Andr van Schaik

List of Publications by Year in Descending Order

148 papers	**3,280** citations
26 h-index	**52** g-index
172 ext. papers	**4,217** ext. citations
3.7 avg, IF	**5.31** L-index

#	Paper	IF	Citations
148	Noise-robust text-dependent speaker identification using cochlear models.. *Journal of the Acoustical Society of America*, **2022**, 151, 500	2.2	1
147	Neuromorphic Engineering Needs Closed-Loop Benchmarks.. *Frontiers in Neuroscience*, **2022**, 16, 813555	5.1	0
146	Drift in a popular metal oxide sensor dataset reveals limitations for gas classification benchmarks. *Sensors and Actuators B: Chemical*, **2022**, 361, 131668	8.5	4
145	Martingales and the fixation time of evolutionary graphs with arbitrary dimensionality.. *Royal Society Open Science*, **2022**, 9, 220011	3.3	1
144	Neuromorphic Sensors, Cochlea **2022**, 2325-2329		
143	Martingales and the characteristic functions of absorption time on bipartite graphs. *Royal Society Open Science*, **2021**, 8, 210657	3.3	1
142	Advances in Machine Learning and Deep Neural Networks. *Proceedings of the IEEE*, **2021**, 109, 607-611	14.3	2
141	Event Camera Simulator Improvements via Characterized Parameters. *Frontiers in Neuroscience*, **2021**, 15, 702765	5.1	1
140	FPGA Implementation of Particle Filters for Robotic Source Localization. *IEEE Access*, **2021**, 9, 98185-98203	3.5	3
139	A Biologically Inspired Sound Localisation System Using a Silicon Cochlea Pair. *Applied Sciences (Switzerland)*, **2021**, 11, 1519	2.6	1
138	Event-Based Computation for Touch Localization Based on Precise Spike Timing. *Frontiers in Neuroscience*, **2020**, 14, 420	5.1	4
137	Event-Based Feature Extraction Using Adaptive Selection Thresholds. *Sensors*, **2020**, 20,	3.8	5
136	Event-Based Object Detection and Tracking for Space Situational Awareness. *IEEE Sensors Journal*, **2020**, 20, 15117-15132	4	9
135	Wald's martingale and the conditional distributions of absorption time in the Moran process. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2020**, 476, 20200135	2.4	3
134	Event-Based Processing of Single Photon Avalanche Diode Sensors. *IEEE Sensors Journal*, **2020**, 20, 7677-7691	4	5
133	Event-based Sensing for Space Situational Awareness. *Journal of the Astronautical Sciences*, **2019**, 66, 125-141	1.1	19
132	A Binaural Sound Localization System using Deep Convolutional Neural Networks **2019**,		6

131	A Neuroethics Framework for the Australian Brain Initiative. *Neuron*, **2019**, 101, 365-369	13.9	5
130	Low Power, CMOS-MoS Memtransistor based Neuromorphic Hybrid Architecture for Wake-Up Systems. *Scientific Reports*, **2019**, 9, 15604	4.9	11
129	Embedded implementation of a random feature detecting network for real-time classification of time-of-flight SPAD array recordings **2019**,		3
128	Star Tracking Using an Event Camera **2019**,		7
127	Vibrotactile sensitivity of patients with HIV-related sensory neuropathy: An exploratory study. *Brain and Behavior*, **2019**, 9, e01184	3.4	6
126	Efficient FPGA Implementations of Pair and Triplet-Based STDP for Neuromorphic Architectures. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2019**, 66, 1558-1570	3.9	19
125	. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2019**, 66, 1805-1817	3.9	3
124	Investigation of Event-Based Surfaces for High-Speed Detection, Unsupervised Feature Extraction, and Object Recognition. *Frontiers in Neuroscience*, **2018**, 12, 1047	5.1	12
123	An Analogue Neuromorphic Co-Processor That Utilizes Device Mismatch for Learning Applications. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2018**, 65, 1174-1184	3.9	7
122	Spatial and Temporal Downsampling in Event-Based Visual Classification. *IEEE Transactions on Neural Networks and Learning Systems*, **2018**, 29, 5030-5044	10.3	5
121	Astrocytic modulation of cortical oscillations. *Scientific Reports*, **2018**, 8, 11565	4.9	26
120	A FPGA Implementation of the CAR-FAC Cochlear Model. *Frontiers in Neuroscience*, **2018**, 12, 198	5.1	22
119	An FPGA-Based Massively Parallel Neuromorphic Cortex Simulator. *Frontiers in Neuroscience*, **2018**, 12, 213	5.1	21
118	CAR-Lite: A Multi-Rate Cochlea Model on FPGA **2018**,		2
117	A pneumatic Bionic Voice prosthesis-Pre-clinical trials of controlling the voice onset and offset. *PLoS ONE*, **2018**, 13, e0192257	3.7	3
116	Large-Scale Neuromorphic Spiking Array Processors: A Quest to Mimic the Brain. *Frontiers in Neuroscience*, **2018**, 12, 891	5.1	95
115	Breaking Liebig's Law: An Advanced Multipurpose Neuromorphic Engine. *Frontiers in Neuroscience*, **2018**, 12, 593	5.1	7
114	A Machine Hearing System for Binaural Sound Localization based on Instantaneous Correlation **2018**,		2

