Knut Moeller

List of Publications by Year
in descending order

90 papers	2,131 citations	516710 16 h-index	223800 46 g-index
92 all docs	92 docs citations	92 times ranked	697 citing authors

#	Article	IF	Citations
1	Prediction and estimation of pulmonary response and elastance evolution for volume-controlled and pressure-controlled ventilation. Biomedical Signal Processing and Control, 2022, 72, 103367.	5.7	14
2	Over-distension prediction via hysteresis loop analysis and patient-specific basis functions in a virtual patient model. Computers in Biology and Medicine, 2022, 141, 105022.	7.0	13
3	Reconstructing asynchrony for mechanical ventilation using a hysteresis loop virtual patient model. BioMedical Engineering OnLine, 2022, 21, 16.	2.7	8
4	Statistical Description of SaO2â€“SpO2 Relationship for Model of Oxygenation in Premature Infants. Electronics (Switzerland), 2022, 11, 1314.	3.1	0
5	Virtual patients for mechanical ventilation in the intensive care unit. Computer Methods and Programs in Biomedicine, 2021, 199, 105912.	4.7	43
6	Fabrication And Evaluation Of Simple Tissue-Mimicking Phantoms For Electrical Impedance Sensing. , 2021, , .		1
7	High Inter-Patient Variability in Sepsis Evolution: A Hidden Markov Model Analysis. Computer Methods and Programs in Biomedicine, 2021, 201, 105956.	4.7	1
8	Numerical Analysis of the Localization of Pulmonary Nodules during Thoracoscopic Surgery by Ultra-Wideband Radio Technology. Applied Sciences (Switzerland), 2021, 11, 4282.	2.5	1
9	Impact of Two Lung Elastance Identification Methods on Pulmonary Mechanics Prediction. IFAC-PapersOnLine, 2021, 54, 97-102.	0.9	0
10	Predicting Pulmonary Distension in a Virtual Patient Model for Mechanical Ventilation. IFAC-PapersOnLine, 2021, 54, 91-96.	0.9	1
11	Antenna Design for the Localization of Pulmonary Lesions During Thoracoscopic Surgery. IFAC-PapersOnLine, 2021, 54, 73-78.	0.9	0
12	Digital Twins in Critical Care: What, When, How, Where, Why?. IFAC-PapersOnLine, 2021, 54, 310-315.	0.9	18
13	Minimal Lung Mechanics Basis-functions for a Mechanical Ventilation Virtual Patient. IFAC-PapersOnLine, 2021, 54, 127-132.	0.9	3
14	Identification of Asynchronous Effect via Pressure-Volume Loop Reconstruction in Mechanically Ventilated Breathing Waveforms. IFAC-PapersOnLine, 2021, 54, 186-191.	0.9	1
15	A Deep Learning Framework for Recognising Surgical Phases in Laparoscopic Videos. IFAC-PapersOnLine, 2021, 54, 334-339.	0.9	6
16	EIT Based Time Constant Analysis to Determine Different Types of Patients in COVID-19 Pneumonia. IFMBE Proceedings, 2021, , 462-469.	0.3	1
17	An Alternative Way to Measure Tidal Volumes. IFMBE Proceedings, 2021, , 66-72.	0.3	2
18	Traditional versus Neural Network Classification Methods for Facial Emotion Recognition. Current Directions in Biomedical Engineering, 2021, 7, 203-206.	0.4	1

