David J Reinkensmeyer

List of Publications by Year
in descending order

122 papers	9,085 citations	57758 44 h-index	45317 90 g-index
124 all docs	124 docs citations	124 times ranked	5810 citing authors

#	Article	IF	Citations
1	Review of control strategies for robotic movement training after neurologic injury. Journal of NeuroEngineering and Rehabilitation, 2009, 6, 20.	4.6	887
2	Optimizing Compliant, Model-Based Robotic Assistance to Promote Neurorehabilitation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2008, 16, 286-297.	4.9	417
3	Persistence of Motor Adaptation During Constrained, Multi-Joint, Arm Movements. Journal of Neurophysiology, 2000, 84, 853-862.	1.8	361
4	Robotics, Motor Learning, and Neurologic Recovery. Annual Review of Biomedical Engineering, 2004, 6, 497-525.	12.3	336
5	Retraining the injured spinal cord. Journal of Physiology, 2001, 533, 15-22.	2.9	332
6	A Randomized Controlled Trial of Gravity-Supported, Computer-Enhanced Arm Exercise for Individuals With Severe Hemiparesis. Neurorehabilitation and Neural Repair, 2009, 23, 505-514.	2.9	300
7	Automating Arm Movement Training Following Severe Stroke: Functional Exercises With Quantitative Feedback in a Gravity-Reduced Environment. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 378-389.	4.9	292
8	Robot-assisted reaching exercise promotes arm movement recovery in chronic hemiparetic stroke: a randomized controlled pilot study. Journal of NeuroEngineering and Rehabilitation, 2006, 3, 12.	4.6	282
9	Robot-enhanced motor learning: accelerating internal model formation during locomotion by transient dynamic amplification. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2005, 13, 33-39.	4.9	258
10	Web-based telerehabilitation for the upper extremity after stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2002, 10, 102-108.	4.9	240
11	Motor Adaptation as a Greedy Optimization of Error and Effort. Journal of Neurophysiology, 2007, 97, 3997-4006.	1.8	235
12	A Robot and Control Algorithm That Can Synchronously Assist in Naturalistic Motion During Body-Weight-Supported Gait Training Following Neurologic Injury. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2007, 15, 387-400.	4.9	226
13	A Standardized Approach to the Fugl-Meyer Assessment and Its Implications for Clinical Trials. Neurorehabilitation and Neural Repair, 2013, 27, 732-741.	2.9	204
14	Robot-assisted movement training for the stroke-impaired arm: Does it matter what the robot does?. Journal of Rehabilitation Research and Development, 2006, 43, 619.	1.6	199
15	Alterations in reaching after stroke and their relation to movement direction and impairment severity. Archives of Physical Medicine and Rehabilitation, 2002, 83, 702-707.	0.9	193
16	Robotic Devices for Movement Therapy After Stroke: Current Status and Challenges to Clinical Acceptance. Topics in Stroke Rehabilitation, 2002, 8, 40-53.	1.9	181
17	Human-robot cooperative movement training: Learning a novel sensory motor transformation during walking with robotic assistance-as-needed. Journal of NeuroEngineering and Rehabilitation, 2007, 4, 8.	4.6	152
18	Haptic Guidance Can Enhance Motor Learning of a Steering Task. Journal of Motor Behavior, 2008, 40, 545-557.	0.9	133

