

Dustin J Tyler

List of Publications by Year in descending order

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115
papers

6,425
citations

87888

38
h-index

69250

77
g-index

118
all docs

118
docs citations

118
times ranked

5117
citing authors

#	ARTICLE	IF	CITATIONS
1	Restoration of sensory information via bionic hands. Nature Biomedical Engineering, 2023, 7, 443-455.	22.5	111
2	Toward higher-performance bionic limbs for wider clinical use. Nature Biomedical Engineering, 2023, 7, 473-485.	22.5	104
3	Frequency Shapes the Quality of Tactile Percepts Evoked through Electrical Stimulation of the Nerves. Journal of Neuroscience, 2022, 42, 2052-2064.	3.6	20
4	Biomechanical characterization of isolated epineurial and perineurial membranes of rabbit sciatic nerve. Journal of Biomechanics, 2022, 136, 111058.	2.1	7
5	Stable, simultaneous and proportional 4-DoF prosthetic hand control via synergy-inspired linear interpolation: a case series. Journal of NeuroEngineering and Rehabilitation, 2021, 18, 50.	4.6	10
6	Directed stimulation with interfascicular interfaces for peripheral nerve stimulation. Journal of Neural Engineering, 2021, 18, 066006.	3.5	3
7	Comparison of Myoelectric Control Schemes for Simultaneous Hand and Wrist Movement using Chronically Implanted Electromyography: A Case Series*. , 2021, 2021, 6224-6230.		1
8	Selective Nerve Cuff Stimulation Strategies for Prolonging Muscle Output. IEEE Transactions on Biomedical Engineering, 2020, 67, 1397-1408.	4.2	9
9	Chronic nerve health following implantation of femoral nerve cuff electrodes. Journal of NeuroEngineering and Rehabilitation, 2020, 17, 95.	4.6	10
10	Ambulatory searching task reveals importance of somatosensation for lower-limb amputees. Scientific Reports, 2020, 10, 10216.	3.3	21
11	Implanted High Density Cuff Electrodes Functionally Activate Human Tibial and Peroneal Motor Units Without Chronic Detriment to Peripheral Nerve Health. Neuromodulation, 2020, 23, 754-762.	0.8	14
12	Combination of Simultaneous Artificial Sensory Percepts to Identify Prosthetic Hand Postures: A Case Study. Scientific Reports, 2020, 10, 6576.	3.3	12
13	Learning of Artificial Sensation Through Long-Term Home Use of a Sensory-Enabled Prosthesis. Frontiers in Neuroscience, 2019, 13, 853.	2.8	58
14	Neural engineering: the process, applications, and its role in the future of medicine. Journal of Neural Engineering, 2019, 16, 063002.	3.5	14
15	Visual inputs and postural manipulations affect the location of somatosensory percepts elicited by electrical stimulation. Scientific Reports, 2019, 9, 11699.	3.3	14
16	A translational framework for peripheral nerve stimulating electrodes: Reviewing the journey from concept to clinic. Journal of Neuroscience Methods, 2019, 328, 108414.	2.5	14
17	Cleveland neural engineering workshop 2017: strategic evaluation of neural engineering. Bioelectronic Medicine, 2019, 5, 2.	2.3	2
18	Visuotactile synchrony of stimulation-induced sensation and natural somatosensation. Journal of Neural Engineering, 2019, 16, 036025.	3.5	23

