Marian Walter

List of Publications by Year
in descending order

112 papers	1,784 citations	361413 20 h-index	302126 39 g-index
123 all docs	123 docs citations	123 times ranked	1931 citing authors

#	Article	IF	Citations
1	Characterization of textile electrodes and conductors using standardized measurement setups. Physiological Measurement, 2010, 31, 233-247.	2.1	262
2	Ambient and Unobtrusive Cardiorespiratory Monitoring Techniques. IEEE Reviews in Biomedical Engineering, 2015, 8, 30-43.	18.0	128
3	The smart car seat: personalized monitoring of vital signs in automotive applications. Personal and Ubiquitous Computing, 2011, 15, 707-715.	2.8	106
4	ECG on the Road: Robust and Unobtrusive Estimation of Heart Rate. IEEE Transactions on Biomedical Engineering, 2011, 58, 3112-3120.	4.2	105
5	Blood glucose control algorithms for type 1 diabetic patients: A methodological review. Biomedical Signal Processing and Control, 2013, 8, 107-119.	5.7	101
6	The MAIN Shirt: A Textile-Integrated Magnetic Induction Sensor Array. Sensors, 2014, 14, 1039-1056.	3.8	72
7	Triboelectricity in Capacitive Biopotential Measurements. IEEE Transactions on Biomedical Engineering, 2011, 58, 1268-1277.	4.2	68
8	Noncontact Monitoring of Cardiorespiratory Activity by Electromagnetic Coupling. IEEE Transactions on Biomedical Engineering, 2013, 60, 2142-2152.	4.2	57
9	Bladder volume estimation from electrical impedance tomography. Physiological Measurement, 2014, 35, 1813-1823.	2.1	46
10	A Bendable and Wearable Cardiorespiratory Monitoring Device Fusing Two Noncontact Sensor Principles. IEEE Journal of Biomedical and Health Informatics, 2015, 19, 784-793.	6.3	39
11	The IMPACT shirt: textile integrated and portable impedance cardiography. Physiological Measurement, 2014, 35, 1181-1196.	2.1	36
12	Reducing false alarms in the ICU by quantifying self-similarity of multimodal biosignals. Physiological Measurement, 2016, 37, 1233-1252.	2.1	32
13	Evaluation of electrical impedance tomography for determination of urinary bladder volume: comparison with standard ultrasound methods in healthy volunteers. BioMedical Engineering OnLine, 2018, 17, 95.	2.7	32
14	Robust Sensor Fusion of Unobtrusively Measured Heart Rate. IEEE Journal of Biomedical and Health Informatics, 2014, 18, 654-660.	6.3	29
15	Robust decentralised control of a hydrodynamic human circulatory system simulator. Biomedical Signal Processing and Control, 2015, 20, 35-44.	5.7	26
16	Evaluation of a 433 MHz Band Body Sensor Network for Biomedical Applications. Sensors, 2013, 13, 898-917.	3.8	25
17	Motion Artifact Quantification and Sensor Fusion for Unobtrusive Health Monitoring. Sensors, 2018, 18, 38.	3.8	24
18	Regional lung ventilation and perfusion by electrical impedance tomography compared to single-photon emission computed tomography. Physiological Measurement, 2018, 39, 065004.	2.1	22

