Cecilia Laschi

List of Publications by Year
in descending order

349 papers	13,704 citations	50276 46 h-index	29157 104 g-index
361 all docs	361 docs citations	361 times ranked	8499 citing authors

#	Article	IF	Citations
1	Soft robotics: a bioinspired evolution in robotics. Trends in Biotechnology, 2013, 31, 287-294.	9.3	1,598
2	Soft robotics: Technologies and systems pushing the boundaries of robot abilities. Science Robotics, 2016, 1, .	17.6	987
3	Biomedical applications of soft robotics. Nature Reviews Materials, 2018, 3, 143-153.	48.7	826
4	Soft Robot Arm Inspired by the Octopus. Advanced Robotics, 2012, 26, 709-727.	1.8	778
5	Control Strategies for Soft Robotic Manipulators: A Survey. Soft Robotics, 2018, 5, 149-163.	8.0	412
6	Soft robot perception using embedded soft sensors and recurrent neural networks. Science Robotics, 2019, 4, .	17.6	383
7	An octopus-bioinspired solution to movement and manipulation for soft robots. Bioinspiration and Biomimetics, 2011, 6, 036002.	2.9	368
8	Dynamic Model of a Multibending Soft Robot Arm Driven by Cables. IEEE Transactions on Robotics, 2014, 30, 1109-1122.	10.3	328
9	A Bioinspired Soft Robotic Gripper for Adaptable and Effective Grasping. Soft Robotics, 2015, 2, 107-116.	8.0	309
10	Soft Robotics: New Perspectives for Robot Bodyware and Control. Frontiers in Bioengineering and Biotechnology, 2014, 2, 3.	4.1	282
11	Model-Based Reinforcement Learning for Closed-Loop Dynamic Control of Soft Robotic Manipulators. IEEE Transactions on Robotics, 2019, 35, 124-134.	10.3	228
12	Soft-robotic arm inspired by the octopus: II. From artificial requirements to innovative technological solutions. Bioinspiration and Biomimetics, 2012, 7, 025005.	2.9	218
13	Bioinspired locomotion and grasping in water: the soft eight-arm OCTOPUS robot. Bioinspiration and Biomimetics, 2015, 10, 035003.	2.9	217
14	Design of a biomimetic robotic octopus arm. Bioinspiration and Biomimetics, 2009, 4, 015006.	2.9	212
15	Fundamentals of soft robot locomotion. Journal of the Royal Society Interface, 2017, 14, 20170101.	3.4	207
16	STIFF-FLOP surgical manipulator: Mechanical design and experimental characterization of the single module. , 2013, , .		188
17	Soft Robotics: Challenges and Perspectives. Procedia Computer Science, 2011, 7, 99-102.	2.0	174
18	A 3D steady-state model of a tendon-driven continuum soft manipulator inspired by the octopus arm. Bioinspiration and Biomimetics, 2012, 7, 025006.	2.9	160

#	Article	IF	Citations
19	Neural Network and Jacobian Method for Solving the Inverse Statics of a Cable-Driven Soft Arm With Nonconstant Curvature. IEEE Transactions on Robotics, 2015, 31, 823-834.	10.3	155
20	Design concept and validation of a robotic arm inspired by the octopus. Materials Science and Engineering C, 2011, 31, 1230-1239.	7.3	139
21	Educational Robotics intervention on Executive Functions in preschool children: A pilot study. Computers in Human Behavior, 2017, 71, 16-23.	8.5	122
22	MOVAID: a personal robot in everyday life of disabled and elderly people. Technology and Disability, 1999, 10, 77-93.	0.6	109
23	Connecting Artificial Brains to Robots in a Comprehensive Simulation Framework: The Neurorobotics Platform. Frontiers in Neurorobotics, 2017, 11, 2.	2.8	102
24	Distinct Neural Systems Involved in Agency and Animacy Detection. Journal of Cognitive Neuroscience, 2011, 23, 1911-1920.	2.3	101
25	Learning dynamic models for open loop predictive control of soft robotic manipulators. Bioinspiration and Biomimetics, 2017, 12, 066003.	2.9	96
26	Soft robotic arm inspired by the octopus: I. From biological functions to artificial requirements. Bioinspiration and Biomimetics, 2012, 7, 025004.	2.9	93
27	Bioinspired underwater legged robot for seabed exploration with low environmental disturbance. Science Robotics, 2020, 5, .	17.6	93
28	Design for Acceptability: Improving Robotsâ€™ Coexistence inÂHuman Society. International Journal of Social Robotics, 2010, 2, 451-460.	4.6	92
29	How safe are service robots in urban environments? Bullying a robot. , 2010, , .		86
30	Learning Closed Loop Kinematic Controllers for Continuum Manipulators in Unstructured Environments. Soft Robotics, 2017, 4, 285-296.	8.0	84
31	Humanoids and personal robots: Design and experiments. Journal of Field Robotics, 2001, 18, 673-690.	0.7	83
32	Multiobjective Optimization for Stiffness and Position Control in a Soft Robot Arm Module. IEEE Robotics and Automation Letters, 2018, 3, 108-115.	5.1	82
33	Actuation Technologies for Soft Robot Grippers and Manipulators: A Review. Current Robotics Reports, 2021, 2, 355-369.	7.9	80
34	A feed-forward neural network learning the inverse kinetics of a soft cable-driven manipulator moving in three-dimensional space. , 2013, , .		76
35	Bioinspired Soft Actuation System Using Shape Memory Alloys. Actuators, 2014, 3, 226-244.	2.3	72
36	Towards the development of a soft manipulator as an assistive robot for personal care of elderly people. International Journal of Advanced Robotic Systems, 2017, 14, 172988141668713.	2.1	72

