem reticulospinal neurons 2016 ,		4
74	A simple body-limb coordination model that mimics primitive tetrapod walking 2017 ,		4
73	Natural user interface for Roombots 2014 ,		4
72	2013 ,		4
71	Collaborative manipulation and transport of passive pieces using the self-reconfigurable modular robots roombots 2013 ,		4
70	Co-evolution of morphology and control of virtual legged robots for a steering task 2011 ,		4
69	Spatiotemporal Maps of Proprioceptive Inputs to the Cervical Spinal Cord During Three-Dimensional Reaching and Grasping. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020 , 28, 1668-1677	4.8	4
68	Exploring the Contribution of Proprioceptive Reflexes to Balance Control in Perturbed Standing. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 866	5.8	4

67	NeuroMechFly, a neuromechanical model of adult <i>Drosophila melanogaster</i>		4
66	Design and development of the efficient anguilliform swimming robot- MAR. <i>Bioinspiration and Biomimetics</i> , 2020 , 15, 035001	2.6	3
65	Decoding the Neural Mechanisms Underlying Locomotion Using Mathematical Models and Bio-inspired Robots: From Lamprey to Human Locomotion. <i>Springer Proceedings in Advanced Robotics</i> , 2018 , 177-186	0.6	3
64	Towards Rich Motion Skills with the Lightweight Quadruped Robot Serval - A Design, Control and Experimental Study. <i>Lecture Notes in Computer Science</i> , 2018 , 41-55	0.9	3
63	Active stabilization of a stiff quadruped robot using local feedback 2017 ,		3
62	Compliant and adaptive control of a planar monopod hopper in rough terrain 2013 ,		3
61	Analogy between Juggling and Hopping: Active Object Manipulation Approach. <i>Advanced Robotics</i> , 2011 , 25, 1793-1816	1.7	3
60	A Dynamical System for Online Learning of Periodic Movements of Unknown Waveform and Frequency 2008 ,		3
59	An easy to use bluetooth scatternet protocol for fast data exchange in wireless sensor networks and autonomous robots 2007 ,		3
58	Synthetic Approaches to Neurobiology: Review and Case Study in the Control of Anguilliform Locomotion. <i>Lecture Notes in Computer Science</i> , 1999 , 195-204	0.9	3
57	Sensory modulation of gait characteristics in human locomotion: A neuromusculoskeletal modeling study. <i>PLoS Computational Biology</i> , 2021 , 17, e1008594	5	3
56	Fast Multi-Contact Whole-Body Motion Planning with Limb Dynamics 2018 ,		3
55	Minimalist Design of a 3-Axis Passive Compliant Foot for Sprawling Posture Robots 2019 ,		2
54	Control of Motion and Compliance 2017 , 135-346		2
53	Natural user interface for lighting control: Case study on desktop lighting using modular robots 2016 ,		2
52	Effects of passive and active joint compliance in quadrupedal locomotion. <i>Advanced Robotics</i> , 2018 , 32, 809-824	1.7	2
51	A Versatile Neuromuscular Exoskeleton Controller for Gait Assistance: A Preliminary Study on Spinal Cord Injury Patients. <i>Biosystems and Biorobotics</i> , 2017 , 163-167	0.2	2
50	Challenges in visual and inertial information gathering for a sprawling posture robot 2017 ,		2

49	Self-reconfigurable modular robot interface using virtual reality: Arrangement of furniture made out of roombots modules 2017 ,		2
48	Hammering Does Not Fit Fitts' Law. <i>Frontiers in Computational Neuroscience</i> , 2017 , 11, 45	3.5	2
47	Bio-inspired learning and database expansion of Compliant Movement Primitives 2015 ,		2
46	A general whole-body compliance framework for humanoid robots 2015 ,		2
45	Co-evolution of Morphology and Control of a Wearable Robot for Human Locomotion Assistance Exploiting Variable Impedance Actuators. <i>Procedia Computer Science</i> , 2011 , 7, 223-225	1.6	2
44	Locomotion Gait Optimization For Modular Robots; Coevolving Morphology and Control. <i>Procedia Computer Science</i> , 2011 , 7, 320-322	1.6	2
43	Effects of muscle dynamics and proprioceptive feedback on the kinematics and CPG activity of salamander stepping. <i>BMC Neuroscience</i> , 2011 , 12,	3.2	2
42	Integration of vision and central pattern generator based locomotion for path planning of a non-holonomic crawling humanoid robot 2010 ,		2
41	Nonlinear modelling of double and triple period pitch breaks in vocal fold vibration. <i>Logopedics Phoniatrics Vocology</i> , 2006 , 31, 36-42	1.3	2
40	Quadruped locomotion 2018 ,		2
39	CPG-Based Control of Humanoid Robot Locomotion 2017 , 1-35		2
38	A Muscle-Reflex Model of Forelimb and Hindlimb of Felidae Family of Animal with Dynamic Pattern Formation Stimuli 2020 ,		2
37	Adaptive Exploration of a Dynamic Environment by a Group of Communicating Robots. <i>Lecture Notes in Computer Science</i> , 1999 , 596-605	0.9	2
36	Gait training with Achilles ankle exoskeleton in chronic incomplete spinal cord injury subjects. <i>Journal of Biological Regulators and Homeostatic Agents</i> , 2020 , 34, 147-164. Technology in Medicine	0.7	2
35	Undulatory Swimming Locomotion Driven by CPG with Multimodal Local Sensory Feedback. <i>Lecture Notes in Computer Science</i> , 2018 , 1-5	0.9	1
34	From standing balance to walking: A single control structure for a continuum of gaits. <i>International Journal of Robotics Research</i> , 2019 , 38, 1695-1716	5.7	1
33	Combining a 3D Reflex Based Neuromuscular Model with a State Estimator Based on Central Pattern Generators. <i>Biosystems and Biorobotics</i> , 2017 , 633-637	0.2	1
32	CPG network to generate the swimming motion of the crawl stroke. <i>Mechanical Engineering Journal</i> , 2017 , 4, 16-00279-16-00279	0.5	1

