

Roman Genov

List of Publications by Year in descending order

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89
papers

2,445
citations

279798

23
h-index

233421

45
g-index

91
all docs

91
docs citations

91
times ranked

2020
citing authors

#	ARTICLE	IF	CITATIONS
1	The 128-Channel Fully Differential Digital Integrated Neural Recording and Stimulation Interface. IEEE Transactions on Biomedical Circuits and Systems, 2010, 4, 149-161.	4.0	240
2	256-Channel Neural Recording and Delta Compression Microsystem With 3D Electrodes. IEEE Journal of Solid-State Circuits, 2009, 44, 995-1005.	5.4	160
3	CMOS Electrochemical Instrumentation for Biosensor Microsystems: A Review. Sensors, 2017, 17, 74.	3.8	117
4	16-Channel CMOS Impedance Spectroscopy DNA Analyzer With Dual-Slope Multiplying ADCs. IEEE Transactions on Biomedical Circuits and Systems, 2012, 6, 468-478.	4.0	107
5	64-Channel UWB Wireless Neural Vector Analyzer SOC With a Closed-Loop Phase Synchrony-Triggered Neurostimulator. IEEE Journal of Solid-State Circuits, 2013, 48, 2494-2510.	5.4	104
6	Rail-to-Rail-Input Dual-Radio 64-Channel Closed-Loop Neurostimulator. IEEE Journal of Solid-State Circuits, 2017, , 1-18.	5.4	102
7	Inâ€Memory Vectorâ€Matrix Multiplication in Monolithic Complementary Metalâ€Oxideâ€Semiconductorâ€Memristor Integrated Circuits: Design Choices, Challenges, and Perspectives. Advanced Intelligent Systems, 2020, 2, 2000115.	6.1	100
8	Closed-Loop Neurostimulators: A Survey and A Seizure-Predicting Design Example for Intractable Epilepsy Treatment. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 1026-1040.	4.0	89
9	Battery-less Tri-band-Radio Neuro-monitor and Responsive Neurostimulator for Diagnostics and Treatment of Neurological Disorders. IEEE Journal of Solid-State Circuits, 2016, 51, 1274-1289.	5.4	85
10	16-Channel Integrated Potentiostat for Distributed Neurochemical Sensing. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2006, 53, 2371-2376.	0.1	81
11	CMOS Neurotransmitter Microarray: 96-Channel Integrated Potentiostat With On-Die Microsensors. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 338-348.	4.0	80
12	915-MHz FSK/OOK Wireless Neural Recording SoC With 64 Mixed-Signal FIR Filters. IEEE Journal of Solid-State Circuits, 2013, 48, 2478-2493.	5.4	66
13	NURIP: Neural Interface Processor for Brain-State Classification and Programmable-Waveform Neurostimulation. IEEE Journal of Solid-State Circuits, 2018, 53, 3150-3162.	5.4	59
14	Focal-Plane Algorithmically-Multiplying CMOS Computational Image Sensor. IEEE Journal of Solid-State Circuits, 2009, 44, 1829-1839.	5.4	56
15	A CMOS/Thin-Film Fluorescence Contact Imaging Microsystem for DNA Analysis. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 1029-1038.	5.4	56
16	Chopper-Stabilized Bidirectional Current Acquisition Circuits for Electrochemical Amperometric Biosensors. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 1149-1157.	5.4	54
17	Phase-Synchronization Early Epileptic Seizure Detector VLSI Architecture. IEEE Transactions on Biomedical Circuits and Systems, 2011, 5, 430-438.	4.0	47
18	Nanostructured CMOS Wireless Ultra-Wideband Label-Free PCR-Free DNA Analysis SoC. IEEE Journal of Solid-State Circuits, 2014, 49, 1223-1241.	5.4	46

