

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	Stimuli-Responsive Polymer Nanocomposites Inspired by the Sea Cucumber Dermis. <i>Science</i> , 2008, 319, 1370-1374.	12.6	881
2	A neural interface provides long-term stable natural touch perception. <i>Science Translational Medicine</i> , 2014, 6, 257ra138.	12.4	613
3	A versatile approach for the processing of polymer nanocomposites with self-assembled nanofibre templates. <i>Nature Nanotechnology</i> , 2007, 2, 765-769.	31.5	393
4	Functionally selective peripheral nerve stimulation with a flat interface nerve electrode. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2002, 10, 294-303.	4.9	342
5	Mechanically-compliant intracortical implants reduce the neuroinflammatory response. <i>Journal of Neural Engineering</i> , 2014, 11, 056014.	3.5	219
6	The neural basis of perceived intensity in natural and artificial touch. <i>Science Translational Medicine</i> , 2016, 8, 362ra142.	12.4	205
7	Sensory feedback by peripheral nerve stimulation improves task performance in individuals with upper limb loss using a myoelectric prosthesis. <i>Journal of Neural Engineering</i> , 2016, 13, 016001.	3.5	202
8	Mechanically adaptive intracortical implants improve the proximity of neuronal cell bodies. <i>Journal of Neural Engineering</i> , 2011, 8, 066011.	3.5	171
9	Home Use of a Neural-connected Sensory Prosthesis Provides the Functional and Psychosocial Experience of Having a Hand Again. <i>Scientific Reports</i> , 2018, 8, 9866.	3.3	168
10	<i>In vivo</i> deployment of mechanically adaptive nanocomposites for intracortical microelectrodes. <i>Journal of Neural Engineering</i> , 2011, 8, 046010.	3.5	133
11	Stability and selectivity of a chronic, multi-contact cuff electrode for sensory stimulation in human amputees. <i>Journal of Neural Engineering</i> , 2015, 12, 026002.	3.5	125
12	A Model of Selective Activation of the Femoral Nerve With a Flat Interface Nerve Electrode for a Lower Extremity Neuroprosthesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2008, 16, 195-204.	4.9	118
13	Chronic Response of the Rat Sciatic Nerve to the Flat Interface Nerve Electrode. <i>Annals of Biomedical Engineering</i> , 2003, 31, 633-642.	2.5	116
14	Stimulation Stability and Selectivity of Chronically Implanted Multicontact Nerve Cuff Electrodes in the Human Upper Extremity. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2009, 17, 428-437.	4.9	116
15	Fascicular Perineurium Thickness, Size, and Position Affect Model Predictions of Neural Excitation. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2008, 16, 572-581.	4.9	113
16	Restoration of sensory information via bionic hands. <i>Nature Biomedical Engineering</i> , 2023, 7, 443-455.	22.5	111
17	Selective stimulation of the human femoral nerve with a flat interface nerve electrode. <i>Journal of Neural Engineering</i> , 2010, 7, 026006.	3.5	110
18	Toward higher-performance bionic limbs for wider clinical use. <i>Nature Biomedical Engineering</i> , 2023, 7, 473-485.	22.5	104