#	Article	IF	Citations
37	Design and development of a soft robotic gripper for manipulation in minimally invasive surgery: a proof of concept. Meccanica, 2015, 50, 2855-2863.	2.0	71
38	A vision for future bioinspired and biohybrid robots. Science Robotics, 2020, 5, .	17.6	70
39	A new design methodology of electrostrictive actuators for bio-inspired robotics. Sensors and Actuators B: Chemical, 2009, 142, 288-297.	7.8	67
40	A general method for the design and fabrication of shape memory alloy active spring actuators. Smart Materials and Structures, 2012, 21, 115029.	3.5	65
41	Biomimetic Vortex Propulsion: Toward the New Paradigm of Soft Unmanned Underwater Vehicles. IEEE/ASME Transactions on Mechatronics, 2013, 18, 484-493.	5.8	62
42	Lessons from Animals and Plants: The Symbiosis of Morphological Computation and Soft Robotics. IEEE Robotics and Automation Magazine, 2016, 23, 107-114.	2.0	62
43	An experimental study on compliance control for a redundant personal robot arm. Robotics and Autonomous Systems, 2003, 44, 101-129.	5.1	61
44	Stable Open Loop Control of Soft Robotic Manipulators. IEEE Robotics and Automation Letters, 2018, 3, 1292-1298.	5.1	60
45	A Wearable Biomechatronic Interface for Controlling Robots with Voluntary Foot Movements. IEEE/ASME Transactions on Mechatronics, 2007, 12, 1-11.	5.8	58
46	Robotics as a future and emerging technology biomimetics, cybernetics, and neuro-robotics in european projects. IEEE Robotics and Automation Magazine, 2005, 12, 29-45.	2.0	57
47	Dynamics of underwater legged locomotion: modeling and experiments on an octopus-inspired robot. Bioinspiration and Biomimetics, 2015, 10, 046012.	2.9	57
48	Soft assistive robot for personal care of elderly people. , 2016, , .		57
49	Design and development of a soft robot with crawling and grasping capabilities. , 2012, , .		49
50	A unified multi-soft-body dynamic model for underwater soft robots. International Journal of Robotics Research, 2018, 37, 648-666.	8.5	49
51	Evolving Soft Locomotion in Aquatic and Terrestrial Environments: Effects of Material Properties and Environmental Transitions. Soft Robotics, 2018, 5, 475-495.	8.0	48
52	A miniaturized and flexible optoelectronic sensing system for tactile skin. Journal of Micromechanics and Microengineering, 2007, 17, 2288-2298.	2.6	47
53	Design and development of a soft robotic octopus arm exploiting embodied intelligence. , 2012, , .		47
54	Learning the inverse kinetics of an octopus-like manipulator in three-dimensional space. Bioinspiration and Biomimetics, 2015, 10, 035006.	2.9	47

#	Article	IF	Citations
55	Underwater soft-bodied pulsed-jet thrusters: Actuator modeling and performance profiling. International Journal of Robotics Research, 2016, 35, 1308-1329.	8.5	47
56	The HydroNet ASV, a Small-Sized Autonomous Catamaran for Real-Time Monitoring of Water Quality: From Design to Missions at Sea. IEEE Journal of Oceanic Engineering, 2015, 40, 710-726.	3.8	44
57	A Miniaturized Mechatronic System Inspired by Plant Roots for Soil Exploration. IEEE/ASME Transactions on Mechatronics, 2011, 16, 201-212.	5.8	43
58	A two dimensional inverse kinetics model of a cable driven manipulator inspired by the octopus arm. , 2012, , .		43
59	Hybrid parameter identification of a multi-modal underwater soft robot. Bioinspiration and Biomimetics, 2017, 12, 025007.	2.9	43
60	Modelling cephalopod-inspired pulsed-jet locomotion for underwater soft robots. Bioinspiration and Biomimetics, 2015, 10, 055005.	2.9	41
61	Modelling the nonlinear response of fibre-reinforced bending fluidic actuators. Smart Materials and Structures, 2016, 25, 105020.	3.5	40
62	DustCart, an autonomous robot for door-to-door garbage collection: From DustBot project to the experimentation in the small town of Peccioli. , 2011, , .		39
63	Roadmap on soft robotics: multifunctionality, adaptability and growth without borders. Multifunctional Materials, 2022, 5, 032001.	3.7	37
64	Non-invasive study of Octopus vulgaris arm morphology using ultrasound. Journal of Experimental Biology, 2011, 214, 3727-3731.	1.7	35
65	I-Support: A robotic platform of an assistive bathing robot for the elderly population. Robotics and Autonomous Systems, 2020, 126, 103451.	5.1	35
66	Sensorization of continuum soft robots for reconstructing their spatial configuration. , 2012, , .		33
67	Hopping on Uneven Terrains With an Underwater One-Legged Robot. IEEE Robotics and Automation Letters, 2016, 1, 461-468.	5.1	33
68	Underwater Mobile Manipulation: A Soft Arm on a Benthic Legged Robot. IEEE Robotics and Automation Magazine, 2020, 27, 12-26.	2.0	32
69	A general mechanical model for tendon-driven continuum manipulators. , 2012, , .		31
70	Design and development of a bio-inspired, under-actuated soft gripper. , 2015, 2015, 3619-22.		30
71	Study and fabrication of bioinspired Octopus arm mockups tested on a multipurpose platform. , 2010, , .		29
72	The plant as a biomechatronic system. Plant Signaling and Behavior, 2010, 5, 90-93.	2.4	29

