# Cameron C Mcintyre

List of Publications by Year
in descending order



| 125 | 12,982 | 28190 55 | 24915 109 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 133 | 133 | 133 | 7705 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Deep brain stimulation: current challenges and future directions. Nature Reviews Neurology, 2019, 15, 148-160. | 4.9 | 721 |
| 2 | Cellular Effects of Deep Brain Stimulation: Model-Based Analysis of Activation and Inhibition. Journal of Neurophysiology, 2004, 91, 1457-1469. | 0.9 | 716 |
| 3 | Uncovering the mechanism(s) of action of deep brain stimulation: activation, inhibition, or both. Clinical Neurophysiology, 2004, 115, 1239-1248. | 0.7 | 653 |
| 4 | Modeling the Excitability of Mammalian Nerve Fibers: Influence of Afterpotentials on the Recovery Cycle. Journal of Neurophysiology, 2002, 87, 995-1006. | 0.9 | 614 |
| 5 | Electric field and stimulating influence generated by deep brain stimulation of the subthalamic nucleus. Clinical Neurophysiology, 2004, 115, 589-595. | 0.7 | 455 |
| 6 | Patient-specific analysis of the volume of tissue activated during deep brain stimulation. NeuroImage, 2007, 34, 661-670. | 2.1 | 438 |
| 7 | Network perspectives on the mechanisms of deep brain stimulation. Neurobiology of Disease, 2010, 38, 329-337. | 2.1 | 400 |
| 8 | Defining Critical White Matter Pathways Mediating Successful Subcallosal Cingulate Deep Brain Stimulation for Treatment-Resistant Depression. Biological Psychiatry, 2014, 76, 963-969. | 0.7 | 375 |
| 9 | Extracellular Stimulation of Central Neurons: Influence of Stimulus Waveform and Frequency on Neuronal Output. Journal of Neurophysiology, 2002, 88, 1592-1604. | 0.9 | 338 |
| 10 | Sources and effects of electrode impedance during deep brain stimulation. Clinical Neurophysiology, 2006, 117, 447-454. | 0.7 | 315 |
| 11 | Excitation of Central Nervous System Neurons by Nonuniform Electric Fields. Biophysical Journal, 1999, 76, 878-888. | 0.2 | 296 |
| 12 | How Does Deep Brain Stimulation Work? Present Understanding and Future Questions. Journal of Clinical Neurophysiology, 2004, 21, 40-50. | 0.9 | 286 |
| 13 | Computational Analysis of Subthalamic Nucleus and Lenticular Fasciculus Activation During Therapeutic Deep Brain Stimulation. Journal of Neurophysiology, 2006, 96, 1569-1580. | 0.9 | 284 |
| 14 | Tissue and electrode capacitance reduce neural activation volumes during deep brain stimulation. Clinical Neurophysiology, 2005, 116, 2490-2500. | 0.7 | 283 |
| 15 | Mechanisms and Targets of Deep Brain Stimulation in Movement Disorders. Neurotherapeutics, 2008, 5, 294-308. | 2.1 | 258 |
| 16 | Role of electrode design on the volume of tissue activated during deep brain stimulation. Journal of Neural Engineering, 2006, 3, 1-8. | 1.8 | 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. | 3.7 | 226 |
| 18 | Selective Microstimulation of Central Nervous System Neurons. Annals of Biomedical Engineering, 2000, 28, 219-233. | 1.3 | 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. | 0.7 | 195 |
| 20 | In vivoimpedance spectroscopy of deep brain stimulation electrodes. Journal of Neural Engineering, 2009, 6, 046001. | 1.8 | 194 |
| 21 | Patient-specific models of deep brain stimulation: Influence of field model complexity on neural activation predictions. Brain Stimulation, 2010, 3, 65-77. | 0.7 | 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. | 1.7 | 167 |
| 23 | Emerging technologies for improved deep brain stimulation. Nature Biotechnology, 2019, 37, 1024-1033. | 9.4 | 164 |
| 24 | Model-based analysis of cortical recording with silicon microelectrodes. Clinical Neurophysiology, 2005, 116, 2240-2250. | 0.7 | 156 |
| 25 | Probabilistic analysis of activation volumes generated during deep brain stimulation. NeuroImage, 2011, 54, 2096-2104. | 2.1 | 155 |
