

Steffen Leonhardt

List of Publications by Year in descending order

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487
papers

10,005
citations

57366

43
h-index

55197

82
g-index

502
all docs

502
docs citations

502
times ranked

10160
citing authors

#	ARTICLE	IF	CITATIONS
1	A survey on robotic devices for upper limb rehabilitation. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 3.	4.7	850
2	Chest electrical impedance tomography examination, data analysis, terminology, clinical use and recommendations: consensus statement of the TRanslational EIT developmeNt stuDy group. Thorax, 2017, 72, 83-93.	7.2	620
3	Characterization of textile electrodes and conductors using standardized measurement setups. Physiological Measurement, 2010, 31, 233-247.	2.2	268
4	Adaptive Replacement Strategies for MOEA/D. IEEE Transactions on Cybernetics, 2016, 46, 474-486.	10.0	218
5	A Motion-Tolerant Adaptive Algorithm for Wearable Photoplethysmographic Biosensors. IEEE Journal of Biomedical and Health Informatics, 2014, 18, 670-681.	6.8	194
6	Assessment of regional lung recruitment and derecruitment during a PEEP trial based on electrical impedance tomography. Intensive Care Medicine, 2008, 34, 543-550.	8.2	192
7	Neonatal non-contact respiratory monitoring based on real-time infrared thermography. BioMedical Engineering OnLine, 2011, 10, 93.	2.8	177
8	Robust inter-beat interval estimation in cardiac vibration signals. Physiological Measurement, 2013, 34, 123-138.	2.2	169
9	Adaptive Beat-to-Beat Heart Rate Estimation in Ballistocardiograms. IEEE Transactions on Information Technology in Biomedicine, 2011, 15, 778-786.	3.4	166
10	Electrical impedance tomography: the holy grail of ventilation and perfusion monitoring?. Intensive Care Medicine, 2012, 38, 1917-1929.	8.2	159
11	Tidal recruitment assessed by electrical impedance tomography and computed tomography in a porcine model of lung injury*. Critical Care Medicine, 2012, 40, 903-911.	0.9	136
12	Remote monitoring of breathing dynamics using infrared thermography. Biomedical Optics Express, 2015, 6, 4378.	2.9	136
13	Ambient and Unobtrusive Cardiorespiratory Monitoring Techniques. IEEE Reviews in Biomedical Engineering, 2015, 8, 30-43.	18.0	136
14	The smart car seat: personalized monitoring of vital signs in automotive applications. Personal and Ubiquitous Computing, 2011, 15, 707-715.	3.1	111
15	Protective ventilation using electrical impedance tomography. Physiological Measurement, 2007, 28, S247-S260.	2.2	108
16	ECG on the Road: Robust and Unobtrusive Estimation of Heart Rate. IEEE Transactions on Biomedical Engineering, 2011, 58, 3112-3120.	4.3	106
17	Mobile Noncontact Monitoring of Heart and Lung Activity. IEEE Transactions on Biomedical Circuits and Systems, 2007, 1, 250-257.	4.5	103
18	Automatic Detection of Atrial Fibrillation in Cardiac Vibration Signals. IEEE Journal of Biomedical and Health Informatics, 2013, 17, 162-171.	6.8	103

