

# Loredana Zollo

## List of Publications by Year in descending order

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159  
papers

4,162  
citations

172457

29  
h-index

138484

58  
g-index

160  
all docs

160  
docs citations

160  
times ranked

4154  
citing authors

#	ARTICLE	IF	CITATIONS
1	Literature Review on Needs of Upper Limb Prosthesis Users. <i>Frontiers in Neuroscience</i> , 2016, 10, 209.	2.8	467
2	Biomechatronic Design and Control of an Anthropomorphic Artificial Hand for Prosthetic and Robotic Applications. <i>IEEE/ASME Transactions on Mechatronics</i> , 2007, 12, 418-429.	5.8	287
3	Intraneural stimulation elicits discrimination of textural features by artificial fingertip in intact and amputee humans. <i>ELife</i> , 2016, 5, e09148.	6.0	286
4	PD control with on-line gravity compensation for robots with elastic joints: Theory and experiments. <i>Automatica</i> , 2005, 41, 1809-1819.	5.0	224
5	Restoring tactile sensations via neural interfaces for real-time force-and-slippage closed-loop control of bionic hands. <i>Science Robotics</i> , 2019, 4, .	17.6	112
6	Quantitative evaluation of upper-limb motor control in robot-aided rehabilitation. <i>Medical and Biological Engineering and Computing</i> , 2011, 49, 1131-1144.	2.8	102
7	NLR, MLP, SVM, and LDA: a comparative analysis on EMG data from people with trans-radial amputation. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2017, 14, 82.	4.6	97
8	Control of Prosthetic Hands via the Peripheral Nervous System. <i>Frontiers in Neuroscience</i> , 2016, 10, 116.	2.8	93
9	Inter-hemispheric coupling changes associate with motor improvements after robotic stroke rehabilitation. <i>Restorative Neurology and Neuroscience</i> , 2012, 30, 497-510.	0.7	90
10	Microfabricated Tactile Sensors for Biomedical Applications: A Review. <i>Biosensors</i> , 2014, 4, 422-448.	4.7	88
11	The passive stiffness of the wrist and forearm. <i>Journal of Neurophysiology</i> , 2012, 108, 1158-1166.	1.8	87
12	Transcutaneous Vagus Nerve Stimulation Combined with Robotic Rehabilitation Improves Upper Limb Function after Stroke. <i>Neural Plasticity</i> , 2017, 2017, 1-6.	2.2	83
13	Invasive Intraneural Interfaces: Foreign Body Reaction Issues. <i>Frontiers in Neuroscience</i> , 2017, 11, 497.	2.8	81
14	Compliance Control for an Anthropomorphic Robot with Elastic Joints: Theory and Experiments. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2005, 127, 321-328.	1.6	77
15	Brain activity preceding a 2D manual catching task. <i>NeuroImage</i> , 2009, 47, 1735-1746.	4.2	72
16	Augmentation-related brain plasticity. <i>Frontiers in Systems Neuroscience</i> , 2014, 8, 109.	2.5	65
17	An experimental study on compliance control for a redundant personal robot arm. <i>Robotics and Autonomous Systems</i> , 2003, 44, 101-129.	5.1	61
18	Feasibility and safety of shared EEG/EOG and vision-guided autonomous whole-arm exoskeleton control to perform activities of daily living. <i>Scientific Reports</i> , 2018, 8, 10823.	3.3	61