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19	Spinal Cord-Transected Mice Learn to Step in Response to Quipazine Treatment and Robotic Training. Journal of Neuroscience, 2005, 25, 11738-11747.	3.6	129
20	Computational neurorehabilitation: modeling plasticity and learning to predict recovery. Journal of NeuroEngineering and Rehabilitation, 2016, 13, 42.	4.6	125
21	Tools for understanding and optimizing robotic gait training. Journal of Rehabilitation Research and Development, 2006, 43, 657.	1.6	124
22	Recent trends in assistive technology for mobility. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 20.	4.6	124
23	Retraining and assessing hand movement after stroke using the MusicGlove: comparison with conventional hand therapy and isometric grip training. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 76.	4.6	119
24	Locomotor Ability in Spinal Rats Is Dependent on the Amount of Activity Imposed on the Hindlimbs during Treadmill Training. Journal of Neurotrauma, 2007, 24, 1000-1012.	3.4	112
25	A Home-Based Telerehabilitation Program for Patients With Stroke. Neurorehabilitation and Neural Repair, 2017, 31, 923-933.	2.9	111
26	Feasibility of Manual Teach-and-Replay and Continuous Impedance Shaping for Robotic Locomotor Training Following Spinal Cord Injury. IEEE Transactions on Biomedical Engineering, 2008, 55, 322-334.	4.2	110
27	Can Robots Help the Learning of Skilled Actions?. Exercise and Sport Sciences Reviews, 2009, 37, 43-51.	3.0	107
28	Hemiparetic stroke impairs anticipatory control of arm movement. Experimental Brain Research, 2003, 149, 131-140.	1.5	106
29	Slacking by the human motor system: Computational models and implications for robotic orthoses. , 2009, 2009, 2129-32.		95
30	Gesture Therapy: An Upper Limb Virtual Reality-Based Motor Rehabilitation Platform. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 634-643.	4.9	95
31	A crossover pilot study evaluating the functional outcomes of two different types of robotic movement training in chronic stroke survivors using the arm exoskeleton BONES. Journal of NeuroEngineering and Rehabilitation, 2013, 10, 112.	4.6	94
32	Effect of visual distraction and auditory feedback on patient effort during robot-assisted movement training after stroke. Journal of NeuroEngineering and Rehabilitation, 2011, 8, 21.	4.6	93
33	Technologies and combination therapies for enhancing movement training for people with a disability. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 17.	4.6	86
34	Comparison of Three-Dimensional, Assist-as-Needed Robotic Arm/Hand Movement Training Provided with Pneu-WREX to Conventional Tabletop Therapy After Chronic Stroke. American Journal of Physical Medicine and Rehabilitation, 2012, 91, S232-S241.	1.4	83
35	Hindlimb loading determines stepping quantity and quality following spinal cord transection. Brain Research, 2005, 1050, 180-189.	2.2	81
36	Home-based hand rehabilitation after chronic stroke: Randomized, controlled single-blind trial comparing the MusicGlove with a conventional exercise program. Journal of Rehabilitation Research and Development, 2016, 53, 457-472.	1.6	81

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37	Arm-Training with T-WREX After Chronic Stroke: Preliminary Results of a Randomized Controlled Trial. , 2007, , .		80
38	The Manumeter: A Wearable Device for Monitoring Daily Use of the Wrist and Fingers. IEEE Journal of Biomedical and Health Informatics, 2014, 18, 1804-1812.	6.3	76
39	Somatosensory system integrity explains differences in treatment response after stroke. Neurology, 2019, 92, e1098-e1108.	1.1	75
40	Using robotics to teach the spinal cord to walk. Brain Research Reviews, 2002, 40, 267-273.	9.0	62
41	Breaking It Down Is Better: Haptic Decomposition of Complex Movements Aids in Robot-Assisted Motor Learning. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 268-275.	4.9	62
42	Personalized neuromusculoskeletal modeling to improve treatment of mobility impairments: a perspective from European research sites. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 18.	4.6	60
43	Assessment of Active and Passive Restraint During Guided Reaching After Chronic Brain Injury. Annals of Biomedical Engineering, 1999, 27, 805-814.	2.5	55
44	Neuromotor Noise Limits Motor Performance, But Not Motor Adaptation, in Children. Journal of Neurophysiology, 2003, 90, 703-711.	1.8	55
45	Directional control of reaching is preserved following mild/moderate stroke and stochastically constrained following severe stroke. Experimental Brain Research, 2002, 143, 525-530.	1.5	51
46	"If I can't do it once, why do it a hundred times?": Connecting volition to movement success in a virtual environment motivates people to exercise the arm after stroke. , 2007, , .		48
47	Rehabilitation and Health Care Robotics. Springer Handbooks, 2016, , 1685-1728.	0.6	48
48	Design of robot assistance for arm movement therapy following stroke. Advanced Robotics, 2001, 14, 625-637.	1.8	47
49	Rehabilitators, Robots, and Guides: New Tools for Neurological Rehabilitation. , 2000, , 516-534.		44
50	Chapter 11 Use of robotics in assessing the adaptive capacity of the rat lumbar spinal cord. Progress in Brain Research, 2002, 137, 141-149.	1.4	44
51	Supinator extender (SUE): A pneumatically actuated robot for forearm/wrist rehabilitation after stroke. , 2011, 2011, 1579-82.		44
52	A computational model of use-dependent motor recovery following a stroke: Optimizing corticospinal activations via reinforcement learning can explain residual capacity and other strength recovery dynamics. Neural Networks, 2012, 29-30, 60-69.	5.9	44
53	Effects of robotically modulating kinematic variability on motor skill learning and motivation. Journal of Neurophysiology, 2015, 113, 2682-2691.	1.8	44
54	Pneumatic Control of Robots for Rehabilitation. International Journal of Robotics Research, 2010, 29, 23-38.	8.5	40

