David J Reinkensmeyer

List of Publications by Year
in descending order

122 papers	9,085 citations	57719 44 h-index	45285 90 g-index
124 all docs	124 docs citations	124 times ranked	5810 citing authors

#	Article	IF	Citations
1	A Dynamic Wheelchair Armrest for Promoting Arm Exercise and Mobility After Stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 1829-1839.	2.7	0
2	Bimanual wheelchair propulsion by people with severe hemiparesis after stroke. Disability and Rehabilitation: Assistive Technology, 2021, 16, 49-62.	1.3	3
3	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.	2.1	19
4	Dissociating Sensorimotor Recovery and Compensation During Exoskeleton Training Following Stroke. Frontiers in Human Neuroscience, 2021, 15, 645021.	1.0	9
5	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.	1.0	2
6	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.	2.4	9
7	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.	1.2	9
8	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.	2.4	1
9	Effects of soccer ball inflation pressure and velocity on peak linear and rotational accelerations of ball-to-head impacts. Sports Engineering, 2020, 23, 1.	0.5	8
10	Feasibility of Wearable Sensing for In-Home Finger Rehabilitation Early After Stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1363-1372.	2.7	17
11	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.	1.2	15
12	Breaking Proportional Recovery After Stroke. Neurorehabilitation and Neural Repair, 2019, 33, 888-901.	1.4	32
13	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.	2.7	2
14	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.	0.3	6
15	Somatosensory system integrity explains differences in treatment response after stroke. Neurology, 2019, 92, e1098-e1108.	1.5	75
16	The Effectiveness of Protective Headgear in Attenuating Ball-to-Forehead Impacts in Water Polo. Frontiers in Sports and Active Living, 2019, 1, 2.	0.9	3
17	JNER at 15â€‰years: analysis of the state of neuroengineering and rehabilitation. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 144.	2.4	11
18	Finger strength, individuation, and their interaction: Relationship to hand function and corticospinal tract injury after stroke. Clinical Neurophysiology, 2018, 129, 797-808.	0.7	39

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19	Dissociating motor learning from recovery in exoskeleton training post-stroke. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 89.	2.4	35
20	Design and Preliminary Testing of MOVit: a Novel Exercise-Enabling Control Interface for Powered Wheelchair Users. , 2018, , .		1
21	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.	0.9	10
22	Design and experimental evaluation of yoked hand-clutching for a lever drive chair. Assistive Technology, 2018, 30, 281-288.	1.2	6
23	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.	0.7	14
24	Wearable sensing for rehabilitation after stroke: Bimanual jerk asymmetry encodes unique information about the variability of upper extremity recovery. , 2017, 2017, 1603-1608.		29
25	A Home-Based Telerehabilitation Program for Patients With Stroke. Neurorehabilitation and Neural Repair, 2017, 31, 923-933.	1.4	111
26	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.	2.4	17
27	How do strength and coordination recovery interact after stroke? A computational model for informing robotic training. , 2017, 2017, 181-186.		7
28	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
29	Computational neurorehabilitation: modeling plasticity and learning to predict recovery. Journal of NeuroEngineering and Rehabilitation, 2016, 13, 42.	2.4	125
30	Upper-Extremity Therapy with Spring Orthoses. , 2016, , 553-571.		0
31	Designing Robots That Challenge to Optimize Motor Learning. , 2016, , 39-58.		15
32	Rehabilitation and Health Care Robotics. Springer Handbooks, 2016, , 1685-1728.	0.3	48
33	Design of a thumb module for the FINGER rehabilitation robot. , 2016, 2016, 582-585.		1
34	Use of a robotic device to measure age-related decline in finger proprioception. Experimental Brain Research, 2016, 234, 83-93.	0.7	31
35	Movement Anticipation and EEG: Implications for BCI-Contingent Robot Therapy. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 911-919.	2.7	34
36	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.	1.7	10