#	ARTICLE	IF	CITATIONS
19	Learning by Demonstration for Planning Activities of Daily Living in Rehabilitation and Assistive Robotics. IEEE Robotics and Automation Letters, 2017, 2, 1375-1382.	5.1	57
20	Design and Characterization of a Novel High-Power Series Elastic Actuator for a Lower Limb Robotic Orthosis. International Journal of Advanced Robotic Systems, 2013, 10, 359.	2.1	55
21	Auto-adaptive robot-aided therapy using machine learning techniques. Computer Methods and Programs in Biomedicine, 2014, 116, 123-130.	4.7	53
22	Learning by Demonstration for Motion Planning of Upper-Limb Exoskeletons. Frontiers in Neurobotics, 2018, 12, 5.	2.8	45
23	Methods and Sensors for Slip Detection in Robotics: A Survey. IEEE Access, 2020, 8, 73027-73050.	4.2	44
24	Literature Review on the Effects of tDCS Coupled with Robotic Therapy in Post Stroke Upper Limb Rehabilitation. Frontiers in Human Neuroscience, 2017, 11, 268.	2.0	43
25	Simultaneous sEMG Classification of Hand/Wrist Gestures and Forces. Frontiers in Neurobotics, 2019, 13, 42.	2.8	42
26	Slippage Detection with Piezoresistive Tactile Sensors. Sensors, 2017, 17, 1844.	3.8	38
27	Robotic technologies and rehabilitation: new tools for upper-limb therapy and assessment in chronic stroke. European Journal of Physical and Rehabilitation Medicine, 2011, 47, 223-36.	2.2	37
28	Wearable textile based on silver plated knitted sensor for respiratory rate monitoring. , 2018, 2018, 2865-2868.		36
29	Torque-Dependent Compliance Control in the Joint Space for Robot-Mediated Motor Therapy. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2006, 128, 152-158.	1.6	34
30	Feedforward Neural Network for Force Coding of an MRI-Compatible Tactile Sensor Array Based on Fiber Bragg Grating. Journal of Sensors, 2015, 2015, 1-9.	1.1	33
31	Affordable Robotics for Upper Limb Stroke Rehabilitation in Developing Countries: A Systematic Review. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 11-20.	3.2	32
32	Sensory- and Action-Oriented Embodiment of Neurally-Interfaced Robotic Hand Prostheses. Frontiers in Neuroscience, 2020, 14, 389.	2.8	31
33	Patient-tailored adaptive robotic system for upper-limb rehabilitation. , 2013, , .		28
34	Restoring Activities of Daily Living Using an EEG/EOG-Controlled Semiautonomous and Mobile Whole-Arm Exoskeleton in Chronic Stroke. IEEE Systems Journal, 2021, 15, 2314-2321.	4.6	28
35	Human Hand Motion Analysis and Synthesis of Optimal Power Grasps for a Robotic Hand. International Journal of Advanced Robotic Systems, 2014, 11, 37.	2.1	27
36	Combining Robotic Training and Non-Invasive Brain Stimulation in Severe Upper Limb-Impaired Chronic Stroke Patients. Frontiers in Neuroscience, 2016, 10, 88.	2.8	27

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37	Human arm joints reconstruction algorithm in rehabilitation therapies assisted by end-effector robotic devices. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2018, 15, 10.	4.6	27
38	Patient performance evaluation using Kinect and Monte Carlo-based finger tracking. , 2012, , .		26
39	Dynamic Adaptive System for Robot-Assisted Motion Rehabilitation. <i>IEEE Systems Journal</i> , 2016, 10, 984-991.	4.6	23
40	EMG and ENG-envelope pattern recognition for prosthetic hand control. <i>Journal of Neuroscience Methods</i> , 2019, 311, 38-46.	2.5	23
41	Regulation with on-line gravity compensation for robots with elastic joints. , 2004, , .		22
42	Parallel force/position control of a novel biomechatronic hand prosthesis. , 0, , .		21
43	An Internal Model for Acquisition and Retention of Motor Learning During Arm Reaching. <i>Neural Computation</i> , 2009, 21, 2009-2027.	2.2	21
44	Mechanisms of Motor Recovery in Chronic and Subacute Stroke Patients Following a Robot-Aided Training. <i>IEEE Transactions on Haptics</i> , 2014, 7, 175-180.	2.7	21
45	Multimodal adaptive interfaces for 3D robot-mediated upper limb neuro-rehabilitation: An overview of bio-cooperative systems. <i>Robotics and Autonomous Systems</i> , 2016, 85, 62-72.	5.1	21
46	BioMechatronic Design and Control of an Anthropomorphic Artificial Hand for Prosthetics and Robotic Applications. , 0, , .		20
47	A Hybrid Joint/Cartesian DMP-Based Approach for Obstacle Avoidance of Anthropomorphic Assistive Robots. <i>International Journal of Social Robotics</i> , 2019, 11, 783-796.	4.6	20
48	Real-time human core temperature estimation methods and their application in the occupational field: A systematic review. <i>Measurement: Journal of the International Measurement Confederation</i> , 2021, 183, 109776.	5.0	20
49	Upper-limb kinematic reconstruction during stroke robot-aided therapy. <i>Medical and Biological Engineering and Computing</i> , 2015, 53, 815-828.	2.8	19
50	Bio-Cooperative Approach for the Human-in-the-Loop Control of an End-Effector Rehabilitation Robot. <i>Frontiers in Neurorobotics</i> , 2018, 12, 67.	2.8	19
51	A Robotic Health-Care Assistant for COVID-19 Emergency: A Proposed Solution for Logistics and Disinfection in a Hospital Environment. <i>IEEE Robotics and Automation Magazine</i> , 2021, 28, 71-81.	2.0	19
52	PD control with on-line gravity compensation for robots with flexible links. , 2007, , .		18
53	Design, Development and Scaling Analysis of a Variable Stiffness Magnetic Torsion Spring. <i>International Journal of Advanced Robotic Systems</i> , 2013, 10, 372.	2.1	18
54	A force-and-slippage control strategy for a poliarticulated prosthetic hand. , 2016, , .		18

