Daryl R Kipke

List of Publications by Year
in descending order

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86	7,829	94433	110387
papers	citations	37 h-index	64 g-index

87	87	87	6695
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ultrasmall implantable composite microelectrodes with bioactive surfaces for chronic neural interfaces. Nature Materials, 2012, 11, 1065-1073.	27.5	601
2	Chronic neural recordings using silicon microelectrode arrays electrochemically deposited with a poly(3,4-ethylenedioxythiophene) (PEDOT) film. Journal of Neural Engineering, 2006, 3, 59-70.	3.5	570
3	Neural probe design for reduced tissue encapsulation in CNS. Biomaterials, 2007, 28, 3594-3607.	11.4	417
4	Chronic Neural Recording Using Silicon-Substrate Microelectrode Arrays Implanted in Cerebral Cortex. IEEE Transactions on Biomedical Engineering, 2004, 51, 896-904.	4.2	410
5	Conductingâ€Polymer Nanotubes Improve Electrical Properties, Mechanical Adhesion, Neural Attachment, and Neurite Outgrowth of Neural Electrodes. Small, 2010, 6, 421-429.	10.0	362
6	Long-term neural recording characteristics of wire microelectrode arrays implanted in cerebral cortex. Brain Research Protocols, 1999, 4, 303-313.	1.6	359
7	Using a Common Average Reference to Improve Cortical Neuron Recordings From Microelectrode Arrays. Journal of Neurophysiology, 2009, 101, 1679-1689.	1.8	359
8	Complex impedance spectroscopy for monitoring tissue responses to inserted neural implants. Journal of Neural Engineering, 2007, 4, 410-423.	3.5	353
9	Silicon-substrate intracortical microelectrode arrays for long-term recording of neuronal spike activity in cerebral cortex. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2003, 11, 151-155.	4.9	329
10	A finite-element model of the mechanical effects of implantable microelectrodes in the cerebral cortex. Journal of Neural Engineering, 2005, 2, 103-113.	3.5	317
11	Tools for Probing Local Circuits: High-Density Silicon Probes Combined with Optogenetics. Neuron, 2015, 86, 92-105.	8.1	284
12	Advanced Neurotechnologies for Chronic Neural Interfaces: New Horizons and Clinical Opportunities. Journal of Neuroscience, 2008, 28, 11830-11838.	3.6	256
13	Interfacing Conducting Polymer Nanotubes with the Central Nervous System: Chronic Neural Recording using Poly(3,4â€ethylenedioxythiophene) Nanotubes. Advanced Materials, 2009, 21, 3764-3770.	21.0	246
14	Poly(3,4-ethylenedioxythiophene) (PEDOT) polymer coatings facilitate smaller neural recording electrodes. Journal of Neural Engineering, 2011, 8, 014001.	3.5	225
15	Calcium alginate gel: A biocompatible and mechanically stable polymer for endovascular embolization. Journal of Biomedical Materials Research Part B, 2001, 54, 76-86.	3.1	198
16	Conducting polymers on hydrogel-coated neural electrode provide sensitive neural recordings in auditory cortex. Acta Biomaterialia, 2010, 6, 57-62.	8.3	186
17	Insertion shuttle with carboxyl terminated self-assembled monolayer coatings for implanting flexible polymer neural probes in the brain. Journal of Neuroscience Methods, 2009, 184, 199-205.	2.5	168
18	A 64 Channel Programmable Closed-Loop Neurostimulator With 8 Channel Neural Amplifier and Logarithmic ADC. IEEE Journal of Solid-State Circuits, 2010, 45, 1935-1945.	5.4	121

