Cameron C Mcintyre

List of Publications by Year
in descending order

125 papers	12,982 citations	28274 55 h-index	24982 109 g-index
133 all docs	133 docs citations	133 times ranked	7705 citing authors

#	Article	IF	Citations
1	Deep brain stimulation: current challenges and future directions. Nature Reviews Neurology, 2019, 15, 148-160.	10.1	721
2	Cellular Effects of Deep Brain Stimulation: Model-Based Analysis of Activation and Inhibition. Journal of Neurophysiology, 2004, 91, 1457-1469.	1.8	716
3	Uncovering the mechanism(s) of action of deep brain stimulation: activation, inhibition, or both. Clinical Neurophysiology, 2004, 115, 1239-1248.	1.5	653
4	Modeling the Excitability of Mammalian Nerve Fibers: Influence of Afterpotentials on the Recovery Cycle. Journal of Neurophysiology, 2002, 87, 995-1006.	1.8	614
5	Electric field and stimulating influence generated by deep brain stimulation of the subthalamic nucleus. Clinical Neurophysiology, 2004, 115, 589-595.	1.5	455
6	Patient-specific analysis of the volume of tissue activated during deep brain stimulation. NeuroImage, 2007, 34, 661-670.	4.2	438
7	Network perspectives on the mechanisms of deep brain stimulation. Neurobiology of Disease, 2010, 38, 329-337.	4.4	400
8	Defining Critical White Matter Pathways Mediating Successful Subcallosal Cingulate Deep Brain Stimulation for Treatment-Resistant Depression. Biological Psychiatry, 2014, 76, 963-969.	1.3	375
9	Extracellular Stimulation of Central Neurons: Influence of Stimulus Waveform and Frequency on Neuronal Output. Journal of Neurophysiology, 2002, 88, 1592-1604.	1.8	338
10	Sources and effects of electrode impedance during deep brain stimulation. Clinical Neurophysiology, 2006, 117, 447-454.	1.5	315
11	Excitation of Central Nervous System Neurons by Nonuniform Electric Fields. Biophysical Journal, 1999, 76, 878-888.	0.5	296
12	How Does Deep Brain Stimulation Work? Present Understanding and Future Questions. Journal of Clinical Neurophysiology, 2004, 21, 40-50.	1.7	286
13	Computational Analysis of Subthalamic Nucleus and Lenticular Fasciculus Activation During Therapeutic Deep Brain Stimulation. Journal of Neurophysiology, 2006, 96, 1569-1580.	1.8	284
14	Tissue and electrode capacitance reduce neural activation volumes during deep brain stimulation. Clinical Neurophysiology, 2005, 116, 2490-2500.	1.5	283
15	Mechanisms and Targets of Deep Brain Stimulation in Movement Disorders. Neurotherapeutics, 2008, 5, 294-308.	4.4	258
16	Role of electrode design on the volume of tissue activated during deep brain stimulation. Journal of Neural Engineering, 2006, 3, 1-8.	3.5	257
17	Reversing cognitiveâ€“motor impairments in Parkinsonâ€™s disease patients using a computational modelling approach to deep brain stimulation programming. Brain, 2010, 133, 746-761.	7.6	226
18	Selective Microstimulation of Central Nervous System Neurons. Annals of Biomedical Engineering, 2000, 28, 219-233.	2.5	211