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19	Blood glucose control algorithms for type 1 diabetic patients: A methodological review. <i>Biomedical Signal Processing and Control</i> , 2013, 8, 107-119.	5.9	102
20	Dynamic separation of pulmonary and cardiac changes in electrical impedance tomography. <i>Physiological Measurement</i> , 2008, 29, S1-S14.	2.2	99
21	Lung volume calculated from electrical impedance tomography in ICU patients at different PEEP levels. <i>Intensive Care Medicine</i> , 2009, 35, 1362-1367.	8.2	96
22	Unobtrusive Vital Sign Monitoring in Automotive Environments—A Review. <i>Sensors</i> , 2018, 18, 3080.	4.0	92
23	The MAIN Shirt: A Textile-Integrated Magnetic Induction Sensor Array. <i>Sensors</i> , 2014, 14, 1039-1056.	4.0	78
24	Triboelectricity in Capacitive Biopotential Measurements. <i>IEEE Transactions on Biomedical Engineering</i> , 2011, 58, 1268-1277.	4.3	75
25	Can mHealth Technology Help Mitigate the Effects of the COVID-19 Pandemic?. <i>IEEE Open Journal of Engineering in Medicine and Biology</i> , 2020, 1, 243-248.	2.5	74
26	A novel ultra-wideband 80 GHz FMCW radar system for contactless monitoring of vital signs. , 2015, 2015, 4978-81.		71
27	Non-contact ECG monitoring for automotive application. , 2008, , .		69
28	Noncontact Monitoring of Respiratory Rate in Newborn Infants Using Thermal Imaging. <i>IEEE Transactions on Biomedical Engineering</i> , 2019, 66, 1105-1114.	4.3	69
29	Advances in Reflective Oxygen Saturation Monitoring With a Novel In-Ear Sensor System: Results of a Human Hypoxia Study. <i>IEEE Transactions on Biomedical Engineering</i> , 2012, 59, 2003-2010.	4.3	68
30	Rhodium-Catalyzed Oxidative Annulation of Hydrazines with Alkynes Using a Nitrobenzene Oxidant. <i>Organic Letters</i> , 2014, 16, 6176-6179.	4.7	68
31	Low-Power Very Low-Noise Cryogenic SiGe IF Amplifiers for Terahertz Mixer Receivers. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2012, 60, 1641-1648.	4.7	67
32	Effect of PEEP on regional ventilation during laparoscopic surgery monitored by electrical impedance tomography. <i>Acta Anaesthesiologica Scandinavica</i> , 2011, 55, 878-886.	1.7	65
33	Impedance-Controlled Variable Stiffness Actuator for Lower Limb Robot Applications. <i>IEEE Transactions on Automation Science and Engineering</i> , 2020, 17, 991-1004.	5.7	64
34	Non-invasive monitoring of blood glucose using optical methods for skin spectroscopy—opportunities and recent advances. <i>Analytical and Bioanalytical Chemistry</i> , 2019, 411, 63-77.	3.8	63
35	Bedside measurement of changes in lung impedance to monitor alveolar ventilation in dependent and non-dependent parts by electrical impedance tomography during a positive end-expiratory pressure trial in mechanically ventilated intensive care unit patients. <i>Critical Care</i> , 2010, 14, R100.	6.0	61
36	Noncontact Monitoring of Cardiorespiratory Activity by Electromagnetic Coupling. <i>IEEE Transactions on Biomedical Engineering</i> , 2013, 60, 2142-2152.	4.3	61

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37	A Novel 12-Lead ECG T-Shirt with Active Electrodes. <i>Electronics (Switzerland)</i> , 2016, 5, 75.	3.2	57
38	Countering the effects of silicon aging on SRAM PUFs. , 2014, , .		55
39	Design and control of a mechanical rotary variable impedance actuator. <i>Mechatronics</i> , 2016, 39, 226-236.	3.4	55
40	In-Ear Vital Signs Monitoring Using a Novel Microoptic Reflective Sensor. <i>IEEE Transactions on Information Technology in Biomedicine</i> , 2009, 13, 882-889.	3.4	54
41	Electric impedance tomography for monitoring volume and size of the urinary bladder. <i>Biomedizinische Technik</i> , 2011, 56, 301-307.	1.4	54
42	Estimation of breathing rate in thermal imaging videos: a pilot study on healthy human subjects. <i>Journal of Clinical Monitoring and Computing</i> , 2017, 31, 1241-1254.	1.7	53
43	Improvement of Force-Sensor-Based Heart Rate Estimation Using Multichannel Data Fusion. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2015, 19, 227-235.	6.8	50
44	Bladder volume estimation from electrical impedance tomography. <i>Physiological Measurement</i> , 2014, 35, 1813-1823.	2.2	48
45	Hybrid optical imaging technology for long-term remote monitoring of skin perfusion and temperature behavior. <i>Journal of Biomedical Optics</i> , 2014, 19, 1.	2.8	48
46	A State-Space Approach for Detecting Stress from Electrodermal Activity. , 2018, 2018, 3562-3567.		46
47	Optimal electrode placement and frequency range selection for the detection of lung water using Bioimpedance Spectroscopy. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2007, 2007, 2685-8.	0.0	43
48	Molecular pathways of oestrogen receptors and β_2 -adrenergic receptors in cardiac cells: Recognition of their similarities, interactions and therapeutic value. <i>Acta Physiologica</i> , 2018, 222, e12978.	3.9	43
49	A Broader Look: Camera-Based Vital Sign Estimation across the Spectrum. <i>Yearbook of Medical Informatics</i> , 2019, 28, 102-114.	1.3	43
50	Active Impedance Control of Bioinspired Motion Robotic Manipulators: An Overview. <i>Applied Bionics and Biomechanics</i> , 2018, 2018, 1-19.	1.1	42
51	Bioelectrical impedance spectroscopy as a fluid management system in heart failure. <i>Physiological Measurement</i> , 2014, 35, 917-930.	2.2	41
52	A Bendable and Wearable Cardiorespiratory Monitoring Device Fusing Two Noncontact Sensor Principles. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2015, 19, 784-793.	6.8	41
53	Evaluating Innovative In-Ear Pulse Oximetry for Unobtrusive Cardiovascular and Pulmonary Monitoring During Sleep. <i>IEEE Journal of Translational Engineering in Health and Medicine</i> , 2013, 1, 2700208-2700208.	3.9	40
54	Statistical learning theory for high dimensional prediction: Application to criterion-keyed scale development.. <i>Psychological Methods</i> , 2016, 21, 603-620.	3.5	39