#	Article	IF	Citations
19	Minimizing left ventricular stroke work with iterative learning flow profile control of rotary blood pumps. Biomedical Signal Processing and Control, 2017, 31, 444-451.	5.7	21
20	Periodic funnel-based control for peak inspiratory pressure. , 2015, , .		20
21	Human motion classification based on a textile integrated and wearable sensor array. Physiological Measurement, 2013, 34, 963-975.	2.1	19
22	Impedance Ratio Method for Urine Conductivity-Invariant Estimation of Bladder Volume. Journal of Electrical Bioimpedance, 2014, 5, 48-54.	0.9	19
23	Modeling a healthy and a person with heart failure conditions using the object-oriented modeling environment Dymola. Medical and Biological Engineering and Computing, 2015, 53, 1049-1068.	2.8	16
24	The Reliability and Accuracy of a Noncontact Electrocardiograph System for Screening Purposes. Anesthesia and Analgesia, 2012, 114, 322-327.	2.2	15
25	Influence of physiological sources on the impedance cardiogram analyzed using 4D FEM simulations. Physiological Measurement, 2014, 35, 1451-1468.	2.1	15
26	Advances in Hemodynamic Analysis in Cardiovascular Diseases Investigation of Energetic Characteristics of Adult and Pediatric Sputnik Left Ventricular Assist Devices during Mock Circulation Support. Cardiology Research and Practice, 2019, 2019, 1-15.	1.1	15
27	Analysis and modelling of glucose metabolism in diabetic GÃ¶ttingen minipigs. Biomedical Signal Processing and Control, 2014, 13, 132-141.	5.7	13
28	A synthesizer framework for multimodal cardiorespiratory signals. Biomedical Physics and Engineering Express, 2017, 3, 035028.	1.2	13
29	Control applications in artificial ventilation. , 2007, , .		12
30	Clinical proof of practicability for an ECG device without any conductive contact. Biomedizinische Technik, 2010, 55, 291-300.	0.8	12
31	Automatic Control of Venoâ€Venous Extracorporeal Lung Assist. Artificial Organs, 2016, 40, 992-998.	1.9	12
32	Car Seats with Capacitive ECG Electrodes Can Detect Cardiac Pacemaker Spikes. Sensors, 2020, 20, 6288.	3.8	12
33	Model-based correction of the influence of body position on continuous segmental and hand-to-foot bioimpedance measurements. Medical and Biological Engineering and Computing, 2010, 48, 531-541.	2.8	11
34	An electrochemical impedance spectroscopy (EIS) assay measuring the calcification inhibition capacity in biological fluids. Biosensors and Bioelectronics, 2011, 26, 4702-4707.	10.1	11
35	Control of an Electromechanical Hydrocephalus Shuntâ€”a New Approach. IEEE Transactions on Biomedical Engineering, 2014, 61, 2379-2388.	4.2	11
36	A Model for Intracranial Hydrodynamics. , 2005, 2005, 5603-6.		10

#	Article	IF	Citations
37	Reconstruction algorithm for frequency-differential EIT using absolute values. Physiological Measurement, 2019, 40, 034008.	2.1	10
38	A model-based source separation algorithm for lung perfusion imaging using electrical impedance tomography. Physiological Measurement, 2021, 42, 084001.	2.1	10
39	A capacitive ECG array with visual patient feedback. , 2010, 2010, 6539-42.		9
40	A Multisensor Implant for Continuous Monitoring of Intracranial Pressure Dynamics. IEEE Transactions on Biomedical Circuits and Systems, 2012, 6, 356-365.	4.0	9
41	Fusing QRS Detection, Waveform Features, and Robust Interval Estimation with a Random Forest to Classify Atrial Fibrillation. , 0, , .		9
42	Local Interval Estimation Improves Accuracy and Robustness of Heart Rate Variability Derivation from Photoplethysmography. , 2018, 2018, 3558-3561.		9
43	Automatic electrode selection in unobtrusive capacitive ECG measurements. , 2012, , .		8
44	SensInDenTâ€"Noncontact Sensors Integrated Into Dental Treatment Units. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 225-233.	4.0	8
45	Online cardiac output estimation during transvalvular left ventricular assistance. Computer Methods and Programs in Biomedicine, 2019, 171, 87-97.	4.7	8
46	Automation of long term extracorporeal oxygenation systems. , 2009, , .		7
47	Hirndruckmodellierung und Regelung einer neuen mechatronischen externen Ventrikeldrainage. Automatisierungstechnik, 2011, 59, 613-621.	0.8	7
48	Robust physiological control of rotary blood pumps for heart failure therapy. Automatisierungstechnik, 2018, 66, 767-779.	0.8	7
49	A Novel Control Method for Rotary Blood Pumps as Left Ventricular Assist Device Utilizing Aortic Valve State Detection. BioMed Research International, 2019, 2019, 1-12.	1.9	7
50	Dynamic lung behavior under high G acceleration monitored with electrical impedance tomography. Physiological Measurement, 2021, 42, 094001.	2.1	7
51	Hemolytic Performance in Two Generations of the Sputnik Left Ventricular Assist Device: A Combined Numerical and Experimental Study. Journal of Functional Biomaterials, 2022, 13, 7.	4.4	7
52	A physiological model for extracorporeal oxygenation controller design. , 2010, 2010, 434-7.		6
53	ROBUST CONTROL OF END-TIDAL CO₂ USING THE H_∞ LOOP-SHAPING APPROACH. Acta Polytechnica, 2013, 53, 895-900.	0.6	6
54	USING PHOTOPLETHYSMOGRAPHY IMAGING FOR OBJECTIVE CONTACTLESS PAIN ASSESSMENT. Acta Polytechnica, 2014, 54, 275-280.	0.6	6