#	Article	IF	Citations
73	Fast estimation of Gaussian mixture models for image segmentation. Machine Vision and Applications, 2012, 23, 773-789.	2.7	29
74	Soft Robotics on the Move: Scientific Networks, Activities, and Future Challenges. Soft Robotics, 2014, 1, 154-158.	8.0	28
75	Learning Global Inverse Kinematics Solutions for a Continuum Robot. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2016, , 47-54.	0.6	28
76	Learning Global Inverse Statics Solution for a Redundant Soft Robot. , 2016, , .		28
77	Prospects of brainâ€“machine interfaces for space system control. Acta Astronautica, 2009, 64, 448-456.	3.2	27
78	Model-based open loop control of a multigait legged underwater robot. Mechatronics, 2018, 55, 162-170.	3.3	27
79	Longitudinal study of unimanual actions and grasping forces during infancy. , 2012, 35, 205-214.		25
80	A Multiagent Reinforcement Learning approach for inverse kinematics of high dimensional manipulators with precision positioning. , 2016, , .		25
81	Warp-Knitted Textile as a Strain Sensor: Characterization Procedure and Application in a Comfortable Wearable Goniometer. IEEE Sensors Journal, 2017, 17, 5927-5936.	4.7	25
82	A Digital Hardware Realization for Spiking Model of Cutaneous Mechanoreceptor. Frontiers in Neuroscience, 2018, 12, 322.	2.8	25
83	Finite-Element Modeling and Design of a Pneumatic Braided Muscle Actuator With Multifunctional Capabilities. IEEE/ASME Transactions on Mechatronics, 2019, 24, 109-119.	5.8	25
84	An approach to integrated tactile perception. , 0, , .		24
85	Development and characterization of a multilayer matrix textile sensor for interface pressure measurements. Smart Materials and Structures, 2017, 26, 104011.	3.5	24
86	Closed-Loop Dynamic Control of a Soft Manipulator Using Deep Reinforcement Learning. IEEE Robotics and Automation Letters, 2022, 7, 4741-4748.	5.1	24
87	Realization of biped walking on soft ground with stabilization control based on gait analysis. , 2012, , .		23
88	Novelty-Based Evolutionary Design of Morphing Underwater Robots. , 2015, , .		23
89	Electrohydrodynamic Conduction Pump with Asymmetrical Electrode Structures in the Microchannels. Chemistry Letters, 2017, 46, 950-952.	1.3	23
90	Conduction Electrohydrodynamics with Mobile Electrodes: A Novel Actuation System for Untethered Robots. Advanced Science, 2017, 4, 1600495.	11.2	23

#	Article	IF	Citations
91	Experimental and Computational Study on Motor Control and Recovery After Stroke: Toward a Constructive Loop Between Experimental and Virtual Embodied Neuroscience. Frontiers in Systems Neuroscience, 2020, 14, 31.	2.5	23
92	A bistable soft gripper with mechanically embedded sensing and actuation for fast grasping. , 2020, , .		23
93	DESIGN AND DEVELOPMENT OF FIVE-FINGERED HANDS FOR A HUMANOID EMOTION EXPRESSION ROBOT. International Journal of Humanoid Robotics, 2007, 04, 181-206.	1.1	22
94	A bio-inspired predictive sensory-motor coordination scheme forÂrobot reaching and preshaping. Autonomous Robots, 2008, 25, 85-101.	4.8	22
95	Octopus-inspired sensorimotor control of a multi-arm soft robot. , 2012, , .		22
96	Design, fabrication and first sea trials of a small-sized autonomous catamaran for heavy metals monitoring in coastal waters. , 2011, , .		21
97	Expected perception: an anticipation-based perception-action scheme in robots. , 0, , .		20
98	Structural Dynamics of a Pulsed-Jet Propulsion System for Underwater Soft Robots. International Journal of Advanced Robotic Systems, 2015, 12, 68.	2.1	20
99	Large deformation of self-oscillating polymer gel. Physical Review E, 2016, 93, 010501.	2.1	20
100	Morphologically induced stability on an underwater legged robot with a deformable body. International Journal of Robotics Research, 2021, 40, 435-448.	8.5	20
101	Design and Development of a Legged Rat Robot for Studying Animal-Robot Interaction. , 0, , .		18
102	Bio-inspired grasp control in a robotic hand with massive sensorial input. Biological Cybernetics, 2009, 100, 109-128.	1.3	18
103	Morphological and control criteria for self-stable underwater hopping. Bioinspiration and Biomimetics, 2018, 13, 016001.	2.9	18
104	Design and experiments on a personal robotic assistant. Advanced Robotics, 1999, 13, 153-169.	1.8	18
105	Development of the functional unit of a completely soft octopus-like robotic arm. , 2012, , .		17
106	Soft Robotics [TC Spotlight]. IEEE Robotics and Automation Magazine, 2013, 20, 24-95.	2.0	17
107	An Under-Actuated and Adaptable Soft Robotic Gripper. Lecture Notes in Computer Science, 2015, , 64-74.	1.3	17
108	Sensorized pacifier to evaluate non-nutritive sucking in newborns. Medical Engineering and Physics, 2016, 38, 398-402.	1.7	17

#	Article	IF	Citations
109	Active-Braid, a Bioinspired Continuum Manipulator. IEEE Robotics and Automation Letters, 2017, 2, 2104-2110.	5.1	17
110	A Wearable Sensing Device for Monitoring Single Planes Neck Movements: Assessment of Its Performance. IEEE Sensors Journal, 2018, 18, 6327-6336.	4.7	17
111	Early Intervention to Improve Sucking in Preterm Newborns. Advances in Neonatal Care, 2019, 19, 97-109.	1.1	17
112	Integrating Feedback and Predictive Control in a Bio-Inspired Model of Visual Pursuit Implemented on a Humanoid Robot. Lecture Notes in Computer Science, 2015, , 256-267.	1.3	17
113	Humans and technologies at home: from friendly appliances to robotic interfaces. , 0, , .		16
114	An Investigation on Legal Regulations for Robot Deployment in Urban Areas: A Focus on Italian Law. Advanced Robotics, 2010, 24, 1901-1917.	1.8	16
115	A comparison between two bio-inspired adaptive models of Vestibulo-Ocular Reflex (VOR) implemented on the iCub robot. , 2010, , .		16
116	Self-adaptive Gaussian mixture models for real-time video segmentation and background subtraction. , 2010, , .		16
117	Behavior switching using reservoir computing for a soft robotic arm. , 2012, , .		16
118	Pressure mapping with textile sensors for compression therapy monitoring. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2016, 230, 795-808.	1.8	16
119	A Framework for Coupled Simulations of Robots and Spiking Neuronal Networks. Journal of Intelligent and Robotic Systems: Theory and Applications, 2017, 85, 71-91.	3.4	16
120	An integrated approach for the design and development of a grasping and manipulation system in humanoid robotics. , 0, , .		15
121	Adaptable semi-autonomy in personal robots. , 0, , .		15
122	Changes on EMG activation in healthy subjects and incomplete SCI patients following a robot-assisted locomotor training. , 2011, 2011, 5975467.		15
123	Measurements of octopus arm elongation: Evidence of differences by body size and gender. Journal of Experimental Marine Biology and Ecology, 2013, 447, 160-164.	1.5	15
124	Adaptive visual pursuit involving eye-head coordination and prediction of the target motion. , 2014, , .		15
125	Pleasant to the Touch: By Emulating Nature, Scientists Hope to Find Innovative New Uses for Soft Robotics in Health-Care Technology. IEEE Pulse, 2016, 7, 34-37.	0.3	15
126	Active suction cup actuated by ElectroHydroDynamics phenomenon. , 2017, , .		15