113	Neuromorphic Hardware Architecture Using the Neural Engineering Framework for Pattern Recognition. *IEEE Transactions on Biomedical Circuits and Systems*, **2017**, 11, 574-584	5.1	24
112	Low-power transcutaneous current stimulator for wearable applications. *BioMedical Engineering OnLine*, **2017**, 16, 118	4.1	3
111	Prolonged Incubation of Acute Neuronal Tissue for Electrophysiology and Calcium-imaging. *Journal of Visualized Experiments*, **2017**,	1.6	7
110	Measurement of perception thresholds for electrical noise stimuli. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2017**, 2017, 2166-2169	0.9	2
109	EMNIST: Extending MNIST to handwritten letters **2017**,		253
108	A Low Power Trainable Neuromorphic Integrated Circuit That Is Tolerant to Device Mismatch. *IEEE Transactions on Circuits and Systems I: Regular Papers*, **2016**, 63, 211-221	3.9	16
107	The Bayesian Decoding of Force Stimuli from Slowly Adapting Type I Fibers in Humans. *PLoS ONE*, **2016**, 11, e0153366	3.7	1
106	Bayesian Estimation and Inference Using Stochastic Electronics. *Frontiers in Neuroscience*, **2016**, 10, 104	5.1	20
105	Skimming Digits: Neuromorphic Classification of Spike-Encoded Images. *Frontiers in Neuroscience*, **2016**, 10, 184	5.1	26
104	A Review of Control Strategies in Closed-Loop Neuroprosthetic Systems. *Frontiers in Neuroscience*, **2016**, 10, 312	5.1	32
103	Calcium Imaging of AM Dyes Following Prolonged Incubation in Acute Neuronal Tissue. *PLoS ONE*, **2016**, 11, e0155468	3.7	25
102	A stochastic approach to STDP **2016**,		4
101	Electronic cochlea: CAR-FAC model on FPGA **2016**,		7
100	Decoding force from multiunit recordings from the median nerve **2015**,		2
99	ELM solutions for event-based systems. *Neurocomputing*, **2015**, 149, 435-442	5.4	4
98	Online and adaptive pseudoinverse solutions for ELM weights. *Neurocomputing*, **2015**, 149, 233-238	5.4	30
97	A neuromorphic hardware framework based on population coding **2015**,		11
96	Sound stream segregation: a neuromorphic approach to solve the "cocktail party problem" in real-time. *Frontiers in Neuroscience*, **2015**, 9, 309	5.1	11

