

Wentai Liu

List of Publications by Year in descending order

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130
papers

4,696
citations

212478

28
h-index

169272

56
g-index

133
all docs

133
docs citations

133
times ranked

3702
citing authors

#	ARTICLE	IF	CITATIONS
1	Stimulation Montage Achieves Balanced Focality and Intensity. <i>Algorithms</i> , 2022, 15, 169.	1.2	1
2	Crosstalk in polymer microelectrode arrays. <i>Nano Research</i> , 2021, 14, 3240-3247.	5.8	9
3	A Biomimetic, SoC-Based Neural Stimulator for Novel Arbitrary-Waveform Stimulation Protocols. <i>Frontiers in Neuroscience</i> , 2021, 15, 697731.	1.4	4
4	An epidural stimulating interface unveils the intrinsic modulation of electrically motor evoked potentials in behaving rats. <i>Journal of Neurophysiology</i> , 2021, 126, 1635-1641.	0.9	3
5	Using EMG to deliver lumbar dynamic electrical stimulation to facilitate cortico-spinal excitability. <i>Brain Stimulation</i> , 2020, 13, 20-34.	0.7	21
6	Stretchable, dynamic covalent polymers for soft, long-lived bioresorbable electronic stimulators designed to facilitate neuromuscular regeneration. <i>Nature Communications</i> , 2020, 11, 5990.	5.8	144
7	Bioelectronic Medicine: Treating Diseases with Miniaturized Biomimetic Devices. , 2020, , .		0
8	The effect of colonic tissue electrical stimulation and celiac branch of the abdominal vagus nerve neuromodulation on colonic motility in anesthetized pigs. <i>Neurogastroenterology and Motility</i> , 2020, 32, e13925.	1.6	10
9	Acute neuromodulation restores spinally-induced motor responses after severe spinal cord injury. <i>Experimental Neurology</i> , 2020, 327, 113246.	2.0	13
10	Challenges in the Design of Large-Scale, High-Density, Wireless Stimulation and Recording Interface. , 2020, , 1-28.		1
11	A Wireless Implantable System for Facilitating Gastrointestinal Motility. <i>Micromachines</i> , 2019, 10, 525.	1.4	6
12	A Novel Biomimetic Stimulator System for Neural Implant. , 2019, 2019, 843-846.		3
13	Intestinal Electrical Stimulation to Increase the Rate of Peristalsis. <i>Journal of Surgical Research</i> , 2019, 236, 153-158.	0.8	7
14	Online Artifact Cancellation in Same-Electrode Neural Stimulation and Recording Using a Combined Hardware and Software Architecture. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2018, 12, 601-613.	2.7	19
15	A Wireless Platform to Support Pre-Clinical Trial of Neural Implant for Spinal Cord Injury. , 2018, 2018, 5487-5490.		3
16	A Wireless Implant for Gastrointestinal Motility Disorders. <i>Micromachines</i> , 2018, 9, 17.	1.4	21
17	Transparent arrays of bilayer-nanomesh microelectrodes for simultaneous electrophysiology and two-photon imaging in the brain. <i>Science Advances</i> , 2018, 4, eaat0626.	4.7	114
18	A Fully Integrated Wireless SoC for Motor Function Recovery After Spinal Cord Injury. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2017, 11, 497-509.	2.7	55