#	Article	IF	Citations
55	A Thorax Simulator for Complex Dynamic Bioimpedance Measurements With Textile Electrodes. IEEE Transactions on Biomedical Circuits and Systems, 2015, 9, 412-420.	4.0	6
56	Monitoring transcellular fluid shifts during episodes of intradialytic hypotension using bioimpedance spectroscopy. CKJ: Clinical Kidney Journal, 2021, 14, 149-155.	2.9	6
57	A versatile Body Sensor Network for health care applications. , 2009, , .		5
58	Automatisierung und Fehlerdiagnose bei der extrakorporalen Membranoxygenierung. Automatisierungstechnik, 2010, 58, 277-285.	0.8	5
59	A switching hybrid control method for automatic blood glucose regulation in diabetic GÃ¶ttingen minipigs. Biomedical Signal Processing and Control, 2014, 13, 237-246.	5.7	5
60	Continuous Cardiac Output Estimation Under Left Ventricular Assistance. IFAC-PapersOnLine, 2015, 48, 569-574.	0.9	5
61	In silico and in vitro conductivity models of the left heart ventricle. Journal of Electrical Bioimpedance, 2020, 11, 62-71.	0.9	5
62	Usefulness of Bioimpedance Spectroscopy for Detection of Hypotensive Episode during Dialysis. ASAIO Journal, 2014, 60, 570-575.	1.6	4
63	A Bendable and Wearable Cardiorespiratory Monitoring Device Fusing Two Noncontact Sensor Principles. , 2014, , .		4
64	MuSeSe - A multisensor armchair for unobtrusive vital sign estimation and motion artifact analysis. , 2017, 2017, 857-860.		4
65	Heart phantom with electrical properties of heart muscle tissue. Current Directions in Biomedical Engineering, 2018, 4, 97-100.	0.4	4
66	Hardware-in-the-loop test bench for artificial lungs. AIP Conference Proceedings, 2019, , .	0.4	4
67	Correlation between Myocardial Function and Electric Current Pulsatility of the Sputnik Left Ventricular Assist Device: In-Vitro Study. Applied Sciences (Switzerland), 2021, 11, 3359.	2.5	4
68	Unobtrusive Measurement of Physiological Features Under Simulated and Real Driving Conditions. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 4767-4777.	8.0	4
69	An RFID Communication System for Medical Applications. , 2010, , .		3
70	Automatic Parameter Extraction from Capacitive ECG Measurements. Cardiovascular Engineering and Technology, 2012, 3, 319-332.	1.6	3
71	Physiological closed-loop control of mechanical ventilation and extracorporeal membrane oxygenation. Biomedizinische Technik, 2017, 62, 199-212.	0.8	3
72	Gamma-variate modeling of indicator dilution curves in electrical impedance tomography. , 2017, 2017, 3596-3599.		3

#	Article	IF	Citations
73	Addition of internal electrodes is beneficial for focused bioimpedance measurements in the lung. Physiological Measurement, 2018, 39, 035009.	2.1	3
74	Realâ€Time ECG Simulation for Hybrid Mock Circulatory Loops. Artificial Organs, 2018, 42, 131-140.	1.9	3
75	Control strategies for mechanical heart assist systems. , 2012, , .		2
76	Glucose-insulin model of glucose metabolism in acute diabetic swine based on Luenberger observer. , 2012, , .		2
77	Modellierung und Regelung eines hydraulischen HIL-Simulators zum Test von HerzunterstÃ¼tzungssystemen / Modeling and Control of a Hydraulic Simulator for Ventricular Assist Device Testing. Automatisierungstechnik, 2013, 61, 645-655.	0.8	2
78	Closed-Loop Ventilation of Oxygenation and End-Tidal CO2. , 2013, , .		2
79	L1 adaptive control of end-tidal CO2 by optimizing the muscular power for mechanically ventilated patients. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 259-264.	0.4	2
80	Policy Iteration Algorithm for the Control of Oxygenation. IFAC-PapersOnLine, 2015, 48, 517-522.	0.9	2
81	Design and Evaluation of an Automatic Extraventricular Drainage Control System. IEEE Transactions on Control Systems Technology, 2015, 23, 2283-2292.	5.2	2
82	Monte-Carlo Simulation and Automated Test Bench for Developing a Multichannel NIR-Based Vital-Signs Monitor. IEEE Transactions on Biomedical Circuits and Systems, 2015, 9, 421-430.	4.0	2
83	Decentralized safety concept for closed-loop controlled intensive care. Biomedizinische Technik, 2017, 62, 213-223.	0.8	2
84	Multi-channel bioimpedance spectroscopy based on orthogonal baseband shifting. Physiological Measurement, 2021, 42, .	2.1	2
85	Dual-Modality Volume Measurement Integrated on a Ventricular Assist Device. IEEE Transactions on Biomedical Engineering, 2022, 69, 1151-1161.	4.2	2
86	Close-to-reality evaluation of a PID control algorithm for blood glucose regulation in diabetic Goettingen minipigs. , 2013, , .		2
87	Knee-to-knee bioimpedance measurements to monitor changes in extracellular fluid in haemodynamic-unstable patients during dialysis. Journal of Electrical Bioimpedance, 2019, 10, 55-62.	0.9	2
88	Bandwidth and Common Mode Optimization for Current and Voltage Sources in Bioimpedance Spectroscopy. Journal of Electrical Bioimpedance, 2021, 12, 135-146.	0.9	2
89	Head Tracking in Automotive Environments for Driver Monitoring Using a Low Resolution Thermal Camera. Vehicles, 2022, 4, 219-233.	3.1	2
90	Respiratory Mechanics, Gas Transport and Perfusion during exercise. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 131-136.	0.4	1