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19	Current steering to control the volume of tissue activated during deep brain stimulation. Brain Stimulation, 2008, 1, 7-15.	1.6	195
20	In vivoimpedance spectroscopy of deep brain stimulation electrodes. Journal of Neural Engineering, 2009, 6, 046001.	3.5	194
21	Patient-specific models of deep brain stimulation: Influence of field model complexity on neural activation predictions. Brain Stimulation, 2010, 3, 65-77.	1.6	180
22	Rules Ventral Prefrontal Cortical Axons Use to Reach Their Targets: Implications for Diffusion Tensor Imaging Tractography and Deep Brain Stimulation for Psychiatric Illness. Journal of Neuroscience, 2011, 31, 10392-10402.	3.6	167
23	Emerging technologies for improved deep brain stimulation. Nature Biotechnology, 2019, 37, 1024-1033.	17.5	164
24	Model-based analysis of cortical recording with silicon microelectrodes. Clinical Neurophysiology, 2005, 116, 2240-2250.	1.5	156
25	Probabilistic analysis of activation volumes generated during deep brain stimulation. NeuroImage, 2011, 54, 2096-2104.	4.2	155
26	Experimental and theoretical characterization of the voltage distribution generated by deep brain stimulation. Experimental Neurology, 2009, 216, 166-176.	4.1	153
27	Thalamocortical Relay Fidelity Varies Across Subthalamic Nucleus Deep Brain Stimulation Protocols in a Data-Driven Computational Model. Journal of Neurophysiology, 2008, 99, 1477-1492.	1.8	147
28	Finite Element Analysis of the Current-Density and Electric Field Generated by Metal Microelectrodes. Annals of Biomedical Engineering, 2001, 29, 227-235.	2.5	142
29	Evaluation of novel stimulus waveforms for deep brain stimulation. Journal of Neural Engineering, 2010, 7, 066008.	3.5	128
30	Short pulse width widens the therapeutic window of subthalamic neurostimulation. Annals of Clinical and Translational Neurology, 2015, 2, 427-432.	3.7	127
31	Chronic subdural electrodes in the management of epilepsy. Clinical Neurophysiology, 2008, 119, 11-28.	1.5	123
32	Modeling shifts in the rate and pattern of subthalamopallidal network activity during deep brain stimulation. Journal of Computational Neuroscience, 2010, 28, 425-441.	1.0	120
33	Quantifying the Neural Elements Activated and Inhibited by Globus Pallidus Deep Brain Stimulation. Journal of Neurophysiology, 2008, 100, 2549-2563.	1.8	117
34	Deep brain stimulation mechanisms: the control of network activity via neurochemistry modulation. Journal of Neurochemistry, 2016, 139, 338-345.	3.9	117
35	Computational Analysis of Kilohertz Frequency Spinal Cord Stimulation for Chronic Pain Management. Anesthesiology, 2015, 122, 1362-1376.	2.5	116
36	Current-controlled deep brain stimulation reduces in vivo voltage fluctuations observed during voltage-controlled stimulation. Clinical Neurophysiology, 2010, 121, 2128-2133.	1.5	111

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37	Artificial neural network based characterization of the volume of tissue activated during deep brain stimulation. Journal of Neural Engineering, 2013, 10, 056023.	3.5	104
38	Basal ganglia activity patterns in parkinsonism and computational modeling of their downstream effects. European Journal of Neuroscience, 2012, 36, 2213-2228.	2.6	101
39	Tractography-Activation Models Applied to Subcallosal Cingulate Deep Brain Stimulation. Brain Stimulation, 2013, 6, 737-739.	1.6	101
40	Cicerone: stereotactic neurophysiological recording and deep brain stimulation electrode placement software system. , 2007, 97, 561-567.		100
41	Theoretical analysis of intracortical microelectrode recordings. Journal of Neural Engineering, 2011, 8, 045006.	3.5	98
42	Creating and parameterizing patient-specific deep brain stimulation pathway-activation models using the hyperdirect pathway as an example. PLoS ONE, 2017, 12, e0176132.	2.5	96
43	Theoretical Analysis of the Local Field Potential in Deep Brain Stimulation Applications. PLoS ONE, 2013, 8, e59839.	2.5	93
44	Holographic Reconstruction of Axonal Pathways in the Human Brain. Neuron, 2019, 104, 1056-1064.e3.	8.1	91
45	Quantifying axonal responses in patient-specific models of subthalamic deep brain stimulation. NeuroImage, 2018, 172, 263-277.	4.2	86
46	Differences among implanted pulse generator waveforms cause variations in the neural response to deep brain stimulation. Clinical Neurophysiology, 2007, 118, 1889-1894.	1.5	83
47	Current steering to activate targeted neural pathways during deep brain stimulation of the subthalamic region. Brain Stimulation, 2012, 5, 369-377.	1.6	78
48	Theoretical principles underlying optical stimulation of a channelrhodopsin-2 positive pyramidal neuron. Journal of Neurophysiology, 2012, 107, 3235-3245.	1.8	73
49	Stereotactic neurosurgical planning, recording, and visualization for deep brain stimulation in non-human primates. Journal of Neuroscience Methods, 2007, 162, 32-41.	2.5	68
50	Role of Soft-Tissue Heterogeneity in Computational Models of Deep Brain Stimulation. Brain Stimulation, 2017, 10, 46-50.	1.6	68
51	Fiber tractography of the axonal pathways linking the basal ganglia and cerebellum in Parkinson disease: implications for targeting in deep brain stimulation. Journal of Neurosurgery, 2014, 120, 988-996.	1.6	67
52	Machine Learning Approach to Optimizing Combined Stimulation and Medication Therapies for Parkinson's Disease. Brain Stimulation, 2015, 8, 1025-1032.	1.6	66
53	Evolving Applications, Technological Challenges and Future Opportunities in Neuromodulation: Proceedings of the Fifth Annual Deep Brain Stimulation Think Tank. Frontiers in Neuroscience, 2017, 11, 734.	2.8	65
54	StimVision Software: Examples and Applications in Subcallosal Cingulate Deep Brain Stimulation for Depression. Neuromodulation, 2018, 21, 191-196.	0.8	63

