Jan M Rabaey

List of Publications by Year
in descending order

65 papers	**4,171** citations	279798 **23** h-index	243625 **44** g-index
65 all docs	**65** docs citations	**65** times ranked	**3711** citing authors

#	Article	IF	Citations
1	Wireless Recording in the Peripheral Nervous System with Ultrasonic Neural Dust. Neuron, 2016, 91, 529-539.	8.1	417
2	A wearable biosensing system with in-sensor adaptive machine learning for hand gesture recognition. Nature Electronics, 2021, 4, 54-63.	26.0	317
3	Ultralow-Power Design in Near-Threshold Region. Proceedings of the IEEE, 2010, 98, 237-252.	21.3	309
4	Low Power Design Essentials. Integrated Circuits and Systems, 2009, , .	0.2	308
5	A Minimally Invasive 64-Channel Wireless Î¼ECoG Implant. IEEE Journal of Solid-State Circuits, 2015, 50, 344-359.	5.4	295
6	A 0.013 ${\hbox {mm}}^{2}$, 5 $\muhbox{W}$, DC-Coupled Neural Signal Acquisition IC With 0.5 V Supply. IEEE Journal of Solid-State Circuits, 2012, 47, 232-243.	5.4	285
7	A 52 μW Wake-Up Receiver With $-$72 dBm Sensitivity Using an Uncertain-IF Architecture. IEEE Journal of Solid-State Circuits, 2009, 44, 269-280.	5.4	253
8	A wireless and artefact-free 128-channel neuromodulation device for closed-loop stimulation and recording in non-human primates. Nature Biomedical Engineering, 2019, 3, 15-26.	22.5	164
9	A Robust and Energy-Efficient Classifier Using Brain-Inspired Hyperdimensional Computing. , 2016, , .		160
10	A Fully-Integrated, Miniaturized (0.125 mmÂ²) 10.5 ÂµW Wireless Neural Sensor. IEEE Journal of Solid-State Circuits, 2013, 48, 960-970.	5.4	154
11	Model validation of untethered, ultrasonic neural dust motes for cortical recording. Journal of Neuroscience Methods, 2015, 244, 114-122.	2.5	140
12	Hyperdimensional biosignal processing: A case study for EMG-based hand gesture recognition. , 2016, , .		103
13	Hyperdimensional computing with 3D VRRAM in-memory kernels: Device-architecture co-design for energy-efficient, error-resilient language recognition. , 2016, , .		95
14	High-Dimensional Computing as a Nanoscalable Paradigm. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 2508-2521.	5.4	92
15	Far-Field RF Wireless Power Transfer with Blind Adaptive Beamforming for Internet of Things Devices. IEEE Access, 2017, 5, 1743-1752.	4.2	91
16	Brain-inspired computing exploiting carbon nanotube FETs and resistive RAM: Hyperdimensional computing case study. , 2018, , .		84
17	Efficient Biosignal Processing Using Hyperdimensional Computing: Network Templates for Combined Learning and Classification of ExG Signals. Proceedings of the IEEE, 2019, 107, 123-143.	21.3	82
18	A 4.78 mm 2 Fully-Integrated Neuromodulation SoC Combining 64 Acquisition Channels With Digital Compression and Simultaneous Dual Stimulation. IEEE Journal of Solid-State Circuits, 2015, 50, 1038-1047.	5.4	75

#	Article	IF	Citations
19	An EMG Gesture Recognition System with Flexible High-Density Sensors and Brain-Inspired High-Dimensional Classifier. , 2018, , .		65
20	Classification and Recall With Binary Hyperdimensional Computing: Tradeoffs in Choice of Density and Mapping Characteristics. IEEE Transactions on Neural Networks and Learning Systems, 2018, 29, 5880-5898.	11.3	64
21	Printed, flexible, compact UHF-RFID sensor tags enabled by hybrid electronics. Scientific Reports, 2020, 10, 16543.	3.3	54
22	Low-Power Successive Approximation Converter With 0.5 V Supply in 90 nm CMOS. IEEE Journal of Solid-State Circuits, 2007, 42, 2348-2356.	5.4	53
23	Hyperdimensional Computing Exploiting Carbon Nanotube FETs, Resistive RAM, and Their Monolithic 3D Integration. IEEE Journal of Solid-State Circuits, 2018, 53, 3183-3196.	5.4	49
24	Reliable Next-Generation Cortical Interfaces for Chronic Brainâ€"Machine Interfaces and Neuroscience. Proceedings of the IEEE, 2017, 105, 73-82.	21.3	44
25	Design Methodology of a Low-Energy Reconfigurable Single-Chip DSP System. Journal of Signal Processing Systems, 2001, 28, 47-61.	1.0	43
26	A Programmable Hyper-Dimensional Processor Architecture for Human-Centric IoT. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2019, 9, 439-452.	3.6	40
27	An implantable 700Î¼W 64-channel neuromodulation IC for simultaneous recording and stimulation with rapid artifact recovery. , 2017, , .		39
28	A Fully Integrated, 290 pJ/bit UWB Dual-Mode Transceiver for cm-Range Wireless Interconnects. IEEE Journal of Solid-State Circuits, 2012, 47, 586-598.	5.4	30
29	Hyperdimensional Computing for Blind and One-Shot Classification of EEG Error-Related Potentials. Mobile Networks and Applications, 2020, 25, 1958-1969.	3.3	30
30	The Human Intranet--Where Swarms and Humans Meet. IEEE Pervasive Computing, 2015, 14, 78-83.	1.3	25
31	A Comparative Study of On-Body Radio-Frequency Links in the 420 MHzâ€"2.4 GHz Range. Sensors, 2018, 18, 4165.	3.8	23
32	A Dual-Resolution Wavelet-Based Energy Detection Spectrum Sensing for UWB-Based Cognitive Radios. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 2279-2292.	5.4	19
33	A 3.1â€"10.6-GHz 57-Bands CMOS Frequency Synthesizer for UWB-Based Cognitive Radios. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 4134-4146.	4.6	18
34	Design and optimization of mm-size implantable and wearable on-body antennas for biomedical systems. , 2014, , .		13
35	A 200-Mb/s Energy Efficient Transcranial Transmitter Using Inductive Coupling. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 435-443.	4.0	13
36	A Bio-Inspired Analog Gas Sensing Front End. IEEE Transactions on Circuits and Systems I: Regular Papers, 2017, 64, 2611-2623.	5.4	12

