Nick Van Helleputte

List of Publications by Year
in descending order

74 papers	2,718 citations	257450 24 h-index	330143 37 g-index
75 all docs	75 docs citations	75 times ranked	2608 citing authors

#	Article	IF	Citations
1	A Compact, Low-Power Analog Front-End With Event-Driven Input Biasing for High-Density Neural Recording in 22-nm FDSOI. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 804-808.	3.0	10
2	Photoplethysmography (PPG) Sensor Circuit Design Techniques. , 2022, , .		5
3	Wearable Multiple Modality Bio-Signal Recording and Processing on Chip: A Review. IEEE Sensors Journal, 2021, 21, 1108-1123.	4.7	24
4	A 108 dB DR Î”â^'â^'M Front-End With 720 mV_{pp} Input Range and >Â±300 mV Offset Removal for Multi-Parameter Biopotential Recording. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 199-209.	4.0	18
5	A Compact Chopper Stabilized Î”-Î”Î£ Neural Readout IC With Input Impedance Boosting. IEEE Open Journal of the Solid-State Circuits Society, 2021, 1, 67-78.	2.7	12
6	A 134 DB Dynamic Range Noise Shaping Slope Light-to-Digital Converter for Wearable Chest PPG Applications. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 1224-1235.	4.0	9
7	LSTM-only Model for Low-complexity HR Estimation from Wrist PPG. , 2021, 2021, 1068-1071.		3
8	Miniaturized Electronic Circuit Design Challenges for Ingestible Devices. Journal of Microelectromechanical Systems, 2020, 29, 645-652.	2.5	16
9	An Artificial Iris ASIC with High Voltage Liquid Crystal Driver, 10 nA Light Range Detector and 40 nA Blink Detector for LCD Flicker Removal. , 2020, , .		2
10	An Artificial Iris ASIC With High Voltage Liquid Crystal Driver, 10-nA Light Range Detector and 40-nA Blink Detector for LCD Flicker Removal. IEEE Solid-State Circuits Letters, 2020, 3, 506-509.	2.0	7
11	30.8 A 3.5mmÃ—3.8mm Crystal-Less MICS Transceiver Featuring Coverages of Â±160ppm Carrier Frequency Offset and 4.8-VSWR Antenna Impedance for Insertable Smart Pills. , 2020, , .		4
12	A 119dB Dynamic Range Charge Counting Light-to-Digital Converter For Wearable PPG/NIRS Monitoring Applications. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 800-810.	4.0	30
13	Binary CorNET: Accelerator for HR Estimation From Wrist-PPG. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 715-726.	4.0	27
14	A 50Î¼W Fully Differential Interface Amplifier With a Current Steering Class AB Output Stage for PPG and NIRS Recordings. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 1564-1568.	3.0	7
15	A Millimeter-Scale Crystal-Less MICS Transceiver for Insertable Smart Pills. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 1218-1229.	4.0	11
16	A 196Î¼W, Reconfigurable Light-to-Digital Converter with 119dB Dynamic Range, for Wearable PPG/NIRS Sensors. , 2019, , .		12
17	A Wearable Wrist-Band with Compressive Sensing based Ultra-Low Power Photoplethysmography Readout Circuit. , 2019, , .		8
18	A 5-Channel Unipolar Fetal-ECG Readout IC for Patch-Based Fetal Monitoring. IEEE Solid-State Circuits Letters, 2019, 2, 71-74.	2.0	7