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19	The insulation performance of reactive parylene films in implantable electronic devices. Biomaterials, 2009, 30, 6158-6167.	11.4	119
20	Hybrid Conducting Polymerâ€“Hydrogel Conduits for Axonal Growth and Neural Tissue Engineering. Advanced Healthcare Materials, 2012, 1, 762-767.	7.6	117
21	Repeated voltage biasing improves unit recordings by reducing resistive tissue impedances. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2005, 13, 160-165.	4.9	114
22	Voltage Pulses Change Neural Interface Properties and Improve Unit Recordings With Chronically Implanted Microelectrodes. IEEE Transactions on Biomedical Engineering, 2006, 53, 333-340.	4.2	113
23	Implantable microelectrode arrays for simultaneous electrophysiological and neurochemical recordings. Journal of Neuroscience Methods, 2008, 174, 62-70.	2.5	101
24	Theoretical analysis of intracortical microelectrode recordings. Journal of Neural Engineering, 2011, 8, 045006.	3.5	98
25	NaÃ¯ve coadaptive cortical control. Journal of Neural Engineering, 2005, 2, 52-63.	3.5	94
26	Novel multi-sided, microelectrode arrays for implantable neural applications. Biomedical Microdevices, 2011, 13, 441-451.	2.8	80
27	In vivo stability and biocompatibility of implanted calcium alginate disks. Journal of Biomedical Materials Research - Part A, 2007, 83A, 1128-1137.	4.0	72
28	Microstimulation in auditory cortex provides a substrate for detailed behaviors. Hearing Research, 2005, 210, 112-117.	2.0	66
29	Spatiotemporal pH dynamics following insertion of neural microelectrode arrays. Journal of Neuroscience Methods, 2007, 160, 276-287.	2.5	66
30	Flow properties of liquid calcium alginate polymer injected through medical microcatheters for endovascular embolization. Journal of Biomedical Materials Research Part B, 2002, 61, 533-540.	3.1	56
31	Cortical microstimulation in auditory cortex of rat elicits best-frequency dependent behaviors. Journal of Neural Engineering, 2005, 2, 42-51.	3.5	53
32	In vivo performance of a microelectrode neural probe with integrated drug delivery. Neurosurgical Focus, 2009, 27, E8.	2.3	50
33	Stability of chronic multichannel neural recordings: Implications for a long-term neural interface. Neurocomputing, 1999, 26-27, 1069-1076.	5.9	49
34	Flavopiridol reduces the impedance of neural prostheses in vivo without affecting recording quality. Journal of Neuroscience Methods, 2009, 183, 149-157.	2.5	48
35	Calcium Alginate Gel as a Biocompatible Material for Endovascular Arteriovenous Malformation Embolization: Six-month Results in an Animal Model. Neurosurgery, 2005, 56, 793-801.	1.1	45
36	Investigation of the material properties of alginate for the development of hydrogel repair of dura mater. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 16-33.	3.1	45

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37	Single electrode micro-stimulation of rat auditory cortex: an evaluation of behavioral performance. Hearing Research, 2003, 179, 62-71.	2.0	42
38	Characterization of Implantable Microfabricated Fluid Delivery Devices. IEEE Transactions on Biomedical Engineering, 2004, 51, 138-145.	4.2	41
39	Enhanced contrast sensitivity in auditory cortex as cats learn to discriminate sound frequencies. Cognitive Brain Research, 2005, 23, 171-184.	3.0	37
40	In Vivo Assessment of Calcium Alginate Gel for Endovascular Embolization of a Cerebral Arteriovenous Malformation Model Using the Swine Rete Mirabile. Neurosurgery, 2002, 51, 453-459.	1.1	35
41	PRELIMINARY INVESTIGATION OF CALCIUM ALGINATE GEL AS A BIOCOMPATIBLE MATERIAL FOR ENDOVASCULAR ANEURYSM EMBOLIZATION IN VIVO. Neurosurgery, 2007, 60, 1119-1128.	1.1	33
42	A Novel Lead Design for Modulation and Sensing of Deep Brain Structures. IEEE Transactions on Biomedical Engineering, 2016, 63, 148-157.	4.2	31
43	Cytotoxic analysis of the conducting polymer PEDOT using myocytes. , 2008, 2008, 1841-4.		29
44	Fabrication of Polymer Neural Probes with Sub-cellular Features for Reduced Tissue Encapsulation. , 2006, 2006, 4606-9.		27
45	A Tunable Biquad Switched-Capacitor Amplifier-Filter for Neural Recording. IEEE Transactions on Biomedical Circuits and Systems, 2010, 4, 295-300.	4.0	27
46	Multi-site incorporation of bioactive matrices into MEMS-based neural probes. Journal of Neural Engineering, 2005, 2, L23-L28.	3.5	25
47	Development of Closed-Loop Neural Interface Technology in a Rat Model: Combining Motor Cortex Operant Conditioning With Visual Cortex Microstimulation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2010, 18, 117-126.	4.9	25
48	Surgical Implantation of Chronic Neural Electrodes for Recording Single Unit Activity and Electrocorticographic Signals. Journal of Visualized Experiments, 2012, , .	0.3	25
49	In Vivo Electrical Conductivity across Critical Nerve Gaps Using Poly(3,4-ethylenedioxythiophene)-Coated Neural Interfaces. Plastic and Reconstructive Surgery, 2010, 126, 1865-1873.	1.4	24
50	Polarity of cortical electrical stimulation differentially affects neuronal activity of deep and superficial layers of rat motor cortex. Brain Stimulation, 2011, 4, 228-241.	1.6	22
51	The role of flexible polymer interconnects in chronic tissue response induced by intracortical microelectrodes - a modeling and an in vivo study. , 2006, 2006, 3588-91.		21
52	High gamma power in ECoG reflects cortical electrical stimulation effects on unit activity in layers V/VI. Journal of Neural Engineering, 2013, 10, 066002.	3.5	21
53	In-vivo Evaluation of Chronically Implanted Neural Microelectrode Arrays Modified with Poly (3,4-ethylenedioxythiophene) Nanotubes. , 2007, , .		17
54	Microscale Electrode Implantation during Nerve Repair. Plastic and Reconstructive Surgery, 2011, 128, 270e-278e.	1.4	17