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19	Nonlinearity of Magnetostrictive Torque Sensor under Varying External Magnetic Field Strength. Current Directions in Biomedical Engineering, 2021, 7, 759-762.	0.4	2
20	Real-Time Multirate Filtering of Digitized Torque Signals on Tiva Microcontroller using Fixed-Point Design with MATLAB. Current Directions in Biomedical Engineering, 2021, 7, 717-720.	0.4	1
21	Prediction of lung mechanics throughout recruitment maneuvers in pressure-controlled ventilation. Computer Methods and Programs in Biomedicine, 2020, 197, 105696.	4.7	22
22	Quantifying misclassification and bias errors due to hierarchical sepsis scores in real-time sepsis diagnosis. Biomedical Signal Processing and Control, 2020, 62, 102116.	5.7	0
23	The influence of an electrical impedance tomography belt on lung function determined by spirometry in sitting position. Physiological Measurement, 2020, 41, 044002.	2.1	11
24	Model-based PEEP titration versus standard practice in mechanical ventilation: a randomised controlled trial. Trials, 2020, 21, 130.	1.6	22
25	Developments in Modelling Bone Screwing. Current Directions in Biomedical Engineering, 2020, 6, 111-114.	0.4	9
26	Measurement of respiratory rate with inertial measurement units. Current Directions in Biomedical Engineering, 2020, 6, 237-240.	0.4	10
27	Virtual Patient Modeling and Prediction Validation for Pressure Controlled Mechanical Ventilation. IFAC-PapersOnLine, 2020, 53, 16221-16226.	0.9	2
28	An alternative way to measure total lung capacity: a pilot study. Current Directions in Biomedical Engineering, 2020, 6, 241-245.	0.4	0
29	EIT based intrathoracic pulsatile impedance measurements during apnea: a case study. Current Directions in Biomedical Engineering, 2020, 6, 52-55.	0.4	0
30	Impact of artificial airway resistances on regional ventilation distribution during airway closure. Current Directions in Biomedical Engineering, 2020, 6, 32-35.	0.4	0
31	Impact of lung volume changes on perfusion estimates derived by Electrical Impedance Tomography. Current Directions in Biomedical Engineering, 2019, 5, 199-202.	0.4	2
32	Optimising mechanical ventilation through model-based methods and automation. Annual Reviews in Control, 2019, 48, 369-382.	7.9	47
33	A review of electrical impedance tomography in lung applications: Theory and algorithms for absolute images. Annual Reviews in Control, 2019, 48, 442-471.	7.9	62
34	Inspiratory muscle training can be monitored by electrical impedance tomography. Australian Critical Care, 2019, 32, 79-80.	1.3	6
35	Predictive Virtual Patient Modelling of Mechanical Ventilation: Impact of Recruitment Function. Annals of Biomedical Engineering, 2019, 47, 1626-1641.	2.5	41
36	PEEP guided by electrical impedance tomography during one-lung ventilation in elderly patients undergoing thoracoscopic surgery. Annals of Translational Medicine, 2019, 7, 757-757.	1.7	23

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37	Technical Support of Wound Healing Processes: Project Status. Current Directions in Biomedical Engineering, 2019, 5, 521-523.	0.4	0
38	Model of SpO2 signal of the neonate. Current Directions in Biomedical Engineering, 2019, 5, 549-552.	0.4	1
39	Establishment and initial characterization of a simple 3D wound healing model. Current Directions in Biomedical Engineering, 2019, 5, 581-584.	0.4	0
40	Computer model of oxygenation in neonates. Current Directions in Biomedical Engineering, 2019, 5, 73-76.	0.4	1
41	Influence of tidal volume and positive end-expiratory pressure on ventilation distribution and oxygenation during one-lung ventilation. Physiological Measurement, 2018, 39, 034003.	2.1	15
42	Higher order total variation regularization for EIT reconstruction. Medical and Biological Engineering and Computing, 2018, 56, 1367-1378.	2.8	22
43	An efficient classification-reconstruction method for 3D EIT imaging. IFAC-PapersOnLine, 2018, 51, 36-40.	0.9	1
44	Hierarchical Analysis of Thorax Models to Measure Tidal Volume. Current Directions in Biomedical Engineering, 2018, 4, 429-432.	0.4	0
45	Next-generation, personalised, model-based critical care medicine: a state-of-the art review of in silico virtual patient models, methods, and cohorts, and how to validation them. BioMedical Engineering OnLine, 2018, 17, 24.	2.7	143
46	Performance of variations of the dynamic elastance model in lung mechanics. Control Engineering Practice, 2017, 58, 262-267.	5.5	10
47	EIT Imaging Regularization Based on Spectral Graph Wavelets. IEEE Transactions on Medical Imaging, 2017, 36, 1832-1844.	8.9	7
48	EIT based pulsatile impedance monitoring during spontaneous breathing in cystic fibrosis. Physiological Measurement, 2017, 38, 1214-1225.	2.1	8
49	Lobe based image reconstruction in Electrical Impedance Tomography. Medical Physics, 2017, 44, 426-436.	3.0	9
50	Image acquisition and planimetry systems to develop wounding techniques in 3D wound model. Current Directions in Biomedical Engineering, 2017, 3, 359-362.	0.4	5
51	Realization of a multi-layer EIT-system. Current Directions in Biomedical Engineering, 2017, 3, 291-294.	0.4	2
52	Reconstruction of conductivity change in lung lobes utilizing electrical impedance tomography. Current Directions in Biomedical Engineering, 2017, 3, 513-516.	0.4	3
53	Automatic determination of lung features of CF patients in CT scans. Current Directions in Biomedical Engineering, 2016, 2, 519-522.	0.4	0
54	Evaluation of open-source software for the lung segmentation. Current Directions in Biomedical Engineering, 2016, 2, 515-518.	0.4	7