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19	A Bio-Impedance Readout IC With Digital-Assisted Baseline Cancellation for Two-Electrode Measurement. IEEE Journal of Solid-State Circuits, 2019, 54, 2969-2979.	5.4	35
20	A Compact Quad-Shank CMOS Neural Probe With 5,120 Addressable Recording Sites and 384 Fully Differential Parallel Channels. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 1625-1634.	4.0	46
21	Neuropixels Data-Acquisition System: A Scalable Platform for Parallel Recording of 10 000+ Electrophysiological Signals. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 1635-1644.	4.0	43
22	A 769 Î¼W Battery-Powered Single-Chip SoC With BLE for Multi-Modal Vital Sign Monitoring Health Patches. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 1506-1517.	4.0	87
23	A 400 GÎ© Input-Impedance Active Electrode for Non-Contact Capacitively Coupled ECG Acquisition With Large Linear-Input-Range and High CM-Interference-Tolerance. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 376-386.	4.0	46
24	Heart Rate Estimation From Wrist-Worn Photoplethysmography: A Review. IEEE Sensors Journal, 2019, 19, 6560-6570.	4.7	157
25	22.1 A 769Î¼W Battery-Powered Single-Chip SoC With BLE for Multi-Modal Vital Sign Health Patches. , 2019, , .		9
26	22.5 A Bio-Impedance Readout IC With Digital-Assisted Baseline Cancellation for 2-Electrode Measurement. , 2019, , .		8
27	Motion Artifact Reduction for Wrist-Worn Photoplethysmograph Sensors Based on Different Wavelengths. Sensors, 2019, 19, 673.	3.8	89
28	BioTranslator: Inferring R-Peaks from Ambulatory Wrist-Worn PPG Signal. , 2019, 2019, 4241-4245.		5
29	Real-time HR Estimation from wrist PPG using Binary LSTMs. , 2019, , .		9
30	A 5-Channel Unipolar Fetal-ECG Readout IC for Patch-Based Fetal Monitoring. , 2019, , .		1
31	CorNET: Deep Learning Framework for PPG-Based Heart Rate Estimation and Biometric Identification in Ambulant Environment. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 282-291.	4.0	188
32	A 36 Î¼W 1.1 mm² Reconfigurable Analog Front-End for Cardiovascular and Respiratory Signals Recording. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 774-783.	4.0	34
33	A 665Î¼W silicon photomultiplier-based NIRS/EEG/EIT monitoring asic for wearable functional brain imaging. , 2018, , .		6
34	A 16384-electrode 1024-channel multimodal CMOS MEA for high-throughput intracellular action potential measurements and impedance spectroscopy in drug-screening applications. , 2018, , .		23
35	Time-Based Biomedical Readout in Ultra-Low-Voltage, Small-Scale CMOS Technology. , 2018, , 311-333.		0
36	Advances in Biomedical Sensor Systems for Wearable Health. , 2018, , 121-143.		2

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37	Design and Optimization of ICs for Wearable EEG Sensors. , 2018, , 163-185.		2
38	A 665 Î¼W Silicon Photomultiplier-Based NIRS/EEG/EIT Monitoring ASIC for Wearable Functional Brain Imaging. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 1267-1277.	4.0	44
39	A Multimodal CMOS MEA for High-Throughput Intracellular Action Potential Measurements and Impedance Spectroscopy in Drug-Screening Applications. IEEE Journal of Solid-State Circuits, 2018, 53, 3076-3086.	5.4	75
40	Leakage compensation scheme for ultraâ€highâ€resistance pseudoâ€resistors in neural amplifiers. Electronics Letters, 2018, 54, 270-272.	1.0	19
41	Algorithm/Architecture Co-optimisation Technique for Automatic Data Reduction of Wireless Read-Out in High-Density Electrode Arrays. Transactions on Embedded Computing Systems, 2018, 17, 1-19.	2.9	1
42	Measurement and Analysis of Input-Signal Dependent Flicker Noise Modulation in Chopper Stabilized Instrumentation Amplifier. IEEE Solid-State Circuits Letters, 2018, 1, 90-93.	2.0	16
43	A 0.6V 3.8Î¼W ECG/bio-impedance monitoring IC for disposable health patch in 40nm CMOS. , 2018, , .		9
44	BiometricNet: Deep Learning based Biometric Identification using Wrist-Worn PPG. , 2018, , .		41
45	A Neural Probe With Up to 966 Electrodes and Up to 384 Configurable Channels in 0.13 mum SOI CMOS. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 510-522.	4.0	151
46	A 172 muW Compressively Sampled Photoplethysmographic (PPG) Readout ASIC With Heart Rate Estimation Directly From Compressively Sampled Data. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 487-496.	4.0	48
47	A bio-impedance readout IC with frequency sweeping from 1k-to-1MHz for electrical impedance tomography. , 2017, , .		19
48	A 0.6-V, 0.015-mm², Time-Based ECG Readout for Ambulatory Applications in 40-nm CMOS. IEEE Journal of Solid-State Circuits, 2017, 52, 298-308.	5.4	44
49	A 36Î¼W reconfigurable analog front-end IC for multimodal vital signs monitoring. , 2017, , .		4
50	Intraneural active probe for bidirectional peripheral nerve interface. , 2017, , .		11
51	Time Multiplexed Active Neural Probe with 1356 Parallel Recording Sites. Sensors, 2017, 17, 2388.	3.8	141
52	28.5 A 0.6V 0.015mm2 time-based biomedical readout for ambulatory applications in 40nm CMOS. , 2016, , .		3
53	A Multi(bio)sensor Acquisition System With Integrated Processor, Power Management, $8 imes 8$ LED Drivers, and Simultaneously Synchronized ECG, BIO-Z, GSR, and Two PPG Readouts. IEEE Journal of Solid-State Circuits, 2016, 51, 2584-2595.	5.4	80
54	Time multiplexed active neural probe with 678 parallel recording sites. , 2016, , .		34

