

# Julius P A Dewald

## List of Publications by Year in descending order

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107  
papers

5,159  
citations

126858

33  
h-index

98753

67  
g-index

121  
all docs

121  
docs citations

121  
times ranked

3025  
citing authors

#	ARTICLE	IF	CITATIONS
1	Abnormal muscle coactivation patterns during isometric torque generation at the elbow and shoulder in hemiparetic subjects. <i>Brain</i> , 1995, 118, 495-510.	3.7	573
2	Abnormal joint torque patterns in the paretic upper limb of subjects with hemiparesis. <i>Muscle and Nerve</i> , 2001, 24, 273-283.	1.0	297
3	Deficits in the coordination of multijoint arm movements in patients with hemiparesis: evidence for disturbed control of limb dynamics. <i>Experimental Brain Research</i> , 2000, 131, 305-319.	0.7	262
4	Shoulder abduction-induced reductions in reaching work area following hemiparetic stroke: neuroscientific implications. <i>Experimental Brain Research</i> , 2007, 183, 215-223.	0.7	257
5	Redirection of cutaneous sensation from the hand to the chest skin of human amputees with targeted reinnervation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 20061-20066.	3.3	251
6	Target-dependent differences between free and constrained arm movements in chronic hemiparesis. <i>Experimental Brain Research</i> , 2004, 156, 458-470.	0.7	162
7	Upper-Limb Discoordination in Hemiparetic Stroke: Implications for Neurorehabilitation. <i>Topics in Stroke Rehabilitation</i> , 2001, 8, 1-12.	1.0	138
8	Task-dependent weakness at the elbow in patients with hemiparesis. <i>Archives of Physical Medicine and Rehabilitation</i> , 1999, 80, 766-772.	0.5	135
9	Progressive recruitment of contralesional cortico-reticulospinal pathways drives motor impairment post stroke. <i>Journal of Physiology</i> , 2018, 596, 1211-1225.	1.3	135
10	Evaluation of different cortical source localization methods using simulated and experimental EEG data. <i>NeuroImage</i> , 2005, 25, 369-382.	2.1	134
11	Impact of gravity loading on post-stroke reaching and its relationship to weakness. <i>Muscle and Nerve</i> , 2007, 36, 242-250.	1.0	126
12	Progressive Shoulder Abduction Loading is a Crucial Element of Arm Rehabilitation in Chronic Stroke. <i>Neurorehabilitation and Neural Repair</i> , 2009, 23, 862-869.	1.4	124
13	Involuntary paretic wrist/finger flexion forces and EMG increase with shoulder abduction load in individuals with chronic stroke. <i>Clinical Neurophysiology</i> , 2012, 123, 1216-1225.	0.7	122
14	Modifiability of abnormal isometric elbow and shoulder joint torque coupling after stroke. <i>Muscle and Nerve</i> , 2005, 32, 170-178.	1.0	119
15	Augmenting Clinical Evaluation of Hemiparetic Arm Movement With a Laboratory-Based Quantitative Measurement of Kinematics as a Function of Limb Loading. <i>Neurorehabilitation and Neural Repair</i> , 2008, 22, 321-329.	1.4	115
16	Ipsilateral versus contralateral cortical motor projections to a shoulder adductor in chronic hemiparetic stroke: implications for the expression of arm synergies. <i>Experimental Brain Research</i> , 2008, 185, 509-519.	0.7	114
17	Stretch reflex adaptation in elbow flexors during repeated passive movements in unilateral brain-injured patients. <i>Archives of Physical Medicine and Rehabilitation</i> , 2000, 81, 269-278.	0.5	109
18	Position-dependent torque coupling and associated muscle activation in the hemiparetic upper extremity. <i>Experimental Brain Research</i> , 2007, 176, 594-602.	0.7	89