#	Article	IF	Citations
127	Evolutionary Developmental Soft Robotics As a Framework to Study Intelligence and Adaptive Behavior in Animals and Plants. Frontiers in Robotics and AI, 2017, 4, .	3.2	15
128	Design and Development of a Soft Actuator for a Robot Inspired by the Octopus Arm. Springer Tracts in Advanced Robotics, 2009, , 25-33.	0.4	15
129	A method for the calculation of the effective Center of Mass of humanoid robots. , 2011, , .		14
130	Sensing device for measuring infantsâ€™ grasping actions. Sensors and Actuators A: Physical, 2011, 165, 155-163.	4.1	14
131	Evolutionary discovery of self-stabilized dynamic gaits for a soft underwater legged robot. , 2015, , .		14
132	Head stabilization in a humanoid robot: models and implementations. Autonomous Robots, 2017, 41, 349-365.	4.8	14
133	Octobot - A robot octopus points the way to soft robotics. IEEE Spectrum, 2017, 54, 38-43.	0.7	14
134	Bipedal Walking of an Octopus-Inspired Robot. Lecture Notes in Computer Science, 2014, , 35-46.	1.3	14
135	Biologically-Inspired Microfabricated Force and Position Mechano-Sensors. , 2003, , 109-125.		14
136	An investigation on a robot system for disassembly automation. , 0, , .		13
137	Sensors and actuators for 'humanoid' robots. Advanced Robotics, 1996, 11, 567-584.	1.8	13
138	A Novel Wearable Interface for Robotic Hand Prostheses. , 0, , .		13
139	Implementation of a neurophysiological model of saccadic eye movements on an anthropomorphic robotic head. , 2006, , .		13
140	A mechatronic platform for early diagnosis of neurodevelopmental disorders. Advanced Robotics, 2007, 21, 1131-1150.	1.8	13
141	Design of a Sensorized Ball for Ecological Behavioral Analysis of Infants. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	13
142	Design and development of biomimetic quadruped robot for behavior studies of rats and mice. , 2009, 2009, 7192-5.		13
143	A Model of the Smooth Pursuit Eye Movement with Prediction and Learning. Applied Bionics and Biomechanics, 2010, 7, 109-118.	1.1	13
144	Adhesion Mechanisms Inspired by Octopus Suckers. Procedia Computer Science, 2011, 7, 192-193.	2.0	13

#	Article	IF	Citations
145	Do Service Robots Need a Driving License? [Industrial Activities]. IEEE Robotics and Automation Magazine, 2011, 18, 12-13.	2.0	13
146	An autonomous water monitoring and sampling system for small-sized ASV operations. , 2012, , .		13
147	Locomotion and elastodynamics model of an underwater shell-like soft robot. , 2015, , .		13
148	Contest-Driven Soft-Robotics Boost: The RoboSoft Grand Challenge. Frontiers in Robotics and AI, 2016, 3, .	3.2	13
149	An Autonomous Water Monitoring and Sampling System for Small-Sized ASVs. IEEE Journal of Oceanic Engineering, 2016, , 1-8.	3.8	13
150	CareToy: An Intelligent Baby Gym: Home-Based Intervention for Infants at Risk for Neurodevelopmental Disorders. IEEE Robotics and Automation Magazine, 2016, 23, 63-72.	2.0	13
151	A comprehensive gaze stabilization controller based on cerebellar internal models. Bioinspiration and Biomimetics, 2017, 12, 065001.	2.9	13
152	A Cerebellum-Inspired Learning Approach for Adaptive and Anticipatory Control. International Journal of Neural Systems, 2020, 30, 1950028.	5.2	13
153	Bioinspired velocity control of fast gaze shifts on a robotic anthropomorphic head. Autonomous Robots, 2008, 25, 37-58.	4.8	12
154	An Anthropomorphic Robotic Head for Investigating Gaze Control. Advanced Robotics, 2008, 22, 57-89.	1.8	12
155	Tools and methods for experimental in-vivo measurement and biomechanical characterization of an octopus vulgaris arm. , 2009, 2009, 7196-9.		12
156	Design and development of “biomechatronic gym” for early detection of neurological disorders in infants. , 2010, 2010, 3414-7.		12
157	Biped walking stabilization on soft ground based on gait analysis. , 2012, , .		12
158	Thrust depletion at high pulsation frequencies in underactuated, soft-bodied, pulsed-jet vehicles. , 2015, , .		12
159	A ROV for supporting the planned maintenance in underwater archaeological sites. , 2015, , .		12
160	Implementing robotic grasping tasks using a biological approach. , 0, , .		11
161	Compliant control for a cable-actuated anthropomorphic robot arm: an experimental validation of different solutions. , 0, , .		11
162	Implementation of a bio-inspired visual tracking model on the iCub robot. , 2010, , .		11