95	Fast, Simple and Accurate Handwritten Digit Classification by Training Shallow Neural Network Classifiers with the 'Extreme Learning Machine' Algorithm. *PLoS ONE*, **2015**, 10, e0134254	3.7	47
94	Turn Down That Noise: Synaptic Encoding of Afferent SNR in a Single Spiking Neuron. *IEEE Transactions on Biomedical Circuits and Systems*, **2015**, 9, 188-96	5.1	13
93	A neuromorphic implementation of multiple spike-timing synaptic plasticity rules for large-scale neural networks. *Frontiers in Neuroscience*, **2015**, 9, 180	5.1	19
92	Sleep apnoea episodes recognition by a committee of ELM classifiers from ECG signal. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 7675-8	0.9	3
91	A reconfigurable mixed-signal implementation of a neuromorphic ADC **2015**,		3
90	A compact aVLSI conductance-based silicon neuron **2015**,		7
89	A comparison of extreme learning machines and back-propagation trained feed-forward networks processing the mnist database **2015**,		7
88	Explicit Computation of Input Weights in Extreme Learning Machines. *Proceedings in Adaptation, Learning and Optimization*, **2015**, 41-49	0.2	7
87	Learning ELM Network Weights Using Linear Discriminant Analysis. *Proceedings in Adaptation, Learning and Optimization*, **2015**, 183-191	0.2	2
86	. *Proceedings of the IEEE*, **2014**, 102, 843-859	14.3	45
85	A compact reconfigurable mixed-signal implementation of synaptic plasticity in spiking neurons **2014**,		8
84	Live demonstration: FPGA implementation of the CAR model of the cochlea **2014**,		7
83	An FPGA design framework for large-scale spiking neural networks **2014**,		17
82	Approximate, computationally efficient online learning in Bayesian spiking neurons. *Neural Computation*, **2014**, 26, 472-96	2.9	3
81	Racing to learn: statistical inference and learning in a single spiking neuron with adaptive kernels. *Frontiers in Neuroscience*, **2014**, 8, 377	5.1	12
80	Extending the viability of acute brain slices. *Scientific Reports*, **2014**, 4, 5309	4.9	47
79	A mixed-signal implementation of a polychronous spiking neural network with delay adaptation. *Frontiers in Neuroscience*, **2014**, 8, 51	5.1	22
78	Research topic: neuromorphic engineering systems and applications. A snapshot of neuromorphic systems engineering. *Frontiers in Neuroscience*, **2014**, 8, 424	5.1	2

77	**2014**,		6
76	Asynchronous binaural spatial audition sensor with 2×64×4 channel output. *IEEE Transactions on Biomedical Circuits and Systems*, **2014**, 8, 453-64	5.1	83
75	A generalised conductance-based silicon neuron for large-scale spiking neural networks **2014**,		8
74	A digital to transconductance converter for nauta structure op-amps in 65nm CMOS **2014**,		3
73	. *IEEE Transactions on Multimedia*, **2014**, 16, 37-46	6.6	36
72	FPGA implementation of the CAR Model of the cochlea **2014**,		17
71	A 0.3mm2 10-b 100MS/s pipelined ADC using Nauta structure op-amps in 180nm CMOS **2013**,		5
70	Temporal order detection and coding in nervous systems. *Neural Computation*, **2013**, 25, 510-31	2.9	4
69	Towards true unipolar bio-potential recording: a preliminary result for ECG. *Physiological Measurement*, **2013**, 34, N1-7	2.9	18
68	An improved aVLSI axon with programmable delay using spike timing dependent delay plasticity **2013**,		3
67	Unipolar ECG circuits: Towards more precise cardiac event identification **2013**,		2
66	Towards true unipolar ECG recording without the Wilson central terminal (preliminary results). *Physiological Measurement*, **2013**, 34, 991-1012	2.9	13
65	The adaptation of spike backpropagation delays in cortical neurons. *Frontiers in Cellular Neuroscience*, **2013**, 7, 192	6.1	13
64	An FPGA Implementation of a Polychronous Spiking Neural Network with Delay Adaptation. *Frontiers in Neuroscience*, **2013**, 7, 14	5.1	46
63	Synthesis of neural networks for spatio-temporal spike pattern recognition and processing. *Frontiers in Neuroscience*, **2013**, 7, 153	5.1	43
62	The ripple pond: enabling spiking networks to see. *Frontiers in Neuroscience*, **2013**, 7, 212	5.1	6
61	Convergence analysis of efficient online learning in Bayesian spiking neurons. *BMC Neuroscience*, **2012**, 13,	3.2	78
60	Emergence of competitive control in a memristor-based neuromorphic circuit **2012**,		4