#	ARTICLE	IF	CITATIONS
19	Brain-Silicon Interface for High-Resolution in vitro Neural Recording. IEEE Transactions on Biomedical Circuits and Systems, 2007, 1, 56-62.	4.0	45
20	Focal-Plane Spatially Oversampling CMOS Image Compression Sensor. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 26-34.	0.1	42
21	Track-and-Zoom Neural Analog-to-Digital Converter With Blind Stimulation Artifact Rejection. IEEE Journal of Solid-State Circuits, 2020, 55, 1984-1997.	5.4	40
22	Massively-Parallel Neuromonitoring and Neurostimulation Rodent Headset With Nanotextured Flexible Microelectrodes. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 601-609.	4.0	34
23	Low-distortion super-GOhm subthreshold-MOS resistors for CMOS neural amplifiers. , 2013, , .		34
24	Inductively-powered direct-coupled 64-channel chopper-stabilized epilepsy-responsive neurostimulator with digital offset cancellation and tri-band radio. , 2014, , .		27
25	Rapid brief feedback intracerebral stimulation based on real-time desynchronization detection preceding seizures stops the generation of convulsive paroxysms. Epilepsia, 2015, 56, 1227-1238.	5.1	27
26	A fully differential CMOS potentiostat. , 2009, , .		23
27	CMOS Spectrally-Multiplexed FRET-on-a-Chip for DNA Analysis. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 643-654.	4.0	23
28	22.8 Adaptively Clock-Boosted Auto-Ranging Responsive Neurostimulator for Emerging Neuromodulation Applications. , 2019, , .		23
29	Opamp-Less Sub-1/4W/Channel -Modulated Neural-ADC With Super-G Input Impedance. IEEE Journal of Solid-State Circuits, 2021, 56, 1565-1575.	5.4	22
30	Bidirectional Peripheral Nerve Interface With 64 Second-Order Opamp-Less ADCs and Fully Integrated Wireless Power/Data Transmission. IEEE Journal of Solid-State Circuits, 2021, 56, 3247-3262.	5.4	21
31	1.1 TMACS/mW Fine-Grained Stochastic Resonant Charge-Recycling Array Processor. IEEE Sensors Journal, 2012, 12, 785-792.	4.7	20
32	A CMOS-Microfluidic Chemiluminescence Contact Imaging Microsystem. IEEE Journal of Solid-State Circuits, 2012, 47, 2822-2833.	5.4	20
33	The Effect of Pinned Photodiode Shape on Time-of-Flight Demodulation Contrast. IEEE Transactions on Electron Devices, 2017, 64, 2244-2250.	3.0	20
34	Coded Two-Bucket Cameras for Computer Vision. Lecture Notes in Computer Science, 2018, , 55-73.	1.3	20
35	Artifact-Tolerant Opamp-Less Delta-Modulated Bidirectional Neuro-Interface. , 2018, , .		18
36	480-GMACS/mW Resonant Adiabatic Mixed-Signal Processor Array for Charge-Based Pattern Recognition. IEEE Journal of Solid-State Circuits, 2007, 42, 2573-2584.	5.4	17

#	ARTICLE	IF	CITATIONS
37	Cellular inductive powering system for weakly-linked resonant rodent implants. , 2013, , .		17
38	50nW Opamp-Less $\hat{\Gamma}$ -Modulated Bioimpedance Spectrum Analyzer for Electrochemical Brain Interfacing. IEEE Journal of Solid-State Circuits, 2020, 55, 1971-1983.	5.4	17
39	Low-Radiation Cellular Inductive Powering of Rodent Wireless Brain Interfaces: Methodology and Design Guide. IEEE Transactions on Biomedical Circuits and Systems, 2016, 10, 920-932.	4.0	16
40	Mortality with brainstem seizures from focal 4-aminopyridine-induced recurrent hippocampal seizures. Epilepsia, 2017, 58, 1637-1644.	5.1	16
41	915-MHz wireless 64-channel neural recording SoC with programmable mixed-signal FIR filters. , 2011, , .		15
42	CMOS impedance spectrum analyzer with dual-slope multiplying ADC. , 2011, , .		13
43	Multi-step binary-weighted capacitive digital-to-analog converter architecture. , 2008, , .		12
44	CMOS current-copying neural stimulator with OTA-sharing. , 2010, , .		12
45	64-Channel UWB wireless neural vector analyzer and phase synchrony-triggered stimulator SoC. , 2012, , .		12
46	CMOS Tunable-Color Image Sensor With Dual-ADC Shot-Noise-Aware Dynamic Range Extension. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 2116-2129.	5.4	12
47	5.5 Dual-Tap Pipelined-Code-Memory Coded-Exposure-Pixel CMOS Image Sensor for Multi-Exposure Single-Frame Computational Imaging. , 2019, , .		12
48	128-channel fully differential digital neural recording and stimulation interface. , 2009, , .		11
49	Biofouling-Resistant Impedimetric Sensor for Array High-Resolution Extracellular Potassium Monitoring in the Brain. Biosensors, 2016, 6, 53.	4.7	11
50	Safety-Optimized Inductive Powering of Implantable Medical Devices: Tutorial and Comprehensive Design Guide. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 1354-1367.	4.0	11
51	A phase synchronization and magnitude processor VLSI architecture for adaptive neural stimulation. , 2010, , .		10
52	Seizure Detection and Prediction by Parallel Memristive Convolutional Neural Networks. IEEE Transactions on Biomedical Circuits and Systems, 2022, 16, 609-625.	4.0	10
53	CMOS Tunable-Wavelength Multi-Color Photogate Sensor. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 805-819.	4.0	9
54	An impedance-tracking battery-less arbitrary-waveform neurostimulator with load-adaptive 20V voltage compliance. , 2016, , .		9