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19	Sensory adaptation to electrical stimulation of the somatosensory nerves. <i>Journal of Neural Engineering</i> , 2018, 15, 046002.	3.5	99
20	Mechanically adaptive nanocomposites for neural interfacing. <i>MRS Bulletin</i> , 2012, 37, 581-589.	3.5	91
21	Artificial tactile and proprioceptive feedback improves performance and confidence on object identification tasks. <i>PLoS ONE</i> , 2018, 13, e0207659.	2.5	91
22	A slowly penetrating interfascicular nerve electrode for selective activation of peripheral nerves. <i>IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society</i> , 1997, 5, 51-61.	1.4	90
23	Neural interfaces for somatosensory feedback. <i>Current Opinion in Neurology</i> , 2015, 28, 574-581.	3.6	90
24	Human Nerve Stimulation Thresholds and Selectivity Using a Multi-contact Nerve Cuff Electrode. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2007, 15, 76-82.	4.9	89
25	High-density peripheral nerve cuffs restore natural sensation to individuals with lower-limb amputations. <i>Journal of Neural Engineering</i> , 2018, 15, 056002.	3.5	86
26	Development of a stimuli-responsive polymer nanocomposite toward biologically optimized, MEMS-based neural probes. <i>Journal of Micromechanics and Microengineering</i> , 2011, 21, 054009.	2.6	83
27	Chronic stability and selectivity of four-contact spiral nerve-cuff electrodes in stimulating the human femoral nerve. <i>Journal of Neural Engineering</i> , 2009, 6, 046010.	3.5	75
28	Standing After Spinal Cord Injury With Four-Contact Nerve-Cuff Electrodes for Quadriceps Stimulation. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2008, 16, 473-478.	4.9	73
29	“Long-term stability of stimulating spiral nerve cuff electrodes on human peripheral nerves” <i>Journal of NeuroEngineering and Rehabilitation</i> , 2017, 14, 70.	4.6	73
30	Learning of Artificial Sensation Through Long-Term Home Use of a Sensory-Enabled Prosthesis. <i>Frontiers in Neuroscience</i> , 2019, 13, 853.	2.8	58
31	Influence of resveratrol release on the tissue response to mechanically adaptive cortical implants. <i>Acta Biomaterialia</i> , 2016, 29, 81-93.	8.3	57
32	Selective activation of the human tibial and common peroneal nerves with a flat interface nerve electrode. <i>Journal of Neural Engineering</i> , 2013, 10, 056006.	3.5	50
33	Quantification of human upper extremity nerves and fascicular anatomy. <i>Muscle and Nerve</i> , 2017, 56, 463-471.	2.2	46
34	The benefits of sensation on the experience of a hand: A qualitative case series. <i>PLoS ONE</i> , 2019, 14, e0211469.	2.5	46
35	Motor neuron activation in peripheral nerves using infrared neural stimulation. <i>Journal of Neural Engineering</i> , 2014, 11, 016001.	3.5	45
36	Predicting myelinated axon activation using spatial characteristics of the extracellular field. <i>Journal of Neural Engineering</i> , 2011, 8, 046030.	3.5	44

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37	Hybrid electro-optical stimulation of the rat sciatic nerve induces force generation in the plantarflexor muscles. <i>Journal of Neural Engineering</i> , 2012, 9, 066006.	3.5	39
38	Optimization of selective stimulation parameters for multi-contact electrodes. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2013, 10, 25.	4.6	39
39	Electrical conduction block in large nerves: High-frequency current delivery in the nonhuman primate. <i>Muscle and Nerve</i> , 2011, 43, 897-899.	2.2	38
40	Probabilistic modeling of selective stimulation of the human sciatic nerve with a flat interface nerve electrode. <i>Journal of Computational Neuroscience</i> , 2012, 33, 179-190.	1.0	37
41	The design of and chronic tissue response to a composite nerve electrode with patterned stiffness. <i>Journal of Neural Engineering</i> , 2017, 14, 036022.	3.5	36
42	Dynamic Laryngotracheal Closure for Aspiration: A Preliminary Report. <i>Laryngoscope</i> , 2001, 111, 2032-2040.	2.0	35
43	Intraoperative evaluation of the spiral nerve cuff electrode on the femoral nerve trunk. <i>Journal of Neural Engineering</i> , 2009, 6, 066005.	3.5	27
44	Evaluation of high-density, multi-contact nerve cuffs for activation of grasp muscles in monkeys. <i>Journal of Neural Engineering</i> , 2018, 15, 036003.	3.5	24
45	A Mechanically-Adaptive Polymer Nanocomposite-Based Intracortical Probe and Package for Chronic Neural Recording. <i>Micromachines</i> , 2018, 9, 583.	2.9	24
46	Visuotactile synchrony of stimulation-induced sensation and natural somatosensation. <i>Journal of Neural Engineering</i> , 2019, 16, 036025.	3.5	23
47	Neurofuzzy adaptive controlling of selective stimulation for FES: a case study. <i>IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society</i> , 1999, 7, 183-192.	1.4	22
48	Stable, three degree-of-freedom myoelectric prosthetic control via chronic bipolar intramuscular electrodes: a case study. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2019, 16, 147.	4.6	21
49	Ambulatory searching task reveals importance of somatosensation for lower-limb amputees. <i>Scientific Reports</i> , 2020, 10, 10216.	3.3	21
50	Frequency Shapes the Quality of Tactile Percepts Evoked through Electrical Stimulation of the Nerves. <i>Journal of Neuroscience</i> , 2022, 42, 2052-2064.	3.6	20
51	Optimizing nerve cuff stimulation of targeted regions through use of genetic algorithms. , 2011, 2011, 5811-4.		17
52	Stability and selectivity of a chronic, multi-contact cuff electrode for sensory stimulation in a human amputee. , 2013, , .		17
53	Fabrication of High Contact-Density, Flat-Interface Nerve Electrodes for Recording and Stimulation Applications. <i>Journal of Visualized Experiments</i> , 2016, , .	0.3	17
54	Paced Glottic Closure for Controlling Aspiration Pneumonia in Patients with Neurologic Deficits of Various Causes. <i>Annals of Otology, Rhinology and Laryngology</i> , 2010, 119, 141-149.	1.1	15