59	A 1.2V 2-bit phase interpolator for 65nm CMOS **2012**,		6
58	Pregnancy detection and monitoring in cattle via combined foetus electrocardiogram and phonocardiogram signal processing. *BMC Veterinary Research*, **2012**, 8, 164	2.7	7
57	FPGA implementation of biologically-inspired auto-associative memory. *Electronics Letters*, **2012**, 48, 148	1.1	5
56	An aVLSI programmable axonal delay circuit with spike timing dependent delay adaptation **2012**,		7
55	Neuromorphic audio-visual sensor fusion on a sound-localizing robot. *Frontiers in Neuroscience*, **2012**, 6, 21	5.1	18
54	L1 regularization method in electrical impedance tomography by using the L1-curve (Pareto frontier curve). *Applied Mathematical Modelling*, **2012**, 36, 1095-1105	4.5	56
53	Active electrode design suitable for simultaneous EIT and EEG. *Electronics Letters*, **2012**, 48, 1583-1584	1.1	7
52	An asynchronous parallel neuromorphic ADC architecture **2012**,		6
51	Investigating the role of combined acoustic-visual feedback in one-dimensional synchronous brain computer interfaces, a preliminary study. *Medical Devices: Evidence and Research*, **2012**, 5, 81-8	1.5	12
50	Neuromorphic silicon neuron circuits. *Frontiers in Neuroscience*, **2011**, 5, 73	5.1	693
49	Time domain reconstruction of spatial sound fields using compressed sensing **2011**,		8
48	Silicon implementation of the generalized integrate-and-fire neuron model **2011**,		3
47	Spiking neural network-based auto-associative memory using FPGA interconnect delays **2011**,		2
46	An analogue VLSI implementation of polychromous spiking neural networks **2011**,		6
45	Comparison of the measured and theoretical performance of a broadband circular microphone array. *Journal of the Acoustical Society of America*, **2011**, 130, 3827-37	2.2	25
44	A programmable axonal propagation delay circuit for time-delay spiking neural networks **2011**,		9
43	Localization in speech mixtures by listeners with hearing loss. *Journal of the Acoustical Society of America*, **2011**, 129, EL210-15	2.2	21
42	Adaptive sound localization with a silicon cochlea pair. *Frontiers in Neuroscience*, **2010**, 4, 196	5.1	12

41	An ultra-high input impedance ECG amplifier for long-term monitoring of athletes. *Medical Devices: Evidence and Research*, **2010**, 3, 1-9	1.5	41
40	Event-based 64-channel binaural silicon cochlea with Q enhancement mechanisms **2010**,		44
39	A log-domain implementation of the Mihalas-Niebur neuron model **2010**,		18
38	A log-domain implementation of the Izhikevich neuron model **2010**,		27
37	**2010**,		4
36	Symbolic analysis of the Tau Cell log-domain filter using affine MOSFET models **2010**,		1
35	A new EEG recording system for passive dry electrodes. *Clinical Neurophysiology*, **2010**, 121, 686-93	4.3	125
34	Dry electrode bio-potential recordings. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2010**, 2010, 6493-6	0.9	21
33	Suitability of the INPHAZE impedance analyzer for Bio-impedance and EIT. *Journal of Physics: Conference Series*, **2010**, 224, 012014	0.3	
32	Silicon Models of the Auditory Pathway. *Springer Handbook of Auditory Research*, **2010**, 261-276	1.2	4
31	Wearable dry sensors with bluetooth connection for use in remote patient monitoring systems. *Studies in Health Technology and Informatics*, **2010**, 161, 57-65	0.5	16
30	Sound localisation with a silicon cochlea pair **2009**,		3
29	A psychophysical evaluation of near-field head-related transfer functions synthesized using a distance variation function. *Journal of the Acoustical Society of America*, **2009**, 125, 2233-42	2.2	28
28	Acoustic holography with a concentric rigid and open spherical microphone array **2009**,		9
27	The Design and Evaluation of an Economically Constructed Anechoic Chamber. *Architectural Science Review*, **2009**, 52, 312-319	2.6	7
26	A first-order nonhomogeneous Markov model for the response of spiking neurons stimulated by small phase-continuous signals. *Neural Computation*, **2009**, 21, 1554-88	2.9	10
25	Benefit from spatial separation of multiple talkers in bilateral hearing-aid users: Effects of hearing loss, age, and cognition. *International Journal of Audiology*, **2009**, 48, 758-74	2.6	53
24	Code-division-multiplexed electrical impedance tomography spectroscopy. *IEEE Transactions on Biomedical Circuits and Systems*, **2009**, 3, 332-8	5.1	16