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55	A computational model of the cochlear nucleus octopus cell. Journal of the Acoustical Society of America, 1997, 102, 391-402.	1.1	16
56	Optimization of Microelectrode Design for Cortical Recording Based on Thermal Noise Considerations. , 2006, 2006, 3361-4.		16
57	An alginate hydrogel dura mater replacement for use with intracortical electrodes. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 95B, 421-429.	3.4	16
58	Use of a Bayesian maximum-likelihood classifier to generate training data for brainâ€“machine interfaces. Journal of Neural Engineering, 2011, 8, 046009.	3.5	16
59	Suitability of the Cingulate Cortex for Neural Control. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 401-409.	4.9	15
60	Sensitivity of the cochlear nucleus octopus cell to synaptic and membrane properties: A modeling study. Journal of the Acoustical Society of America, 1997, 102, 403-412.	1.1	12
61	Fast wave propagation in auditory cortex of an awake cat using a chronic microelectrode array. Journal of Neural Engineering, 2007, 4, 68-78.	3.5	11
62	Mechanisms of the cochlear nucleus octopus cellâ€™s onset response: Synaptic effectiveness and threshold. Journal of the Acoustical Society of America, 1998, 103, 1940-1950.	1.1	10
63	Lower layers in the motor cortex are more effective targets for penetrating microelectrodes in cortical prostheses. Journal of Neural Engineering, 2009, 6, 026004.	3.5	10
64	Functional connectivity in auditory cortex using chronic, multichannel unit recordings. Neurocomputing, 1999, 26-27, 347-354.	5.9	9
65	Voltage Biasing, Cyclic Voltammetry, & Electrical Impedance Spectroscopy for Neural Interfaces. Journal of Visualized Experiments, 2012, , .	0.3	9
66	Shared-stimulus driving and connectivity in groups of neurons in the dorsal cochlear nucleus. Hearing Research, 1991, 55, 24-38.	2.0	8
67	Insertion of a three dimensional silicon microelectrode assembly through a thick meningeal membrane. , 2009, 2009, 1616-8.		6
68	Neural Interface Dynamics Following Insertion of Hydrous Iridium Oxide Microelectrode Arrays. , 2006, 2006, 3178-81.		5
69	Acquiring Brain Signals from within the Brain. , 2012, , 81-103.		5
70	Validation of a novel three-dimensional electrode array within auditory cortex. , 2009, 2009, 2066-9.		4
71	CNS RECORDING ELECTRODES AND TECHNIQUES. Series on Bioengineering and Biomedical Engineering, 2004, , 761-785.	0.1	4
72	Local Drug Delivery System for Dynamic Control of Neural Environment using Parylene-Based Microelectrodes. , 2007, , 3542-3545.		3

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73	Laminar Analysis of Movement Direction Information in Local Field Potentials of the Rat Motor Cortex. , 2006, 2006, 2589-92.		2
74	Linear Electrode Depth Estimation in Rat Motor Cortex by Laminar Analysis of Ketamine-Xylazine-Induced Oscillations. , 2007, , .		1
75	The Electrocorticogram as a Feedback Control Signal for Deep Brain Stimulation of the Subthalamic Nucleus in the hemi-Parkinsonian Rat. , 2007, , .		1
76	Mechanical characterization of conducting polymer actuated neural probes under physiological settings. , 2010, , .		1
77	NEXT GENERATION OF CORTICAL DEVICES. Series on Bioengineering and Biomedical Engineering, 2004, , 1197-1216.	0.1	1
78	Development of Neural Interfaces for Chronic Use in Neuromotor Prosthetics. , 2007, , .		0
79	"Talking Directly to the Brain: Implantable Microscale Neural Interfaces for Neuroprostheses and Neuromodulation". , 2007, , .		0
80	Decoding the Direction of Movements from Interneuron and Projection Cell Populations in the Basal Ganglia. , 2007, , .		0
81	CNS Recording: Devices and Techniques. Series on Bioengineering and Biomedical Engineering, 2017, , 467-488.	0.1	0
82	Laminar Analysis of Movement Direction Information in Local Field Potentials of the Rat Motor Cortex. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
83	Neural Interface Dynamics Following Insertion of Hydrous Iridium Oxide Microelectrode Arrays. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
84	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
85	The role of flexible polymer interconnects in chronic tissue response induced by intracortical microelectrodes - a modeling and an in vivo study. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
86	Fabrication of Polymer Neural Probes with Sub-cellular Features for Reduced Tissue Encapsulation. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0