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55	22.4 A 172ÂµW compressive sampling photoplethysmographic readout with embedded direct heart-rate and variability extraction from compressively sampled data. , 2016, , .		24
56	28.4 A battery-powered efficient multi-sensor acquisition system with simultaneous ECG, BIO-Z, GSR, and PPG. , 2016, , .		29
57	Low-Power Biomedical Interfaces. , 2016, , 81-101.		2
58	A 345 ÂµW Multi-Sensor Biomedical SoC With Bio-Impedance, 3-Channel ECG, Motion Artifact Reduction, and Integrated DSP. IEEE Journal of Solid-State Circuits, 2015, 50, 230-244.	5.4	256
59	A Configurable and Low-Power Mixed Signal SoC for Portable ECG Monitoring Applications. IEEE Transactions on Biomedical Circuits and Systems, 2014, 8, 257-267.	4.0	214
60	18.3 A multi-parameter signal-acquisition SoC for connected personal health applications. , 2014, , .		49
61	Real time digitally assisted analog motion artifact reduction in ambulatory ECG monitoring system. , 2012, 2012, 2096-9.		8
62	A 160 <formula formulatype="inline"><tex Notation="TeX">$mu{m A}$</tex></formula> Biopotential Acquisition IC With Fully Integrated IA and Motion Artifact Suppression. IEEE Transactions on Biomedical Circuits and Systems, 2012, 6, 552-561.	4.0	126
63	Wireless 3-lead ECG system with on-board digital signal processing for ambulatory monitoring. , 2012, , .		14
64	Correlation Between Electrode-Tissue Impedance and Motion Artifact in Biopotential Recordings. IEEE Sensors Journal, 2012, 12, 3373-3383.	4.7	55
65	Motion artifact removal using cascade adaptive filtering for ambulatory ECG monitoring system. , 2012, , .		6
66	A 160μA biopotential acquisition ASIC with fully integrated IA and motion-artifact suppression. , 2012, , .		11
67	An ECG patch combining a customized ultra-low-power ECG SoC with Bluetooth low energy for long term ambulatory monitoring. , 2011, , .		25
68	Motion artifact reduction in ambulatory ECG monitoring. , 2011, , .		22
69	A Reconfigurable, 130 nm CMOS 108 pJ/pulse, Fully Integrated IR-UWB Receiver for Communication and Precise Ranging. IEEE Journal of Solid-State Circuits, 2010, 45, 69-83.	5.4	48
70	A reconfigurable, 0.13µm CMOS 110pJ/pulse, fully integrated IR-UWB receiver for communication and sub-cm ranging. , 2009, , .		23
71	RFID, Where are they?. , 2009, , .		3
72	A 70 pJ/Pulse Analog Front-End in 130 nm CMOS for UWB Impulse Radio Receivers. IEEE Journal of Solid-State Circuits, 2009, 44, 1862-1871.	5.4	25

#	Article	IF	Citations
73	A 46pJ/pulse analog front-end in 130nm CMOS for UWB impulse radio receivers. , 2008, , .		4
74	An Ultra-low-Power Quadrature PLL in 130nm CMOS for Impulse Radio Receivers. , 2007, , .		10