23	Self-tuned regenerative amplification and the hopf bifurcation **2008**,		6
22	A mobile EEG system with dry electrodes **2008**,		44
21	Analogue VLSI implementations of two dimensional, nonlinear, active cochlea models **2008**,		7
20	Mobile biomedical sensing with dry electrodes **2008**,		10
19	An active 2-d silicon cochlea. *IEEE Transactions on Biomedical Circuits and Systems*, **2008**, 2, 30-43	5.1	85
18	Measured and theoretical performance comparison of a co-centred rigid and open spherical microphone array **2008**,		6
17	A 2-D silicon cochlea with an improved automatic quality factor control-loop **2008**,		5
16	Directional hearing in a silicon cricket. *BioSystems*, **2007**, 87, 307-13	1.9	4
15	A Basilar Membrane Resonator for an Active 2-D Cochlea **2007**,		3
14	A 2-D Cochlea with Hopf Oscillators **2007**,		7
13	An address-event vision sensor for multiple transient object detection. *IEEE Transactions on Biomedical Circuits and Systems*, **2007**, 1, 278-88	5.1	9
12	Bias Current Generators with Wide Dynamic Range. *Analog Integrated Circuits and Signal Processing*, **2005**, 43, 247-268	1.2	43
11	The role of high frequencies in speech localization. *Journal of the Acoustical Society of America*, **2005**, 118, 353-63	2.2	92
10	Separation of concurrent broadband sound sources by human listeners. *Journal of the Acoustical Society of America*, **2004**, 115, 324-36	2.2	40
9	A Neuromorphic Sound Localizer for a Smart MEMS System. *Analog Integrated Circuits and Signal Processing*, **2004**, 39, 267-273	1.2	18
8	Contrasting monaural and interaural spectral cues for human sound localization. *Journal of the Acoustical Society of America*, **2004**, 115, 3124-41	2.2	38
7	An Analogue VLSI Implementation of the Meddis Inner Hair Cell Model. *Eurasip Journal on Advances in Signal Processing*, **2003**, 2003, 1	1.9	3
6	An Analog VLSI Model of Periodicity Extraction in the Human Auditory System. *Analog Integrated Circuits and Signal Processing*, **2001**, 26, 157-177	1.2	6

5   A Log-Domain CMOS Transcapacitor: Design, Analysis and Applications. *Analog Integrated Circuits and Signal Processing*, **2000**, 22, 195-208   1.2   4

4   Human localisation of band-pass filtered noise. *International Journal of Neural Systems*, **1999**, 9, 441-6   6.2   11

3   Analog very large-scale integrated (VLSI) implementation of a model of amplitude-modulation sensitivity in the auditory brainstem. *Journal of the Acoustical Society of America*, **1999**, 105, 811-21   2.2   19

2   Design of an Analogue VLSI Model of an Active Cochlea. *Analog Integrated Circuits and Signal Processing*, **1997**, 13, 19-35   1.2   21

1   The Electronic Ear **1996**, 233-250