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37	Robot-Assisted Rehabilitation Therapy: Recovery Mechanisms and Their Implications for Machine Design. Biosystems and Biorobotics, 2016, , 197-223.	0.2	21
38	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.	0.5	4
39	Effects of robotically modulating kinematic variability on motor skill learning and motivation. Journal of Neurophysiology, 2015, 113, 2682-2691.	0.9	44
40	A novel device for studying weight supported, quadrupedal overground locomotion in spinal cord injured rats. Journal of Neuroscience Methods, 2015, 246, 134-141.	1.3	8
41	Design and Evaluation of the Kinect-Wheelchair Interface Controlled (KWIC) Smart Wheelchair for Pediatric Powered Mobility Training. Assistive Technology, 2015, 27, 183-192.	1.2	13
42	Machine-Based, Self-guided Home Therapy for Individuals With Severe Arm Impairment After Stroke. Neurorehabilitation and Neural Repair, 2015, 29, 395-406.	1.4	37
43	Judging complex movement performances for excellence: A principal components analysis-based technique applied to competitive diving. Human Movement Science, 2014, 36, 107-122.	0.6	25
44	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.	3.9	76
45	Feasibility of a bimanual, lever-driven wheelchair for people with severe arm impairment after stroke. , 2014, 2014, 5292-5.		7
46	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
47	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.	0.7	5
48	Gesture Therapy: An Upper Limb Virtual Reality-Based Motor Rehabilitation Platform. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 634-643.	2.7	95
49	Robotic Rehabilitation: Ten Critical Questions about Current Status and Future Prospects Answered by Emerging Researchers. Biosystems and Biorobotics, 2014, , 189-205.	0.2	2
50	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.	2.4	119
51	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.	2.4	22
52	A Standardized Approach to the Fugl-Meyer Assessment and Its Implications for Clinical Trials. Neurorehabilitation and Neural Repair, 2013, 27, 732-741.	1.4	204
53	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.	2.4	94
54	Effort, performance, and motivation: Insights from robot-assisted training of human golf putting and rat grip strength. , 2013, 2013, 6650461.		6

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55	The Manumeter: A non-obtrusive wearable device for monitoring spontaneous use of the wrist and fingers. , 2013, 2013, 6650397.		17
56	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.	0.7	83
57	Technologies and combination therapies for enhancing movement training for people with a disability. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 17.	2.4	86
58	Personalized neuromusculoskeletal modeling to improve treatment of mobility impairments: a perspective from European research sites. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 18.	2.4	60
59	Recent trends in assistive technology for mobility. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 20.	2.4	124
60	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.	2.4	20
61	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.	2.7	62
62	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.	3.3	44
63	Functional Assisted Gaming for Upper-Extremity Therapy After Stroke: Background, Evaluation, and Future Directions of the Spring Orthosis Approach. , 2012, , 327-341.		3
64	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.	2.4	93
65	Supinator extender (SUE): A pneumatically actuated robot for forearm/wrist rehabilitation after stroke. , 2011, 2011, 1579-82.		44
66	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
67	Neurorehabilitation 2036: How Might Robots and Information Technology Be Used?. Topics in Spinal Cord Injury Rehabilitation, 2011, 17, 82-85.	0.8	2
68	Robotic approaches to stroke recovery. , 2010, , 195-206.		2
69	Pneumatic Control of Robots for Rehabilitation. International Journal of Robotics Research, 2010, 29, 23-38.	5.8	40
70	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.	0.9	28
71	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
72	Slacking by the human motor system: Computational models and implications for robotic orthoses. , 2009, 2009, 2129-32.		95

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73	Can Robots Help the Learning of Skilled Actions?. Exercise and Sport Sciences Reviews, 2009, 37, 43-51.	1.6	107
74	A Randomized Controlled Trial of Gravity-Supported, Computer-Enhanced Arm Exercise for Individuals With Severe Hemiparesis. Neurorehabilitation and Neural Repair, 2009, 23, 505-514.	1.4	300
75	Review of control strategies for robotic movement training after neurologic injury. Journal of NeuroEngineering and Rehabilitation, 2009, 6, 20.	2.4	887
76	Using Sound feedback to counteract visual distractor during robot-assisted movement training. , 2009, , .		3
77	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, .	0.4	4
78	Robotic assistance for upper extremity training after stroke. Studies in Health Technology and Informatics, 2009, 145, 25-39.	0.2	6
79	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.	2.5	110
80	Optimizing Compliant, Model-Based Robotic Assistance to Promote Neurorehabilitation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2008, 16, 286-297.	2.7	417
81	Rehabilitation and Health Care Robotics. , 2008, , 1223-1251.		32
82	Haptic Guidance Can Enhance Motor Learning of a Steering Task. Journal of Motor Behavior, 2008, 40, 545-557.	0.5	133
83	Gesture Therapy: A Vision-Based System for Arm Rehabilitation after Stroke. Communications in Computer and Information Science, 2008, , 531-540.	0.4	10
84	Motor Adaptation as a Greedy Optimization of Error and Effort. Journal of Neurophysiology, 2007, 97, 3997-4006.	0.9	235
85	"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
86	Real-time computer modeling of weakness following stroke optimizes robotic assistance for movement therapy. , 2007, , .		31
87	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
88	Some Key Problems for Robot-Assisted Movement Therapy Research: A Perspective from the University of California at Irvine. , 2007, , .		22
89	Arm-Training with T-WREX After Chronic Stroke: Preliminary Results of a Randomized Controlled Trial. , 2007, , .		80
90	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.	1.7	112