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19	The benefits of sensation on the experience of a hand: A qualitative case series. PLoS ONE, 2019, 14, e0211469.	2.5	46
20	Intraoperative Responses May Predict Chronic Performance of Composite Flat Interface Nerve Electrodes on Human Femoral Nerves. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 2317-2327.	4.9	6
21	Stable, three degree-of-freedom myoelectric prosthetic control via chronic bipolar intramuscular electrodes: a case study. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 147.	4.6	21
22	Sensory adaptation to electrical stimulation of the somatosensory nerves. Journal of Neural Engineering, 2018, 15, 046002.	3.5	99
23	Evaluation of high-density, multi-contact nerve cuffs for activation of grasp muscles in monkeys. Journal of Neural Engineering, 2018, 15, 036003.	3.5	24
24	Neuroprostheses for Restoring Sensation. , 2018, , 1249-1260.		0
25	Artificial tactile and proprioceptive feedback improves performance and confidence on object identification tasks. PLoS ONE, 2018, 13, e0207659.	2.5	91
26	A Mechanically-Adaptive Polymer Nanocomposite-Based Intracortical Probe and Package for Chronic Neural Recording. Micromachines, 2018, 9, 583.	2.9	24
27	Home Use of a Neural-connected Sensory Prosthesis Provides the Functional and Psychosocial Experience of Having a Hand Again. Scientific Reports, 2018, 8, 9866.	3.3	168
28	High-density peripheral nerve cuffs restore natural sensation to individuals with lower-limb amputations. Journal of Neural Engineering, 2018, 15, 056002.	3.5	86
29	Electrodes for the Neural Interface. , 2018, , 239-274.		2
30	The design of and chronic tissue response to a composite nerve electrode with patterned stiffness. Journal of Neural Engineering, 2017, 14, 036022.	3.5	36
31	Quantification of human upper extremity nerves and fascicular anatomy. Muscle and Nerve, 2017, 56, 463-471.	2.2	46
32	Peripheral Nerve Stimulation. Series on Bioengineering and Biomedical Engineering, 2017, , 300-347.	0.1	2
33	Long-term stability of stimulating spiral nerve cuff electrodes on human peripheral nerves. Journal of NeuroEngineering and Rehabilitation, 2017, 14, 70.	4.6	73
34	Intensity Modulation: A Novel Approach to Percept Control in Spinal Cord Stimulation. Neuromodulation, 2016, 19, 254-259.	0.8	15
35	Restoring the human touch: Prosthetics imbued with haptics give their wearers fine motor control and a sense of connection. IEEE Spectrum, 2016, 53, 28-33.	0.7	14
36	The neural basis of perceived intensity in natural and artificial touch. Science Translational Medicine, 2016, 8, 362ra142.	12.4	205

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37	Stimulation artifact rejection in closed-loop, distributed neural interfaces. , 2016, , .		3
38	Fabrication of High Contact-Density, Flat-Interface Nerve Electrodes for Recording and Stimulation Applications. Journal of Visualized Experiments, 2016, , .	0.3	17
39	Influence of resveratrol release on the tissue response to mechanically adaptive cortical implants. Acta Biomaterialia, 2016, 29, 81-93.	8.3	57
40	Sensory feedback by peripheral nerve stimulation improves task performance in individuals with upper limb loss using a myoelectric prosthesis. Journal of Neural Engineering, 2016, 13, 016001.	3.5	202
41	Neural interfaces for somatosensory feedback. Current Opinion in Neurology, 2015, 28, 574-581.	3.6	90
42	Plenary talks The touch of a hand: Neural interfaces restore the sense of touch and position following limb loss. , 2015, , .		1
43	Neural Network Pattern Recognition of Lingual Palatal Pressure for Automated Detection of Swallow. Dysphagia, 2015, 30, 176-187.	1.8	9
44	Computer Models of Peripheral Nerves. , 2015, , 1021-1032.		0
45	Peripheral Nerve Interfaces. , 2015, , 1033-1054.		3
46	Stability and selectivity of a chronic, multi-contact cuff electrode for sensory stimulation in human amputees. Journal of Neural Engineering, 2015, 12, 026002.	3.5	125
47	Targeted Transtracheal Stimulation for Vocal Fold Closure. Dysphagia, 2014, 29, 346-354.	1.8	3
48	Mechanically-compliant intracortical implants reduce the neuroinflammatory response. Journal of Neural Engineering, 2014, 11, 056014.	3.5	219
49	A neural interface provides long-term stable natural touch perception. Science Translational Medicine, 2014, 6, 257ra138.	12.4	613
50	Motor neuron activation in peripheral nerves using infrared neural stimulation. Journal of Neural Engineering, 2014, 11, 016001.	3.5	45
51	Microscale Characterization of a Mechanically Adaptive Polymer Nanocomposite With Cotton-Derived Cellulose Nanocrystals for Implantable BioMEMS. Journal of Microelectromechanical Systems, 2014, 23, 774-784.	2.5	9
52	Clinical Feasibility Trial for Transtracheal Stimulation of Vocal Fold Closure in Sensate Human Subjects. Otolaryngology - Head and Neck Surgery, 2014, 151, P187-P187.	1.9	0
53	Biological, Mechanical, and Technological Considerations Affecting Critical Reviews in Biomedical Engineering, 2014, , .	0.9	9
54	Optimization of selective stimulation parameters for multi-contact electrodes. Journal of NeuroEngineering and Rehabilitation, 2013, 10, 25.	4.6	39