#	ARTICLE	IF	CITATIONS
55	CMOS DAC-sharing stimulator for neural recording and stimulation arrays. , 2011, , .		8
56	Dual-Tap Computational Photography Image Sensor With Per-Pixel Pipelined Digital Memory for Intra-Frame Coded Multi-Exposure. IEEE Journal of Solid-State Circuits, 2019, 54, 3191-3202.	5.4	7
57	CMOS image compression sensor with algorithmically-multiplying ADCs. , 2009, , .		6
58	CMOS field-modulated color sensor. , 2011, , .		5
59	A compact low-power VLSI architecture for real-time sleep stage classification. , 2016, , .		5
60	Node-Centric Graph Learning From Data for Brain State Identification. IEEE Transactions on Signal and Information Processing Over Networks, 2020, 6, 120-132.	2.8	5
61	AIDX: Adaptive Inference Scheme to Mitigate State-Drift in Memristive VMM Accelerators. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 1128-1132.	3.0	5
62	ViPro: Focal-Plane Spatially-Oversampling CMOS Image Compression Sensor. , 2006, , .		4
63	Single-filter multi-color CMOS fluorescent contact sensing microsystem. , 2012, , .		4
64	Compact chopper-stabilized neural amplifier with low-distortion high-pass filter in 0.13µm CMOS. , 2012, , .		4
65	56-channel direct-coupled chopper-stabilized EEG monitoring ASIC with digitally-assisted offset correction at the folding nodes. , 2014, , .		4
66	Inductively powered arbitrary-waveform adaptive-supply electro-optical neurostimulator. , 2015, , .		4
67	1.1 TMACS/mW Load-Balanced Resonant Charge-Recycling Array Processor. , 2007, , .		3
68	A hybrid thin-film/CMOS fluorescence contact imager. , 2009, , .		3
69	VLSI multivariate phase synchronization epileptic seizure detector. , 2011, , .		3
70	Bidirectional current conveyer with chopper stabilization and dynamic element matching. , 2012, , .		3
71	Machine learning microserver for neuromodulation device training. , 2017, , .		3
72	Superresolution Line Scan Image Sensor for Multimodal Microscopy. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 1165-1176.	4.0	3

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73	Asynchronous Event-driven Encoder With Simultaneous Temporal Envelope and Phase Extraction for Cochlear Implants. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 620-630.	4.0	3
74	CMOS 3-T digital pixel sensor with in-pixel shared comparator. , 2012, , .		2
75	Two-electrode impedance-sensing cardiac rhythm monitor for charge-aware shock delivery in cardiac arrest. , 2017, , .		2
76	A Hierarchical Graph Signal Processing Approach to Inference from Spatiotemporal Signals. , 2018, , .		2
77	Mitigating State-Drift in Memristor Crossbar Arrays for Vector Matrix Multiplication. , 0, , .		2
78	CODEX: Stochastic Encoding Method to Relax Resistive Crossbar Accelerator Design Requirements. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 3356-3360.	3.0	2
79	Neural synchrony-monitoring wireless brain implant for intractable epilepsy neuromodulation. , 2013, , .		1
80	Comparative analysis of seizure control efficacy of 5Hz and 20Hz responsive deep brain stimulation in rodent models of epilepsy. , 2015, , .		1
81	Neural Interface System for Virtual High-Density Microelectrode Array Adaptive Neuromodulation. , 2019, , .		1
82	A compact parasitic-insensitive dual-frequency ΔΣ modulated CMOS capacitive architecture. , 2010, , .		0
83	Guest Editorial—Selected Papers from the 2014 IEEE International Solid-State Circuits Conference. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 753-754.	4.0	0
84	Guest Editorial Selected Papers From the 2018 IEEE International Solid-State Circuits Conference. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 1217-1219.	4.0	0
85	Guest Editorial Selected Papers From the 2019 IEEE International Solid-State Circuits Conference. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 1226-1228.	4.0	0
86	Neuromodulation Biomarker Selection using GPU-Parallelized Genetic Algorithms. , 2019, , .		0
87	Guest Editorial: Selected Papers From the 2020 IEEE International Solid-State Circuits Conference. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 1179-1182.	4.0	0
88	Guest Editorial Selected Papers from the 2021 IEEE International Solid-State Circuits Conference. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 1221-1223.	4.0	0
89	Towards Real-Time In-Implant Epileptic Seizure Prediction. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0