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55	The dawn of physiological closed-loop ventilationâ€™a review. <i>Critical Care</i> , 2020, 24, 121.	6.0	39
56	A Deep Learning-Based Camera Approach for Vital Sign Monitoring Using Thermography Images for ICU Patients. <i>Sensors</i> , 2021, 21, 1495.	4.0	39
57	Therapeutic Effect of C-Phycocyanin Extracted from Blue Green Algae in a Rat Model of Acute Lung Injury Induced by Lipopolysaccharide. <i>Evidence-based Complementary and Alternative Medicine</i> , 2013, 2013, 1-11.	1.2	38
58	Contact-free monitoring of circulation and perfusion dynamics based on the analysis of thermal imagery. <i>Biomedical Optics Express</i> , 2014, 5, 1075.	2.9	38
59	Personal Healthcare Devices. <i>Philips Research</i> , 2006, , 349-370.	0.0	38
60	Infrared thermography for detailed registration of thermoregulation in premature infants. <i>Journal of Perinatal Medicine</i> , 2013, 41, 613-620.	1.4	37
61	Multi-channel optical sensor-array for measuring ballistocardiograms and respiratory activity in bed. , 2012, 2012, 5042-5.		36
62	The IMPACT shirt: textile integrated and portable impedance cardiography. <i>Physiological Measurement</i> , 2014, 35, 1181-1196.	2.2	36
63	Monitoring of Cardiorespiratory Signals Using Thermal Imaging: A Pilot Study on Healthy Human Subjects. <i>Sensors</i> , 2018, 18, 1541.	4.0	36
64	Continuous Monitoring of Vital Signs Using Cameras: A Systematic Review. <i>Sensors</i> , 2022, 22, 4097.	4.0	36
65	Intelligent neonatal monitoring based on a virtual thermal sensor. <i>BMC Medical Imaging</i> , 2014, 14, 9.	2.8	35
66	Recent Advances in and Limitations of Cardiac Output Monitoring by Means of Electrical Impedance Tomography. <i>Anesthesia and Analgesia</i> , 2014, 119, 76-83.	2.4	35
67	MRI-based synthetic CT generation using semantic random forest with iterative refinement. <i>Physics in Medicine and Biology</i> , 2019, 64, 085001.	3.0	34
68	Estimating Respiratory Rate in Post-Anesthesia Care Unit Patients Using Infrared Thermography: An Observational Study. <i>Sensors</i> , 2018, 18, 1618.	4.0	33
69	Evaluation of electrical impedance tomography for determination of urinary bladder volume: comparison with standard ultrasound methods in healthy volunteers. <i>BioMedical Engineering OnLine</i> , 2018, 17, 95.	2.8	33
70	Neonatal infrared thermography imaging: Analysis of heat flux during different clinical scenarios. <i>Infrared Physics and Technology</i> , 2012, 55, 538-548.	2.9	32
71	Reducing false alarms in the ICU by quantifying self-similarity of multimodal biosignals. <i>Physiological Measurement</i> , 2016, 37, 1233-1252.	2.2	32
72	Influence of contact pressure and moisture on the signal quality of a newly developed textile ECG sensor shirt. , 2008, , .		31