#	Article	IF	Citations
163	Design and Development of a Sensorized Wireless Toy for Measuring Infants' Manual Actions. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 444-453.	4.9	11
164	An elastic pulsed-jet thruster for Soft Unmanned Underwater Vehicles. , 2013, , .		11
165	Towards a Neuromorphic Vestibular System. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 669-680.	4.0	11
166	Sensorized toys for measuring manipulation capabilities of infants at home. , 2015, 2015, 7390-3.		11
167	Soft Robotics Research, Challenges, and Innovation Potential, Through Showcases. , 2015, , 255-264.		11
168	Cerebellum-inspired approach for adaptive kinematic control of soft robots. , 2019, , .		11
169	Emotion as an emergent phenomenon of the neurocomputational energy regulation mechanism of a cognitive agent in a decision-making task. Adaptive Behavior, 2021, 29, 55-71.	1.9	11
170	A Locomotion Strategy for an Octopus-Bioinspired Robot. Lecture Notes in Computer Science, 2012, , 337-338.	1.3	11
171	Biomechatronic Design and Development of a Legged Rat Robot. , 2007, , .		10
172	Predictive tracking across occlusions in the iCub robot. , 2009, , .		10
173	Underwater running on uneven terrain. , 2015, , .		10
174	Sequential decision making based on emergent emotion for a humanoid robot. , 2016, , .		10
175	Proprioceptive Feedback through a Neuromorphic Muscle Spindle Model. Frontiers in Neuroscience, 2017, 11, 341.	2.8	10
176	Foot Inertial Sensing for Combined Cognitive-Motor Exercise of the Sustained Attention Domain. IEEE Transactions on Biomedical Engineering, 2019, 66, 2413-2420.	4.2	10
177	Biorobotic Investigation on the Muscle Structure of an Octopus Tentacle. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 1471-4.	0.5	9
178	Design and development of sensorized toys for monitoring infants' grasping actions. , 2010, , .		9
179	Head stabilization based on a feedback error learning in a humanoid robot. , 2012, , .		9
180	A novel simulator for mechanical ventilation in newborns: MEchatronic REspiratory System SImulator for Neonatal Applications. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2015, 229, 581-591.	1.8	9

#	Article	IF	Citations
181	A visual tracking model implemented on the iCub robot as a use case for a novel neurorobotic toolkit integrating brain and physics simulation. , 2015, , .		9
182	Adaptive gaze stabilization through cerebellar internal models in a humanoid robot. , 2016, , .		9
183	Combining Evolutionary and Adaptive Control Strategies for Quadruped Robotic Locomotion. Frontiers in Neurorobotics, 2019, 13, 71.	2.8	9
184	Recurrence quantification analysis of EEG signals for tactile roughness discrimination. International Journal of Machine Learning and Cybernetics, 2021, 12, 1115-1136.	3.6	9
185	Soft robot reaches the deepest part of the ocean. Nature, 2021, 591, 35-36.	27.8	9
186	Sharpness recognition based on synergy between bio-inspired nociceptors and tactile mechanoreceptors. Scientific Reports, 2021, 11, 2109.	3.3	9
187	Design and Experimental Characterization of a Push-Pull Flexible Rod-Driven Soft-Bodied Robot. IEEE Robotics and Automation Letters, 2022, 7, 8933-8940.	5.1	9
188	A modular and distributed supervisory system for a semi-autonomous personal robot for household applications. , 0, , .		8
189	Functional compliance in the control of a personal robot. , 0, , .		8
190	A segmentation algorithm for a robotic micro-endoscope for exploration of the spinal cord. , 2004, , .		8
191	A Robotic Head Neuro-controller Based on Biologically-Inspired Neural Models. , 0, , .		8
192	Towards Development of Biomechatronic Tools for Early Diagnosis of Neurodevelopmental Disorders. , 2006, 2006, 3242-5.		8
193	Scientific models and ethical issues in hybrid bionic systems research. AI and Society, 2008, 22, 431-448.	4.6	8
194	Development of the hybrid wheel-legged mobile robot WR-3 designed to interact with rats. , 2010, , .		8
195	Using trunk compensation to model head stabilization during locomotion. , 2011, , .		8
196	Real-Time 3D Stereo Tracking and Localizing of Spherical Objects with the iCub Robotic Platform. Journal of Intelligent and Robotic Systems: Theory and Applications, 2011, 63, 417-446.	3.4	8
197	Evaluation of the Electroglottographic signal variability by amplitude-speed combined analysis. Biomedical Signal Processing and Control, 2017, 37, 61-68.	5.7	8
198	Emergence of behavior through morphology: a case study on an octopus inspired manipulator. Bioinspiration and Biomimetics, 2019, 14, 034001.	2.9	8

#	Article	IF	Citations
199	Locomotory behaviour of the intertidal marble crab (Pachygrapsus marmoratus) supports the underwater spring-loaded inverted pendulum as a fundamental model for punting in animals. Bioinspiration and Biomimetics, 2020, 15, 055004.	2.9	8
200	Developing technological synergies between deep-sea and space research. Elementa, 2022, 10, .	3.2	8
201	Controlling Soft Robotic Arms Using Continual Learning. IEEE Robotics and Automation Letters, 2022, 7, 5469-5476.	5.1	8
202	Extension to End-effector Position and Orientation Control of a Learning-based Neurocontroller for a Humanoid Arm. , 2006, , .		7
203	An Anthropomorphic Robotic Platform for Progressive and Adaptive Sensorimotor Learning. Advanced Robotics, 2008, 22, 91-118.	1.8	7
204	Implementation of a human model for head stabilization on a humanoid platform. , 2012, , .		7
205	A robotic implementation of a bio-inspired head motion stabilization model on a humanoid platform. , 2012, , .		7
206	Helping robots blend into the background. Science, 2017, 358, 169-169.	12.6	7
207	Feasibility study on the assessment of auditory sustained attention through walking motor parameters in mild cognitive impairments and healthy subjects. , 2017, 2017, 897-900.		7
208	Surveying and cleaning plastic pollution in the sediment: SILVER+ approach. , 2019, , .		7
209	Simulation and Analysis of Microspines Interlocking Behavior on Rocky Surfaces: An In-Depth Study of the Isolated Spine. Journal of Mechanisms and Robotics, 2020, 12, .	2.2	7
210	Learning-Based Approach for a Soft Assistive Robotic Arm to Achieve Simultaneous Position and Force Control. IEEE Robotics and Automation Letters, 2022, 7, 8315-8322.	5.1	7
211	Human-Robot Shared Control for Robot-Assisted Endoscopy of the Spinal Cord. , 0, , .		6
212	Biomechanical Modeling of Semicircular Canals for Fabricating a Biomimetic Vestibular System. , 2006, 2006, 1758-61.		6
213	A Bio-inspired Neural Sensory-Motor Coordination Scheme for Robot Reaching and Preshaping. , 0, , .		6
214	Guest Editorial Special Issue on Humanâ€“Robot Interaction. , 2007, 23, 837-839.		6
215	An Algorithm for the Least Square-Fitting of Ellipses. , 2010, , .		6
216	The Robot DustCart. IEEE Robotics and Automation Magazine, 2011, 18, 59-67.	2.0	6

