Etienne Burdet

List of Publications by Citations

259 papers	8,783 citations	47 h-index	88 g-index
286 ext. papers	10,709 ext. citations	3.9 avg, IF	6.06 L-index

#	Paper	IF	Citations
259	The central nervous system stabilizes unstable dynamics by learning optimal impedance. *Nature*, **2001**, 414, 446-9	50.4	779
258	Variable impedance actuators: A review. *Robotics and Autonomous Systems*, **2013**, 61, 1601-1614	3.5	616
257	A brain controlled wheelchair to navigate in familiar environments. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2010**, 18, 590-8	4.8	321
256	Adaptation to stable and unstable dynamics achieved by combined impedance control and inverse dynamics model. *Journal of Neurophysiology*, **2003**, 90, 3270-82	3.2	307
255	Human-Like Adaptation of Force and Impedance in Stable and Unstable Interactions. *IEEE Transactions on Robotics*, **2011**, 27, 918-930	6.5	249
254	CNS learns stable, accurate, and efficient movements using a simple algorithm. *Journal of Neuroscience*, **2008**, 28, 11165-73	6.6	222
253	A robust and sensitive metric for quantifying movement smoothness. *IEEE Transactions on Biomedical Engineering*, **2012**, 59, 2126-36	5	215
252	On the analysis of movement smoothness. *Journal of NeuroEngineering and Rehabilitation*, **2015**, 12, 112	5.3	196
251	Endpoint stiffness of the arm is directionally tuned to instability in the environment. *Journal of Neuroscience*, **2007**, 27, 7705-16	6.6	196
250	Variable Stiffness Actuators: Review on Design and Components. *IEEE/ASME Transactions on Mechatronics*, **2016**, 21, 2418-2430	5.5	186
249	Robot-assisted rehabilitation of hand function. *Current Opinion in Neurology*, **2010**, 23, 661-70	7.1	178
248	. *IEEE Intelligent Systems*, **2007**, 22, 18-24	4.2	163
247	HandCARE: a cable-actuated rehabilitation system to train hand function after stroke. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2008**, 16, 582-91	4.8	150
246	MRI/fMRI-compatible robotic system with force feedback for interaction with human motion. *IEEE/ASME Transactions on Mechatronics*, **2006**, 11, 216-224	5.5	141
245	Functional significance of stiffness in adaptation of multijoint arm movements to stable and unstable dynamics. *Experimental Brain Research*, **2003**, 151, 145-57	2.3	141
244	Development of BOLD signal hemodynamic responses in the human brain. *NeuroImage*, **2012**, 63, 663-73	7.9	137
243	A haptic knob for rehabilitation of hand function. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2007**, 15, 356-66	4.8	133

242	A method for measuring endpoint stiffness during multi-joint arm movements. *Journal of Biomechanics*, **2000**, 33, 1705-9	2.9	123
241	Variable stiffness actuators: The user point of view. *International Journal of Robotics Research*, **2015**, 34, 727-743	5.7	117
240	Large-Area Soft e-Skin: The Challenges Beyond Sensor Designs. *Proceedings of the IEEE*, **2019**, 107, 2016-2033	24	117
239	Quantization of human motions and learning of accurate movements. *Biological Cybernetics*, **1998**, 78, 307-18	2.8	104
238	Stability and motor adaptation in human arm movements. *Biological Cybernetics*, **2006**, 94, 20-32	2.8	99
237	Different mechanisms involved in adaptation to stable and unstable dynamics. *Journal of Neurophysiology*, **2003**, 90, 3255-69	3.2	99
236	Two is better than one: physical interactions improve motor performance in humans. *Scientific Reports*, **2014**, 4, 3824	4.9	97
235	A model of force and impedance in human arm movements. *Biological Cybernetics*, **2004**, 90, 368-75	2.8	94
234	A framework to describe, analyze and generate interactive motor behaviors. *PLoS ONE*, **2012**, 7, e49945	3.7	93
233	Computational neurorehabilitation: modeling plasticity and learning to predict recovery. *Journal of NeuroEngineering and Rehabilitation*, **2016**, 13, 42	5.3	91
232	Somatosensory cortical activation identified by functional MRI in preterm and term infants. *NeuroImage*, **2010**, 49, 2063-71	7.9	90
231	Robotic assessment of upper limb motor function after stroke. *American Journal of Physical Medicine and Rehabilitation*, **2012**, 91, S255-69	2.6	86
230	Effects of a robot-assisted training of grasp and pronation/supination in chronic stroke: a pilot study. *Journal of NeuroEngineering and Rehabilitation*, **2011**, 8, 63	5.3	79
229	Actuation methods for applications in MR environments. *Concepts in Magnetic Resonance Part B*, **2006**, 29B, 191-209	2.3	78
228	Human Robotics **2013**,		76
227	Concurrent adaptation of force and impedance in the redundant muscle system. *Biological Cybernetics*, **2010**, 102, 31-44	2.8	75
226	Dissociating variability and effort as determinants of coordination. *PLoS Computational Biology*, **2009**, 5, e1000345	5	73
225	Microrobotics and MEMS-based fabrication techniques for scaffold-based tissue engineering. *Macromolecular Bioscience*, **2005**, 5, 477-89	5.5	69