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55	Method for Automatic Slippage Detection With Tactile Sensors Embedded in Prosthetic Hands. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 485-497.	3.2	18
56	A bio-inspired grasp optimization algorithm for an anthropomorphic robotic hand. International Journal on Interactive Design and Manufacturing, 2012, 6, 113-122.	2.2	17
57	Soft Robotic Manipulation of Onions and Artichokes in the Food Industry. Advances in Mechanical Engineering, 2014, 6, 345291.	1.6	17
58	Control Strategies and Performance Assessment of Upper-Limb TMR Prostheses: A Review. Sensors, 2021, 21, 1953.	3.8	17
59	Physiological Responses During Hybrid BNCI Control of an Upper-Limb Exoskeleton. Sensors, 2019, 19, 4931.	3.8	16
60	Visual vs vibrotactile feedback for posture assessment during upper-limb robot-aided rehabilitation. Applied Ergonomics, 2020, 82, 102950.	3.1	16
61	Design of a planar robotic machine for neuro-rehabilitation. , 2008, , .		15
62	Development and preliminary testing of an instrumented object for force analysis during grasping. , 2015, 2015, 6720-3.		15
63	Fusion of M-IMU and EMG signals for the control of trans-humeral prostheses. , 2016, , .		15
64	Interplay of Rhythmic and Discrete Manipulation Movements During Development: A Policy-Search Reinforcement-Learning Robot Model. IEEE Transactions on Cognitive and Developmental Systems, 2016, 8, 152-170.	3.8	15
65	A Surgeon-Robot Shared Control for Ergonomic Pedicle Screw Fixation. IEEE Robotics and Automation Letters, 2020, 5, 2554-2561.	5.1	15
66	A bio-inspired approach for regulating and measuring visco-elastic properties of a robot arm. Journal of Field Robotics, 2005, 22, 397-419.	0.7	14
67	Torque-Dependent Compliance Control in the Joint Space of a Cartesian Robotic Machine for Motor Therapy. , 0, , .		14
68	An inverse kinematics algorithm for upper-limb joint reconstruction during robot-aided motor therapy. , 2012, , .		14
69	Identification of Dynamic Parameters for Robots with Elastic Joints. Advances in Mechanical Engineering, 2015, 7, 843186.	1.6	14
70	Multilevel control of an anthropomorphic prosthetic hand for grasp and slip prevention. Advances in Mechanical Engineering, 2016, 8, 168781401666508.	1.6	14
71	Robust pose estimation algorithm for wrist motion tracking. , 2013, , .		13
72	An Anthropomorphic Robotic Head for Investigating Gaze Control. Advanced Robotics, 2008, 22, 57-89.	1.8	12