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73	Real-time image composition of bladder mosaics in fluorescence endoscopy. Computer Science - Research and Development, 2011, 26, 51-64.	2.8	31
74	Beat-to-beat heart rate estimation fusing multimodal video and sensor data. Biomedical Optics Express, 2015, 6, 2895.	2.9	31
75	Unobtrusive Nocturnal Heartbeat Monitoring by a Ballistocardiographic Sensor in Patients with Sleep Disordered Breathing. Scientific Reports, 2017, 7, 13175.	3.4	31
76	Noncontact Monitoring of Heart Rate and Heart Rate Variability in Geriatric Patients Using Photoplethysmography Imaging. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 1781-1792.	6.8	31
77	Accuracy of heart rate variability estimated with reflective wrist-PPG in elderly vascular patients. Scientific Reports, 2021, 11, 8123.	3.4	30
78	Model-Based Verification of a Non-Linear Separation Scheme for Ballistocardiography. IEEE Journal of Biomedical and Health Informatics, 2014, 18, 174-182.	6.8	29
79	System Description and First Application of an FPGA-Based Simultaneous Multi-Frequency Electrical Impedance Tomography. Sensors, 2016, 16, 1158.	4.0	28
80	Global and regional lung function in cystic fibrosis measured by electrical impedance tomography. Pediatric Pulmonology, 2016, 51, 1191-1199.	2.0	28
81	Applying machine learning to detect individual heart beats in ballistocardiograms. , 2010, 2010, 1926-9.		27
82	Body-Sensor-Network-Based Spasticity Detection. IEEE Journal of Biomedical and Health Informatics, 2016, 20, 748-755.	6.8	27
83	Experimental Validation of a Torque-Controlled Variable Stiffness Actuator Tuned by Gain Scheduling. IEEE/ASME Transactions on Mechatronics, 2018, 23, 2109-2120.	6.1	27
84	Evaluation of a 433 MHz Band Body Sensor Network for Biomedical Applications. Sensors, 2013, 13, 898-917.	4.0	26
85	Robust decentralised control of a hydrodynamic human circulatory system simulator. Biomedical Signal Processing and Control, 2015, 20, 35-44.	5.9	26
86	Thermoregulation in premature infants: A mathematical model. Journal of Thermal Biology, 2016, 62, 159-169.	2.6	25
87	Optimizing PEEP by Electrical Impedance Tomography in a Porcine Animal Model of ARDS. Respiratory Care, 2017, 62, 340-349.	1.8	25
88	Motion Artifact Quantification and Sensor Fusion for Unobtrusive Health Monitoring. Sensors, 2018, 18, 38.	4.0	25
89	Enhanced in vitro model of the CSF dynamics. Fluids and Barriers of the CNS, 2019, 16, 11.	5.1	25
90	Robustness, Specificity, and Reliability of an In-Ear Pulse Oximetric Sensor in Surgical Patients. IEEE Journal of Biomedical and Health Informatics, 2014, 18, 1178-1185.	6.8	24