224	Motor memory and local minimization of error and effort, not global optimization, determine motor behavior. *Journal of Neurophysiology*, **2010**, 104, 382-90	3.2	68
223	A collaborative wheelchair system. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2008**, 16, 161-70	4.8	64
222	Visual feedback is not necessary for the learning of novel dynamics. *PLoS ONE*, **2007**, 2, e1336	3.7	64
221	Adaptive control of the Hexaglide, a 6 dof parallel manipulator		61
220	Opportunities and challenges in MR-compatible robotics: reviewing the history, mechatronic components, and future directions of this technology. *IEEE Engineering in Medicine and Biology Magazine*, **2008**, 27, 15-22		55
219	Slaves no longer: review on role assignment for human–robot joint motor action. *Adaptive Behavior*, **2014**, 22, 70-82	1.1	54
218	Maturation of Sensori-Motor Functional Responses in the Preterm Brain. *Cerebral Cortex*, **2016**, 26, 402-413	5.3	52
217	Biomimetic motor behavior for simultaneous adaptation of force, impedance and trajectory in interaction tasks **2010**,		52
216	Bimanual coordination during a physically coupled task in unilateral spastic cerebral palsy children. *Journal of NeuroEngineering and Rehabilitation*, **2019**, 16, 1	5.3	52
215	A Brain-Controlled Wheelchair Based on P300 and Path Guidance		51
214	Force, Impedance, and Trajectory Learning for Contact Tooling and Haptic Identification. *IEEE Transactions on Robotics*, **2018**, 34, 1170-1182	6.5	49
213	Physically interacting individuals estimate the partner's goal to enhance their movements. *Nature Human Behaviour*, **2017**, 1,	12.8	48
212	A robotic teacher of Chinese handwriting		46
211	Sensors for Applications in Magnetic Resonance Environments. *IEEE/ASME Transactions on Mechatronics*, **2008**, 13, 335-344	5.5	44
210	MRI-Compatible Robotics. *IEEE Engineering in Medicine and Biology Magazine*, **2008**, 27, 12-4		42
209	Somatotopic Mapping of the Developing Sensorimotor Cortex in the Preterm Human Brain. *Cerebral Cortex*, **2018**, 28, 2507-2515	5.1	42
208	Design of a simple MRI/fMRI compatible force/torque sensor		37
207	The role of posture, magnification, and grip force on microscopic accuracy. *Annals of Biomedical Engineering*, **2009**, 37, 997-1006	4.7	35

206	An MR compatible robot technology		35
205	The effects of hemorrhagic parenchymal infarction on the establishment of sensori-motor structural and functional connectivity in early infancy. *Neuroradiology*, **2014**, 56, 985-94	3.2	32
204	Supplementary motor area and anterior intraparietal area integrate fine-graded timing and force control during precision grip. *European Journal of Neuroscience*, **2009**, 30, 2401-6	3.5	32
203	Sparse linear regression for reconstructing muscle activity from human cortical fMRI. *NeuroImage*, **2008**, 42, 1463-72	7.9	32
202	Balancing the playing field: collaborative gaming for physical training. *Journal of NeuroEngineering and Rehabilitation*, **2017**, 14, 116	5.3	31
201	Is EMG a Viable Alternative to BCI for Detecting Movement Intention in Severe Stroke?. *IEEE Transactions on Biomedical Engineering*, **2018**, 65, 2790-2797	5	31
200	A versatile biomimetic controller for contact tooling and haptic exploration **2012**,		31
199	Force field adaptation can be learned using vision in the absence of proprioceptive error. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2011**, 19, 298-306	4.8	30
198	Dynamics and control of an MRI compatible master-slave system with hydrostatic transmission **2004**,		30
197	Interaction Force, Impedance and Trajectory Adaptation: By Humans, for Robots. *Springer Tracts in Advanced Robotics*, **2014**, 331-345	0.5	30
196	Novel hybrid adaptive controller for manipulation in complex perturbation environments. *PLoS ONE*, **2015**, 10, e0129281	3.7	29
195	Controlling a wheelchair using a BCI with low information transfer rate **2007**,		28
194	A 2-DOF fMRI compatible haptic interface to investigate the neural control of arm movements		28
193	Control of a Supernumerary Robotic Hand by Foot: An Experimental Study in Virtual Reality. *PLoS ONE*, **2015**, 10, e0134501	3.7	28
192	Variable impedance actuators: Moving the robots of tomorrow **2012**,		27
191	Collaborative wheelchair assistant		27
190	In a demanding task, three-handed manipulation is preferred to two-handed manipulation. *Scientific Reports*, **2016**, 6, 21758	4.9	27
189	Differential game theory for versatile physical human–robot interaction. *Nature Machine Intelligence*, **2019**, 1, 36-43	22.5	26