#	Article	IF	Citations
217	A Feed Forward Neural Network for Solving the Inverse Kinetics of Non-Constant Curvature Soft Manipulators Driven by Cables. , 2013, , .		6
218	A new system for quantitative evaluation of infant gaze capabilities in a wide visual field. BioMedical Engineering OnLine, 2015, 14, 83.	2.7	6
219	An active simulator for neonatal intubation: Design, development and assessment. Medical Engineering and Physics, 2017, 39, 57-65.	1.7	6
220	Modeling the Encoding of Saccade Kinematic Metrics in the Purkinje Cell Layer of the Cerebellar Vermis. Frontiers in Computational Neuroscience, 2018, 12, 108.	2.1	6
221	Can physical and cognitive training based on episodic memory be combined in a new protocol for daily training?. Aging Clinical and Experimental Research, 2019, 31, 1615-1623.	2.9	6
222	A Digital Hardware System for Spiking Network of Tactile Afferents. Frontiers in Neuroscience, 2019, 13, 1330.	2.8	6
223	Smarter materials for smarter robots. Science Robotics, 2021, 6, .	17.6	6
224	Retina Color-Opponency Based Pursuit Implemented Through Spiking Neural Networks in the Neurorobotics Platform. Lecture Notes in Computer Science, 2016, , 16-27.	1.3	6
225	Development and validation of a sensorized neonatal intubation skill trainer for simulation based education enhancement. International Journal of Medical Research and Health Sciences, 2014, 3, 833.	0.1	6
226	Exploiting Morphology of a Soft Manipulator for Assistive Tasks. Lecture Notes in Computer Science, 2017, , 291-301.	1.3	6
227	An anthropomorphic model of sensory-motor co-ordination of manipulation for robots. Lecture Notes in Control and Information Sciences, 1998, , 659-674.	1.0	5
228	An impedance-compliance control for a cable-actuated robot. , 0, , .		5
229	Visuo-motor coordination of a humanoid robot head with human-like vision in face tracking. , 0, , .		5
230	A bio-inspired sensory-motor neural model for a neuro-robotic manipulation platform. , 0, , .		5
231	Bio-inspired sensory-motor coordination. Autonomous Robots, 2008, 25, 1-2.	4.8	5
232	RobotCub implementation of real-time least-square fitting of ellipses. , 2008, , .		5
233	A novel technological approach towards the early diagnosis of neurodevelopmental disorders. , 2008, 2008, 4875-8.		5
234	Instrumented toys for studying power and precision grasp forces in infants. , 2011, 2011, 2017-20.		5

#	Article	IF	Citations
235	Early Stage Economic Evaluation of Caretoy System for Early Intervention In Preterm Infants At Risk of Neurodevelopmental Disorders. Value in Health, 2015, 18, A358.	0.3	5
236	Soft Robotics and Morphological Computation [From the Guest Editors]. IEEE Robotics and Automation Magazine, 2016, 23, 28-29.	2.0	5
237	Bioinspired materials and approaches for soft robotics. MRS Bulletin, 2021, 46, 345-349.	3.5	5
238	Cerebellar adaptive mechanisms explain the optimal control of saccadic eye movements. Bioinspiration and Biomimetics, 2021, 16, 016004.	2.9	5
239	Forward speed control of a pulsed-jet soft-bodied underwater vehicle. , 2013, , .		5
240	Design and development of a neurorobotic human-like 'guinea pig'. , 0, , .		4
241	Recognizing hand posture by vision: applications in humanoid personal robotics. , 0, , .		4
242	Experimental analysis of the conditions of applicability of a robot sensorimotor coordination scheme based on expected perception. , 0, , .		4
243	A novel wearable foot interface for controlling robotic hands. , 2005, , .		4
244	Bio-inspired control of eye-head coordination in a robotic anthropomorphic head. , 0, , .		4
245	From Robotic Tele-Operation to Tele-Presence through Natural Interfaces. , 0, , .		4
246	An active one-lobe pulmonary simulator with compliance control for medical training in neonatal mechanical ventilation. Journal of Clinical Monitoring and Computing, 2014, 28, 251-260.	1.6	4
247	Sensorized pacifier to quantify the rhythmicity of non-nutritive sucking: A preliminary study on newborns. , 2015, 2015, 7398-401.		4
248	A biorobotic model of the human larynx. , 2015, 2015, 3623-6.		4
249	Neural dynamics and sliding mode integration for the guidance of unmanned surface vehicles. , 2015, , .		4
250	Point-to-point motion controller for soft robotic manipulators. , 2016, , .		4
251	Eye-Head Stabilization Mechanism for a Humanoid Robot Tested on Human Inertial Data. Lecture Notes in Computer Science, 2016, , 341-352.	1.3	4
252	A rotating polarizing filter approach for image enhancement. , 2017, , .		4