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55	Action potential initiation, propagation, and cortical invasion in the hyperdirect pathway during subthalamic deep brain stimulation. Brain Stimulation, 2018, 11, 1140-1150.	1.6	63
56	Tracking the mechanisms of deep brain stimulation for neuropsychiatric disorders. Frontiers in Bioscience - Landmark, 2008, Volume, 5892.	3.0	62
57	Defining a therapeutic target for pallidal deep brain stimulation for dystonia. Annals of Neurology, 2014, 76, 22-30.	5.3	61
58	Axonal pathways linked to therapeutic and nontherapeutic outcomes during psychiatric deep brain stimulation. Human Brain Mapping, 2012, 33, 958-968.	3.6	59
59	Deep Brain Stimulation for Depression Informed by Intracranial Recordings. Biological Psychiatry, 2022, 92, 246-251.	1.3	58
60	Engineering the Next Generation of Clinical Deep Brain Stimulation Technology. Brain Stimulation, 2015, 8, 21-26.	1.6	56
61	Tractography Activation Patterns in Dorsolateral Prefrontal Cortex Suggest Better Clinical Responses in OCD DBS. Frontiers in Neuroscience, 2015, 9, 519.	2.8	56
62	Analyzing the tradeoff between electrical complexity and accuracy in patient-specific computational models of deep brain stimulation. Journal of Neural Engineering, 2016, 13, 036023.	3.5	56
63	Computational analysis of deep brain stimulation. Expert Review of Medical Devices, 2007, 4, 615-622.	2.8	54
64	Prediction of Myelinated Nerve Fiber Stimulation Thresholds: Limitations of Linear Models. IEEE Transactions on Biomedical Engineering, 2004, 51, 229-236.	4.2	53
65	Uncovering the Mechanisms of Deep Brain Stimulation for Parkinson's Disease through Functional Imaging, Neural Recording, and Neural Modeling. Critical Reviews in Biomedical Engineering, 2002, 30, 249-282.	0.9	51
66	Neural targets for relieving parkinsonian rigidity and bradykinesia with pallidal deep brain stimulation. Journal of Neurophysiology, 2012, 108, 567-577.	1.8	49
67	Quantifying the axonal pathways directly stimulated in therapeutic subcallosal cingulate deep brain stimulation. Human Brain Mapping, 2019, 40, 889-903.	3.6	49
68	Computational modeling of deep brain stimulation. Handbook of Clinical Neurology / Edited By P J Vinken and G W Bruyn, 2013, 116, 55-61.	1.8	47
69	Targeting of the Subthalamic Nucleus for Deep Brain Stimulation: A Survey Among Parkinson Disease Specialists. World Neurosurgery, 2017, 99, 41-46.	1.3	45
70	Sensitivity analysis of a model of mammalian neural membrane. Biological Cybernetics, 1998, 79, 29-37.	1.3	43
71	Association of Deep Brain Stimulation Washout Effects With Parkinson Disease Duration. JAMA Neurology, 2013, 70, 95.	9.0	42
72	Dissociation of motor symptoms during deep brain stimulation of the subthalamic nucleus in the region of the internal capsule. Experimental Neurology, 2011, 228, 294-297.	4.1	37