188	Computer-controlled stimulation for functional magnetic resonance imaging studies of the neonatal olfactory system. *Acta Paediatrica, International Journal of Paediatrics*, **2013**, 102, 868-75	3.1	24
187	Augmented manipulation ability in humans with six-fingered hands. *Nature Communications*, **2019**, 10, 2401	17.4	23
186	A force-feedback control system for micro-assembly. *Journal of Micromechanics and Microengineering*, **2006**, 16, 1861-1868	2	23
185	Haptic communication between humans is tuned by the hard or soft mechanics of interaction. *PLoS Computational Biology*, **2018**, 14, e1005971	5	22
184	Driver-automation indirect shared control of highly automated vehicles with intention-aware authority transition **2017**,		22
183	Democratizing Neurorehabilitation: How Accessible are Low-Cost Mobile-Gaming Technologies for Self-Rehabilitation of Arm Disability in Stroke?. *PLoS ONE*, **2016**, 11, e0163413	3.7	22
182	Experimental evaluation of nonlinear adaptive controllers. *IEEE Control Systems*, **1998**, 18, 39-47	2.9	21
181	Microassembly Fabrication of Tissue Engineering Scaffolds With Customized Design. *IEEE Transactions on Automation Science and Engineering*, **2008**, 5, 446-456	4.9	21
180	A Haptic Knob with a Hybrid Ultrasonic Motor and Powder Clutch Actuator **2007**,		21
179	Assessing suturing techniques using a virtual reality surgical simulator. *Microsurgery*, **2010**, 30, 479-86	2.1	20
178	A Haptic Knob for Rehabilitation of Stroke Patients **2006**,		20
177	Motor planning explains human behaviour in tasks with multiple solutions. *Robotics and Autonomous Systems*, **2013**, 61, 362-368	3.5	19
176	ReachMAN: a personal robot to train reaching and manipulation **2009**,		19
175	Impedance control is selectively tuned to multiple directions of movement. *Journal of Neurophysiology*, **2011**, 106, 2737-48	3.2	19
174	Rehabilitation of grasping and forearm pronation/supination with the Haptic Knob **2009**,		19
173	Prediction of Gait Freezing in Parkinsonian Patients: A Binary Classification Augmented With Time Series Prediction. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2019**, 27, 1909-1919	4.8	18
172	An fMRI compatible wrist robotic interface to study brain development in neonates. *Annals of Biomedical Engineering*, **2013**, 41, 1181-92	4.7	18
171	Interpersonal strategies for disturbance attenuation during a rhythmic joint motor action. *Physiology and Behavior*, **2015**, 147, 348-58	3.5	18