| 26 | Experimental and theoretical characterization of the voltage distribution generated by deep brain stimulation. Experimental Neurology, 2009, 216, 166-176. | 2.0 | 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. | 0.9 | 147 |
| 28 | Finite Element Analysis of the Current-Density and Electric Field Generated by Metal Microelectrodes. Annals of Biomedical Engineering, 2001, 29, 227-235. | 1.3 | 142 |
| 29 | Evaluation of novel stimulus waveforms for deep brain stimulation. Journal of Neural Engineering, 2010, 7, 066008. | 1.8 | 128 |
| 30 | Short pulse width widens the therapeutic window of subthalamic neurostimulation. Annals of Clinical and Translational Neurology, 2015, 2, 427-432. | 1.7 | 127 |
| 31 | Chronic subdural electrodes in the management of epilepsy. Clinical Neurophysiology, 2008, 119, 11-28. | 0.7 | 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. | 0.6 | 120 |
| 33 | Quantifying the Neural Elements Activated and Inhibited by Globus Pallidus Deep Brain Stimulation. Journal of Neurophysiology, 2008, 100, 2549-2563. | 0.9 | 117 |
| 34 | Deep brain stimulation mechanisms: the control of network activity via neurochemistry modulation. Journal of Neurochemistry, 2016, 139, 338-345. | 2.1 | 117 |
| 35 | Computational Analysis of Kilohertz Frequency Spinal Cord Stimulation for Chronic Pain Management. Anesthesiology, 2015, 122, 1362-1376. | 1.3 | 116 |
| 36 | Current-controlled deep brain stimulation reduces in vivo voltage fluctuations observed during voltage-controlled stimulation. Clinical Neurophysiology, 2010, 121, 2128-2133. | 0.7 | 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. | 1.8 | 104 |
| 38 | Basal ganglia activity patterns in parkinsonism and computational modeling of their downstream effects. European Journal of Neuroscience, 2012, 36, 2213-2228. | 1.2 | 101 |
| 39 | Tractography-Activation Models Applied to Subcallosal Cingulate Deep Brain Stimulation. Brain Stimulation, 2013, 6, 737-739. | 0.7 | 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. | 1.8 | 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. | 1.1 | 96 |
| 43 | Theoretical Analysis of the Local Field Potential in Deep Brain Stimulation Applications. PLoS ONE, 2013, 8, e59839. | 1.1 | 93 |
| 44 | Holographic Reconstruction of Axonal Pathways in the Human Brain. Neuron, 2019, 104, 1056-1064.e3. | 3.8 | 91 |
| 45 | Quantifying axonal responses in patient-specific models of subthalamic deep brain stimulation. NeuroImage, 2018, 172, 263-277. | 2.1 | 86 |
| 46 | Differences among implanted pulse generator waveforms cause variations in the neural response to deep brain stimulation. Clinical Neurophysiology, 2007, 118, 1889-1894. | 0.7 | 83 |
| 47 | Current steering to activate targeted neural pathways during deep brain stimulation of the subthalamic region. Brain Stimulation, 2012, 5, 369-377. | 0.7 | 78 |
| 48 | Theoretical principles underlying optical stimulation of a channelrhodopsin-2 positive pyramidal neuron. Journal of Neurophysiology, 2012, 107, 3235-3245. | 0.9 | 73 |
| 49 | Stereotactic neurosurgical planning, recording, and visualization for deep brain stimulation in non-human primates. Journal of Neuroscience Methods, 2007, 162, 32-41. | 1.3 | 68 |
| 50 | Role of Soft-Tissue Heterogeneity in Computational Models of Deep Brain Stimulation. Brain Stimulation, 2017, 10, 46-50. | 0.7 | 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. | 0.9 | 67 |
| 52 | Machine Learning Approach to Optimizing Combined Stimulation and Medication Therapies for Parkinson's Disease. Brain Stimulation, 2015, 8, 1025-1032. | 0.7 | 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. | 1.4 | 65 |
| 54 | StimVision Software: Examples and Applications in Subcallosal Cingulate Deep Brain Stimulation for Depression. Neuromodulation, 2018, 21, 191-196. | 0.4 | 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. | 0.7 | 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. | 2.8 | 61 |