#	Article	IF	Citations
253	Development and testing of a new cognitive technological tool for episodic memory: A feasibility study. , 2017, 2017, 893-896.		4
254	Induced Vibrations of Soft Robotic Manipulators for Controller Design and Stiffness Estimation. , 2018, , .		4
255	Closed loop control of a braided-structure continuum manipulator with hybrid actuation based on learning models. , 2019, , .		4
256	Spike train analysis in a digital neuromorphic system of cutaneous mechanoreceptor. Neurocomputing, 2020, 379, 343-355.	5.9	4
257	Comparison of electroglottographic variability index in euphonic and pathological voice. Acta Otorhinolaryngologica Italica, 2019, 39, 381-388.	1.5	4
258	Interfacing neural and artificial systems: from neuroengineering to neurorobotics. , 0, , .		3
259	Experimental comparative evaluation of compliant control schemes for an anthropomorphic personal robot. , 2002, , .		3
260	An anthropomorphic robotic platform for experimental validation of biologically-inspired sensory-motor co-ordination in grasping. , 0, , .		3
261	A Bio-inspired Neuro-Controller for an Anthropomorphic Head-Arm Robotic System. , 0, , .		3
262	Reach and Grasp for an Anthropomorphic Robotic System based on Sensorimotor Learning. , 2006, , .		3
263	Towards the Early Diagnosis of Neurodevelopmental Disorders: a Novel Technological Approach. , 2008, , .		3
264	Forward Model Creation for Visual Servoing in a Six Link Manipulator. , 2008, , .		3
265	A preliminary study of a robotic probe for soil exploration inspired by plant root apexes. , 2008, , .		3
266	Neurophysiological Models of Gaze Control in Humanoid Robotics. , 2009, , .		3
267	Forward models applied in visual servoing for a reaching task in the iCub humanoid robot. Applied Bionics and Biomechanics, 2009, 6, 345-354.	1.1	3
268	A model of the smooth pursuit eye movement with prediction and learning. Applied Bionics and Biomechanics, 2010, 7, 109-118.	1.1	3
269	Anticipatory visual perception as a bio-inspired mechanism underlying robot locomotion. , 2010, 2010, 3206-9.		3
270	Development of a novel quadruped mobile robot for behavior analysis of rats. , 2010, , .		3

#	Article	IF	Citations
271	Methods and tools for the anatomical study and experimental in vivo measurement of the Octopus vulgaris arm for biomimetic design. , 2010, , .		3
272	A comparison of human trajectory planning models for implementation on humanoid robot. , 2012, , .		3
273	Implementation of a neuromorphic vestibular sensor with analog VLSI neurons. , 2013, , .		3
274	A systematic method for dynamic modeling and identification of a small-sized autonomous surface vehicle using simulated annealing techniques. , 2013, , .		3
275	MEchatronic REspiratory System SImulator for Neonatal Applications (MERESSINA) project: a novel bioengineering goal. Medical Devices: Evidence and Research, 2013, 6, 115.	0.8	3
276	Comparative performances analysis of neonatal ventilators. Italian Journal of Pediatrics, 2015, 41, 9.	2.6	3
277	Dynamic Walking with a Soft Limb Robot. Lecture Notes in Computer Science, 2015, , 13-25.	1.3	3
278	Soft Robotics: from scientific challenges to technological applications. Proceedings of SPIE, 2016, , .	0.8	3
279	An improved tracking algorithm for underwater vessels using the passive sonar. , 2016, , .		3
280	Correcting for changes: expected perception-based control for reaching a moving target. IEEE Robotics and Automation Magazine, 2016, 23, 63-70.	2.0	3
281	The Challenge of Studying Interaction in Children with Autism Spectrum Disorder during Play Activity with a Robotic Platform. Journal of Developmental and Physical Disabilities, 2020, 32, 113-129.	1.6	3
282	Quantitative Measurements of Octopus vulgaris Arms for Bioinspired Soft Robotics. Cognitive Systems Monographs, 2020, , 3-14.	0.1	3
283	Evaluation of the Electroglottographic Signal Variability in Organic and Functional Dysphonia. Journal of Voice, 2022, 36, 881.e5-881.e16.	1.5	3
284	Learning to stop: a unifying principle for legged locomotion in varying environments. Royal Society Open Science, 2021, 8, 210223.	2.4	3
285	Editorial: Advances in Modeling and Control of Soft Robots. Frontiers in Robotics and AI, 2021, 8, 706514.	3.2	3
286	Conductive Silicone Vocal Folds Reproducing Electroglottographic Signal in Pathophysiological Conditions. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 337-348.	3.2	3
287	Dynamic Model of a Jet-Propelled Soft Robot Inspired by the Octopus Mantle. Lecture Notes in Computer Science, 2014, , 261-272.	1.3	3
288	A Closed Loop Shape Control for Bio-inspired Soft Arms. Lecture Notes in Computer Science, 2017, , 567-573.	1.3	3

#	Article	IF	Citations
289	Experimental validation of functional compliance in an anthropomorphic personal robot. , 0, , .		2
290	Sensory feedback exploitation for robot-assisted exploration of the spinal cord. , 0, , .		2
291	Interfacing Neural and Artificial Systems: From Neuroengineering to Neurorobotics. , 0, , 421-431.		2
292	Biomechanical Study on the Sensorial Epithelium of Otolithic Organs for Creating a Biomimetic Sensor. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 4667-70.	0.5	2
293	Topology based Fuzzy Clustering for robust ANFIS creation. , 2008, , .		2
294	Gaze Interface: Utilizing Human Predictive Gaze Movements for Controlling a HBS. , 2008, , .		2
295	A Micro-Optical Transducer for Sensing Applications. International Journal of Optomechatronics, 2008, 2, 361-381.	6.6	2
296	Unsupervised Greedy Learning of Finite Mixture Models. , 2010, , .		2
297	Analysis of a dielectric EAP as smart component for a neonatal respiratory simulator. , 2013, 2013, 457-60.		2
298	Cryoâ€scanning electron microscopy investigation of the Octopus Vulgaris arm structures for the design of an octopusâ€like arm artefact. Microscopy Research and Technique, 2015, 78, 1133-1145.	2.2	2
299	Swinging paper actuator driven by conduction electrohydrodynamics. , 2017, , .		2
300	Structured motor exploration for adaptive learning-based tracking in soft robotic manipulators. , 2019, , .		2
301	Robotics Responds to the COVID-19 Outbreak [From the Guest Editors]. IEEE Robotics and Automation Magazine, 2021, 28, 16-17.	2.0	2
302	Visual Target Sequence Prediction via Hierarchical Temporal Memory Implemented on the iCub Robot. Lecture Notes in Computer Science, 2016, , 119-130.	1.3	2
303	A Vestibular Interface for Natural Control of Steering in the Locomotion of Robotic Artifacts: Preliminary Experiments. , 2007, , 537-551.		2
304	Five years of Science Robotics. Science Robotics, 2021, 6, eabn2720.	17.6	2
305	An experimental multisensorial robotic system for disassembly automation. , 0, , .		1
306	Model and implementation of an anthropomorphic system for sensory-motor perception. , 0, , .		1

