

Cameron C McIntyre

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109
papers

9,883
citations

51
h-index

99
g-index

133
ext. papers

11,779
ext. citations

4.4
avg, IF

6.49
L-index

#	Paper	IF	Citations
109	Cellular effects of deep brain stimulation: model-based analysis of activation and inhibition. <i>Journal of Neurophysiology</i> , 2004 , 91, 1457-69	3.2	592
108	Uncovering the mechanism(s) of action of deep brain stimulation: activation, inhibition, or both. <i>Clinical Neurophysiology</i> , 2004 , 115, 1239-48	4.3	566
107	Modeling the excitability of mammalian nerve fibers: influence of afterpotentials on the recovery cycle. <i>Journal of Neurophysiology</i> , 2002 , 87, 995-1006	3.2	461
106	Electric field and stimulating influence generated by deep brain stimulation of the subthalamic nucleus. <i>Clinical Neurophysiology</i> , 2004 , 115, 589-95	4.3	392
105	Patient-specific analysis of the volume of tissue activated during deep brain stimulation. <i>NeuroImage</i> , 2007 , 34, 661-70	7.9	359
104	Network perspectives on the mechanisms of deep brain stimulation. <i>Neurobiology of Disease</i> , 2010 , 38, 329-37	7.5	322
103	Deep brain stimulation: current challenges and future directions. <i>Nature Reviews Neurology</i> , 2019 , 15, 148-160	15	320
102	Extracellular stimulation of central neurons: influence of stimulus waveform and frequency on neuronal output. <i>Journal of Neurophysiology</i> , 2002 , 88, 1592-604	3.2	285
101	Sources and effects of electrode impedance during deep brain stimulation. <i>Clinical Neurophysiology</i> , 2006 , 117, 447-54	4.3	267
100	Defining critical white matter pathways mediating successful subcallosal cingulate deep brain stimulation for treatment-resistant depression. <i>Biological Psychiatry</i> , 2014 , 76, 963-9	7.9	264
99	Excitation of central nervous system neurons by nonuniform electric fields. <i>Biophysical Journal</i> , 1999 , 76, 878-88	2.9	253
98	How does deep brain stimulation work? Present understanding and future questions. <i>Journal of Clinical Neurophysiology</i> , 2004 , 21, 40-50	2.2	249
97	Computational analysis of subthalamic nucleus and lenticular fasciculus activation during therapeutic deep brain stimulation. <i>Journal of Neurophysiology</i> , 2006 , 96, 1569-80	3.2	241
96	Tissue and electrode capacitance reduce neural activation volumes during deep brain stimulation. <i>Clinical Neurophysiology</i> , 2005 , 116, 2490-500	4.3	241
95	Mechanisms and targets of deep brain stimulation in movement disorders. <i>Neurotherapeutics</i> , 2008 , 5, 294-308	6.4	223
94	Role of electrode design on the volume of tissue activated during deep brain stimulation. <i>Journal of Neural Engineering</i> , 2006 , 3, 1-8	5	210
93	Reversing cognitive-motor impairments in Parkinson's disease patients using a computational modelling approach to deep brain stimulation programming. <i>Brain</i> , 2010 , 133, 746-61	11.2	184