170	Evaluation of parametric and nonparametric nonlinear adaptive controllers. *Robotica*, **1998**, 16, 59-73	2.1	18
169	Implementation and Test of Human-Operated and Human-Like Adaptive Impedance Controls on Baxter Robot. *Lecture Notes in Computer Science*, **2014**, 109-119	0.9	18
168	Evaluation of a collaborative wheelchair system in cerebral palsy and traumatic brain injury users. *Neurorehabilitation and Neural Repair*, **2009**, 23, 494-504	4.7	17
167	The duration of reaching movement is longer than predicted by minimum variance. *Journal of Neurophysiology*, **2016**, 116, 2342-2345	3.2	16
166	Pointing with the wrist: a postural model for Donders' law. *Experimental Brain Research*, **2011**, 212, 417-27	2.3	16
165	Investigation of a Cable Transmission for the Actuation of MR Compatible Haptic Interfaces		16
164	Effects of a neuromuscular controller on a powered ankle exoskeleton during human walking **2016**,		15
163	Analysis of grasping strategies and function in hemiparetic patients using an instrumented object. *IEEE International Conference on Rehabilitation Robotics*, **2013**, 2013, 6650379	1.3	15
162	Monolithic shape memory alloy microgripper for 3D assembly of tissue engineering scaffolds **2001**,		15
161	A Subject-Specific Four-Degree-of-Freedom Foot Interface to Control a Surgical Robot. *IEEE/ASME Transactions on Mechatronics*, **2020**, 25, 951-963	5.5	15
160	Technology-aided assessment of sensorimotor function in early infancy. *Frontiers in Neurology*, **2014**, 5, 197	4.1	14
159	Generalization in adaptation to stable and unstable dynamics. *PLoS ONE*, **2012**, 7, e45075	3.7	14
158	Hi5: A versatile dual-wrist device to study human-human interaction and bimanual control **2011**,		14
157	Development of a Robot-Assisted Rehabilitation Therapy to train Hand Function for Activities of Daily Living **2007**,		14
156	The CNS stochastically selects motor plan utilizing extrinsic and intrinsic representations. *PLoS ONE* , **2011**, 6, e24229	3.7	14
155	Motion Plan Changes Predictably in Dyadic Reaching. *PLoS ONE*, **2016**, 11, e0167314	3.7	14
154	Evaluation of the Collaborative Wheelchair Assistant System **2007**,		13
153	**2007**, 23, 245-255		13

152	Modeling individual human motor behavior through model reference iterative learning control. *IEEE Transactions on Biomedical Engineering*, **2012**, 59, 1892-901	5	12
151	Effect of Grip Force and Training in Unstable Dynamics on Micromanipulation Accuracy. *IEEE Transactions on Haptics*, **2011**, 4, 167-74	2.7	12
150	A Cable Driven Robotic System to Train Finger Function After Stroke **2007**,		12
149	Dynamic thread for real-time knot-tying		12
148	Individuals physically interacting in a group rapidly coordinate their movement by estimating the collective goal. *ELife*, **2019**, 8,	8.9	12
147	Self-Paced Reaching after Stroke: A Quantitative Assessment of Longitudinal and Directional Sensitivity Using the H-Man Planar Robot for Upper Limb Neurorehabilitation. *Frontiers in Neuroscience*, **2016**, 10, 477	5.1	12
146	. *IEEE Robotics and Automation Letters*, **2019**, 4, 414-421	4.2	12
145	Performance Evaluation of a Foot Interface to Operate a Robot Arm. *IEEE Robotics and Automation Letters*, **2019**, 4, 3302-3309	4.2	11
144	3DOM: a 3 degree of freedom manipulandum to investigate redundant motor control. *IEEE Transactions on Haptics*, **2014**, 7, 229-39	2.7	11
143	A technique to train finger coordination and independence after stroke. *Disability and Rehabilitation: Assistive Technology*, **2010**, 5, 279-87	1.8	11
142	A hybrid ultrasonic motor and electrorheological fluid clutch actuator for force-feedback in MRI/fMRI. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2008**, 2008, 3438-42	0.9	11
141	fMRI Compatible Haptic Interfaces to Investigate Human Motor Control. *Springer Tracts in Advanced Robotics*, **2006**, 25-34	0.5	11
140	The effect of skill level matching in dyadic interaction on learning of a tracing task. *IEEE International Conference on Rehabilitation Robotics*, **2019**, 2019, 824-829	1.3	10
139	Analysis of accuracy in pointing with redundant hand-held tools: a geometric approach to the uncontrolled manifold method. *PLoS Computational Biology*, **2013**, 9, e1002978	5	10
138	Classification of strategies for disturbance attenuation in human-human collaborative tasks. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 2364-7	0.9	10
137	Micromanipulation accuracy in pointing and tracing investigated with a contact-free measurement system. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2009**, 2009, 3960-3	0.9	10
136	How are internal models of unstable tasks formed?. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2004**, 2004, 4491-4		10
135	Multi-source micro-friction identification for a class of cable-driven robots with passive backbone. *Mechanical Systems and Signal Processing*, **2016**, 80, 152-165	7.8	10