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55	Laryngeal elevation by selective stimulation of the hypoglossal nerve. <i>Journal of Neural Engineering</i> , 2013, 10, 046013.	3.5	15
56	Intensity Modulation: A Novel Approach to Percept Control in Spinal Cord Stimulation. <i>Neuromodulation</i> , 2016, 19, 254-259.	0.8	15
57	Restoring the human touch: Prosthetics imbued with haptics give their wearers fine motor control and a sense of connection. <i>IEEE Spectrum</i> , 2016, 53, 28-33.	0.7	14
58	Neural engineering: the process, applications, and its role in the future of medicine. <i>Journal of Neural Engineering</i> , 2019, 16, 063002.	3.5	14
59	Visual inputs and postural manipulations affect the location of somatosensory percepts elicited by electrical stimulation. <i>Scientific Reports</i> , 2019, 9, 11699.	3.3	14
60	A translational framework for peripheral nerve stimulating electrodes: Reviewing the journey from concept to clinic. <i>Journal of Neuroscience Methods</i> , 2019, 328, 108414.	2.5	14
61	Implanted High Density Cuff Electrodes Functionally Activate Human Tibial and Peroneal Motor Units Without Chronic Detriment to Peripheral Nerve Health. <i>Neuromodulation</i> , 2020, 23, 754-762.	0.8	14
62	Improvement of respiratory compromise through abductor reinnervation and pacing in a patient with bilateral vocal fold impairment. <i>Laryngoscope</i> , 2010, 120, 76-83.	2.0	13
63	Nerve cuff stimulation and the effect of fascicular organization for hand grasp in nonhuman primates. , 2009, 2009, 1557-60.		12
64	Combination of Simultaneous Artificial Sensory Percepts to Identify Prosthetic Hand Postures: A Case Study. <i>Scientific Reports</i> , 2020, 10, 6576.	3.3	12
65	Biological, mechanical, and technological considerations affecting the longevity of intracortical electrode recordings. <i>Critical Reviews in Biomedical Engineering</i> , 2013, 41, 435-56.	0.9	12
66	Chronic nerve health following implantation of femoral nerve cuff electrodes. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2020, 17, 95.	4.6	10
67	Stable, simultaneous and proportional 4-DoF prosthetic hand control via synergy-inspired linear interpolation: a case series. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2021, 18, 50.	4.6	10
68	Microscale Characterization of a Mechanically Adaptive Polymer Nanocomposite With Cotton-Derived Cellulose Nanocrystals for Implantable BioMEMS. <i>Journal of Microelectromechanical Systems</i> , 2014, 23, 774-784.	2.5	9
69	Neural Network Pattern Recognition of Lingual Palatal Pressure for Automated Detection of Swallow. <i>Dysphagia</i> , 2015, 30, 176-187.	1.8	9
70	Selective Nerve Cuff Stimulation Strategies for Prolonging Muscle Output. <i>IEEE Transactions on Biomedical Engineering</i> , 2020, 67, 1397-1408.	4.2	9
71	Biological, Mechanical, and Technological Considerations Affecting Prosthetic Hand Postures. <i>Critical Reviews in Biomedical Engineering</i> , 2014, , .	0.9	9
72	A bio-inspired, chemo-responsive polymer nanocomposite for mechanically dynamic microsystems. , 2009, , .		8