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73	StimVision v2: Examples and Applications in Subthalamic Deep Brain Stimulation for Parkinsonâ€™s Disease. Neuromodulation, 2021, 24, 248-258.	0.8	36
74	Optimizing Deep Brain Stimulation Parameter Selection with Detailed Models of the Electrode-Tissue Interface. , 2006, 2006, 893-5.		35
75	Behavioral and neurophysiological evidence for the enhancement of cognitive control under dorsal pallidal deep brain stimulation in Huntingtonâ€™s disease. Brain Structure and Function, 2015, 220, 2441-2448.	2.3	33
76	Characterization of the stimulus waveforms generated by implantable pulse generators for deep brain stimulation. Clinical Neurophysiology, 2018, 129, 731-742.	1.5	32
77	Deep brain stimulation of terminating axons. Brain Stimulation, 2020, 13, 1863-1870.	1.6	32
78	Theoretical principles of deep brain stimulation induced synaptic suppression. Brain Stimulation, 2019, 12, 1402-1409.	1.6	31
79	Energy Efficient Neural Stimulation: Coupling Circuit Design and Membrane Biophysics. PLoS ONE, 2012, 7, e51901.	2.5	29
80	Theoretical principles underlying optical stimulation of myelinated axons expressing channelrhodopsin-2. Neuroscience, 2013, 248, 541-551.	2.3	29
81	Automated 3-Dimensional Brain Atlas Fitting to Microelectrode Recordings from Deep Brain Stimulation Surgeries. Stereotactic and Functional Neurosurgery, 2009, 87, 229-240.	1.5	28
82	Biophysical basis of subthalamic local field potentials recorded from deep brain stimulation electrodes. Journal of Neurophysiology, 2018, 120, 1932-1944.	1.8	28
83	A Driving-Force Predictor for Estimating Pathway Activation in Patient-Specific Models of Deep Brain Stimulation. Neuromodulation, 2019, 22, 403-415.	0.8	28
84	Image-based biophysical modeling predicts cortical potentials evoked with subthalamic deep brain stimulation. Brain Stimulation, 2021, 14, 549-563.	1.6	23
85	Feasibility of Interferential and Pulsed Transcranial Electrical Stimulation for Neuromodulation at the Human Scale. Neuromodulation, 2020, 24, 843-853.	0.8	22
86	Patient-specific connectomic models correlate with, but do not reliably predict, outcomes in deep brain stimulation for obsessive-compulsive disorder. Neuropsychopharmacology, 2022, 47, 965-972.	5.4	22
87	Anatomical Targets Associated with Abrupt versus Gradual Washout of Subthalamic Deep Brain Stimulation Effects on Bradykinesia. PLoS ONE, 2014, 9, e99663.	2.5	21
88	Impact of brain shift on subcallosal cingulate deep brain stimulation. Brain Stimulation, 2018, 11, 445-453.	1.6	20
89	StimExplorer: deep brain stimulation parameter selection software system. , 2007, 97, 569-574.		20
90	Stimulation Region Within the Globus Pallidus Does Not Affect Verbal FluencyÂPerformance. Brain Stimulation, 2013, 6, 248-253.	1.6	19

