

Christopher Butson

List of Publications by Year in descending order

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Version: 2024-02-01

74
papers

4,742
citations

126708

33
h-index

106150

65
g-index

83
all docs

83
docs citations

83
times ranked

3876
citing authors

#	ARTICLE	IF	CITATIONS
1	Patient-specific analysis of the volume of tissue activated during deep brain stimulation. <i>NeuroImage</i> , 2007, 34, 661-670.	2.1	438
2	Sources and effects of electrode impedance during deep brain stimulation. <i>Clinical Neurophysiology</i> , 2006, 117, 447-454.	0.7	315
3	Computational Analysis of Subthalamic Nucleus and Lenticular Fasciculus Activation During Therapeutic Deep Brain Stimulation. <i>Journal of Neurophysiology</i> , 2006, 96, 1569-1580.	0.9	284
4	Tissue and electrode capacitance reduce neural activation volumes during deep brain stimulation. <i>Clinical Neurophysiology</i> , 2005, 116, 2490-2500.	0.7	283
5	Role of electrode design on the volume of tissue activated during deep brain stimulation. <i>Journal of Neural Engineering</i> , 2006, 3, 1-8.	1.8	257
6	Deep brain stimulation activation volumes and their association with neurophysiological mapping and therapeutic outcomes. <i>Journal of Neurology, Neurosurgery and Psychiatry</i> , 2009, 80, 659-666.	0.9	196
7	Current steering to control the volume of tissue activated during deep brain stimulation. <i>Brain Stimulation</i> , 2008, 1, 7-15.	0.7	195
8	Patient-specific models of deep brain stimulation: Influence of field model complexity on neural activation predictions. <i>Brain Stimulation</i> , 2010, 3, 65-77.	0.7	180
9	Pedunculopontine nucleus deep brain stimulation in Parkinson's disease: A clinical review. <i>Movement Disorders</i> , 2018, 33, 10-20.	2.2	166
10	Probabilistic analysis of activation volumes generated during deep brain stimulation. <i>NeuroImage</i> , 2011, 54, 2096-2104.	2.1	155
11	Experimental and theoretical characterization of the voltage distribution generated by deep brain stimulation. <i>Experimental Neurology</i> , 2009, 216, 166-176.	2.0	153
12	Optimized programming algorithm for cylindrical and directional deep brain stimulation electrodes. <i>Journal of Neural Engineering</i> , 2018, 15, 026005.	1.8	104
13	Cicerone: stereotactic neurophysiological recording and deep brain stimulation electrode placement software system. , 2007, 97, 561-567.		100
14	Differences among implanted pulse generator waveforms cause variations in the neural response to deep brain stimulation. <i>Clinical Neurophysiology</i> , 2007, 118, 1889-1894.	0.7	83
15	Image-based analysis and long-term clinical outcomes of deep brain stimulation for Tourette syndrome: a multisite study. <i>Journal of Neurology, Neurosurgery and Psychiatry</i> , 2019, 90, 1078-1090.	0.9	81
16	Anodic stimulation misunderstood: preferential activation of fiber orientations with anodic waveforms in deep brain stimulation. <i>Journal of Neural Engineering</i> , 2019, 16, 016026.	1.8	81
17	Deep brain stimulation in rats: Different targets induce similar antidepressant-like effects but influence different circuits. <i>Neurobiology of Disease</i> , 2014, 71, 205-214.	2.1	74
18	Robust modulation of arousal regulation, performance, and frontostriatal activity through central thalamic deep brain stimulation in healthy nonhuman primates. <i>Journal of Neurophysiology</i> , 2016, 116, 2383-2404.	0.9	72