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19	Upper Extremity Motor Impairments and Microstructural Changes in Bulbosplinal Pathways in Chronic Hemiparetic Stroke. <i>Frontiers in Neurology</i> , 2017, 8, 257.	1.1	78
20	Evidence for Increased Activation of Persistent Inward Currents in Individuals With Chronic Hemiparetic Stroke. <i>Journal of Neurophysiology</i> , 2008, 100, 3236-3243.	0.9	72
21	Impairment-Based 3-D Robotic Intervention Improves Upper Extremity Work Area in Chronic Stroke: Targeting Abnormal Joint Torque Coupling With Progressive Shoulder Abduction Loading. <i>IEEE Transactions on Robotics</i> , 2009, 25, 549-555.	7.3	65
22	Robotic quantification of upper extremity loss of independent joint control or flexion synergy in individuals with hemiparetic stroke: a review of paradigms addressing the effects of shoulder abduction loading. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2016, 13, 95.	2.4	64
23	Cortical overlap of joint representations contributes to the loss of independent joint control following stroke. <i>NeuroImage</i> , 2009, 45, 490-499.	2.1	63
24	Neck rotation modulates flexion synergy torques, indicating an ipsilateral reticulospinal source for impairment in stroke. <i>Journal of Neurophysiology</i> , 2012, 108, 3096-3104.	0.9	61
25	Brainstem and spinal cord MRI identifies altered sensorimotor pathways post-stroke. <i>Nature Communications</i> , 2019, 10, 3524.	5.8	61
26	Advances and Innovations in Brain Arteriovenous Malformation Surgery. <i>Neurosurgery</i> , 2014, 74, S60-S73.	0.6	60
27	The Impact of Shoulder Abduction Loading on Volitional Hand Opening and Grasping in Chronic Hemiparetic Stroke. <i>Neurorehabilitation and Neural Repair</i> , 2017, 31, 521-529.	1.4	59
28	Reflex Torque Response to Movement of the Spastic Elbow: Theoretical Analyses and Implications for Quantification of Spasticity. <i>Annals of Biomedical Engineering</i> , 1999, 27, 815-829.	1.3	58
29	Flexion synergy overshadows flexor spasticity during reaching in chronic moderate to severe hemiparetic stroke. <i>Clinical Neurophysiology</i> , 2017, 128, 1308-1314.	0.7	56
30	Unveiling neural coupling within the sensorimotor system: directionality and nonlinearity. <i>European Journal of Neuroscience</i> , 2018, 48, 2407-2415.	1.2	56
31	Neural Plasticity in Moderate to Severe Chronic Stroke Following a Device-Assisted Task-Specific Arm/Hand Intervention. <i>Frontiers in Neurology</i> , 2017, 8, 284.	1.1	54
32	Reorganization of flexion reflexes in the upper extremity of hemiparetic subjects. , 1999, 22, 1209-1221.		53
33	Cortical motor activity and reorganization following upper-limb amputation and subsequent targeted reinnervation. <i>NeuroImage: Clinical</i> , 2013, 3, 498-506.	1.4	48
34	EEG-based classification for elbow versus shoulder torque intentions involving stroke subjects. <i>Computers in Biology and Medicine</i> , 2009, 39, 443-452.	3.9	45
35	Impact of parameter selection on estimates of motoneuron excitability using paired motor unit analysis. <i>Journal of Neural Engineering</i> , 2020, 17, 016063.	1.8	44
36	Progressive Abduction Loading Therapy with Horizontal-Plane Viscous Resistance Targeting Weakness and Flexion Synergy to Treat Upper Limb Function in Chronic Hemiparetic Stroke: A Randomized Clinical Trial. <i>Frontiers in Neurology</i> , 2018, 9, 71.	1.1	40