134	Elasticity improves handgrip performance and user experience during visuomotor control. *Royal Society Open Science*, **2017**, 4, 160961	3.3	9
133	Development of an elastic path controller		9
132	Motor adaptation with passive machines: a first study on the effect of real and virtual stiffness. *Computer Methods and Programs in Biomedicine*, **2014**, 116, 145-55	6.9	8
131	Hyperstaticity for ergonomie design of a wrist exoskeleton. *IEEE International Conference on Rehabilitation Robotics*, **2013**, 2013, 6650417	1.3	8
130	A modular sensor-based system for the Rehabilitation and Assessment of manipulation **2012**,		8
129	ReachMAN to help sub-acute patients training reaching and manipulation **2010**,		8
128	Differential neural correlates of reciprocal activation and cocontraction control in dorsal and ventral premotor cortices. *Journal of Neurophysiology*, **2012**, 107, 126-33	3.2	8
127	Post-stroke training of a pick and place activity in a virtual environment **2008**,		8
126	Active mechatronic interface for haptic perception studies with functional magnetic resonance imaging: compatibility and design criteria		8
125	Shape memory alloy microgripper for robotic microassembly of tissue engineering scaffolds **2004**,		8
124	Transfer of dynamic motor skills acquired during isometric training to free motion. *Journal of Neurophysiology*, **2017**, 118, 219-233	3.2	7
123	A Multimodal Intention Detection Sensor Suite for Shared Autonomy of Upper-Limb Robotic Prostheses. *Sensors*, **2020**, 20,	3.8	7
122	The Influence of Posture, Applied Force and Perturbation Direction on Hip Joint Viscoelasticity. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2020**, 28, 1138-1145	4.8	7
121	Biomimetic joint/task space hybrid adaptive control for bimanual robotic manipulation **2014**,		7
120	reachMAN2: A compact rehabilitation robot to train reaching and manipulation **2014**,		7
119	Analysis of pick-and-place, eating and drinking movements for the workspace definition of simple robotic devices **2009**,		7
118	Experiments in nonlinear adaptive control		7
117	Indirect Shared Control for Cooperative Driving Between Driver and Automation in Steer-by-Wire Vehicles. *IEEE Transactions on Intelligent Transportation Systems*, **2020**, 1-11	6.1	7

116	Anticipatory detection of turning in humans for intuitive control of robotic mobility assistance. *Bioinspiration and Biomimetics*, **2017**, 12, 055004	2.6	6
115	For Motion Assistance Humans Prefer to Rely on a Robot Rather Than on an Unpredictable Human.. *IEEE Open Journal of Engineering in Medicine and Biology*, **2020**, 1, 133-139	5.9	6
114	Facing the partner influences exchanges in force. *Scientific Reports*, **2016**, 6, 35397	4.9	6
113	Quantitative motor assessment of upperlimb after unilateral stroke: A preliminary feasibility study with H-Man, a planar robot **2015**,		6
112	Model-based attenuation of movement artifacts in fMRI. *Journal of Neuroscience Methods*, **2010**, 192, 58-69	3	6
111	Hybrid Ultrasonic Motor and Electrorheological Clutch System for MR-Compatible Haptic Rendering **2006**,		6
110	Motion guidance experiments with Scooter Cobot		6
109	The Learning Cobot **2002**, 867		6
108	Robotic micro-assembly of scaffold/cell constructs with a shape memory alloy gripper		6
107	. *IEEE Transactions on Medical Robotics and Bionics*, **2020**, 2, 545-548	3.1	6
106	A novel sensor design for accurate measurement of facial somatosensation in pre-term infants. *PLoS ONE*, **2018**, 13, e0207145	3.7	6
105	An eye tracking based virtual reality system for use inside magnetic resonance imaging systems. *Scientific Reports*, **2021**, 11, 16301	4.9	6
104	Versatile Interaction Control and Haptic Identification in Humans and Robots. *Springer Tracts in Advanced Robotics*, **2017**, 187-206	0.5	5
103	Effect of sensory experience on motor learning strategy. *Journal of Neurophysiology*, **2015**, 113, 1077-84	3.2	5
102	Estimating Human Wrist Stiffness during a Tooling Task. *Sensors*, **2020**, 20,	3.8	5
101	A Clustering-Based Approach to Identify Joint Impedance During Walking. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2020**, 28, 1808-1816	4.8	5
100	Modeling of Endpoint Feedback Learning Implemented Through Point-to-Point Learning Control. *IEEE Transactions on Control Systems Technology*, **2017**, 25, 1576-1585	4.8	5
99	Learning to design rehabilitation devices through the H-CARD course: project-based learning of rehabilitation technology design. *IEEE Pulse*, **2012**, 3, 51-8	0.7	5