#	Article	IF	Citations
91	Evaluation of Bioimpedance Spectroscopy for the Monitoring of the Fluid Status in an Animal Model. , 2012, , .		1
92	Robust Control of Intracranial Pressure with an Electromechanical Extra-ventricular Drainage. , 2013, , .		1
93	Automated respiratory therapy system based on the ARDSNet protocol with systemic perfusion control. Current Directions in Biomedical Engineering, 2015, 1, 314-317.	0.4	1
94	Approach to compensate measurement errors in electrical impedance tomography. , 2017, , .		1
95	Automatic artificial ventilation therapy using the ARDSNet protocol enforcing dynamical constraints. , 2017, , .		1
96	An algorithm of system identification for implantable rotary blood pumps. , 2018, , .		1
97	Robust Assistance Control of Left Ventricular Assist Devices. IFMBE Proceedings, 2018, , 294-297.	0.3	1
98	Backstepping Control with Radial Basis Function Network for a Nonlinear Cardiopulmonary System. IFAC-PapersOnLine, 2020, 53, 16311-16316.	0.9	1
99	Comparison of the Hemocompatibility of an Axial and a Centrifugal Left Ventricular Assist Device in an In Vitro Test Circuit. Journal of Clinical Medicine, 2022, 11, 3431.	2.4	1
100	Methoden zur automatisierten Lungenfunktionsdiagnose bei SÃuglingen. Automatisierungstechnik, 1998, 46, 444-451.	0.8	0
101	Automatisierungstechnik fÃ¼r die Medizin (Automation in Medicine). Automatisierungstechnik, 2005, 53, 571-572.	0.8	0
102	Dynamic Hardware-in-the-Loop Test Stand for Total Artificial Hearts. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2009, 42, 262-265.	0.4	0
103	Bootstrap aggregating decision tree for motion classification based on a textile-integrated and wearable sensorarray. , 2013, , .		0
104	Closed Loop Control of Spontaneous Breathing During Long Term Sedation. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.8	0
105	First Results of a New Electromechanical Controlled External Ventricular Drainage in a Porcine Model. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.8	0
106	A mobile and wireless approach for cardiac output monitoring. , 2014, , .		0
107	Pulsatile Ansteuerung einer Diagonalblutpumpe. Atp Magazin, 2015, 57, 52.	0.5	0
108	Fault Identification in a Blood Pump Using Neural Networks. IFMBE Proceedings, 2019, , 27-32.	0.3	0

#	Article	IF	Citations
109	Three-dimensional pulmonary monitoring using focused electrical impedance measurements. Journal of Electrical Bioimpedance, 2018, 9, 84-95.	0.9	0
110	Influence of Measurement Pattern on RAW-data in Electrical Impedance Tomography. IFMBE Proceedings, 2020, , 11-17.	0.3	0
111	Electrodynamics of Axial-Flow Rotary Blood Pumps. IEEE Access, 2021, , 1-1.	4.2	0
112	Improved estimation of left ventricular volume from electric field modeling. Journal of Electrical Bioimpedance, 2021, 12, 125-134.	0.9	0