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91	UnoViS: the MedIT public unobtrusive vital signs database. <i>Health Information Science and Systems</i> , 2015, 3, 2.	5.5	24
92	Linearity of electrical impedance tomography during maximum effort breathing and forced expiration maneuvers. <i>Physiological Measurement</i> , 2017, 38, 77-86.	2.2	24
93	Regional lung ventilation and perfusion by electrical impedance tomography compared to single-photon emission computed tomography. <i>Physiological Measurement</i> , 2018, 39, 065004.	2.2	24
94	Biomechanics, actuation, and multi-level control strategies of power-augmentation lower extremity exoskeletons: an overview. <i>International Journal of Dynamics and Control</i> , 2019, 7, 1462-1488.	2.4	24
95	Design and Preliminary Validation of a Lower Limb Exoskeleton With Compact and Modular Actuation. <i>IEEE Access</i> , 2020, 8, 66338-66352.	4.4	24
96	Automatic protective ventilation using the ARDSNet protocol with the additional monitoring of electrical impedance tomography. <i>Critical Care</i> , 2014, 18, R128.	6.0	23
97	Remote vital parameter monitoring in neonatology – robust, unobtrusive heart rate detection in a realistic clinical scenario. <i>Biomedizinische Technik</i> , 2016, 61, 631-643.	1.4	23
98	Red algal parasites: a synopsis of described species, their hosts, distinguishing characters and areas for continued research. <i>Botanica Marina</i> , 2017, 60, 13-25.	1.2	23
99	Noninvasive Monitoring of Blood Glucose Using Color-Coded Photoplethysmographic Images of the Illuminated Fingertip Within the Visible and Near-Infrared Range: Opportunities and Questions. <i>Journal of Diabetes Science and Technology</i> , 2018, 12, 1169-1177.	2.4	23
100	Non-contact sensing of neonatal pulse rate using camera-based imaging: a clinical feasibility study. <i>Physiological Measurement</i> , 2020, 41, 024001.	2.2	23
101	Distributed Intelligent Sensor Network for the Rehabilitation of Parkinson's Patients. <i>IEEE Transactions on Information Technology in Biomedicine</i> , 2011, 15, 268-276.	3.4	22
102	Robust remote monitoring of breathing function by using infrared thermography. , 2015, 2015, 4250-3.		22
103	Periodic funnel-based control for peak inspiratory pressure. , 2015, , .		22
104	Heartbeat Cycle Length Detection by a Ballistocardiographic Sensor in Atrial Fibrillation and Sinus Rhythm. <i>BioMed Research International</i> , 2015, 2015, 1-10.	1.9	22
105	Membrane Protein Expression in <i>Lactococcus lactis</i> . <i>Methods in Enzymology</i> , 2015, 556, 77-97.	1.7	22
106	Capacitive ECG Monitoring in Cardiac Patients During Simulated Driving. <i>IEEE Transactions on Biomedical Engineering</i> , 2019, 66, 749-758.	4.3	22
107	In-Ear Heart Rate Monitoring Using a Micro-Optic Reflective Sensor. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2007, 2007, 1375-8.	0.0	21
108	Multichannel simultaneous magnetic induction measurement system (MUSIMITOS). <i>Physiological Measurement</i> , 2008, 29, S291-S306.	2.2	21

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109	A Novel Bioimpedance Technique to Monitor Fluid Volume State During Hemodialysis Treatment. ASAIO Journal, 2010, 56, 215-220.	1.7	21
110	Impedance Measurement System for Determination of Capacitive Electrode Coupling. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 682-689.	4.5	21
111	Closed-Loop Control of Humidification for Artifact Reduction in Capacitive ECG Measurements. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 300-313.	4.5	21
112	Minimizing left ventricular stroke work with iterative learning flow profile control of rotary blood pumps. Biomedical Signal Processing and Control, 2017, 31, 444-451.	5.9	21
113	Non-contact monitoring techniques - Principles and applications. , 2012, 2012, 1302-5.		20
114	An adaptive Kalman filter approach for cardiorespiratory signal extraction and fusion of non-contacting sensors. BMC Medical Informatics and Decision Making, 2014, 14, 37.	3.1	20
115	Detection of heart beats in multimodal data: a robust beat-to-beat interval estimation approach. Physiological Measurement, 2015, 36, 1679-1690.	2.2	20
116	Quantitative Masking Strength: Quantifying the Power Side-Channel Resistance of Software Code. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2015, 34, 1558-1568.	2.8	20
117	Segmental Bioelectrical Impedance Spectroscopy to Monitor Fluid Status in Heart Failure. Scientific Reports, 2020, 10, 3577.	3.4	20
118	Automated Grouping of Action Potentials of Human Embryonic Stem Cell-Derived Cardiomyocytes. IEEE Transactions on Biomedical Engineering, 2014, 61, 2389-2395.	4.3	19
119	Development of a wearable multi-frequency impedance cardiography device. Journal of Medical Engineering and Technology, 2015, 39, 131-137.	1.1	19
120	Artificial intelligence for closed-loop ventilation therapy with hemodynamic control using the open lung concept. International Journal of Intelligent Computing and Cybernetics, 2015, 8, 50-68.	2.7	19
121	Estimation of respiratory rate from thermal videos of preterm infants. , 2017, 2017, 3818-3821.		19
122	Closed-loop positive real optimal control of variable stiffness actuators. Control Engineering Practice, 2019, 82, 142-150.	5.7	19
123	Ballistocardiography Can Estimate Beat-to-Beat Heart Rate Accurately at Night in Patients After Vascular Intervention. IEEE Journal of Biomedical and Health Informatics, 2020, 24, 2230-2237.	6.8	19
124	Modeling of Fluid Shifts in the Human Thorax for Electrical Impedance Tomography. IEEE Transactions on Magnetics, 2008, 44, 1450-1453.	2.2	18
125	Modeling and simulation of the cardiovascular system: a review of applications, methods, and potentials / Modellierung und Simulation des Herz-Kreislauf-Systems: ein Aøeberblick zu Anwendungen, Methoden und Perspektiven. Biomedizinische Technik, 2009, 54, 233-244.	1.4	18
126	How speech processing can help with beat-to-beat heart rate estimation in ballistocardiograms. , 2013, , ,		18