31	Exploiting natural dynamics in biped locomotion using variable impedance control 2013 ,		1
30	Model-based and model-free approaches for postural control of a compliant humanoid robot using optical flow 2013 ,		1
29	Modeling axial spinal segments of the salamander central pattern generator for locomotion. <i>BMC Neuroscience</i> , 2011 , 12,	3.2	1
28	Locomotion studies and modeling of the long-tailed lizard <i>Takydromus sexlineatus</i> 2012 ,		1
27	Indirect, Non-Adaptive Control of a Class of Nonlinear Uncertain Systems With Applications to Motion Control of Swimming Robots 2012 ,		1
26	Action-Perception Trade-Offs for Anguilliform Swimming Robotic Platforms with an Electric Sense. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012 , 45, 178-183		1
25	A Whole-Body Musculoskeletal Model of the Mouse.. <i>IEEE Access</i> , 2021 , 9, 163861-163881	3.5	1
24	Emergent adaptive gait generation through Hebbian sensor-motor maps by morphological probing 2020 ,		1
23	A Neural Primitive model with Sensorimotor Coordination for Dynamic Quadruped Locomotion with Malfunction Compensation 2020 ,		1
22	Slow-fast Dynamics of Strongly Coupled Adaptive Frequency Oscillators. <i>SIAM Journal on Applied Dynamical Systems</i> , 2021 , 20, 1985-2012	2.8	1
21	Meta Morphic Particle Swarm Optimization. <i>Studies in Computational Intelligence</i> , 2014 , 231-244	0.8	1
20	Autonomous Learning of Internal Dynamic Models for Reaching Tasks. <i>Advances in Intelligent Systems and Computing</i> , 2016 , 439-447	0.4	1
19	Motor Control Adaptation to Changes in Robot Body Dynamics for a Complaint Quadruped Robot. <i>Lecture Notes in Computer Science</i> , 2013 , 434-437	0.9	1
18	AQuRo: A Cat-like Adaptive Quadruped Robot With Novel Bio-Inspired Capabilities. <i>Frontiers in Robotics and AI</i> , 2021 , 8, 562524	2.8	1
17	Spontaneous Gait Transitions of Sprawling Quadruped Locomotion by Sensory-Driven Body-Limb Coordination Mechanisms. <i>Frontiers in Neurobotics</i> , 2021 , 15, 645731	3.4	1
16	Benefits and Potential of a Neuromuscular Controller for Exoskeleton-Assisted Walking. <i>Biosystems and Biorobotics</i> , 2022 , 281-285	0.2	1
15	Designing a virtual whole body tactile sensor suit for a simulated humanoid robot using inverse dynamics 2016 ,		1
14	Playdough to Roombots: Towards a Novel Tangible User Interface for Self-reconfigurable Modular Robots 2018 ,		1

13	Augmented Neuromuscular Gait Controller Enables Real-time Tracking of Bipedal Running Speed 2018 ,		1
12	NeuroMechFly, a neuromechanical model of adult <i>Drosophila melanogaster</i> .. <i>Nature Methods</i> , 2022 , 19, 620-627	21.6	1
11	Using Evolutionary Methods to Parameterize Neural Models: A Study of the Lamprey Central Pattern Generator. <i>Studies in Fuzziness and Soft Computing</i> , 2003 , 119-142	0.7	0
10	Bioinspired Postural Controllers for a Locked-Ankle Exoskeleton Targeting Complete SCI Users. <i>Frontiers in Robotics and AI</i> , 2020 , 7, 553828	2.8	0
9	CPG-Based Control of Humanoid Robot Locomotion 2019 , 1099-1133		0
8	A spiking central pattern generator for the control of a simulated lamprey robot running on SpiNNaker and Loihi neuromorphic boards. <i>Neuromorphic Computing and Engineering</i> , 2021 , 1, 014005		0
7	Interactive Locomotion of Mechanically Coupled Bipedal Agents: Modeling and Experiments. <i>Biosystems and Biorobotics</i> , 2017 , 229-234	0.2	
6	Flexible Assistive Robots Through AFO-Based Intention Detection. <i>Procedia Computer Science</i> , 2011 , 7, 323-324	1.6	
5	Dynamical principles in neuronal systems and robotics. <i>Biological Cybernetics</i> , 2006 , 95, 517-518	2.8	
4	Banc de Mesure Pour L'application Et La Visualisation de Contraintes Controlees Sur Des Cellules Endotheliales. <i>Archives of Physiology and Biochemistry</i> , 1995 , 103, C101-C101	2.2	
3	Walking Assistance of Subjects with Spinal Cord Injury with an Ankle Exoskeleton and Neuromuscular Controller. <i>Biosystems and Biorobotics</i> , 2019 , 304-308	0.2	
2	Bioinspired Motor Control for Articulated Robots [From the Guest Editors]. <i>IEEE Robotics and Automation Magazine</i> , 2016 , 23, 20-21	3.4	
1	Control of Aquatic and Terrestrial Gaits in Salamander 2022 , 982-989		