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37	Estimates of persistent inward currents are reduced in upper limb motor units of older adults. <i>Journal of Physiology</i> , 2021, 599, 4865-4882.	1.3	38
38	Classification of the intention to generate a shoulder versus elbow torque by means of a time-frequency synthesized spatial patterns BCI algorithm. <i>Journal of Neural Engineering</i> , 2005, 2, 131-138.	1.8	32
39	Motor Impairments Related to Brain Injury Timing in Early Hemiparesis. Part II. <i>Neurorehabilitation and Neural Repair</i> , 2014, 28, 24-35.	1.4	32
40	A Wrist and Finger Force Sensor Module for Use During Movements of the Upper Limb in Chronic Hemiparetic Stroke. <i>IEEE Transactions on Biomedical Engineering</i> , 2009, 56, 2312-2317.	2.5	30
41	Neuromodulatory Inputs to Motoneurons Contribute to the Loss of Independent Joint Control in Chronic Moderate to Severe Hemiparetic Stroke. <i>Frontiers in Neurology</i> , 2018, 9, 470.	1.1	28
42	Differences between flexion and extension synergy-driven coupling at the elbow, wrist, and fingers of individuals with chronic hemiparetic stroke. <i>Clinical Neurophysiology</i> , 2019, 130, 454-468.	0.7	28
43	Motor Impairment Factors Related to Brain Injury Timing in Early Hemiparesis, Part I. <i>Neurorehabilitation and Neural Repair</i> , 2014, 28, 13-23.	1.4	27
44	Overcoming Abnormal Joint Torque Patterns in Paretic Upper Extremities Using Triceps Stimulation. <i>Artificial Organs</i> , 2005, 29, 229-232.	1.0	25
45	Using paired pulse TMS to facilitate contralateral and ipsilateral MEPs in upper extremity muscles of chronic hemiparetic stroke patients. <i>Journal of Neuroscience Methods</i> , 2011, 195, 151-160.	1.3	25
46	Nonlinear Connectivity in the Human Stretch Reflex Assessed by Cross-Frequency Phase Coupling. <i>International Journal of Neural Systems</i> , 2016, 26, 1650043.	3.2	25
47	Motor Impairment-Related Alterations in Biceps and Triceps Brachii Fascicle Lengths in Chronic Hemiparetic Stroke. <i>Neurorehabilitation and Neural Repair</i> , 2018, 32, 799-809.	1.4	23
48	Individuals with chronic hemiparetic stroke can correctly match forearm positions within a single arm. <i>Clinical Neurophysiology</i> , 2017, 128, 18-30.	0.7	22
49	In vivo measurements of biceps brachii and triceps brachii fascicle lengths using extended field-of-view ultrasound. <i>Journal of Biomechanics</i> , 2016, 49, 1948-1952.	0.9	21
50	A Novel Approach for Modeling Neural Responses to Joint Perturbations Using the NARMAX Method and a Hierarchical Neural Network. <i>Frontiers in Computational Neuroscience</i> , 2018, 12, 96.	1.2	20
51	Loss of independent limb control in childhood hemiparesis is related to time of brain injury onset. <i>Experimental Brain Research</i> , 2013, 225, 455-463.	0.7	19
52	Neural Constraints Affect the Ability to Generate Hip Abduction Torques When Combined With Hip Extension or Ankle Plantarflexion in Chronic Hemiparetic Stroke. <i>Frontiers in Neurology</i> , 2018, 9, 564.	1.1	19
53	Quantification of task-dependent cortical activation evoked by robotic continuous wrist joint manipulation in chronic hemiparetic stroke. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2017, 14, 30.	2.4	18
54	Serial sarcomere number is substantially decreased within the paretic biceps brachii in individuals with chronic hemiparetic stroke. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	18

