

# Nick Van Helleputte

## List of Publications by Year in descending order

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Version: 2024-02-01

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 345 $\mu$ W 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
2	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
3	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
4	Heart Rate Estimation From Wrist-Worn Photoplethysmography: A Review. IEEE Sensors Journal, 2019, 19, 6560-6570.	4.7	157
5	A Neural Probe With Up to 966 Electrodes and Up to 384 Configurable Channels in 0.13 $\mu$ m SOI CMOS. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 510-522.	4.0	151
6	Time Multiplexed Active Neural Probe with 1356 Parallel Recording Sites. Sensors, 2017, 17, 2388.	3.8	141
7	A 160 $\mu$ W 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
8	Motion Artifact Reduction for Wrist-Worn Photoplethysmograph Sensors Based on Different Wavelengths. Sensors, 2019, 19, 673.	3.8	89
9	A 769 $\mu$ W 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
10	A Multi(bio)sensor Acquisition System With Integrated Processor, Power Management, 8 LEDs, and Simultaneously Synchronized ECG, BIO-Z, GSR, and Two PPG Readouts. IEEE Journal of Solid-State Circuits, 2016, 51, 2584-2595.	5.4	80
11	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
12	Correlation Between Electrode-Tissue Impedance and Motion Artifact in Biopotential Recordings. IEEE Sensors Journal, 2012, 12, 3373-3383.	4.7	55
13	18.3 A multi-parameter signal-acquisition SoC for connected personal health applications. , 2014, , .		49
14	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
15	A 172 $\mu$ W 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
16	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
17	A 400 $\mu$ W 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
18	A 0.6-V, 0.015-mm <sup>2</sup> , Time-Based ECG Readout for Ambulatory Applications in 40-nm CMOS. IEEE Journal of Solid-State Circuits, 2017, 52, 298-308.	5.4	44

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19	A 665 $\mu$ W 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
20	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
21	BiometricNet: Deep Learning based Biometric Identification using Wrist-Worn PPG. , 2018, , .		41
22	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
23	Time multiplexed active neural probe with 678 parallel recording sites. , 2016, , .		34
24	A 36 $\mu$ W 1.1 mm <sup>2</sup> Reconfigurable Analog Front-End for Cardiovascular and Respiratory Signals Recording. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 774-783.	4.0	34
25	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
26	28.4 A battery-powered efficient multi-sensor acquisition system with simultaneous ECG, BIO-Z, GSR, and PPG. , 2016, , .		29
27	Binary CorNET: Accelerator for HR Estimation From Wrist-PPG. IEEE Transactions on Biomedical Circuits and Systems, 2020, 14, 715-726.	4.0	27
28	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
29	An ECG patch combining a customized ultra-low-power ECG SoC with Bluetooth low energy for long term ambulatory monitoring. , 2011, , .		25
30	22.4 A 172 $\mu$ W compressive sampling photoplethysmographic readout with embedded direct heart-rate and variability extraction from compressively sampled data. , 2016, , .		24
31	Wearable Multiple Modality Bio-Signal Recording and Processing on Chip: A Review. IEEE Sensors Journal, 2021, 21, 1108-1123.	4.7	24
32	A reconfigurable, 0.13 $\mu$ m CMOS 110pJ/pulse, fully integrated IR-UWB receiver for communication and sub-cm ranging. , 2009, , .		23
33	A 16384-electrode 1024-channel multimodal CMOS MEA for high-throughput intracellular action potential measurements and impedance spectroscopy in drug-screening applications. , 2018, , .		23
34	Motion artifact reduction in ambulatory ECG monitoring. , 2011, , .		22
35	A bio-impedance readout IC with frequency sweeping from 1k-to-1MHz for electrical impedance tomography. , 2017, , .		19
36	Leakage compensation scheme for ultra-high-resistance pseudo-resistors in neural amplifiers. Electronics Letters, 2018, 54, 270-272.	1.0	19