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73	A grasp synthesis algorithm based on postural synergies for an anthropomorphic arm-hand robotic system. , 2014, , .		12
74	The WGDâ€™A Dataset of Assembly Line Working Gestures for Ergonomic Analysis and Work-Related Injuries Prevention. Sensors, 2021, 21, 7600.	3.8	12
75	Compliant control for a cable-actuated anthropomorphic robot arm: an experimental validation of different solutions. , 0, , .		11
76	Biomechatronic design criteria of systems for robot-mediated rehabilitation therapy. , 2018, , 29-46.		11
77	Design of a modular and compliant wrist module for upper limb prosthetics. Anatomical Record, 2023, 306, 764-776.	1.4	11
78	A bio-inspired approach for regulating visco-elastic properties of a robot arm. , 0, , .		10
79	Hierarchical reinforcement learning and central pattern generators for modeling the development of rhythmic manipulation skills. , 2011, , .		10
80	A vibrotactile stimulation system for improving postural control and knee joint proprioception in lower-limb amputees. , 2017, , .		10
81	Microneurography as a tool to develop decoding algorithms for peripheral neuro-controlled hand prostheses. BioMedical Engineering OnLine, 2019, 18, 44.	2.7	10
82	Evoking Apparent Moving Sensation in the Hand via Transcutaneous Electrical Nerve Stimulation. Frontiers in Neuroscience, 2020, 14, 534.	2.8	10
83	Special Issue on Assistive Robotics [From the Guest Editors]. IEEE Robotics and Automation Magazine, 2013, 20, 16-19.	2.0	9
84	The Role of Learning and Kinematic Features in Dexterous Manipulation: A Comparative Study with Two Robotic Hands. International Journal of Advanced Robotic Systems, 2013, 10, 340.	2.1	9
85	Patient-Tailored Assistance: A New Concept of Assistive Robotic Device That Adapts to Individual Users. IEEE Robotics and Automation Magazine, 2014, 21, 123-133.	2.0	9
86	Comparative performance analysis of M-IMU/EMG and voice user interfaces for assistive robots. , 2017, 2017, 1001-1006.		9
87	Touch-and-slippage detection algorithm for prosthetic hands. Mechatronics, 2020, 70, 102402.	3.3	9
88	A Multiscale Approach to Axon and Nerve Stimulation Modeling: A Review. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 397-407.	4.9	9
89	Robotic-Assisted Hand Therapy with Gloreha Sinfonia for the Improvement of Hand Function after Pediatric Stroke: A Case Report. Applied Sciences (Switzerland), 2022, 12, 4206.	2.5	9
90	Functional compliance in the control of a personal robot. , 0, , .		8

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91	Teleoperated control based on virtual fixtures for a redundant surgical system. , 2013, , .		8
92	Design and development of a sensorized cylindrical object for grasping assessment. , 2016, 2016, 3366-3369.		8
93	Reprint of "Multimodal adaptive interfaces for 3D robot-mediated upper limb neuro-rehabilitation: An overview of bio-cooperative systems" Robotics and Autonomous Systems, 2017, 90, 86-96.	5.1	8
94	A teleoperated control approach for anthropomorphic manipulator using magneto-inertial sensors. , 2017, 2017, 156-161.		8
95	Spike detection: The first step towards an ENG-based neuroprotheses. Journal of Neuroscience Methods, 2018, 308, 294-308.	2.5	8
96	Identification of Slippage on Naturalistic Surfaces via Wavelet Transform of Tactile Signals. IEEE Sensors Journal, 2019, 19, 1260-1268.	4.7	8
97	Hierarchical Human-Inspired Control Strategies for Prosthetic Hands. Sensors, 2022, 22, 2521.	3.8	8
98	An Anthropomorphic Robotic Platform for Progressive and Adaptive Sensorimotor Learning. Advanced Robotics, 2008, 22, 91-118.	1.8	7
99	Dynamic Characterization and Interaction Control of the CBM-Motus Robot for Upper-Limb Rehabilitation. International Journal of Advanced Robotic Systems, 2013, 10, 374.	2.1	7
100	Tactile piezoresistive sensors for robotic application: Design and metrological characterization. , 2017, , .		7
101	A New Smart-Fabric based Body Area Sensor Network for Work Risk Assessment. , 2020, , .		7
102	Patient-tailored Adaptive Control for Robot-aided Orthopaedic Rehabilitation. , 2022, , .		7
103	Comparative analysis and quantitative evaluation of ankle-foot orthoses for foot drop in chronic hemiparetic patients. European Journal of Physical and Rehabilitation Medicine, 2015, 51, 185-96.	2.2	6
104	A Soft Zwitterionic Hydrogel as Potential Coating on a Polyimide Surface to Reduce Foreign Body Reaction to Intraneural Electrodes. Molecules, 2022, 27, 3126.	3.8	6
105	An impedance-compliance control for a cable-actuated robot. , 0, , .		5
106	A wearable ergonomic gaze-tracker for infants. , 2010, 2010, 1283-6.		5
107	A Smart Solution for Proprioceptive Rehabilitation through M-IMU Sensors. , 2020, , .		5
108	A Robust Hand Pose Estimation Algorithm for Hand Rehabilitation. Lecture Notes in Computer Science, 2013, , 1-10.	1.3	5