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55	Finger strength, individuation, and their interaction: Relationship to hand function and corticospinal tract injury after stroke. Clinical Neurophysiology, 2018, 129, 797-808.	1.5	39
56	Control of a Pneumatic Orthosis for Upper Extremity Stroke Rehabilitation. , 2006, 2006, 2687-93.		38
57	Modeling Reaching Impairment After Stroke Using a Population Vector Model of Movement Control That Incorporates Neural Firing-Rate Variability. Neural Computation, 2003, 15, 2619-2642.	2.2	37
58	Machine-Based, Self-guided Home Therapy for Individuals With Severe Arm Impairment After Stroke. Neurorehabilitation and Neural Repair, 2015, 29, 395-406.	2.9	37
59	A robotic device for studying rodent locomotion after spinal cord injury. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2005, 13, 497-506.	4.9	35
60	Dissociating motor learning from recovery in exoskeleton training post-stroke. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 89.	4.6	35
61	Movement Anticipation and EEG: Implications for BCI-Contingent Robot Therapy. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 911-919.	4.9	34
62	Effect of muscle fatigue on internal model formation and retention during reaching with the arm. Journal of Applied Physiology, 2006, 100, 695-706.	2.5	32
63	Rehabilitation and Health Care Robotics. , 2008, , 1223-1251.		32
64	Breaking Proportional Recovery After Stroke. Neurorehabilitation and Neural Repair, 2019, 33, 888-901.	2.9	32
65	Real-time computer modeling of weakness following stroke optimizes robotic assistance for movement therapy. , 2007, , .		31
66	Use of a robotic device to measure age-related decline in finger proprioception. Experimental Brain Research, 2016, 234, 83-93.	1.5	31
67	Wearable sensing for rehabilitation after stroke: Bimanual jerk asymmetry encodes unique information about the variability of upper extremity recovery. , 2017, 2017, 1603-1608.		29
68	Manuallyâ€Assisted Versus Roboticâ€Assisted Body Weightâ"Supported Treadmill Training in Spinal Cord Injury: What Is the Role of Each?. PM and R, 2010, 2, 214-221.	1.6	28
69	A Computational Model of Human-Robot Load Sharing during Robot-Assisted Arm Movement Training after Stroke. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 4019-23.	0.5	27
70	Do robotic and non-robotic arm movement training drive motor recovery after stroke by a common neural mechanism? experimental evidence and a computational model. , 2009, 2009, 2439-41.		27
71	Judging complex movement performances for excellence: A principal components analysis-based technique applied to competitive diving. Human Movement Science, 2014, 36, 107-122.	1.4	25
72	Some Key Problems for Robot-Assisted Movement Therapy Research: A Perspective from the University of California at Irvine. , 2007, , .		22