98	HandCARE2: A novel cable interface for hand rehabilitation **2008**,		5
97	Collaborative path planning for a robotic wheelchair. *Disability and Rehabilitation: Assistive Technology*, **2008**, 3, 315-24	1.8	5
96	Design of a collaborative wheelchair with path guidance assistance		5
95	Elastic path controller for assistive devices. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2005**, 2005, 6239-42		5
94	Exercises for rehabilitation and assessment of hand motor function with the Haptic Knob **2009**,		5
93	Taxonomy based analysis of force exchanges during object grasping and manipulation. *PLoS ONE*, **2017**, 12, e0178185	3.7	5
92	A Three-Limb Teleoperated Robotic System with Foot Control for Flexible Endoscopic Surgery. *Annals of Biomedical Engineering*, **2021**, 49, 2282-2296	4.7	5
91	Human performance in three-hands tasks. *Scientific Reports*, **2021**, 11, 9511	4.9	5
90	Robotic Assisted Upper Limb Training Post Stroke: A Randomized Control Trial Using Combinatory Approach Toward Reducing Workforce Demands. *Frontiers in Neurology*, **2021**, 12, 622014	4.1	5
89	Sensory integration of apparent motion speed and vibration magnitude. *IEEE Transactions on Haptics*, **2018**, 11, 455-463	2.7	5
88	Muscle patterns underlying voluntary modulation of co-contraction. *PLoS ONE*, **2018**, 13, e0205911	3.7	5
87	SITAR: a system for independent task-oriented assessment and rehabilitation. *Journal of Rehabilitation and Assistive Technologies Engineering*, **2017**, 4, 2055668317729637	1.7	4
86	Comparison of flexible and rigid hand-grip control during a feed-forward visual tracking task **2015**,		4
85	A Simple fMRI Compatible Robotic Stimulator to Study the Neural Mechanisms of Touch and Pain. *Annals of Biomedical Engineering*, **2016**, 44, 2431-2441	4.7	4
84	Subject-Specific Wrist Model Calibration and Application to Ergonomic Design of Exoskeletons. *IEEE Sensors Journal*, **2013**, 13, 3293-3301	4	4
83	Positioning the endoscope in laparoscopic surgery by foot: Influential factors on surgeons' performance in virtual trainer. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2017**, 2017, 3944-3948	0.9	4
82	Acquisition of motor skills in isometric conditions through synesthetic illusions of movement **2015**,		4
81	**2014**,		4

80	Instrumented sorting block box for children, a preliminary experiment. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975458	1.3	4
79	A model of reference trajectory adaptation for Interaction with objects of arbitrary shape and impedance **2011**,		4
78	User evaluation of a collaborative wheelchair system. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2008**, 2008, 1956-60	0.9	4
77	FABRICATION OF 3-D MICROPARTS FOR THE ASSEMBLY OF SCAFFOLD/CELL CONSTRUCTS IN TISSUE ENGINEERING. *International Journal of Computational Engineering Science*, **2003**, 04, 281-284		4
76	A modular and sensor-oriented motion planner. *Robotica*, **1999**, 17, 87-95	2.1	4
75	Third Arm Manipulation for Surgical Applications: An Experimental Study. *Mechanisms and Machine Science*, **2016**, 153-163	0.3	4
74	Force field compensation can be learned without proprioceptive error. *IFMBE Proceedings*, **2009**, 381-383	0.2	4
73	Investigation of isometric strength and control of the upper extremities in multiple sclerosis. *Journal of Rehabilitation and Assistive Technologies Engineering*, **2016**, 3, 2055668316663977	1.7	4
72	How Variability and Effort Determine Coordination at Large Forces. *PLoS ONE*, **2016**, 11, e0149512	3.7	4
71	Cortical Processing of Multimodal Sensory Learning in Human Neonates. *Cerebral Cortex*, **2021**, 31, 1827-1836	5.1	4
70	Artificial nociception and motor responses to pain, for humans and robots. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 7402-5	0.9	3
69	Improving Tracking through Human-Robot Sensory Augmentation. *IEEE Robotics and Automation Letters*, **2020**, 5, 4399-4406	4.2	3
68	Nonlinearity Compensation in A Multi-DoF Shoulder Sensing Exosuit For Real-Time Teleoperation **2020**,		3
67	Horseback riding therapy for a deafblind individual enabled by a haptic interface. *Assistive Technology*, **2018**, 30, 143-150	1.5	3
66	Human like learning algorithm for simultaneous force control and haptic identification **2013**,		3
65	A simple tool to measure spasticity in spinal cord injury subjects. *IEEE International Conference on Rehabilitation Robotics*, **2017**, 2017, 1590-1596	1.3	3
64	Preliminary feasibility study of the H-Man planar robot for quantitative motor assessment **2015**,		3
63	Motion-based grasp selection: Improving traditional control strategies of myoelectric hand prosthesis **2015**,		3