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55	Stability and selectivity of a chronic, multi-contact cuff electrode for sensory stimulation in a human amputee. , 2013, , .		17
56	Selective activation of the human tibial and common peroneal nerves with a flat interface nerve electrode. Journal of Neural Engineering, 2013, 10, 056006.	3.5	50
57	Laryngeal elevation by selective stimulation of the hypoglossal nerve. Journal of Neural Engineering, 2013, 10, 046013.	3.5	15
58	Stretchable thin-film metal structures on a stimuli-responsive polymer nanocomposite for mechanically-dynamic microsystems. , 2013, , .		3
59	Environmentally-controlled Microtensile Testing of Mechanically-adaptive Polymer Nanocomposites for ex vivo&/em>; Characterization. Journal of Visualized Experiments, 2013, , e50078.	0.3	7
60	Biological, mechanical, and technological considerations affecting the longevity of intracortical electrode recordings. Critical Reviews in Biomedical Engineering, 2013, 41, 435-56.	0.9	12
61	Hybrid electro-optical stimulation of the rat sciatic nerve induces force generation in the plantarflexor muscles. Journal of Neural Engineering, 2012, 9, 066006.	3.5	39
62	Electrical stimulation for the management of aspiration during Swallowing. , 2012, 2012, 2509-12.		0
63	Selective intraoperative stimulation of the human larynx. Laryngoscope, 2012, 122, 2015-2022.	2.0	6
64	Mechanically adaptive nanocomposites for neural interfacing. MRS Bulletin, 2012, 37, 581-589.	3.5	91
65	Activation using infrared light in a mammalian axon model. , 2012, 2012, 1896-9.		8
66	Probabilistic modeling of selective stimulation of the human sciatic nerve with a flat interface nerve electrode. Journal of Computational Neuroscience, 2012, 33, 179-190.	1.0	37
67	Increased selectivity of clinical peripheral nerve interfaces. , 2011, , .		6
68	Development of a stimuli-responsive polymer nanocomposite toward biologically optimized, MEMS-based neural probes. Journal of Micromechanics and Microengineering, 2011, 21, 054009.	2.6	83
69	Mechanical behavior of microstructures from a chemo-responsive polymer nanocomposite based on cotton cellulose nanofibers. , 2011, , .		3
70	Electrical conduction block in large nerves: High-frequency current delivery in the nonhuman primate. Muscle and Nerve, 2011, 43, 897-899.	2.2	38
71	Probabilistic modeling of selective stimulation of the human sciatic nerve with a flat Interface Nerve Electrode. , 2011, 2011, 4068-71.		2
72	Optimizing nerve cuff stimulation of targeted regions through use of genetic algorithms. , 2011, 2011, 5811-4.		17

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73	<i>In vivo</i> deployment of mechanically adaptive nanocomposites for intracortical microelectrodes. Journal of Neural Engineering, 2011, 8, 046010.	3.5	133
74	Predicting myelinated axon activation using spatial characteristics of the extracellular field. Journal of Neural Engineering, 2011, 8, 046030.	3.5	44
75	Mechanically adaptive intracortical implants improve the proximity of neuronal cell bodies. Journal of Neural Engineering, 2011, 8, 066011.	3.5	171
76	Optimization of stimulus parameters for selective peripheral nerve stimulation with multi-contact electrodes. , 2011, 2011, 3039-42.		3
77	Improvement of respiratory compromise through abductor reinnervation and pacing in a patient with bilateral vocal fold impairment. Laryngoscope, 2010, 120, 76-83.	2.0	13
78	Paced Glottic Closure for Controlling Aspiration Pneumonia in Patients with Neurologic Deficits of Various Causes. Annals of Otology, Rhinology and Laryngology, 2010, 119, 141-149.	1.1	15
79	Selective stimulation of the human femoral nerve with a flat interface nerve electrode. Journal of Neural Engineering, 2010, 7, 026006.	3.5	110
80	Nerve cuff stimulation and the effect of fascicular organization for hand grasp in nonhuman primates. , 2009, 2009, 1557-60.		12
81	Integrated electronics for peripheral nerve recording and signal processing. , 2009, 2009, 1639-42.		5
82	Intraoperative Demonstration of Selective Stimulation of the Common Human Femoral Nerve with a FINE. , 2009, 2009, 610-3.		6
83	Stimulation Stability and Selectivity of Chronically Implanted Multicontact Nerve Cuff Electrodes in the Human Upper Extremity. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 428-437.	4.9	116
84	Intraoperative evaluation of the spiral nerve cuff electrode on the femoral nerve trunk. Journal of Neural Engineering, 2009, 6, 066005.	3.5	27
85	Chronic stability and selectivity of four-contact spiral nerve-cuff electrodes in stimulating the human femoral nerve. Journal of Neural Engineering, 2009, 6, 046010.	3.5	75
86	A bio-inspired, chemo-responsive polymer nanocomposite for mechanically dynamic microsystems. , 2009, , .		8
87	Electrodes for the Neural Interface. , 2009, , 181-213.		8
88	Artificial Manipulation of Voice in the Human by an Implanted Stimulator. Laryngoscope, 2008, 118, 1889-1893.	2.0	5
89	Standing After Spinal Cord Injury With Four-Contact Nerve-Cuff Electrodes for Quadriceps Stimulation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2008, 16, 473-478.	4.9	73
90	Fascicular Perineurium Thickness, Size, and Position Affect Model Predictions of Neural Excitation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2008, 16, 572-581.	4.9	113