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55	ACT&lt;sup&gt;3D&lt;/sup&gt; exercise targets gravity-induced discoordination and improves reaching work area in individuals with stroke. , 2007, , .		17
56	Source of Work Area Reduction Following Hemiparetic Stroke and Preliminary Intervention Using the ACT 3D System. , 2006, 2006, 177-80.		16
57	The effect of transcranial direct current stimulation on the expression of the flexor synergy in the paretic arm in chronic stroke is dependent on shoulder abduction loading. <i>Frontiers in Human Neuroscience</i> , 2015, 9, 262.	1.0	16
58	Dynamic Information Flow Based on EEG and Diffusion MRI in Stroke: A Proof-of-Principle Study. <i>Frontiers in Neural Circuits</i> , 2018, 12, 79.	1.4	16
59	Limited capacity for ipsilateral secondary motor areas to support hand function post&Estroke. <i>Journal of Physiology</i> , 2020, 598, 2153-2167.	1.3	16
60	High-density surface EMG decomposition allows for recording of motor unit discharge from proximal and distal flexion synergy muscles simultaneously in individuals with stroke. , 2014, 2014, 5340-4.		15
61	Biomechanical parameters of the elbow stretch reflex in chronic hemiparetic stroke. <i>Experimental Brain Research</i> , 2019, 237, 121-135.	0.7	15
62	Cross-Frequency Coupling in Descending Motor Pathways: Theory and Simulation. <i>Frontiers in Systems Neuroscience</i> , 2019, 13, 86.	1.2	15
63	Robotic devices for physical rehabilitation of stroke patients: fundamental requirements, target therapeutic techniques, and preliminary designs. <i>Technology and Disability</i> , 1996, 5, 205-215.	0.3	14
64	Improving Hand Function of Severely Impaired Chronic Hemiparetic Stroke Individuals Using Task-Specific Training With the Reln-Hand System: A Case Series. <i>Frontiers in Neurology</i> , 2018, 9, 923.	1.1	14
65	Altered Neuromodulatory Drive May Contribute to Exaggerated Tonic Vibration Reflexes in Chronic Hemiparetic Stroke. <i>Frontiers in Human Neuroscience</i> , 2018, 12, 131.	1.0	14
66	Properties of Motor Units of Elbow and Ankle Muscles Decomposed Using High-Density Surface EMG. , 2019, 2019, 3874-3878.		14
67	A computational approach for generating continuous estimates of motor unit discharge rates and visualizing population discharge characteristics. <i>Journal of Neural Engineering</i> , 2022, 19, 016007.	1.8	13
68	Quantifying loss of independent joint control in acute stroke with a robotic evaluation of reaching workspace. , 2011, 2011, 8231-4.		12
69	The relationship between the flexion synergy and stretch reflexes in individuals with chronic hemiparetic stroke. , 2011, 2011, 5975516.		12
70	The effect of injury timing on white matter changes in the corpus callosum following unilateral brain injury. <i>NeuroImage: Clinical</i> , 2013, 3, 115-122.	1.4	11
71	The Increase in Overlap of Cortical Activity Preceding Static Elbow/Shoulder Motor Tasks Is Associated With Limb Synergies in Severe Stroke. <i>Neurorehabilitation and Neural Repair</i> , 2018, 32, 624-634.	1.4	11
72	The impact of shoulder abduction loading on EMG-based intention detection of hand opening and closing after stroke. , 2011, 2011, 4136-9.		10

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73	Reducing the Impact of Shoulder Abduction Loading on the Classification of Hand Opening and Grasping in Individuals with Poststroke Flexion Synergy. <i>Frontiers in Bioengineering and Biotechnology</i> , 2017, 5, 39.	2.0	10
74	Ergodicity reveals assistance and learning from physical human-robot interaction. <i>Science Robotics</i> , 2019, 4, .	9.9	10
75	A Multiple Degree of Freedom Lower Extremity Isometric Device to Simultaneously Quantify Hip, Knee, and Ankle Torques. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2015, 23, 765-775.	2.7	9
76	Impact of motor task execution on an individual's ability to mirror forearm positions. <i>Experimental Brain Research</i> , 2018, 236, 765-777.	0.7	9
77	A biomechanics-based method for the quantification of muscle selectivity in a musculoskeletal system. <i>Journal of Biomechanics</i> , 2006, 39, 1527-1530.	0.9	8
78	A method to capture six-degrees-of-freedom mechanical measurements of isometric shoulder and elbow torques during event-related fMRI. <i>Journal of Neuroscience Methods</i> , 2007, 161, 314-322.	1.3	8
79	Progressive abduction loading therapy targeting flexion synergy to regain reaching function in chronic stroke: Preliminary results from an RCT. , 2016, 2016, 5837-5840.		8
80	Quantifying Altered Neural Connectivity of the Stretch Reflex in Chronic Hemiparetic Stroke. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020, 28, 1436-1441.	2.7	8
81	Estimation of Active Cortical Current Source Regions Using a Vector Representation Scanning Approach. <i>Journal of Clinical Neurophysiology</i> , 2003, 20, 326-344.	0.9	7
82	Individuals With Hemiparetic Stroke Accurately Match Torques They Generate About Each Elbow Joint. <i>Frontiers in Neuroscience</i> , 2019, 13, 1293.	1.4	6
83	Accuracy of older adults in judging self-generated elbow torques during multi-joint isometric tasks. <i>Scientific Reports</i> , 2020, 10, 13011.	1.6	6
84	Effects of body orientation on maximum voluntary arm torques. <i>Muscle and Nerve</i> , 2011, 44, 805-813.	1.0	5
85	Impact of Shoulder Abduction Loading on Brain-Machine Interface in Predicting Hand Opening and Closing in Individuals With Chronic Stroke. <i>Neurorehabilitation and Neural Repair</i> , 2016, 30, 363-372.	1.4	5
86	Intervention-induced changes in neural connectivity during motor preparation may affect cortical activity at motor execution. <i>Scientific Reports</i> , 2020, 10, 7326.	1.6	5
87	Assessing the Usage of Indirect Motor Pathways Following a Hemiparetic Stroke. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2021, 29, 1568-1572.	2.7	5
88	Constraints imposed by the lower extremity extensor synergy in chronic hemiparetic stroke: Preliminary findings. , 2014, 2014, 5804-7.		4
89	Task directionality impacts the ability of individuals with chronic hemiparetic stroke to match torques between arms: Preliminary findings. , 2017, 2017, 714-719.		4
90	Ability of individuals with chronic hemiparetic stroke to locate their forearms during single-arm and between-arms tasks. <i>PLoS ONE</i> , 2018, 13, e0206518.	1.1	4