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109	Submovement composition for motion and interaction control of a robot manipulator. , 2010, , .		4
110	A modular telerehabilitation architecture for upper limb robotic therapy. Advances in Mechanical Engineering, 2017, 9, 168781401668725.	1.6	4
111	Evaluation of Pressure Capacitive Sensors for Application in Grasping and Manipulation Analysis. Sensors, 2017, 17, 2846.	3.8	4
112	Grasp control of a prosthetic hand through peripheral neural signals. Journal of Physics: Conference Series, 2018, 1026, 012006.	0.4	4
113	A Robot-Aided Rehabilitation Platform for Occupational Therapy with Real Objects. Biosystems and Biorobotics, 2022, , 851-855.	0.3	4
114	Current Achievements and Future Directions of Hand Prostheses Controlled via Peripheral Nervous System. Studies in Applied Philosophy, Epistemology and Rational Ethics, 2017, , 75-95.	0.3	4
115	A parallel classification strategy to simultaneous control elbow, wrist, and hand movements. Journal of NeuroEngineering and Rehabilitation, 2022, 19, 10.	4.6	4
116	Modification of Hand Muscular Synergies in Stroke Patients after Robot-Aided Rehabilitation. Applied Sciences (Switzerland), 2022, 12, 3146.	2.5	4
117	Combining Robot-Assisted Gait Training and Non-Invasive Brain Stimulation in Chronic Stroke Patients: A Systematic Review. Frontiers in Neurology, 2022, 13, 795788.	2.4	4
118	Experimental comparative evaluation of compliant control schemes for an anthropomorphic personal robot. , 2002, , .		3
119	An anthropomorphic robotic platform for experimental validation of biologically-inspired sensory-motor co-ordination in grasping. , 0, , .		3
120	A Bio-inspired Neuro-Controller for an Anthropomorphic Head-Arm Robotic System. , 0, , .		3
121	Reach and Grasp for an Anthropomorphic Robotic System based on Sensorimotor Learning. , 2006, , .		3
122	Performance analysis of adaptive interaction control laws for rehabilitation robotics. , 2008, , .		3
123	Hot spot hound: A novel robot-assisted platform for enhancing TMS performance. , 2013, 2013, 6301-4.		3
124	The intraneural electrical stimulation of human median nerve: a simulation study. , 2020, , .		3
125	Electrical stimulation of the human median nerve: A comparison between anatomical and simplified simulation models. , 2021, , .		3
126	Modulation of sensation intensity in the lower limb via Transcutaneous Electrical Nerve Stimulation. , 2021, 2021, 6470-6474.		3