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91	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.	1.3	12
92	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.	2.4	152
93	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.	2.7	226
94	Motor adaptation to a small force field superimposed on a large background force. Experimental Brain Research, 2007, 178, 402-414.	0.7	2
95	Effect of muscle fatigue on internal model formation and retention during reaching with the arm. Journal of Applied Physiology, 2006, 100, 695-706.	1.2	32
96	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.	2.4	282
97	Tools for understanding and optimizing robotic gait training. Journal of Rehabilitation Research and Development, 2006, 43, 657.	1.6	124
98	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.	2.7	292
99	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
100	Control of a Pneumatic Orthosis for Upper Extremity Stroke Rehabilitation. , 2006, 2006, 2687-93.		38
101	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
102	Hindlimb loading determines stepping quantity and quality following spinal cord transection. Brain Research, 2005, 1050, 180-189.	1.1	81
103	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.	2.7	258
104	A robotic device for studying rodent locomotion after spinal cord injury. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2005, 13, 497-506.	2.7	35
105	Spinal Cord-Transected Mice Learn to Step in Response to Quipazine Treatment and Robotic Training. Journal of Neuroscience, 2005, 25, 11738-11747.	1.7	129
106	Robotics, Motor Learning, and Neurologic Recovery. Annual Review of Biomedical Engineering, 2004, 6, 497-525.	5.7	336
107	Hemiparetic stroke impairs anticipatory control of arm movement. Experimental Brain Research, 2003, 149, 131-140.	0.7	106
108	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.	1.3	37

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109	Neuromotor Noise Limits Motor Performance, But Not Motor Adaptation, in Children. Journal of Neurophysiology, 2003, 90, 703-711.	0.9	55
110	Robotic Devices for Movement Therapy After Stroke: Current Status and Challenges to Clinical Acceptance. Topics in Stroke Rehabilitation, 2002, 8, 40-53.	1.0	181
111	Chapter 11 Use of robotics in assessing the adaptive capacity of the rat lumbar spinal cord. Progress in Brain Research, 2002, 137, 141-149.	0.9	44
112	Web-based telerehabilitation for the upper extremity after stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2002, 10, 102-108.	2.7	240
113	Alterations in reaching after stroke and their relation to movement direction and impairment severity. Archives of Physical Medicine and Rehabilitation, 2002, 83, 702-707.	0.5	193
114	Using robotics to teach the spinal cord to walk. Brain Research Reviews, 2002, 40, 267-273.	9.1	62
115	Directional control of reaching is preserved following mild/moderate stroke and stochastically constrained following severe stroke. Experimental Brain Research, 2002, 143, 525-530.	0.7	51
116	Retraining the injured spinal cord. Journal of Physiology, 2001, 533, 15-22.	1.3	332
117	Design of robot assistance for arm movement therapy following stroke. Advanced Robotics, 2001, 14, 625-637.	1.1	47
118	Persistence of Motor Adaptation During Constrained, Multi-Joint, Arm Movements. Journal of Neurophysiology, 2000, 84, 853-862.	0.9	361
119	Rehabilitators, Robots, and Guides: New Tools for Neurological Rehabilitation. , 2000, , 516-534.		44
120	Assessment of Active and Passive Restraint During Guided Reaching After Chronic Brain Injury. Annals of Biomedical Engineering, 1999, 27, 805-814.	1.3	55
121	Robotic devices for physical rehabilitation of stroke patients: fundamental requirements, target therapeutic techniques, and preliminary designs. Technology and Disability, 1996, 5, 205-215.	0.3	14
122	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, .	1.1	9