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19	Towards closed-loop neuromodulation: a wireless miniaturized neural implant SoC. , 2017, 10194, .		2
20	Bilayer Nanomesh Structures for Transparent Recording and Stimulating Microelectrodes. Advanced Functional Materials, 2017, 27, 1704117.	7.8	47
21	Thermal model of spiked electrode in Transcutaneous Electrical Nerve Stimulation (TENS). , 2017, , .		1
22	Accelerated high-resolution EEG source imaging. , 2017, , .		3
23	s-SMOOTH: Sparsity and Smoothness Enhanced EEG Brain Tomography. Frontiers in Neuroscience, 2016, 10, 543.	1.4	15
24	A hybrid hardware and software approach for cancelling stimulus artifacts during same-electrode neural stimulation and recording. , 2016, 2016, 6190-6193.		10
25	22.2 A 176-channel 0.5cm ³ 0.7g wireless implant for motor function recovery after spinal cord injury. , 2016, 2016, 382-383.		23
26	An On-Chip Multi-Voltage Power Converter With Leakage Current Prevention Using 0.18 um High-Voltage CMOS Process. IEEE Transactions on Biomedical Circuits and Systems, 2016, 10, 163-174.	2.7	12
27	Wireless Gigabit Data Telemetry for Large-Scale Neural Recording. IEEE Journal of Biomedical and Health Informatics, 2015, 19, 1-1.	3.9	21
28	A Frequency Shaping Neural Recorder With 3 pF Input Capacitance and 11 Plus 4.5 Bits Dynamic Range. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 510-527.	2.7	38
29	Design and fabrication of a multi-electrode array for spinal cord epidural stimulation. , 2014, 2014, 6834-7.		11
30	Bio-impedance characterization technique with implantable neural stimulator using biphasic current stimulus. , 2014, 2014, 474-7.		13
31	Eyelid Reanimation Prototype for Facial Nerve Paralysis. , 2014, , 99-120.		0
32	Precision control of pulse widths for charge balancing in functional electrical stimulation. , 2013, , .		11
33	A System Verification Platform for High-Density Epiretinal Prostheses. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 326-337.	2.7	39
34	A 37.6mm ² 1024-channel high-compliance-voltage SoC for epiretinal prostheses. , 2013, , .		7
35	A Fully-Integrated High-Compliance Voltage SoC for Epi-Retinal and Neural Prostheses. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 761-772.	2.7	62
36	Analysis of Dual Band Power and Data Telemetry for Biomedical Implants. IEEE Transactions on Biomedical Circuits and Systems, 2012, 6, 208-215.	2.7	112

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37	A non-coherent versatile DPSK receiver for high channel-density neural prosthesis. , 2011, , .		2
38	1/f Neural Noise Reduction and Spike Feature Extraction Using a Subset of Informative Samples. Annals of Biomedical Engineering, 2011, 39, 1264-1277.	1.3	8
39	Analysis and design of data transmission protocol for 1024-channel retinal prosthesis. , 2011, 2011, 4010-3.		2
40	A 64-channel neuron recording system. , 2011, 2011, 2862-5.		2
41	Engineering hope with biomimetic microelectronic systems. , 2010, , .		1
42	An Integrated 256-Channel Epiretinal Prosthesis. IEEE Journal of Solid-State Circuits, 2010, 45, 1946-1956.	3.5	226
43	A biomedical multiprocessor SoC for closed-loop neuroprosthetic applications. , 2009, , .		15
44	Design of advanced neuroscience platform. , 2009, 2009, 5535-8.		2
45	Neural signal classification using a simplified feature set with nonparametric clustering. Neurocomputing, 2009, 73, 412-422.	3.5	10
46	A 128-Channel 6 mW Wireless Neural Recording IC With Spike Feature Extraction and UWB Transmitter. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 312-321.	2.7	329
47	A 220nW neural amplifier for multi-channel neural recording systems. , 2009, , .		11
48	Highly programmable digital controller for high-density epi-retinal prosthesis. , 2009, 2009, 1592-5.		8
49	Circuit and Coil Design for In-Vitro Magnetic Neural Stimulation Systems. IEEE Transactions on Biomedical Circuits and Systems, 2009, 3, 321-331.	2.7	27
50	Closed-loop eyelid reanimation system with real-time blink detection and electrochemical stimulation for facial nerve paralysis. , 2009, , .		18
51	Improving spike separation using waveform derivatives. Journal of Neural Engineering, 2009, 6, 046006.	1.8	32
52	Magnetic Stimulation of Neural Tissue: Techniques and System Design. Biological and Medical Physics Series, 2009, , 293-351.	0.3	12
53	Microelectronics of Recording, Stimulation, and Wireless Telemetry for Neuroprosthetics: Design and Optimization. Biological and Medical Physics Series, 2009, , 253-330.	0.3	2
54	A 128-Channel 6mW Wireless Neural Recording IC with On-the-Fly Spike Sorting and UWB Tansmitter. , 2008, , .		95