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127	Virtual-Instrument-Based Online Monitoring System for Hands-On Laboratory Experiment of Partial Discharges. IEEE Transactions on Education, 2017, 60, 29-37.	2.8	18
128	A Multi-Modal Sensor for a Bed-Integrated Unobtrusive Vital Signs Sensing Array. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 529-539.	4.5	18
129	Fast body part segmentation and tracking of neonatal video data using deep learning. Medical and Biological Engineering and Computing, 2020, 58, 3049-3061.	2.9	18
130	On the Road to a Textile Integrated Bioimpedance Early Warning System for Lung Edema. , 2010, , .		17
131	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.	2.9	17
132	Design and Analysis of a Clutched Parallel Elastic Actuator. Actuators, 2019, 8, 67.	2.4	17
133	Low Impedance-Guaranteed Gain-Scheduled GESO for Torque-Controlled VSA With Application of Exoskeleton-Assisted Sit-to-Stand. IEEE/ASME Transactions on Mechatronics, 2021, 26, 2080-2091.	6.1	17
134	A Testable Robust Stability Framework for the Variable Impedance Control of 1-DOF Exoskeleton With Variable Stiffness Actuator. IEEE Transactions on Control Systems Technology, 2021, 29, 2728-2737.	5.4	17
135	Safe level graph for synthetic minority over-sampling techniques. , 2013, , .		16
136	Influence of physiological sources on the impedance cardiogram analyzed using 4D FEM simulations. Physiological Measurement, 2014, 35, 1451-1468.	2.2	16
137	Multi-Sensor Calibration of Low-Cost Magnetic, Angular Rate and Gravity Systems. Sensors, 2015, 15, 25919-25936.	4.0	16
138	Model-Based Estimation of Ankle Joint Stiffness. Sensors, 2017, 17, 713.	4.0	16
139	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	16
140	Electrical impedance tomography: changes in distribution of pulmonary ventilation during laparoscopic surgery in a porcine model. Langenbeck's Archives of Surgery, 2006, 391, 383-389.	1.9	15
141	Experimental case report: development of a pneumothorax monitored by electrical impedance tomography. Clinical Physiology and Functional Imaging, 2009, 29, 159-162.	1.2	15
142	The Reliability and Accuracy of a Noncontact Electrocardiograph System for Screening Purposes. Anesthesia and Analgesia, 2012, 114, 322-327.	2.4	15
143	Recurrence quantification analysis across sleep stages. Biomedical Signal Processing and Control, 2015, 20, 107-116.	5.9	15
144	Integration of an electromagnetic coupled sensor into a driver seat for vital sign monitoring: Initial insight. , 2017, , .		15