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73	Trainer variability during step training after spinal cord injury: Implications for robotic gait-training device design. Journal of Rehabilitation Research and Development, 2011, 48, 147.	1.6	22
74	The Resonating Arm Exerciser: design and pilot testing of a mechanically passive rehabilitation device that mimics robotic active assistance. Journal of NeuroEngineering and Rehabilitation, 2013, 10, 39.	4.6	22
75	Robot-Assisted Rehabilitation Therapy: Recovery Mechanisms and Their Implications for Machine Design. Biosystems and Biorobotics, 2016, , 197-223.	0.3	21
76	Major trends in mobility technology research and development: Overview of the results of the NSF-WTEC European study. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 22.	4.6	20
77	Magnetically Counting Hand Movements: Validation of a Calibration-Free Algorithm and Application to Testing the Threshold Hypothesis of Real-World Hand Use after Stroke. Sensors, 2021, 21, 1502.	3.8	19
78	The variable relationship between arm and hand use: A rationale for using finger magnetometry to complement wrist accelerometry when measuring daily use of the upper extremity. , 2014, 2014, 4087-90.		18
79	The Manumeter: A non-obtrusive wearable device for monitoring spontaneous use of the wrist and fingers. , 2013, 2013, 6650397.		17
80	How a diverse research ecosystem has generated new rehabilitation technologies: Review of NIDILRRâ€™s Rehabilitation Engineering Research Centers. Journal of NeuroEngineering and Rehabilitation, 2017, 14, 109.	4.6	17
81	Feasibility of Wearable Sensing for In-Home Finger Rehabilitation Early After Stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1363-1372.	4.9	17
82	Designing Robots That Challenge to Optimize Motor Learning. , 2016, , 39-58.		15
83	Big Data Analytics and Sensor-Enhanced Activity Management to Improve Effectiveness and Efficiency of Outpatient Medical Rehabilitation. International Journal of Environmental Research and Public Health, 2020, 17, 748.	2.6	15
84	Robotic devices for physical rehabilitation of stroke patients: fundamental requirements, target therapeutic techniques, and preliminary designs. Technology and Disability, 1996, 5, 205-215.	0.6	14
85	Neural circuits activated by error amplification and haptic guidance training techniques during performance of a timing-based motor task by healthy individuals. Experimental Brain Research, 2018, 236, 3085-3099.	1.5	14
86	Design and Evaluation of the Kinect-Wheelchair Interface Controlled (KWIC) Smart Wheelchair for Pediatric Powered Mobility Training. Assistive Technology, 2015, 27, 183-192.	2.0	13
87	Robot-assisted hindlimb extension increases the probability of swing initiation during treadmill walking by spinal cord contused rats. Journal of Neuroscience Methods, 2007, 159, 66-77.	2.5	12
88	JNER at 15â€‰years: analysis of the state of neuroengineering and rehabilitation. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 144.	4.6	11
89	Robotic Rehabilitator of the Rodent Upper Extremity: A System and Method for Assessing and Training Forelimb Force Production after Neurological Injury. Journal of Neurotrauma, 2016, 33, 460-467.	3.4	10
90	Real-time slacking as a default mode of grip force control: implications for force minimization and personal grip force variation. Journal of Neurophysiology, 2018, 120, 2107-2120.	1.8	10