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91	Biophysical reconstruction of the signal conduction underlying short-latency cortical evoked potentials generated by subthalamic deep brain stimulation. Clinical Neurophysiology, 2020, 131, 542-547.	1.5	19
92	Biophysical characterization of local field potential recordings from directional deep brain stimulation electrodes. Clinical Neurophysiology, 2021, 132, 1321-1329.	1.5	15
93	Imaging versus electrographic connectivity in human mood-related fronto-temporal networks. Brain Stimulation, 2022, 15, 554-565.	1.6	15
94	Introduction. Virtual and augmented reality in neurosurgery: a timeline. Neurosurgical Focus, 2021, 51, E1.	2.3	14
95	Vestibular heading perception in Parkinson's disease. Progress in Brain Research, 2019, 249, 307-319.	1.4	13
96	Subthalamic deep brain stimulation of an anatomically detailed model of the human hyperdirect pathway. Journal of Neurophysiology, 2022, 127, 1209-1220.	1.8	13
97	The Use of Stimulation Field Models for Deep Brain Stimulation Programming. Brain Stimulation, 2015, 8, 976-978.	1.6	10
98	Levodopa Versus Dopamine Agonist after Subthalamic Stimulation in Parkinson's Disease. Movement Disorders, 2021, 36, 672-680.	3.9	8
99	Connectivity-based identification of a potential neurosurgical target for mood disorders. Journal of Psychiatric Research, 2020, 125, 113-120.	3.1	7
100	DBS electrode localization and rotational orientation detection using SQUID-based magnetoencephalography. Journal of Neural Engineering, 2021, 18, 026021.	3.5	7
101	Bimanual Force Coordination in Parkinsonâ€™s Disease Patients with Bilateral Subthalamic Deep Brain Stimulation. PLoS ONE, 2013, 8, e78934.	2.5	6
102	Subthalamic deep brain stimulation affects heading perception in Parkinsonâ€™s disease. Journal of Neurology, 2022, 269, 253-268.	3.6	6
103	Anatomical Connectivity Between Subcortical Structures. Brain Connectivity, 2011, 1, 111-118.	1.7	5
104	Clinical Evaluation of Cingulum Bundle Connectivity for Neurosurgical Hypothesis Development. Neurosurgery, 2020, 86, 724-735.	1.1	5
105	Histology-driven model of the macaque motor hyperdirect pathway. Brain Structure and Function, 2021, 226, 2087-2097.	2.3	5
106	Effects of subthalamic deep brain stimulation on fixational eye movements in Parkinsonâ€™s disease. Journal of Computational Neuroscience, 2021, 49, 345-356.	1.0	4
107	Deep brain stimulation of the subthalamic nucleus: model-based analysis of the effects of electrode capacitance on the volume of activation. , 2005, , .		3
108	Letter to the Editor: Correlation of diffusion tensor imaging and intraoperative macrostimulation. Journal of Neurosurgery, 2015, 123, 291-292.	1.6	3

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109	Temporal Patterns of Spontaneous Fixational Eye Movements: The Influence of Basal Ganglia. Journal of Neuro-Ophthalmology, 2022, 42, 45-55.	0.8	3
110	Comparison of methodologies for modeling directional deep brain stimulation electrodes. PLoS ONE, 2021, 16, e0260162.	2.5	3
111	Patient-Specific Modeling of Deep Brain Stimulation. , 2018, , 129-135.		1
112	Connectomic Predictive Modeling Guides Selective Perturbation of Tracts in the Subcallosal Cingulate White Matter. , 2021, , .		1
113	Cingulum bundle connectivity in treatment-refractory compared to treatment-responsive patients with bipolar disorder and healthy controls: a tractography and surgical targeting analysis. Journal of Neurosurgery, 2022, 137, 709-721.	1.6	1
114	33. Quantifying the Axonal Pathways Directly Stimulated in Therapeutic Subcallosal Cingulate Deep Brain Stimulation. Biological Psychiatry, 2019, 85, S14.	1.3	0
115	Resistivity/Conductivity of Extracellular Medium. , 2014, , 1-5.		0
116	Computational Models of Deep Brain Stimulation (DBS). , 2020, , 1-4.		0
117	Response. Journal of Neurosurgery, 2014, 121, 495.	1.6	0
118	Optimizing Deep Brain Stimulation Parameter Selection with Detailed Models of the Electrode-Tissue Interface. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
119	Subthalamic Nucleus Deep Brain Stimulation: Accurate Axonal Threshold Prediction with Diffusion Tensor Based Electric Field Models. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
120	Optimization of Microelectrode Design for Cortical Recording Based on Thermal Noise Considerations. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
121	Stereotactic EEG Helps Define Networks and Optimize Stimulation Parameter Selection in DBS for Treatment-Resistant Depression (TRD).. Biological Psychiatry, 2022, 91, S43.	1.3	0
122	P372. Dual-Target Deep Brain Stimulation Drives Differential Engagement of Networks Underlying Treatment-Resistant Depression. Biological Psychiatry, 2022, 91, S237-S238.	1.3	0
123	Brain Imaging and Visualization Technologies to Identify Stimulation Targets. Biological Psychiatry, 2022, 91, S42.	1.3	0
124	Resistivity/Conductivity of Extracellular Medium. , 2022, , 3027-3031.		0
125	Computational Models of Deep Brain Stimulation (DBS). , 2022, , 883-886.		0