92	Selective microstimulation of central nervous system neurons. <i>Annals of Biomedical Engineering</i> , 2000 , 28, 219-33	4.7	171
91	In vivo impedance spectroscopy of deep brain stimulation electrodes. <i>Journal of Neural Engineering</i> , 2009 , 6, 046001	5	158
90	Current steering to control the volume of tissue activated during deep brain stimulation. <i>Brain Stimulation</i> , 2008 , 1, 7-15	5.1	154
89	Rules ventral prefrontal cortical axons use to reach their targets: implications for diffusion tensor imaging tractography and deep brain stimulation for psychiatric illness. <i>Journal of Neuroscience</i> , 2011 , 31, 10392-402	6.6	151
88	Patient-specific models of deep brain stimulation: influence of field model complexity on neural activation predictions. <i>Brain Stimulation</i> , 2010 , 3, 65-7	5.1	142
87	Thalamocortical relay fidelity varies across subthalamic nucleus deep brain stimulation protocols in a data-driven computational model. <i>Journal of Neurophysiology</i> , 2008 , 99, 1477-92	3.2	130
86	Experimental and theoretical characterization of the voltage distribution generated by deep brain stimulation. <i>Experimental Neurology</i> , 2009 , 216, 166-76	5.7	124
85	Probabilistic analysis of activation volumes generated during deep brain stimulation. <i>NeuroImage</i> , 2011 , 54, 2096-104	7.9	121
84	Finite element analysis of the current-density and electric field generated by metal microelectrodes. <i>Annals of Biomedical Engineering</i> , 2001 , 29, 227-35	4.7	121
83	Model-based analysis of cortical recording with silicon microelectrodes. <i>Clinical Neurophysiology</i> , 2005 , 116, 2240-50	4.3	114
82	Chronic subdural electrodes in the management of epilepsy. <i>Clinical Neurophysiology</i> , 2008 , 119, 11-28	4.3	97
81	Evaluation of novel stimulus waveforms for deep brain stimulation. <i>Journal of Neural Engineering</i> , 2010 , 7, 066008	5	96
80	Short pulse width widens the therapeutic window of subthalamic neurostimulation. <i>Annals of Clinical and Translational Neurology</i> , 2015 , 2, 427-32	5.3	95
79	Modeling shifts in the rate and pattern of subthalamopallidal network activity during deep brain stimulation. <i>Journal of Computational Neuroscience</i> , 2010 , 28, 425-41	1.4	91
78	Quantifying the neural elements activated and inhibited by globus pallidus deep brain stimulation. <i>Journal of Neurophysiology</i> , 2008 , 100, 2549-63	3.2	91
77	Cicerone: stereotactic neurophysiological recording and deep brain stimulation electrode placement software system. <i>Acta Neurochirurgica Supplementum</i> , 2007 , 97, 561-7	1.7	88
76	Emerging technologies for improved deep brain stimulation. <i>Nature Biotechnology</i> , 2019 , 37, 1024-1033	44.5	85
75	Computational analysis of kilohertz frequency spinal cord stimulation for chronic pain management. <i>Anesthesiology</i> , 2015 , 122, 1362-76	4.3	85