| 58 | Axonal pathways linked to therapeutic and nontherapeutic outcomes during psychiatric deep brain stimulation. Human Brain Mapping, 2012, 33, 958-968. | 1.9 | 59 |
| 59 | Deep Brain Stimulation for Depression Informed by Intracranial Recordings. Biological Psychiatry, 2022, 92, 246-251. | 0.7 | 58 |
| 60 | Engineering the Next Generation of Clinical Deep Brain Stimulation Technology. Brain Stimulation, 2015, 8, 21-26. | 0.7 | 56 |
| 61 | Tractography Activation Patterns in Dorsolateral Prefrontal Cortex Suggest Better Clinical Responses in OCD DBS. Frontiers in Neuroscience, 2015, 9, 519. | 1.4 | 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. | 1.8 | 56 |
| 63 | Computational analysis of deep brain stimulation. Expert Review of Medical Devices, 2007, 4, 615-622. | 1.4 | 54 |
| 64 | Prediction of Myelinated Nerve Fiber Stimulation Thresholds: Limitations of Linear Models. IEEE Transactions on Biomedical Engineering, 2004, 51, 229-236. | 2.5 | 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. | 0.5 | 51 |
| 66 | Neural targets for relieving parkinsonian rigidity and bradykinesia with pallidal deep brain stimulation. Journal of Neurophysiology, 2012, 108, 567-577. | 0.9 | 49 |
| 67 | Quantifying the axonal pathways directly stimulated in therapeutic subcallosal cingulate deep brain stimulation. Human Brain Mapping, 2019, 40, 889-903. | 1.9 | 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. | 1.0 | 47 |
| 69 | Targeting of the Subthalamic Nucleus for Deep Brain Stimulation: A Survey Among Parkinson Disease Specialists. World Neurosurgery, 2017, 99, 41-46. | 0.7 | 45 |
| 70 | Sensitivity analysis of a model of mammalian neural membrane. Biological Cybernetics, 1998, 79, 29-37. | 0.6 | 43 |
| 71 | Association of Deep Brain Stimulation Washout Effects With Parkinson Disease Duration. JAMA Neurology, 2013, 70, 95. | 4.5 | 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. | 2.0 | 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. | 0.4 | 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. | 1.2 | 33 |
| 76 | Characterization of the stimulus waveforms generated by implantable pulse generators for deep brain stimulation. Clinical Neurophysiology, 2018, 129, 731-742. | 0.7 | 32 |
| 77 | Deep brain stimulation of terminating axons. Brain Stimulation, 2020, 13, 1863-1870. | 0.7 | 32 |
| 78 | Theoretical principles of deep brain stimulation induced synaptic suppression. Brain Stimulation, 2019, 12, 1402-1409. | 0.7 | 31 |
| 79 | Energy Efficient Neural Stimulation: Coupling Circuit Design and Membrane Biophysics. PLoS ONE, 2012, 7, e51901. | 1.1 | 29 |
| 80 | Theoretical principles underlying optical stimulation of myelinated axons expressing channelrhodopsin-2. Neuroscience, 2013, 248, 541-551. | 1.1 | 29 |
| 81 | Automated 3-Dimensional Brain Atlas Fitting to Microelectrode Recordings from Deep Brain Stimulation Surgeries. Stereotactic and Functional Neurosurgery, 2009, 87, 229-240. | 0.8 | 28 |
| 82 | Biophysical basis of subthalamic local field potentials recorded from deep brain stimulation electrodes. Journal of Neurophysiology, 2018, 120, 1932-1944. | 0.9 | 28 |
| 83 | A Driving-Force Predictor for Estimating Pathway Activation in Patient-Specific Models of Deep Brain Stimulation. Neuromodulation, 2019, 22, 403-415. | 0.4 | 28 |
| 84 | Image-based biophysical modeling predicts cortical potentials evoked with subthalamic deep brain stimulation. Brain Stimulation, 2021, 14, 549-563. | 0.7 | 23 |
| 85 | Feasibility of Interferential and Pulsed Transcranial Electrical Stimulation for Neuromodulation at the Human Scale. Neuromodulation, 2020, 24, 843-853. | 0.4 | 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. | 2.8 | 22 |