62	**2014**,		3
61	Wrist Coordination in a Kinematically Redundant Stabilization Task. *IEEE Transactions on Haptics*, **2012**, 5, 231-9	2.7	3
60	Accurate micromanipulation induced by performing in unstable dynamics **2010**,		3
59	Experiments on collaborative learning with a robotic wheelchair **2007**,		3
58	Energetic Passivity Decoding of Human Hip Joint for Physical Human-Robot Interaction. *IEEE Robotics and Automation Letters*, **2020**, 5, 5953-5960	4.2	3
57	Stochastic optimal feedforward-feedback control determines timing and variability of arm movements with or without vision. *PLoS Computational Biology*, **2021**, 17, e1009047	5	3
56	EMERGING DIRECTIONS IN LOWER LIMB EXTERNALLY WEARABLE ROBOTS FOR GAIT REHABILITATION AND AUGMENTATION A REVIEW **2016**, 840-850		3
55	Development and Comparison of Foot Interfaces for Controlling a Robotic Arm in Surgery **2018**,		3
54	Interactive robot assistance for upper-limb training **2018**, 137-148		3
53	Proof-of-Concept of a Sensor-Based Evaluation Method for Better Sensitivity of Upper-Extremity Motor Function Assessment. *Sensors*, **2021**, 21,	3.8	3
52	Development and evaluation of a portable MR compatible haptic interface for human motor control **2015**,		2
51	Identification of the best strategy to command variable stiffness using electromyographic signals. *Journal of Neural Engineering*, **2020**, 17, 016058	5	2
50	Collaborative Gaming to Enhance Patient Performance During Virtual Therapy. *Biosystems and Biorobotics*, **2017**, 375-379	0.2	2
49	Pediatric rehabilitation with the reachMAN's modular handle. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 3933-6	0.9	2
48	Upper limb functional assessment of children with cerebral palsy using a sorting box. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 2330-3	0.9	2
47	**2013**,		2
46	Influence of visual feedback and speed on micromanipulation accuracy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2009**, 2009, 1188-91	0.9	2
45	A nonlinear elastic path controller for a robotic wheelchair **2008**,		2

44	Impedance control is tuned to multiple directions of movement. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2008**, 2008, 5358-61	0.9	2
43	Deaf-Blind Can Practise Horse Riding with the Help of Haptics. *Lecture Notes in Computer Science*, **2016**, 452-461	0.9	2
42	A Wearable Automated System to Quantify Parkinsonian Symptoms Enabling Closed Loop Deep Brain Stimulation. *Lecture Notes in Computer Science*, **2016**, 8-19	0.9	2
41	Abnormal microscale neuronal connectivity triggered by a proprioceptive stimulus in dystonia. *Scientific Reports*, **2020**, 10, 20758	4.9	2
40	Flexible Assimilation of Human's Target for Versatile Human-Robot Physical Interaction. *IEEE Transactions on Haptics*, **2021**, 14, 421-431	2.7	2
39	Design and Evaluation of a Foot-Controlled Robotic System for Endoscopic Surgery. *IEEE Robotics and Automation Letters*, **2021**, 6, 2469-2476	4.2	2
38	Cable-Driven Robotic Interface for Lower Limb Neuromechanics Identification. *IEEE Transactions on Biomedical Engineering*, **2021**, 68, 461-469	5	2
37	Short Time Delay Does Not Hinder Haptic Communication Benefits. *IEEE Transactions on Haptics*, **2021**, 14, 322-327	2.7	2
36	The control and training of single motor units in isometric tasks are constrained by a common synaptic input signal		2
35	Quantitative assessment of motor deficit with an intelligent key Object: A Pilot Study **2015**,		1
34	Adaptive impedance control with trajectory adaptation for minimizing interaction force **2020**,		1
33	The dominant limb preferentially stabilizes posture in a bimanual task with physical coupling. *Journal of Neurophysiology*, **2020**, 123, 2154-2160	3.2	1
32	Validity of a sensor-based table-top platform to measure upper limb function. *IEEE International Conference on Rehabilitation Robotics*, **2017**, 2017, 652-657	1.3	1
31	Ergonomic design of a wrist robot. *International Journal of Intelligent Computing and Cybernetics*, **2014**, 7, 289-306	2.2	1
30	Human Motor Learning Through Iterative Model Reference Adaptive Control. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2011**, 44, 2883-2888		1
29	Modelling of human motor control in an unstable task through operational space formulation **2010**,		1
28	Changes in muscle activation patterns following robot-assisted training of hand function after stroke **2010**,		1
27	Force-controlled automatic microassembly of tissue engineering scaffolds. *Journal of Micromechanics and Microengineering*, **2010**, 20, 035001	2	1