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145	Flow-volume loops measured with electrical impedance tomography in pediatric patients with asthma. <i>Pediatric Pulmonology</i> , 2018, 53, 636-644.	2.0	15
146	Monitoring Change of Body Fluid during Physical Exercise using Bioimpedance Spectroscopy and Finite Element Simulations. <i>Journal of Electrical Bioimpedance</i> , 2011, 2, 79-85.	1.0	15
147	Optimierung der Beatmung beim akuten Lungenversagen durch Identifikation physiologischer Kenngrößen. <i>Automatisierungstechnik</i> , 1998, 46, 532-539.	0.8	14
148	Characterization of a New Heat Dissipation Matrix Potential Sensor. <i>Sensors</i> , 2013, 13, 1137-1145.	4.0	14
149	Cellular categories. <i>Journal of Pure and Applied Algebra</i> , 2014, 218, 1652-1664.	0.6	14
150	Active noise cancellation in headphones by digital robust feedback control. , 2016, , .		14
151	Lung pathologies analyzed with multi-frequency electrical impedance tomography: Pilot animal study. <i>Respiratory Physiology and Neurobiology</i> , 2018, 254, 1-9.	1.7	14
152	An object-oriented computational model to study cardiopulmonary hemodynamic interactions in humans. <i>Computer Methods and Programs in Biomedicine</i> , 2018, 159, 167-183.	4.8	14
153	Physiological Motion Artifacts in Capacitive ECG: Ballistocardiographic Impedance Distortions. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2020, 69, 3297-3307.	4.7	14
154	Modeling photoplethysmographic signals in camera-based perfusion measurements: optoelectronic skin phantom. <i>Biomedical Optics Express</i> , 2019, 10, 4353.	2.9	14
155	Review of Current Actuator Suitability for Use in Medical Implants. , 2006, 2006, 5956-9.		13
156	Control applications in artificial ventilation. , 2007, , .		13
157	Transmission infrared spectroscopy of whole blood – complications for quantitative analysis from leucocyte adhesion during continuous monitoring. <i>Journal of Biophotonics</i> , 2010, 3, 567-578.	2.4	13
158	Capacitive electrocardiogram measurement system in the driver seat. <i>ATZ Worldwide</i> , 2011, 113, 50-55.	0.2	13
159	Effect of electrode arrangements on bladder volume estimation by electrical impedance tomography. <i>Journal of Physics: Conference Series</i> , 2013, 434, 012080.	0.4	13
160	Detection of Nocturnal Slow Wave Sleep Based on Cardiorespiratory Activity in Healthy Adults. <i>IEEE Journal of Biomedical and Health Informatics</i> , 2017, 21, 123-133.	6.8	13
161	A synthesizer framework for multimodal cardiorespiratory signals. <i>Biomedical Physics and Engineering Express</i> , 2017, 3, 035028.	1.2	13
162	Observer-Based Human Knee Stiffness Estimation. <i>IEEE Transactions on Biomedical Engineering</i> , 2017, 64, 1033-1044.	4.3	13

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163	Gaussian process-based model predictive control of blood glucose for patients with type 1 diabetes mellitus. , 2017, , .		13
164	Non-invasive evaluation of coronary heart disease in patients with chronic kidney disease using photoplethysmography. CKJ: Clinical Kidney Journal, 2019, 12, 538-545.	2.8	13
165	Car Seats with Capacitive ECG Electrodes Can Detect Cardiac Pacemaker Spikes. Sensors, 2020, 20, 6288.	4.0	13
166	A Way of Bionic Control Based on EI, EMG, and FMG Signals. Sensors, 2022, 22, 152.	4.0	13
167	Analysis of Tidal Breathing Flow Volume Loops for Automated Lung-Function Diagnosis in Infants. IEEE Transactions on Biomedical Engineering, 2010, 57, 1945-1953.	4.3	12
168	Clinical proof of practicability for an ECG device without any conductive contact. Biomedizinische Technik, 2010, 55, 291-300.	1.4	12
169	Respiration monitoring based on magnetic induction using a single coil. , 2010, , .		12
170	Plasma irregularities in the high-latitude ionospheric F ₂ region and their diamagnetic signatures as observed by CHAMP. Journal of Geophysical Research, 2012, 117, .	3.2	12
171	Accelerometer-assisted PPG Measurement During Physical Exercise Using the LAVIMO Sensor System. Acta Polytechnica, 2012, 52, .	0.6	12
172	Hydrostatic fluid pressure in the vestibular organ of the guinea pig. European Archives of Oto-Rhino-Laryngology, 2012, 269, 1755-1758.	1.7	12
173	Control of an Electromechanical Hydrocephalus Shunt—a New Approach. IEEE Transactions on Biomedical Engineering, 2014, 61, 2379-2388.	4.3	12
174	Estimating actigraphy from motion artifacts in ECG and respiratory effort signals. Physiological Measurement, 2016, 37, 67-82.	2.2	12
175	Smart healthcare: Cloud-enabled body sensor networks. , 2017, , .		12
176	An implementation of motion artifacts elimination for PPG signal processing based on recursive least squares adaptive filter. , 2017, , .		12
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