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91	The Upper Extremity Flexion Synergy Is Minimally Expressed in Young Individuals With Unilateral Cerebral Palsy Following an Early Brain Injury. <i>Frontiers in Human Neuroscience</i> , 2020, 14, 590198.	1.0	4
92	Passive Properties of the Wrist and Fingers Following Chronic Hemiparetic Stroke: Interlimb Comparisons in Persons With and Without a Clinical Treatment History That Includes Botulinum Neurotoxin. <i>Frontiers in Neurology</i> , 2021, 12, 687624.	1.1	4
93	Variability of in vivo Sarcomere Length Measures in the Upper Limb Obtained With Second Harmonic Generation Microendoscopy. <i>Frontiers in Physiology</i> , 2021, 12, 817334.	1.3	4
94	Usage of the ACT <sup>3D</sup> Robot in a Brain Machine Interface for Hand Opening and Closing in Stroke Survivors. , 2007, 2007, 938-942.		2
95	A Method for Quantifying Trunk Motor Control During Reaching in Individuals Post Hemiparetic Stroke. , 2020, 2020, 3743-3746.		2
96	Assessing Neural Connectivity and Associated Time Delays of Muscle Responses to Continuous Position Perturbations. <i>Annals of Biomedical Engineering</i> , 2021, 49, 432-440.	1.3	2
97	Investigation of how accurately individuals with hemiparetic stroke can mirror their forearm positions. <i>PLoS ONE</i> , 2021, 16, e0250868.	1.1	2
98	Use of the ACT3D System to Evaluate Synergies in Children with Spastic Hemiparetic Cerebral Palsy: A Pilot Study. , 2007, , .		1
99	Development of a Method to Quantify Abnormal Kinetic and Kinematic Coupling Patterns during Functional Movements in the Paretic Arm and Hand of Individuals with Pediatric Hemiplegia. , 2018, 2018, 2280-2283.		1
100	Between Limb Muscle Co-activation Patterns in the Paretic Arm During Non-paretic Arm Tasks in Hemiparetic Cerebral Palsy. <i>Frontiers in Neuroscience</i> , 2021, 15, 666697.	1.4	1
101	Implementation of Impairment-Based Neurorehabilitation Devices and Technologies Following Brain Injury. , 2012, , 343-358.		1
102	Impact of Voluntary Muscle Activation on Stretch Reflex Excitability in Individuals With Hemiparetic Stroke. <i>Frontiers in Neurology</i> , 2022, 13, 764650.	1.1	1
103	Development of DTI Based Probabilistic Tractography Methods to Characterize Arm Muscle Architecture in Individuals Post Hemiparetic Stroke. , 2021, 2021, 3451-3454.		1
104	A novel experimental setup combining EEG and robotics to investigate brain activity driving controlled reaching movements in chronic stroke survivors. , 2007, , .		0
105	Impact of time-frequency representation to the generalization ability of synthesized time-frequency spatial patterns algorithm in brain computer interface. , 2009, 2009, 6473-6.		0
106	Reply from Jacob Graves McPherson, Albert Chen, Michael D. Ellis, Jun Yao, C. J. Heckman and Julius P. A. Dewald. <i>Journal of Physiology</i> , 2019, 597, 4413-4414.	1.3	0
107	Experimentally Modifiable Parameters and Their Relation to the Tonic Vibration Reflex in Chronic Hemiparetic Stroke. , 2019, 2019, 2302-2306.		0