74	Current-controlled deep brain stimulation reduces in vivo voltage fluctuations observed during voltage-controlled stimulation. <i>Clinical Neurophysiology</i> , 2010 , 121, 2128-33	4.3	85
73	Artificial neural network based characterization of the volume of tissue activated during deep brain stimulation. <i>Journal of Neural Engineering</i> , 2013 , 10, 056023	5	82
72	Deep brain stimulation mechanisms: the control of network activity via neurochemistry modulation. <i>Journal of Neurochemistry</i> , 2016 , 139 Suppl 1, 338-345	6	80
71	Tractography-activation models applied to subcallosal cingulate deep brain stimulation. <i>Brain Stimulation</i> , 2013 , 6, 737-9	5.1	77
70	Basal ganglia activity patterns in parkinsonism and computational modeling of their downstream effects. <i>European Journal of Neuroscience</i> , 2012 , 36, 2213-28	3.5	76
69	Current steering to activate targeted neural pathways during deep brain stimulation of the subthalamic region. <i>Brain Stimulation</i> , 2012 , 5, 369-377	5.1	73
68	Differences among implanted pulse generator waveforms cause variations in the neural response to deep brain stimulation. <i>Clinical Neurophysiology</i> , 2007 , 118, 1889-94	4.3	71
67	Theoretical analysis of intracortical microelectrode recordings. <i>Journal of Neural Engineering</i> , 2011 , 8, 045006	5	70
66	Theoretical analysis of the local field potential in deep brain stimulation applications. <i>PLoS ONE</i> , 2013 , 8, e59839	3.7	65
65	Creating and parameterizing patient-specific deep brain stimulation pathway-activation models using the hyperdirect pathway as an example. <i>PLoS ONE</i> , 2017 , 12, e0176132	3.7	61
64	Fiber tractography of the axonal pathways linking the basal ganglia and cerebellum in Parkinson disease: implications for targeting in deep brain stimulation. <i>Journal of Neurosurgery</i> , 2014 , 120, 988-96	3.2	57
63	Stereotactic neurosurgical planning, recording, and visualization for deep brain stimulation in non-human primates. <i>Journal of Neuroscience Methods</i> , 2007 , 162, 32-41	3	55
62	Quantifying axonal responses in patient-specific models of subthalamic deep brain stimulation. <i>NeuroImage</i> , 2018 , 172, 263-277	7.9	52
61	Tracking the mechanisms of deep brain stimulation for neuropsychiatric disorders. <i>Frontiers in Bioscience - Landmark</i> , 2008 , 13, 5892-904	2.8	52
60	Axonal pathways linked to therapeutic and nontherapeutic outcomes during psychiatric deep brain stimulation. <i>Human Brain Mapping</i> , 2012 , 33, 958-68	5.9	51
59	Engineering the next generation of clinical deep brain stimulation technology. <i>Brain Stimulation</i> , 2015 , 8, 21-6	5.1	50
58	Defining a therapeutic target for pallidal deep brain stimulation for dystonia. <i>Annals of Neurology</i> , 2014 , 76, 22-30	9.4	47
57	Prediction of myelinated nerve fiber stimulation thresholds: limitations of linear models. <i>IEEE Transactions on Biomedical Engineering</i> , 2004 , 51, 229-36	5	47

56	Tractography Activation Patterns in Dorsolateral Prefrontal Cortex Suggest Better Clinical Responses in OCD DBS. <i>Frontiers in Neuroscience</i> , 2015 , 9, 519	5.1	47
55	Theoretical principles underlying optical stimulation of a channelrhodopsin-2 positive pyramidal neuron. <i>Journal of Neurophysiology</i> , 2012 , 107, 3235-45	3.2	44
54	Computational analysis of deep brain stimulation. <i>Expert Review of Medical Devices</i> , 2007 , 4, 615-22	3.5	44
53	StimVision Software: Examples and Applications in Subcallosal Cingulate Deep Brain Stimulation for Depression. <i>Neuromodulation</i> , 2018 , 21, 191-196	3.1	43
52	Role of Soft-Tissue Heterogeneity in Computational Models of Deep Brain Stimulation. <i>Brain Stimulation</i> , 2017 , 10, 46-50	5.1	43
51	Machine Learning Approach to Optimizing Combined Stimulation and Medication Therapies for Parkinson's Disease. <i>Brain Stimulation</i> , 2015 , 8, 1025-32	5.1	42
50	Evolving Applications, Technological Challenges and Future Opportunities in Neuromodulation: Proceedings of the Fifth Annual Deep Brain Stimulation Think Tank. <i>Frontiers in Neuroscience</i> , 2017 , 11, 734	5.1	42
49	Holographic Reconstruction of Axonal Pathways in the Human Brain. <i>Neuron</i> , 2019 , 104, 1056-1064.e3	13.9	41
48	Uncovering the mechanisms of deep brain stimulation for Parkinson's disease through functional imaging, neural recording, and neural modeling. <i>Critical Reviews in Biomedical Engineering</i> , 2002 , 30, 249-81	1.1	41
47	Neural targets for relieving parkinsonian rigidity and bradykinesia with pallidal deep brain stimulation. <i>Journal of Neurophysiology</i> , 2012 , 108, 567-77	3.2	38
46	Targeting of the Subthalamic Nucleus for Deep Brain Stimulation: A Survey Among Parkinson Disease Specialists. <i>World Neurosurgery</i> , 2017 , 99, 41-46	2.1	36
45	Sensitivity analysis of a model of mammalian neural membrane. <i>Biological Cybernetics</i> , 1998 , 79, 29-37	2.8	36
44	Analyzing the tradeoff between electrical complexity and accuracy in patient-specific computational models of deep brain stimulation. <i>Journal of Neural Engineering</i> , 2016 , 13, 036023	5	36
43	Dissociation of motor symptoms during deep brain stimulation of the subthalamic nucleus in the region of the internal capsule. <i>Experimental Neurology</i> , 2011 , 228, 294-7	5.7	34
42	Association of deep brain stimulation washout effects with Parkinson disease duration. <i>JAMA Neurology</i> , 2013 , 70, 95-9	17.2	33
41	Behavioral and neurophysiological evidence for the enhancement of cognitive control under dorsal pallidal deep brain stimulation in Huntington's disease. <i>Brain Structure and Function</i> , 2015 , 220, 2441-8	4	31
40	Optimizing deep brain stimulation parameter selection with detailed models of the electrode-tissue interface. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2006 , 2006, 893-5		30
39	Action potential initiation, propagation, and cortical invasion in the hyperdirect pathway during subthalamic deep brain stimulation. <i>Brain Stimulation</i> , 2018 , 11, 1140-1150	5.1	30