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55	Sparse regularization for EIT reconstruction incorporating structural information derived from medical imaging. Physiological Measurement, 2016, 37, 843-862.	2.1	16
56	Regularization of EIT reconstruction based on multi-scales wavelet transforms. Current Directions in Biomedical Engineering, 2016, 2, 423-426.	0.4	0
57	Effect of the number of electrodes on the reconstructed lung shape in electrical impedance tomography. Current Directions in Biomedical Engineering, 2016, 2, 499-502.	0.4	7
58	Determination of regional lung function in cystic fibrosis using electrical impedance tomography. Current Directions in Biomedical Engineering, 2016, 2, 633-636.	0.4	4
59	Mobility Support System for Elderly Blind People with a Smart Walker and a Tactile Map. IFMBE Proceedings, 2016, , 608-613.	0.3	1
60	Impact of Heart Rate on Ventilation and Pulmonary Perfusion Associated Impedance Changes. IFMBE Proceedings, 2016, , 1270-1275.	0.3	1
61	EIT Image Reconstruction with Discrete Cosine Transform. IFMBE Proceedings, 2016, , 1276-1279.	0.3	0
62	Multi-layer ventilation inhomogeneity in cystic fibrosis. Respiratory Physiology and Neurobiology, 2016, 233, 25-32.	1.6	16
63	Structural-functional lung imaging using a combined CT-EIT and a Discrete Cosine Transformation reconstruction method. Scientific Reports, 2016, 6, 25951.	3.3	47
64	A fast time-difference inverse solver for 3D EIT with application to lung imaging. Medical and Biological Engineering and Computing, 2016, 54, 1243-1255.	2.8	11
65	An accelerated version of alternating direction method of multipliers for TV minimization in EIT. Applied Mathematical Modelling, 2016, 40, 8985-9000.	4.2	11
66	Comparison of Image Reconstruction Algorithms in EIT Imaging. Journal of Biomedical Science and Engineering, 2016, 09, 137-142.	0.4	3
67	Improving image quality in EIT imaging by measurement of thorax excursion. Current Directions in Biomedical Engineering, 2015, 1, 274-277.	0.4	0
68	A clustering based dual model framework for EIT imaging: first experimental results. Current Directions in Biomedical Engineering, 2015, 1, 278-282.	0.4	1
69	Steps towards 3D Electrical Impedance Tomography. , 2015, 2015, 5323-6.		1
70	Sampling of finite elements for sparse recovery in large scale 3D electrical impedance tomography. Physiological Measurement, 2015, 36, 43-66.	2.1	9
71	Electrical impedance tomography: functional lung imaging on its way to clinical practice?. Expert Review of Respiratory Medicine, 2015, 9, 721-737.	2.5	41
72	Utility of a novel error-stepping method to improve gradient-based parameter identification by increasing the smoothness of the local objective surface: A case-study of pulmonary mechanics. Computer Methods and Programs in Biomedicine, 2014, 114, e70-e78.	4.7	10

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73	When the value of gold is zero. BMC Research Notes, 2014, 7, 404.	1.4	21
74	Reformulation of the pressure-dependent recruitment model (PRM) of respiratory mechanics. Biomedical Signal Processing and Control, 2014, 12, 47-53.	5.7	19
75	Project-oriented studying to support medical engineering education. , 2013, , .		2
76	The dynamics of carbon dioxide equilibration after alterations in the respiratory rate. Physiological Measurement, 2013, 34, 1151-1161.	2.1	3
77	Automatic segmentation of collapsed lung regions in thorax CT. Biomedizinische Technik, 2012, 57, .	0.8	2
78	Physiological Relevance of a Minimal Model in Healthy Pigs Lung. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 444-449.	0.4	0
79	Concept study of a nonlinear mechanical lung simulator. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 149-153.	0.4	1
80	EIT image reconstruction with individual thorax geometry. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 103-106.	0.4	0
81	Ventilation inhomogeneity in patients with cystic fibrosis measured by electrical impedance tomography. Biomedizinische Technik, 2012, 57, .	0.8	1
82	Individual thorax geometry improves EIT image reconstruction. Biomedizinische Technik, 2012, 57, .	0.8	0
83	Structural Identifiability and Practical Applicability of an Alveolar Recruitment Model for ARDS Patients. IEEE Transactions on Biomedical Engineering, 2012, 59, 3396-3404.	4.2	46
84	Using multi-dimensional dynamic time warping for TUG test instrumentation with inertial sensors. , 2012, , .		13
85	Physiological relevance and performance of a minimal lung model â€“ an experimental study in healthy and acute respiratory distress syndrome model piglets. BMC Pulmonary Medicine, 2012, 12, 59.	2.0	17
86	Time course of etCO<inf>2</inf> response to alterations in respiration rate predicted by a mathematical model of human gas exchange. , 2011, , .		0
87	Sequential versus concurrent computation of complex model systems for medical decision support. , 2011, 2011, 133-6.		1
88	Inverse modeling supports quantification of pressure and time depending effects in ARDS patients. , 2011, 2011, 1013-6.		1
89	A Mathematical Model of Gas Exchange Predicting CO₂ Response to Respiratory Rate Changes. , 2011, , .		0
90	Dynamic versus static respiratory mechanics in acute lung injury and acute respiratory distress syndrome. Critical Care Medicine, 2006, 34, 2090-2098.	0.9	1,217