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73	Electrodes for the Neural Interface. , 2009, , 181-213.		8
74	Activation using infrared light in a mammalian axon model. , 2012, 2012, 1896-9.		8
75	Development of a neuroprosthesis for restoring arm and hand function via functional electrical stimulation following high cervical spinal cord injury. , 0, , .		7
76	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
77	Development of a Microfabricated Flat Interface Nerve Electrode Based on Liquid Crystal Polymer and Polynorborene Multilayered Structures. , 2007, , .		7
78	Environmentally-controlled Microtensile Testing of Mechanically-adaptive Polymer Nanocomposites for ex vivo Characterization. Journal of Visualized Experiments, 2013, , e50078.	0.3	7
79	Biomechanical characterization of isolated epineurial and perineurial membranes of rabbit sciatic nerve. Journal of Biomechanics, 2022, 136, 111058.	2.1	7
80	Spiral Nerve Cuff Electrodes for an Upper Extremity Neuroprosthesis. , 2006, 2006, 3584-7.		6
81	Intraoperative Demonstration of Selective Stimulation of the Common Human Femoral Nerve with a FINE. , 2009, 2009, 610-3.		6
82	Increased selectivity of clinical peripheral nerve interfaces. , 2011, , .		6
83	Selective intraoperative stimulation of the human larynx. Laryngoscope, 2012, 122, 2015-2022.	2.0	6
84	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
85	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
86	Artificial Manipulation of Voice in the Human by an Implanted Stimulator. Laryngoscope, 2008, 118, 1889-1893.	2.0	5
87	Integrated electronics for peripheral nerve recording and signal processing. , 2009, 2009, 1639-42.		5
88	Modeling Selective Stimulation With A Flat Interface Nerve Electrode for Standing Neuroprosthetic Systems. , 0, , .		4
89	Models of Selective Stimulation with a Flat Interface Nerve Electrode for Standing Neuroprosthetic Systems. , 2006, 2006, 4639-42.		4
90	Neuroprostheses for management of dysphagia resulting from cerebrovascular disorders. , 2007, 97, 293-304.		4

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91	Intraoperative Evaluation of the Spiral Nerve Cuff Electrode for a Standing Neuroprosthesis. , 2007, , .		3
92	Mechanical behavior of microstructures from a chemo-responsive polymer nanocomposite based on cotton cellulose nanofibers. , 2011, , .		3
93	Optimization of stimulus parameters for selective peripheral nerve stimulation with multi-contact electrodes. , 2011, 2011, 3039-42.		3
94	Stretchable thin-film metal structures on a stimuli-responsive polymer nanocomposite for mechanically-dynamic microsystems. , 2013, , .		3
95	Targeted Transtracheal Stimulation for Vocal Fold Closure. Dysphagia, 2014, 29, 346-354.	1.8	3
96	Peripheral Nerve Interfaces. , 2015, , 1033-1054.		3
97	Stimulation artifact rejection in closed-loop, distributed neural interfaces. , 2016, , .		3
98	Directed stimulation with interfascicular interfaces for peripheral nerve stimulation. Journal of Neural Engineering, 2021, 18, 066006.	3.5	3
99	Probabilistic modeling of selective stimulation of the human sciatic nerve with a flat Interface Nerve Electrode. , 2011, 2011, 4068-71.		2
100	Peripheral Nerve Stimulation. Series on Bioengineering and Biomedical Engineering, 2017, , 300-347.	0.1	2
101	Electrodes for the Neural Interface. , 2018, , 239-274.		2
102	Cleveland neural engineering workshop 2017: strategic evaluation of neural engineering. Bioelectronic Medicine, 2019, 5, 2.	2.3	2
103	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
104	A method of quantifying electrode performance based on non-invasive three dimensional isometric torque data. , 0, , .		1
105	Intraoperative testing of selectivity of spiral nerve cuff electrodes. , 2004, 2004, 4137-40.		1
106	Intraoperative Testing of Selectivity of Spiral Nerve Cuff Electrodes. , 0, , .		1
107	A Polynorborene-Based Microelectrode Array for Neural Interfacing. , 2007, , .		1
108	Plenary talks The touch of a hand: Neural interfaces restore the sense of touch and position following limb loss. , 2015, , .		1

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109	Comparison of Myoelectric Control Schemes for Simultaneous Hand and Wrist Movement using Chronically Implanted Electromyography: A Case Series*. , 2021, 2021, 6224-6230.		1
110	Intraoperative Evaluation of the First Flat Interface Nerve Electrode for a Standing Neuroprosthesis: A Case Report. , 2007, , .		0
111	Electrical stimulation for the management of aspiration during Swallowing. , 2012, 2012, 2509-12.		0
112	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
113	Computer Models of Peripheral Nerves. , 2015, , 1021-1032.		0
114	Neuroprostheses for Restoring Sensation. , 2018, , 1249-1260.		0
115	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