38	Quantifying the axonal pathways directly stimulated in therapeutic subcallosal cingulate deep brain stimulation. <i>Human Brain Mapping</i> , 2019 , 40, 889-903	5.9	29
37	Computational modeling of deep brain stimulation. <i>Handbook of Clinical Neurology / Edited By P J Vinken and G W Bruyn</i> , 2013 , 116, 55-61	3	28
36	Theoretical principles underlying optical stimulation of myelinated axons expressing channelrhodopsin-2. <i>Neuroscience</i> , 2013 , 248, 541-51	3.9	24
35	Automated 3-dimensional brain atlas fitting to microelectrode recordings from deep brain stimulation surgeries. <i>Stereotactic and Functional Neurosurgery</i> , 2009 , 87, 229-40	1.6	24
34	Energy efficient neural stimulation: coupling circuit design and membrane biophysics. <i>PLoS ONE</i> , 2012 , 7, e51901	3.7	22
33	Characterization of the stimulus waveforms generated by implantable pulse generators for deep brain stimulation. <i>Clinical Neurophysiology</i> , 2018 , 129, 731-742	4.3	20
32	Stimulation region within the globus pallidus does not affect verbal fluency performance. <i>Brain Stimulation</i> , 2013 , 6, 248-53	5.1	18
31	StimExplorer: deep brain stimulation parameter selection software system. <i>Acta Neurochirurgica Supplementum</i> , 2007 , 97, 569-74	1.7	18
30	Impact of brain shift on subcallosal cingulate deep brain stimulation. <i>Brain Stimulation</i> , 2018 , 11, 445-453	3.1	17
29	Biophysical basis of subthalamic local field potentials recorded from deep brain stimulation electrodes. <i>Journal of Neurophysiology</i> , 2018 , 120, 1932-1944	3.2	14
28	A Driving-Force Predictor for Estimating Pathway Activation in Patient-Specific Models of Deep Brain Stimulation. <i>Neuromodulation</i> , 2019 , 22, 403-415	3.1	13
27	Anatomical targets associated with abrupt versus gradual washout of subthalamic deep brain stimulation effects on bradykinesia. <i>PLoS ONE</i> , 2014 , 9, e99663	3.7	13
26	Theoretical principles of deep brain stimulation induced synaptic suppression. <i>Brain Stimulation</i> , 2019 , 12, 1402-1409	5.1	11
25	Deep brain stimulation of terminating axons. <i>Brain Stimulation</i> , 2020 , 13, 1863-1870	5.1	9
24	StimVision v2: Examples and Applications in Subthalamic Deep Brain Stimulation for Parkinson's Disease. <i>Neuromodulation</i> , 2021 , 24, 248-258	3.1	9
23	Vestibular heading perception in Parkinson's disease. <i>Progress in Brain Research</i> , 2019 , 249, 307-319	2.9	8
22	The Use of Stimulation Field Models for Deep Brain Stimulation Programming. <i>Brain Stimulation</i> , 2015 , 8, 976-8	5.1	8
21	Biophysical reconstruction of the signal conduction underlying short-latency cortical evoked potentials generated by subthalamic deep brain stimulation. <i>Clinical Neurophysiology</i> , 2020 , 131, 542-547	4.3	7