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91	A Model of Selective Activation of the Femoral Nerve With a Flat Interface Nerve Electrode for a Lower Extremity Neuroprosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2008, 16, 195-204.	4.9	118
92	Stimuli-Responsive Polymer Nanocomposites Inspired by the Sea Cucumber Dermis. Science, 2008, 319, 1370-1374.	12.6	881
93	Artificial Voice Modulation in Dogs by Recurrent Laryngeal Nerve Stimulation: Electrophysiological Confirmation of Anatomic Data. Annals of Otology, Rhinology and Laryngology, 2007, 116, 145-155.	1.1	5
94	A Polynorbornene-Based Microelectrode Array for Neural Interfacing. , 2007, , .		1
95	Intraoperative Evaluation of the Spiral Nerve Cuff Electrode for a Standing Neuroprosthesis. , 2007, , .		3
96	Intraoperative Evaluation of the First Flat Interface Nerve Electrode for a Standing Neuroprosthesis: A Case Report. , 2007, , .		0
97	Development of a Microfabricated Flat Interface Nerve Electrode Based on Liquid Crystal Polymer and Polynorbornene Multilayered Structures. , 2007, , .		7
98	A versatile approach for the processing of polymer nanocomposites with self-assembled nanofibre templates. Nature Nanotechnology, 2007, 2, 765-769.	31.5	393
99	Human Nerve Stimulation Thresholds and Selectivity Using a Multi-contact Nerve Cuff Electrode. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2007, 15, 76-82.	4.9	89
100	Neuroprostheses for management of dysphagia resulting from cerebrovascular disorders. , 2007, 97, 293-304.		4
101	Models of Selective Stimulation with a Flat Interface Nerve Electrode for Standing Neuroprosthetic Systems. , 2006, 2006, 4639-42.		4
102	Preliminary Evaluation of a Neural Prosthesis for Standing after Spinal Cord Injury with Four Contact Nerve-Cuff Electrodes for Quadriceps Stimulation. , 2006, 2006, 3592-5.		7
103	Spiral Nerve Cuff Electrodes for an Upper Extremity Neuroprosthesis. , 2006, 2006, 3584-7.		6
104	Models of Selective Stimulation with a Flat Interface Nerve Electrode for Standing Neuroprosthetic Systems. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	2
105	Spiral Nerve Cuff Electrodes for an Upper Extremity Neuroprosthesis. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
106	Intraoperative testing of selectivity of spiral nerve cuff electrodes. , 2004, 2004, 4137-40.		1
107	Chronic Response of the Rat Sciatic Nerve to the Flat Interface Nerve Electrode. Annals of Biomedical Engineering, 2003, 31, 633-642.	2.5	116
108	Functionally selective peripheral nerve stimulation with a flat interface nerve electrode. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2002, 10, 294-303.	4.9	342

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109	Dynamic Laryngotracheal Closure for Aspiration: A Preliminary Report. Laryngoscope, 2001, 111, 2032-2040.	2.0	35
110	Neurofuzzy adaptive controlling of selective stimulation for FES: a case study. IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society, 1999, 7, 183-192.	1.4	22
111	A slowly penetrating interfascicular nerve electrode for selective activation of peripheral nerves. IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society, 1997, 5, 51-61.	1.4	90
112	A method of quantifying electrode performance based on non-invasive three dimensional isometric torque data. , 0, , .		1
113	Development of a neuroprosthesis for restoring arm and hand function via functional electrical stimulation following high cervical spinal cord injury. , 0, , .		7
114	Intraoperative Testing of Selectivity of Spiral Nerve Cuff Electrodes. , 0, , .		1
115	Modeling Selective Stimulation With A Flat Interface Nerve Electrode for Standing Neuroprosthetic Systems. , 0, , .		4