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55	An efficient wireless power link for high voltage retinal implant. , 2008, , .		29
56	Design Optimization for Integrated Neural Recording Systems. IEEE Journal of Solid-State Circuits, 2008, 43, 1931-1939.	3.5	102
57	A Non-Coherent DPSK Data Receiver With Interference Cancellation for Dual-Band Transcutaneous Telemetries. IEEE Journal of Solid-State Circuits, 2008, 43, 2003-2012.	3.5	62
58	A fully integrated DPSK demodulator for high density biomedical implants. , 2008, , .		9
59	NEUSORT2.0: A multiple-channel neural signal processor with systolic array buffer and channel-interleaving processing schedule. , 2008, 2008, 5029-32.		5
60	Application of MEMS technology and engineering in medicine: a new paradigm for facial muscle reanimation. Expert Review of Medical Devices, 2008, 5, 371-381.	1.4	10
61	In vitro magnetic stimulation of unmyelinated nerves. , 2008, 2008, 2385-8.		1
62	A neuron signature based spike feature extraction algorithm for on-chip implementation. , 2008, 2008, 1716-9.		8
63	Systems design of a high resolution retinal prosthesis. , 2008, , .		7
64	A MICS Band Wireless Body Sensor Network. , 2007, , .		29
65	A Non-Coherent PSK Receiver with Interference-Canceling for Transcutaneous Neural Implants. Digest of Technical Papers - IEEE International Solid-State Circuits Conference, 2007, , .	0.0	13
66	A Wideband Telemetry Unit for Multi-Channel Neural Recording Systems. , 2007, , .		25
67	SOI CMOS Implementation of a Multirate PSK Demodulator for Space Communications. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 420-431.	0.1	9
68	Inductor Modeling in Wireless Links for Implantable Electronics. IEEE Transactions on Magnetics, 2007, 43, 3851-3860.	1.2	166
69	Challenges in Realizing a Chronic High-Resolution Retinal Prosthesis. , 2007, , 129-149.		3
70	Development of an Intraocular Retinal Prosthesis to Benefit the Visually Impaired. , 2007, , 55-69.		3
71	Challenges in System and Circuit Design for High Density Retinal Prosthesis. , 2006, , .		0
72	A Dual Band Wireless Power and Data Telemetry for Retinal Prosthesis. , 2006, 2006, 4392-5.		83

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73	Discrete-Time Analysis of an All-Digital and Multirate Symbol Timing Recovery Scheme for Sampling Receivers. , 2006, , .		0
74	A 16 Gb/s Adaptive Bandwidth On-Chip Bus Based on Hybrid Current/Voltage Mode Signaling. IEEE Journal of Solid-State Circuits, 2006, 41, 461-473.	3.5	20
75	Towards a Modular 32 x 32 Pixel Stimulator for Retinal Prosthesis. , 2006, , .		2
76	Analytical Calculation of the Self-Resonant Frequency of Biomedical Telemetry Coils. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
77	A Transcutaneous Data Telemetry System Tolerant to Power Telemetry Interference. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
78	A Dual Band Wireless Power and Data Telemetry for Retinal Prosthesis. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
79	Implantable biomimetic microelectronic systems design. IEEE Engineering in Medicine and Biology Magazine, 2005, 24, 66-74.	1.1	51
80	An optimal design methodology for inductive power link with class-E amplifier. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2005, 52, 857-866.	0.1	187
81	Architecture Tradeoffs in High Density Microstimulators for Retinal Prosthesis. , 2005, , .		18
82	A variable range bi-phasic current stimulus driver circuitry for an implantable retinal prosthetic device. IEEE Journal of Solid-State Circuits, 2005, 40, 763-771.	3.5	137
83	Architecture tradeoffs in high-density microstimulators for retinal prosthesis. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2005, 52, 2629-2641.	0.1	67
84	Retinal Prosthesis. Annual Review of Biomedical Engineering, 2005, 7, 361-401.	5.7	407
85	Design and analysis of an adaptive transcutaneous power telemetry for biomedical implants. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2005, 52, 2109-2117.	0.1	367
86	A hybrid current/voltage mode on-chip signaling scheme with adaptive bandwidth capability. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2004, 12, 876-880.	2.1	11
87	Electronic Visual Prosthesis. Artificial Organs, 2003, 27, 986-995.	1.0	39
88	An arbitrary waveform stimulus circuit for visual prostheses using a low-area multibias dac. IEEE Journal of Solid-State Circuits, 2003, 38, 1679-1690.	3.5	59
89	Current-mode signaling in deep submicrometer global interconnects. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2003, 11, 406-417.	2.1	67
90	Computed SAR and thermal elevation in a 0.25-mm 2-D model of the human eye and head in response to an implanted retinal stimulator. II. Results. IEEE Transactions on Antennas and Propagation, 2003, 51, 2286-2295.	3.1	49