26	Stabilizing unstable object by means of kinematic redundancy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2010**, 2010, 3698-702	0.9	1
25	An elastic path controller for a collaborative wheelchair assistant **2007**,		1
24	Development of a novel elastic path controller **2007**,		1
23	Learning the dynamics of the external world: Brain inspired learning for robotic applications. *International Congress Series*, **2006**, 1291, 109-112		1
22	Learning Complex Tasks Using a Stepwise Approach. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **1999**, 24, 43-68	2.9	1
21	Trimanipulation: Evaluation of human performance in a 3-handed coordination task **2021**,		1
20	Development of functional organization within the sensorimotor network across the perinatal period.. *Human Brain Mapping*, **2022**,	5.9	1
19	Active Visuo-Tactile Interactive Robotic Perception for Accurate Object Pose Estimation in Dense Clutter. *IEEE Robotics and Automation Letters*, **2022**, 1-1	4.2	1
18	GripAble: An accurate, sensitive and robust digital device for measuring grip strength.. *Journal of Rehabilitation and Assistive Technologies Engineering*, **2022**, 9, 20556683221078455	1.7	1
17	A model of reference trajectory adaptation for Interaction with objects of arbitrary shape and impedance		1
16	Analogous adaptations in speed, impulse and endpoint stiffness when learning a real and virtual insertion task with haptic feedback. *Scientific Reports*, **2020**, 10, 22342	4.9	1
15	Self-Directed Exergaming for Stroke Upper Limb Impairment Increases Exercise Dose Compared to Standard Care. *Neurorehabilitation and Neural Repair*, **2021**, 35, 974-985	4.7	1
14	EEG measures of sensorimotor processing and their development are abnormal in children with isolated dystonia and dystonic cerebral palsy. *NeuroImage: Clinical*, **2021**, 30, 102569	5.3	1
13	Principles of human movement augmentation and the challenges in making it a reality.. *Nature Communications*, **2022**, 13, 1345	17.4	1
12	Modernising grip dynamometry: Inter-instrument reliability between GripAble and Jamar.. *BMC Musculoskeletal Disorders*, **2022**, 23, 80	2.8	0
11	Adapting the visuo-haptic perception through muscle coactivation. *Scientific Reports*, **2021**, 11, 21986	4.9	0
10	Identification of multiple limbs coordination strategies in a three-goal independent task. *IEEE Transactions on Medical Robotics and Bionics*, **2021**, 1-1	3.1	0
9	Investigating Tactile Sensation in the Hand Using a Robot-Based Tactile Assessment Tool. *Lecture Notes in Computer Science*, **2016**, 17-24	0.9	0

8	Balance strategy in hoverboard control.. *Scientific Reports*, **2022**, 12, 4509	4.9	0
7	Perception and Performance of Electrical Stimulation for Proprioception. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2021**, 2021, 4550-4554	0.9	0
6	Modelling Neuromuscular Function of SCI Patients in Balancing. *Biosystems and Biorobotics*, **2017**, 355-359	0.2	
5	Is the collaborative wheelchair adapted to cerebral palsy and traumatic brain injury subjects?. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2008**, 2008, 1965-8	0.9	
4	Reflex Contributions to the Directional Tuning of Arm Stiffness. *Lecture Notes in Computer Science*, **2007**, 913-922	0.9	
3	TREMOR PROFILING USING DIGITAL MICROSURGICAL RRE-TRAINER(1E3 Mechanical Analysis & Its Applications). *The Proceedings of the Asian Pacific Conference on Biomechanics Emerging Science and Technology in Biomechanics*, **2007**, 2007.3, S86		
2	A Versatile Robotic Haptic Stimulator to Study the Influence of Pain on Human Motor Control and Learning. *Lecture Notes in Computer Science*, **2016**, 101-110	0.9	
1	Arm movement adaptation to concurrent pain constraints. *Scientific Reports*, **2021**, 11, 6792	4.9	