#	Article	IF	Citations
307	A mechatronic toy for measuring infantsâ€™ grasping development. , 2008, , .		1
308	Non-invasive study of Octopus vulgaris arm morphology using ultrasound. Journal of Experimental Biology, 2011, 214, 4065-4065.	1.7	1
309	Inverse and Direct Model of a Continuum Manipulator Inspired by the Octopus Arm. Lecture Notes in Computer Science, 2012, , 347-348.	1.3	1
310	A novel wireless toy for measuring infants' bimanual actions. , 2012, , .		1
311	Design of a small sized self-powered robot for monitoring the ocean water column. , 2013, , .		1
312	Comparison of Optimization Algorithms for the Indirect Encoding of a Neural Controller for a Soft Robotic Arm. , 2014, , .		1
313	Sensorized graspable devices for the study of motor imitation in infants. , 2015, 2015, 7394-7.		1
314	Octopus-inspired robotics. Bioinspiration and Biomimetics, 2015, 10, 030301.	2.9	1
315	A bio-inspired model of visual pursuit combining feedback and predictive control for a humanoid robot. , 2015, , .		1
316	A multi-depth sensorised micro sampling system. , 2015, , .		1
317	An in-situ, real-time Device for Hg Monitoring in Deep Waters. , 2015, , .		1
318	The Soft Robotics Week: A New Yearly Event for the Community of Soft Robotics. Soft Robotics, 2015, 2, 88-90.	8.0	1
319	Sense of movement: Simplifying principles for humanoid robots. Science Robotics, 2017, 2, .	17.6	1
320	A pressure-sensitive palatograph for speech analysis. , 2017, 2017, 4431-4434.		1
321	The Rise of the Robots: The European Robotics Flagship [Regional Spotlight]. IEEE Robotics and Automation Magazine, 2018, 25, 121-122.	2.0	1
322	Effect of base rotation on the controllability of a redundant soft robotic arm. , 2018, , .		1
323	Towards in-silico robotic post-stroke rehabilitation for mice. , 2019, , .		1
324	Making an Opportunity Out of a Crisis: The Inclusive Approach of the Italian Robotics Community. IEEE Robotics and Automation Magazine, 2021, , 2-14.	2.0	1

#	Article	IF	Citations
325	Biorobotics. , 0, , 490-520.		1
326	A Solar-Powered Amphibian Robot for Aquatic Monitoring Network. Lecture Notes in Computer Science, 2008, , 1145-1154.	1.3	1
327	Bioinspiration & Biomimetics: a unique multidisciplinary forum for the progress of science and technology. Bioinspiration and Biomimetics, 2022, 17, 010201.	2.9	1
328	Open-loop Control of a Soft Arm in Throwing Tasks. , 2022, , .		1
329	Monocameral visual recognition of Marcus hand postures for personal robotic assistants. , 0, , .		0
330	EU views and strategy for the future of advanced robotics. , 0, , .		0
331	Towards a New Generation of Hybrid Bionic Systems for Telepresence: the Lamprey Model. , 2006, , .		0
332	Research on Rehabilitation Engineering at ARTS Lab, Scuola Superiore Sant'Anna, Pisa, Italy. , 2007, , .		0
333	Micro-optical components assembly for the fabrication of a miniaturized optoelectronic transducer. , 2007, , .		0
334	Experimental results of a novel amphibian solution for aquatic robot. , 2010, , .		0
335	Guest editorial: New boundaries for robotics. Robotics and Autonomous Systems, 2014, 62, 1-2.	5.1	0
336	FROM OCTOPUS VULGARIS TO UNDERWATER HOPPING ROBOTS: BIO-INSPIRED PATH TOWARD DESIGN AND CONTROL OF SOFT ROBOTS. , 2016, , 765-770.		0
337	Multimodal Sensory Representation for Object Classification via Neocortically-inspired Algorithm. , 2018, , .		0
338	2018 IEEE/RSJ International Conference on Intelligent Robots and Systems, Madrid, Spain [Society News]. IEEE Robotics and Automation Magazine, 2019, 26, 111-113.	2.0	0
339	The Use of Smart Tools for Combined Training of People with MCI: A Case Report. Lecture Notes in Electrical Engineering, 2019, , 121-134.	0.4	0
340	Editorial: Advances in Soft Robotics Based on Outputs From IROS 2018. Frontiers in Robotics and AI, 2020, 7, 124.	3.2	0
341	The Italyâ€“Japan Workshop: A History of Bilateral Cooperation, Pushing the Boundaries of Robotics. IEEE Robotics and Automation Magazine, 2021, 28, 150-162.	2.0	0
342	Real-Time Least-Square Fitting of Ellipses Applied to the RobotCub Platform. Lecture Notes in Computer Science, 2008, , 270-282.	1.3	0

#	Article	IF	Citations
343	Bio-inspired Design of an Artificial Muscular-Hydrostat Unit for Soft Robotic Systems. Lecture Notes in Computer Science, 2012, , 375-376.	1.3	0
344	A Model-Based Framework to Investigate Morphological Computation in Muscular Hydrostats and to Design Soft Robotic Arms. , 0, , .		0
345	Experiments on Oscillation Control of a Continuum Soft Robotic Manipulator. Lecture Notes in Mechanical Engineering, 2021, , 557-571.	0.4	0
346	Biorobotics. , 0, , 1613-1643.		0
347	The iCub Multisensor Datasets for Robot and Computer Vision Applications. , 2020, , .		0
348	Biomechanical Modeling of Semicircular Canals for Fabricating a Biomimetic Vestibular System. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
349	An expected perception architecture using visual 3D reconstruction for a humanoid robot. , 2011, , .		0