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91	Computed SAR and thermal elevation in a 0.25-mm 2-D model of the human eye and head in response to an implanted retinal stimulator. I. Models and methods. IEEE Transactions on Antennas and Propagation, 2003, 51, 2274-2285.	3.1	81
92	Low-power design methodology for an on-chip bus with adaptive bandwidth capability. , 2003, , .		10
93	Retinal Prosthesis for the Blind. Survey of Ophthalmology, 2002, 47, 335-356.	1.7	391
94	Retinal prosthesis. Ophthalmology, 2001, 108, 13-14.	2.5	182
95	A CMOS high-speed data recovery circuit using the matched delay sampling technique. IEEE Journal of Solid-State Circuits, 1997, 32, 1588-1596.	3.5	13
96	Clocking Optimization and Distribution in Digital Systems with Scheduled Skews. Journal of Signal Processing Systems, 1997, 16, 131-147.	1.0	2
97	Clocking Optimization and Distribution in Digital Systems with Scheduled Skews. , 1997, , 19-35.		2
98	A sampling technique and its CMOS implementation with 1 Gb/s bandwidth and 25 ps resolution. IEEE Journal of Solid-State Circuits, 1994, 29, 340-349.	3.5	45
99	The design of a vector-radix 2DFFT chip. , 1985, , .		1
100	Bounds on the Saved Area Ratio Due to PLA Folding. , 1983, , .		0
101	High speed, fine resolution pattern generation using the matched delay technique. , 0, , .		1
102	Concurrent timing optimization of latch-based digital systems. , 0, , .		2
103	A technique for high-speed, fine-resolution pattern generation and its CMOS implementation. , 0, , .		2
104	Simulation of real time image processing: MFA in VLSI. , 0, , .		0
105	Self-calibrating clock distribution with scheduled skews. , 0, , .		2
106	An implantable power and data receiver and neuro-stimulus chip for a retinal prosthesis system. , 0, , .		8
107	Simulated temperature increase in a head/eye model containing an intraocular retinal prosthesis. , 0, , .		6
108	A multi channel chopper modulated neural recording system. , 0, , .		16

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109	FDTD investigation of a microwave link for data telemetry in retinal prosthesis applications. , 0, , .		4
110	Delay and power model for current-mode signaling in deep submicron global interconnects. , 0, , .		11
111	Retinal implant: bridging engineering and medicine. , 0, , .		4
112	An interpolating sense circuit for molecular memory. , 0, , .		1
113	A smart bi-directional telemetry unit for retinal prosthetic device. , 0, , .		39
114	Accurate delay model and experimental verification for current/voltage mode on-chip interconnects. , 0, , .		0
115	Analysis of phase noise due to bang-bang phase detector in PLL-based clock and data recovery circuits. , 0, , .		2
116	A 16Gb/s adaptive bandwidth on-chip bus based on hybrid current/voltage mode signaling. , 0, , .		8
117	The performance and experimental results of a multiple bit rate symbol timing recovery circuit for PSK receivers. , 0, , .		3
118	An efficient inductive power link design for retinal prosthesis. , 0, , .		18
119	A closed loop transcutaneous power transfer system for implantable devices with enhanced stability. , 0, , .		11
120	A matched biphasic microstimulator for an implantable retinal prosthetic device. , 0, , .		13
121	Implementation and performance of a low-power multirate PSK receiver robust to doppler shift. , 0, , .		2
122	Impact of an SoC Research Project on Microelectronics Education: A Case Study. , 0, , .		1
123	Power Supply Topologies for Biphasic Stimulation in Inductively Powered Implants. , 0, , .		13
124	Image Processing and Interface for Retinal Visual Prostheses. , 0, , .		18
125	A Closed-form Delay Formula for On-Chip RLC Interconnects in Current-Mode Signaling. , 0, , .		4
126	High Efficiency Wireless Power Transmission with Digitally Configurable Stimulation Voltage for Retinal Prosthesis. , 0, , .		7

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127	A low power MICS band transceiver architecture for implantable devices. , 0, , .		3
128	A low power MICS band transceiver architecture for implantable devices. , 0, , .		9
129	A low-power FSK modulator/demodulator for an MICS band transceiver. , 0, , .		9
130	A Neural Recording System for Monitoring Shark Behavior. , 0, , .		2