| 87 | Anatomical Targets Associated with Abrupt versus Gradual Washout of Subthalamic Deep Brain Stimulation Effects on Bradykinesia. PLoS ONE, 2014, 9, e99663. | 1.1 | 21 |
| 88 | Impact of brain shift on subcallosal cingulate deep brain stimulation. Brain Stimulation, 2018, 11, 445-453. | 0.7 | 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. | 0.7 | 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. | 0.7 | 19 |
| 92 | Biophysical characterization of local field potential recordings from directional deep brain stimulation electrodes. Clinical Neurophysiology, 2021, 132, 1321-1329. | 0.7 | 15 |
| 93 | Imaging versus electrographic connectivity in human mood-related fronto-temporal networks. Brain Stimulation, 2022, 15, 554-565. | 0.7 | 15 |
| 94 | Introduction. Virtual and augmented reality in neurosurgery: a timeline. Neurosurgical Focus, 2021, 51, E1. | 1.0 | 14 |
| 95 | Vestibular heading perception in Parkinson's disease. Progress in Brain Research, 2019, 249, 307-319. | 0.9 | 13 |
| 96 | Subthalamic deep brain stimulation of an anatomically detailed model of the human hyperdirect pathway. Journal of Neurophysiology, 2022, 127, 1209-1220. | 0.9 | 13 |
| 97 | The Use of Stimulation Field Models for Deep Brain Stimulation Programming. Brain Stimulation, 2015, 8, 976-978. | 0.7 | 10 |
| 98 | Levodopa Versus Dopamine Agonist after Subthalamic Stimulation in Parkinson's Disease. Movement Disorders, 2021, 36, 672-680. | 2.2 | 8 |
| 99 | Connectivity-based identification of a potential neurosurgical target for mood disorders. Journal of Psychiatric Research, 2020, 125, 113-120. | 1.5 | 7 |
| 100 | DBS electrode localization and rotational orientation detection using SQUID-based magnetoencephalography. Journal of Neural Engineering, 2021, 18, 026021. | 1.8 | 7 |
| 101 | Bimanual Force Coordination in Parkinsonâ€™s Disease Patients with Bilateral Subthalamic Deep Brain Stimulation. PLoS ONE, 2013, 8, e78934. | 1.1 | 6 |
| 102 | Subthalamic deep brain stimulation affects heading perception in Parkinsonâ€™s disease. Journal of Neurology, 2022, 269, 253-268. | 1.8 | 6 |
| 103 | Anatomical Connectivity Between Subcortical Structures. Brain Connectivity, 2011, 1, 111-118. | 0.8 | 5 |
| 104 | Clinical Evaluation of Cingulum Bundle Connectivity for Neurosurgical Hypothesis Development. Neurosurgery, 2020, 86, 724-735. | 0.6 | 5 |
| 105 | Histology-driven model of the macaque motor hyperdirect pathway. Brain Structure and Function, 2021, 226, 2087-2097. | 1.2 | 5 |
| 106 | Effects of subthalamic deep brain stimulation on fixational eye movements in Parkinsonâ€™s disease. Journal of Computational Neuroscience, 2021, 49, 345-356. | 0.6 | 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. | 0.9 | 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. | 0.4 | 3 |
| 110 | Comparison of methodologies for modeling directional deep brain stimulation electrodes. PLoS ONE, 2021, 16, e0260162. | 1.1 | 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. | 0.9 | 1 |
| 114 | 33. Quantifying the Axonal Pathways Directly Stimulated in Therapeutic Subcallosal Cingulate Deep Brain Stimulation. Biological Psychiatry, 2019, 85, S14. | 0.7 | 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. | 0.9 | 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. | 0.7 | 0 |
| 122 | P372. Dual-Target Deep Brain Stimulation Drives Differential Engagement of Networks Underlying Treatment-Resistant Depression. Biological Psychiatry, 2022, 91, S237-S238. | 0.7 | 0 |
| 123 | Brain Imaging and Visualization Technologies to Identify Stimulation Targets. Biological Psychiatry, 2022, 91, S42. | 0.7 | 0 |
| 124 | Resistivity/Conductivity of Extracellular Medium. , 2022, , 3027-3031. | | 0 |
| 125 | Computational Models of Deep Brain Stimulation (DBS). , 2022, , 883-886. | | 0 |