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19	Management of Deep Brain Stimulator Battery Failure: Battery Estimators, Charge Density, and Importance of Clinical Symptoms. PLoS ONE, 2013, 8, e58665.	1.1	66
20	Epidural Cortical Stimulation of the Left Dorsolateral Prefrontal Cortex for Refractory Major Depressive Disorder. Neurosurgery, 2011, 69, 1015-1029.	0.6	65
21	Influence of Head Tissue Conductivity Uncertainties on EEG Dipole Reconstruction. Frontiers in Neuroscience, 2019, 13, 531.	1.4	64
22	Evaluation of methodologies for computing the deep brain stimulation volume of tissue activated. Journal of Neural Engineering, 2019, 16, 066024.	1.8	61
23	Connectomic Deep Brain Stimulation for Obsessive-Compulsive Disorder. Biological Psychiatry, 2021, 90, 678-688.	0.7	61
24	Deep brain stimulation for the treatment of disorders of consciousness and cognition in traumatic brain injury patients: a review. Neurosurgical Focus, 2018, 45, E14.	1.0	60
25	Longitudinal Changes in Depressive Circuitry in Response to Neuromodulation Therapy. Frontiers in Neural Circuits, 2016, 10, 50.	1.4	55
26	Computational analysis of deep brain stimulation. Expert Review of Medical Devices, 2007, 4, 615-622.	1.4	54
27	Holographically patterned activation using photo-absorber induced neural thermal stimulation. Journal of Neural Engineering, 2013, 10, 056004.	1.8	52
28	Evaluation of Interactive Visualization on Mobile Computing Platforms for Selection of Deep Brain Stimulation Parameters. IEEE Transactions on Visualization and Computer Graphics, 2013, 19, 108-117.	2.9	51
29	Structural connectivity predicts clinical outcomes of deep brain stimulation for Tourette syndrome. Brain, 2020, 143, 2607-2623.	3.7	50
30	Coordinate-Based Lead Location Does Not Predict Parkinson's Disease Deep Brain Stimulation Outcome. PLoS ONE, 2014, 9, e93524.	1.1	48
31	Spectral signal space projection algorithm for frequency domain MEG and EEG denoising, whitening, and source imaging. NeuroImage, 2011, 56, 78-92.	2.1	43
32	Neural selectivity, efficiency, and dose equivalence in deep brain stimulation through pulse width tuning and segmented electrodes. Brain Stimulation, 2020, 13, 1040-1050.	0.7	43
33	Acute and Chronic Mood and Apathy Outcomes from a Randomized Study of Unilateral STN and GPI DBS. PLoS ONE, 2014, 9, e114140.	1.1	40
34	Subject-Specific Multiscale Modeling to Investigate Effects of Transcranial Magnetic Stimulation. Neuromodulation, 2015, 18, 694-704.	0.4	37
35	Optimizing Deep Brain Stimulation Parameter Selection with Detailed Models of the Electrode-Tissue Interface. , 2006, 2006, 893-5.		35
36	Selective neural activation in a histologically derived model of peripheral nerve. Journal of Neural Engineering, 2011, 8, 036009.	1.8	31

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37	A systematic exploration of parameters affecting evoked intracranial potentials in patients with epilepsy. <i>Brain Stimulation</i> , 2020, 13, 1232-1244.	0.7	31
38	Antidepressant-like Effects of Medial Forebrain Bundle Deep Brain Stimulation in Rats are not Associated With Accumbens Dopamine Release. <i>Brain Stimulation</i> , 2015, 8, 708-713.	0.7	29
39	Automated 3-Dimensional Brain Atlas Fitting to Microelectrode Recordings from Deep Brain Stimulation Surgeries. <i>Stereotactic and Functional Neurosurgery</i> , 2009, 87, 229-240.	0.8	28
40	Past, Present, and Future of Deep Brain Stimulation: Hardware, Software, Imaging, Physiology and Novel Approaches. <i>Frontiers in Neurology</i> , 2022, 13, 825178.	1.1	28
41	Potential for unreliable interpretation of <sc>EEG</sc> recorded with microelectrodes. <i>Epilepsia</i> , 2013, 54, 1391-1401.	2.6	25
42	Tract-based analysis of target engagement by subcallosal cingulate deep brain stimulation for treatment resistant depression. <i>Brain Stimulation</i> , 2020, 13, 1094-1101.	0.7	22
43	Anatomical Targets Associated with Abrupt versus Gradual Washout of Subthalamic Deep Brain Stimulation Effects on Bradykinesia. <i>PLoS ONE</i> , 2014, 9, e99663.	1.1	21
44	A retrospective evaluation of automated optimization of deep brain stimulation parameters. <i>Journal of Neural Engineering</i> , 2019, 16, 064002.	1.8	20
45	StimExplorer: deep brain stimulation parameter selection software system. , 2007, 97, 569-574.		20
46	Subthalamic Nucleus Deep Brain Stimulation: Accurate Axonal Threshold Prediction with Diffusion Tensor Based Electric Field Models. , 2006, 2006, 1240-3.		19
47	Signal distortion from microelectrodes in clinical EEG acquisition systems. <i>Journal of Neural Engineering</i> , 2012, 9, 056007.	1.8	18
48	Interleaved deep brain stimulation for dyskinesia management in Parkinson's disease. <i>Movement Disorders</i> , 2019, 34, 1722-1727.	2.2	18
49	The $\frac{1}{4}$ DBS: Multiresolution, Directional Deep Brain Stimulation for Improved Targeting of Small Diameter Fibers. <i>Frontiers in Neuroscience</i> , 2019, 13, 1152.	1.4	17
50	Patient-specific structural connectivity informs outcomes of responsive neurostimulation for temporal lobe epilepsy. <i>Epilepsia</i> , 2022, 63, 2037-2055.	2.6	16
51	The Role of Electrode Location and Stimulation Polarity in Patient Response to Cortical Stimulation for Major Depressive Disorder. <i>Brain Stimulation</i> , 2013, 6, 254-260.	0.7	14
52	Predicting the Effects of Deep Brain Stimulation with Diffusion Tensor Based Electric Field Models. <i>Lecture Notes in Computer Science</i> , 2006, 9, 429-437.	1.0	14
53	Home Health Management of Parkinson Disease Deep Brain Stimulation. <i>JAMA Neurology</i> , 2021, 78, 972.	4.5	13
54	Effect of STN DBS on vesicular monoamine transporter 2 and glucose metabolism in Parkinson's disease. <i>Parkinsonism and Related Disorders</i> , 2019, 64, 235-241.	1.1	12