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127	Experimental validation of functional compliance in an anthropomorphic personal robot. , 0, , .		2
128	Rehabilitation and Therapeutic Robotics. , 2011, , 835-853.		2
129	The role of thumb opposition in cyclic manipulation: A study with two different robotic hands. , 2012, , .		2
130	Shoulder motor performance assessment in the sagittal plane in children with hemiplegia during single joint pointing tasks. BioMedical Engineering OnLine, 2014, 13, 106.	2.7	2
131	A Motion Analysis Protocol for Kinematic Assessment of Polyarticulated Prosthetic Hands With Cosmetic Gloves. Artificial Organs, 2017, 41, E337-E346.	1.9	2
132	A biofeedback-based posture correction system for working environments. , 2019, , .		2
133	Design of a planar robotic machine for telerehabilitation of elderly patients. Gerontechnology, 2008, 7, .	0.1	2
134	Electromechanical and Robotic Devices for Gait and Balance Rehabilitation of Children with Neurological Disability: A Systematic Review. Applied Sciences (Switzerland), 2021, 11, 12061.	2.5	2
135	Incremental learning control of the DLR-HIT-Hand II during interaction tasks. , 2010, 2010, 3194-7.		1
136	Development and experimental validation of a master interface with vibrotactile feedback for robotic telesurgery. , 2014, , .		1
137	A bio-inspired force control for cyclic manipulation of prosthetic hands. , 2015, 2015, 4824-7.		1
138	Experimental analysis of the relationship between neural and muscular recordings during hand control. , 2016, , .		1
139	A stochastic algorithm for automatic hand pose and motion estimation. Medical and Biological Engineering and Computing, 2017, 55, 2197-2208.	2.8	1
140	Analysis of Physiological Parameters and Workload during Working Tasks in COVID-19 Pandemic Conditions. , 2021, , .		1
141	Multimodal Interfaces to Improve Therapeutic Outcomes in Robot-Assisted Rehabilitation. Springer Tracts in Advanced Robotics, 2014, , 321-343.	0.4	1
142	Validation of a Power Grasping Algorithm for an Anthropomorphic Robotic Hand on the Basis of Human Grasping Action. , 2012, , 91-98.		1
143	Multimodal Robotic Device to Assistive and Rehabilitation Tasks. Biosystems and Biorobotics, 2013, , 271-276.	0.3	1
144	Assessment of Muscular Activation Patterns in 3D Upper Limb Robot-Aided Rehabilitation. Biosystems and Biorobotics, 2019, , 349-353.	0.3	1

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145	Design and Administration of a Questionnaire for the User-Centered Design of a Novel Upper-Limb Assistive Device for Brachial Plexus Injury and Post-stroke Subjects. Lecture Notes in Computer Science, 2022, , 420-427.	1.3	1
146	Design Criteria for a Mechatronic Handle for Measuring Visco-Elastic Properties of the Human Arm. , 0, , .		0
147	Experimental validation of a reach-and grasp optimization algorithm inspired to human arm-hand control. , 2011, 2011, 8150-3.		0
148	Dynamic submovement composition for motion and interaction control of a robot manipulator. , 2012, , .		0
149	Efferent microneurography recordings: A tool for motor control study and hand-prosthesis decoding. , 2013, , .		0
150	Pose estimation algorithm for hand assessment. , 2013, , .		0
151	New methods of humanâ€“robot interaction in medical practice. Computer Methods and Programs in Biomedicine, 2014, 116, 49-51.	4.7	0
152	An instrumented object for studying human grasping. , 2017, 2017, 1031-1036.		0
153	An Adaptive Arm-Weight Support Platform for 3D Upper Limb Robot-Aided Neuro-Rehabilitation. , 2018, , .		0
154	Analysis of Human Behavior for Robot Design and Control. Applied Bionics and Biomechanics, 2020, 2020, 1-2.	1.1	0
155	Multimodal Interfaces to Improve Therapeutic Outcomes in Robot-Assisted Rehabilitation. Springer Tracts in Advanced Robotics, 2014, , 321-343.	0.4	0
156	Introduction. International Journal of Neural Systems, 2021, 31, 2103010.	5.2	0
157	Hand motion analysis during robot-aided rehabilitation in chronic stroke. Journal of Biological Regulators and Homeostatic Agents, 2020, 34, 45-52. Technology in Medicine.	0.7	0
158	Robotic hand treatment of patients affected by chronic stroke: a monocentric longitudinal pilot study. Journal of Biological Regulators and Homeostatic Agents, 2020, 34, 79-86. Technology in Medicine.	0.7	0
159	Intraneural electrical stimulation of median nerve: a simulation study on sensory and motor fascicles. Journal of Biological Regulators and Homeostatic Agents, 2020, 34, 127-136. Technology in Medicine.	0.7	0