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37	A 108 dB DR $\mu$ M Front-End With 720 mV <sub>pp</sub> Input Range and $\pm$ 300 mV Offset Removal for Multi-Parameter Biopotential Recording. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 199-209.	4.0	18
38	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
39	Miniaturized Electronic Circuit Design Challenges for Ingestible Devices. Journal of Microelectromechanical Systems, 2020, 29, 645-652.	2.5	16
40	Wireless 3-lead ECG system with on-board digital signal processing for ambulatory monitoring. , 2012, , .		14
41	A 196 $\mu$ W, Reconfigurable Light-to-Digital Converter with 119dB Dynamic Range, for Wearable PPG/NIRS Sensors. , 2019, , .		12
42	A Compact Chopper Stabilized $\mu$ W Neural Readout IC With Input Impedance Boosting. IEEE Open Journal of the Solid-State Circuits Society, 2021, 1, 67-78.	2.7	12
43	A 160 $\mu$ W Biopotential acquisition ASIC with fully integrated IA and motion-artifact suppression. , 2012, , .		11
44	Intraneural active probe for bidirectional peripheral nerve interface. , 2017, , .		11
45	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
46	An Ultra-low-Power Quadrature PLL in 130nm CMOS for Impulse Radio Receivers. , 2007, , .		10
47	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
48	A 0.6V 3.8 $\mu$ W ECG/bio-impedance monitoring IC for disposable health patch in 40nm CMOS. , 2018, , .		9
49	22.1 A 769 $\mu$ W Battery-Powered Single-Chip SoC With BLE for Multi-Modal Vital Sign Health Patches. , 2019, , .		9
50	Real-time HR Estimation from wrist PPG using Binary LSTMs. , 2019, , .		9
51	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
52	Real time digitally assisted analog motion artifact reduction in ambulatory ECG monitoring system. , 2012, 2012, 2096-9.		8
53	A Wearable Wrist-Band with Compressive Sensing based Ultra-Low Power Photoplethysmography Readout Circuit. , 2019, , .		8
54	22.5 A Bio-Impedance Readout IC With Digital-Assisted Baseline Cancellation for 2-Electrode Measurement. , 2019, , .		8

#	ARTICLE	IF	CITATIONS
55	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
56	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
57	A 50 $\mu$ W 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
58	Motion artifact removal using cascade adaptive filtering for ambulatory ECG monitoring system. , 2012, , .		6
59	A 665 $\mu$ W silicon photomultiplier-based NIRS/EEG/EIT monitoring ASIC for wearable functional brain imaging. , 2018, , .		6
60	BioTranslator: Inferring R-Peaks from Ambulatory Wrist-Worn PPG Signal. , 2019, 2019, 4241-4245.		5
61	Photoplethysmography (PPG) Sensor Circuit Design Techniques. , 2022, , .		5
62	A 46pJ/pulse analog front-end in 130nm CMOS for UWB impulse radio receivers. , 2008, , .		4
63	A 36 $\mu$ W reconfigurable analog front-end IC for multimodal vital signs monitoring. , 2017, , .		4
64	30.8 A 3.5mm $\times$ 3.8mm Crystal-Less MICS Transceiver Featuring Coverages of $\pm 160$ ppm Carrier Frequency Offset and 4.8-VSWR Antenna Impedance for Insertable Smart Pills. , 2020, , .		4
65	RFID, Where are they?. , 2009, , .		3
66	28.5 A 0.6V 0.015mm <sup>2</sup> time-based biomedical readout for ambulatory applications in 40nm CMOS. , 2016, , .		3
67	LSTM-only Model for Low-complexity HR Estimation from Wrist PPG. , 2021, 2021, 1068-1071.		3
68	Advances in Biomedical Sensor Systems for Wearable Health. , 2018, , 121-143.		2
69	Design and Optimization of ICs for Wearable EEG Sensors. , 2018, , 163-185.		2
70	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
71	Low-Power Biomedical Interfaces. , 2016, , 81-101.		2
72	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

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73	A 5-Channel Unipolar Fetal-ECG Readout IC for Patch-Based Fetal Monitoring. , 2019, , .		1
74	Time-Based Biomedical Readout in Ultra-Low-Voltage, Small-Scale CMOS Technology. , 2018, , 311-333.		0