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55	Basal Ganglia Pathways Associated With Therapeutic Pallidal Deep Brain Stimulation for Tourette Syndrome. <i>Biological Psychiatry: Cognitive Neuroscience and Neuroimaging</i> , 2021, 6, 961-972.	1.1	12
56	Neuromagnetic source imaging of abnormal spontaneous activity in tinnitus patient modulated by electrical cortical stimulation. , 2009, 2009, 1940-4.		11
57	Selective activation of central thalamic fiber pathway facilitates behavioral performance in healthy non-human primates. <i>Scientific Reports</i> , 2021, 11, 23054.	1.6	11
58	The Use of Stimulation Field Models for Deep Brain Stimulation Programming. <i>Brain Stimulation</i> , 2015, 8, 976-978.	0.7	10
59	A statistical framework for quantification and visualisation of positional uncertainty in deep brain stimulation electrodes. <i>Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization</i> , 2019, 7, 438-449.	1.3	9
60	Computational Models of Neuromodulation. <i>International Review of Neurobiology</i> , 2012, 107, 5-22.	0.9	8
61	Functional Hyperconnectivity and Task-Based Activity Changes Associated With Neuropathic Pain After Spinal Cord Injury: A Pilot Study. <i>Frontiers in Neurology</i> , 2021, 12, 613630.	1.1	8
62	Activation robustness with directional leads and multi-lead configurations in deep brain stimulation. <i>Journal of Neural Engineering</i> , 2020, 17, 026012.	1.8	7
63	Targeting Neuronal Fiber Tracts for Deep Brain Stimulation Therapy Using Interactive, Patient-Specific Models. <i>Journal of Visualized Experiments</i> , 2018, , .	0.2	6
64	Validating Patient-Specific Finite Element Models of Direct Electroconvulsive Stimulation. <i>Frontiers in Neuroscience</i> , 2021, 15, 691701.	1.4	6
65	Mechanisms of Noise-Induced Improvement in Light-Intensity Encoding in <i>Hermissenda</i> Photoreceptor Network. <i>Journal of Neurophysiology</i> , 2008, 99, 155-165.	0.9	4
66	Deep brain stimulation of the subthalamic nucleus: model-based analysis of the effects of electrode capacitance on the volume of activation. , 2005, , .		3
67	Random Noise Paradoxically Improves Light-Intensity Encoding in <i>Hermissenda</i> Photoreceptor Network. <i>Journal of Neurophysiology</i> , 2008, 99, 146-154.	0.9	3
68	Interactive computation and visualization of deep brain stimulation effects using Duality. <i>Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization</i> , 2020, 8, 3-14.	1.3	3
69	Identification of Deep Brain Stimulation Targets for Neuropathic Pain After Spinal Cord Injury Using Localized Increases in White Matter Fiber Cross Section. <i>Neuromodulation</i> , 2022, 25, 276-285.	0.4	3
70	Post-light Potentiation at Type B to A Photoreceptor Connections in <i>Hermissenda</i> . <i>Neurobiology of Learning and Memory</i> , 2001, 76, 7-32.	1.0	1
71	The International Neuromodulation Registry: An Informatics Framework Supporting Cohort Discovery and Analysis. <i>Frontiers in Neuroinformatics</i> , 2020, 14, 36.	1.3	1
72	Gamma power correlates with clinical response to repetitive transcranial magnetic stimulation (rTMS) for depression. , 2013, , .		0

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73	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
74	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