20	Image-based biophysical modeling predicts cortical potentials evoked with subthalamic deep brain stimulation. <i>Brain Stimulation</i> , 2021 , 14, 549-563	5.1	6
19	Connectivity-based identification of a potential neurosurgical target for mood disorders. <i>Journal of Psychiatric Research</i> , 2020 , 125, 113-120	5.2	6
18	Feasibility of Interferential and Pulsed Transcranial Electrical Stimulation for Neuromodulation at the Human Scale. <i>Neuromodulation</i> , 2021 , 24, 843-853	3.1	5
17	Bimanual force coordination in Parkinson's disease patients with bilateral subthalamic deep brain stimulation. <i>PLoS ONE</i> , 2013 , 8, e78934	3.7	5
16	Clinical Evaluation of Cingulum Bundle Connectivity for Neurosurgical Hypothesis Development. <i>Neurosurgery</i> , 2020 , 86, 724-735	3.2	5
15	Anatomical connectivity between subcortical structures. <i>Brain Connectivity</i> , 2011 , 1, 111-8	2.7	4
14	Introduction. Virtual and augmented reality in neurosurgery: a timeline. <i>Neurosurgical Focus</i> , 2021 , 51, E1	4.2	4
13	Letter to the Editor: Correlation of diffusion tensor imaging and intraoperative macrostimulation. <i>Journal of Neurosurgery</i> , 2015 , 123, 291-2	3.2	3
12	Deep brain stimulation of the subthalamic nucleus: model-based analysis of the effects of electrode capacitance on the volume of activation 2005 ,		2
11	Deep Brain Stimulation for Depression Informed by Intracranial Recordings.. <i>Biological Psychiatry</i> , 2021 ,	7.9	1
10	Levodopa Versus Dopamine Agonist after Subthalamic Stimulation in Parkinson's Disease. <i>Movement Disorders</i> , 2021 , 36, 672-680	7	1
9	Subthalamic deep brain stimulation affects heading perception in Parkinson's disease. <i>Journal of Neurology</i> , 2021 , 1	5.5	0
8	Biophysical characterization of local field potential recordings from directional deep brain stimulation electrodes. <i>Clinical Neurophysiology</i> , 2021 , 132, 1321-1329	4.3	0
7	Histology-driven model of the macaque motor hyperdirect pathway. <i>Brain Structure and Function</i> , 2021 , 226, 2087-2097	4	0
6	Effects of subthalamic deep brain stimulation on fixational eye movements in Parkinson's disease. <i>Journal of Computational Neuroscience</i> , 2021 , 49, 345-356	1.4	0
5	Comparison of methodologies for modeling directional deep brain stimulation electrodes.. <i>PLoS ONE</i> , 2021 , 16, e0260162	3.7	0
4	Patient-Specific Modeling of Deep Brain Stimulation 2018 , 129-135		
3	Cingulum bundle connectivity in treatment-refractory compared to treatment-responsive patients with bipolar disorder and healthy controls: a tractography and surgical targeting analysis.. <i>Journal of Neurosurgery</i> , 2022 , 1-13	3.2	

2 Resistivity/Conductivity of Extracellular Medium **2022**, 3027-3031

1 Computational Models of Deep Brain Stimulation (DBS) **2022**, 883-886