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37	Energy Efficient Heartbeat-Based MAC Protocol for WBAN Employing Body Coupled Communication. IEEE Access, 2020, 8, 182966-182983.	4.2	12
38	Human-Centric Computing. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2020, 28, 3-11.	3.1	11
39	A 2.7-μ W Neuromodulation AFE With 200 mV$_{pp}$ Differential-Mode Stimulus Artifact Canceler Including On-Chip LMS Adaptation. IEEE Solid-State Circuits Letters, 2018, 1, 194-197.	2.0	9
40	Optimized Design of a Human Intranet Network. , 2017, , .		8
41	Efficient emotion recognition using hyperdimensional computing with combinatorial channel encoding and cellular automata. Brain Informatics, 2022, 9, .	3.0	8
42	Isolator-Less Near-Field RFID Reader for Sub-Cranial Powering/Data Link of Millimeter-Sized Implants. IEEE Journal of Solid-State Circuits, 2018, 53, 2032-2042.	5.4	7
43	Generalized Learning Vector Quantization for Classification in Randomized Neural Networks and Hyperdimensional Computing. , 2021, , .		7
44	Capacitive Body-Coupled Communication in the 400–500 MHz Frequency Band. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2019, , 218-235.	0.3	7
45	Electromagnetic modelling and measurement of antennas for wireless brain-machine interface systems. , 2013, , .		5
46	Analyzing the Performance of WBAN Links during Physical Activity Using Real Multi-Band Sensor Nodes. Applied Sciences (Switzerland), 2021, 11, 2920.	2.5	5
47	A Sub-100-μW 0.1-to-27-Mb/s Pulse-Based Digital Transmitter for the Human Intranet in 28-nm FD-SOI CMOS. IEEE Journal of Solid-State Circuits, 2022, 57, 1409-1420.	5.4	5
48	Impact of Forward Body-Biasing on Ultra-Low Voltage Switched-Capacitor RF Power Amplifier in 28 nm FD-SOI. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 50-54.	3.0	4
49	Generalized Key-Value Memory to Flexibly Adjust Redundancy in Memory-Augmented Networks. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 10993-10998.	11.3	4
50	A Highly Energy-Efficient Hyperdimensional Computing Processor for Biosignal Classification. IEEE Transactions on Biomedical Circuits and Systems, 2022, 16, 524-534.	4.0	4
51	On the Role of Hyperdimensional Computing for Behavioral Prioritization in Reactive Robot Navigation Tasks. , 2022, , .		4
52	Ultralow-Power Radio Frequency Beamformer Using Transmission-Line Transformers and Tunable Passives. IEEE Microwave and Wireless Components Letters, 2019, 29, 158-160.	3.2	3
53	A Neuro-Inspired Spike Pattern Classifier. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 555-565.	3.6	2
54	Towards Wireless Flexible Printed Wearable Sensors. , 2019, , .		2

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55	Analysis of Ultralow Power Radio Frequency Beamforming Using Transmission-Line Transformers and Tunable Passives. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 2473-2488.	4.6	2
56	Content Management and Replication in the SNSP: A Distributed Service-Based OS for Sensor Networks. , 2008, , .		1
57	Wireless Power Transfer to Randomly Distributed Implants via Homogeneous Magnetic Fields. , 2019, , .		1
58	Architecting the Human Intranet. , 2021, , .		1
59	Surface-Mounted Parallel-Plate Coupler for Cylindric Dielectric Waveguides. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 2098-2107.	4.6	1
60	An information-theoretic framework for joint architectural and circuit level optimization for olfactory recognition processing. , 2011, , .		0
61	The path toward energy-efficient inference engine architectures on scaled and beyond-CMOS fabrics. , 2013, , .		0
62	Blind parallel interrogation of ultrasonic neural dust motes based on canonical polyadic decomposition: A simulation study. , 2017, , .		0
63	A 213-nW/Channel Analog Euclidian Vector Normalizer. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 1909-1913.	3.0	0
64	Towards Wireless Flexible Printed Wearable Sensors. , 2019, , .		0
65	Architecting the Human Intranet. , 2021, , .		0