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91	Gesture Therapy: A Vision-Based System for Arm Rehabilitation after Stroke. Communications in Computer and Information Science, 2008, , 531-540.	0.5	10
92	Dissociating Sensorimotor Recovery and Compensation During Exoskeleton Training Following Stroke. Frontiers in Human Neuroscience, 2021, 15, 645021.	2.0	9
93	A day in the life: a qualitative study of clinical decision-making and uptake of neurorehabilitation technology. Journal of NeuroEngineering and Rehabilitation, 2021, 18, 121.	4.6	9
94	A Pilot Study of a Sensor Enhanced Activity Management System for Promoting Home Rehabilitation Exercise Performed during the COVID-19 Pandemic: Therapist Experience, Reimbursement, and Recommendations for Implementation. International Journal of Environmental Research and Public Health, 2021, 18, 10186.	2.6	9
95	Using Large-Scale Sensor Data to Test Factors Predictive of Perseverance in Home Movement Rehabilitation: Optimal Challenge and Steady Engagement. Frontiers in Neurology, 0, 13, .	2.4	9
96	A novel device for studying weight supported, quadrupedal overground locomotion in spinal cord injured rats. Journal of Neuroscience Methods, 2015, 246, 134-141.	2.5	8
97	Effects of soccer ball inflation pressure and velocity on peak linear and rotational accelerations of ball-to-head impacts. Sports Engineering, 2020, 23, 1.	1.1	8
98	Feasibility of a bimanual, lever-driven wheelchair for people with severe arm impairment after stroke. , 2014, 2014, 5292-5.		7
99	How do strength and coordination recovery interact after stroke? A computational model for informing robotic training. , 2017, 2017, 181-186.		7
100	Effort, performance, and motivation: Insights from robot-assisted training of human golf putting and rat grip strength. , 2013, 2013, 6650461.		6
101	Design and experimental evaluation of yoked hand-clutching for a lever drive chair. Assistive Technology, 2018, 30, 281-288.	2.0	6
102	2nd Workshop on upper-extremity assistive technology for people with Duchenne: Effectiveness and usability of arm supports Irvine, USA, 22ndâ€"23rd January 2018. Neuromuscular Disorders, 2019, 29, 651-656.	0.6	6
103	Robotic assistance for upper extremity training after stroke. Studies in Health Technology and Informatics, 2009, 145, 25-39.	0.3	6
104	Time flies when you are in a groove: using entrainment to mechanical resonance to teach a desired movement distorts the perception of the movementâ€™s timing. Experimental Brain Research, 2014, 232, 1057-1070.	1.5	5
105	A Haptic Simulator for Training the Application of Range of Motion Exercise to Premature Infants. Journal of Medical Devices, Transactions of the ASME, 2009, 3, .	0.7	4
106	The Badges Program: A Self-Directed Learning Guide for Residents for Conducting Research and a Successful Peer-Reviewed Publication. MedEdPORTAL: the Journal of Teaching and Learning Resources, 2016, 12, 10443.	1.2	4
107	Using Sound feedback to counteract visual distractor during robot-assisted movement training. , 2009, , .		3
108	The Effectiveness of Protective Headgear in Attenuating Ball-to-Forehead Impacts in Water Polo. Frontiers in Sports and Active Living, 2019, 1, 2.	1.8	3

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109	Bimanual wheelchair propulsion by people with severe hemiparesis after stroke. Disability and Rehabilitation: Assistive Technology, 2021, 16, 49-62.	2.2	3
110	Functional Assisted Gaming for Upper-Extremity Therapy After Stroke: Background, Evaluation, and Future Directions of the Spring Orthosis Approach. , 2012, , 327-341.		3
111	Motor adaptation to a small force field superimposed on a large background force. Experimental Brain Research, 2007, 178, 402-414.	1.5	2
112	Robotic approaches to stroke recovery. , 2010, , 195-206.		2
113	Robotic Rehabilitation: Ten Critical Questions about Current Status and Future Prospects Answered by Emerging Researchers. Biosystems and Biorobotics, 2014, , 189-205.	0.3	2
114	Development and Evaluation of MOVit: An Exercise-Enabling Interface for Driving a Powered Wheelchair. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 1770-1779.	4.9	2
115	Using a bimanual lever-driven wheelchair for arm movement practice early after stroke: A pilot, randomized, controlled, single-blind trial. Clinical Rehabilitation, 2021, 35, 1577-1589.	2.2	2
116	Control of a Pneumatic Orthosis for Upper Extremity Stroke Rehabilitation. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	2
117	Neurorehabilitation 2036: How Might Robots and Information Technology Be Used?. Topics in Spinal Cord Injury Rehabilitation, 2011, 17, 82-85.	1.8	2
118	Design of a thumb module for the FINGER rehabilitation robot. , 2016, 2016, 582-585.		1
119	Design and Preliminary Testing of MOVit: a Novel Exercise-Enabling Control Interface for Powered Wheelchair Users. , 2018, , .		1
120	Evaluation of an exercise-enabling control interface for powered wheelchair users: a feasibility study with Duchenne muscular dystrophy. Journal of NeuroEngineering and Rehabilitation, 2020, 17, 142.	4.6	1
121	Upper-Extremity Therapy with Spring Orthoses. , 2016, , 553-571.		0
122	A Dynamic Wheelchair Armrest for Promoting Arm Exercise and Mobility After Stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 1829-1839.	4.9	0