Thomas Schauer

List of Publications by Year
in descending order

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Version: 2024-02-01

		304743	214800
115	2,680	22	47
papers	citations	h-index	g-index

121	121	121	2268
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	IMU-Based Joint Angle Measurement for Gait Analysis. Sensors, 2014, 14, 6891-6909.	3.8	617
2	Control strategies for integration of electric motor assist and functional electrical stimulation in paraplegic cycling: utility for exercise testing and mobile cycling. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2004, 12, 89-101.	4.9	124
3	Online identification and nonlinear control of the electrically stimulated quadriceps muscle. Control Engineering Practice, 2005, 13, 1207-1219.	5.5	123
4	MUNDUS project: MUltimodal Neuroprosthesis for daily Upper limb Support. Journal of NeuroEngineering and Rehabilitation, 2013, 10, 66.	4.6	115
5	Iterative learning control of a drop foot neuroprosthesis â€" Generating physiological foot motion in paretic gait by automatic feedback control. Control Engineering Practice, 2016, 48, 87-97.	5.5	108
6	Joint axis and position estimation from inertial measurement data by exploiting kinematic constraints. , 2012, , .		90
7	Data-Driven Control Design for Neuroprotheses: A Virtual Reference Feedback Tuning (VRFT) Approach. IEEE Transactions on Control Systems Technology, 2004, 12, 176-182.	5.2	86
8	Alignment-Free, Self-Calibrating Elbow Angles Measurement Using Inertial Sensors. IEEE Journal of Biomedical and Health Informatics, 2017, 21, 312-319.	6.3	85
9	Monotonic convergence of iterative learning control systems with variable pass length. International Journal of Control, 2017, 90, 393-406.	1.9	76
10	The adaptive drop foot stimulator â€" Multivariable learning control of foot pitch and roll motion in paretic gait. Medical Engineering and Physics, 2016, 38, 1205-1213.	1.7	70
11	Advanced technology for gait rehabilitation: An overview. Advances in Mechanical Engineering, 2018, 10, 168781401878362.	1.6	62
12	Iterative Learning Control for Variable Pass Length Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 4880-4885.	0.4	60
13	A myocontrolled neuroprosthesis integrated with a passive exoskeleton to support upper limb activities. Journal of Electromyography and Kinesiology, 2014, 24, 307-317.	1.7	58
14	Model-based design and experimental validation of active vibration control for a stress ribbon bridge using pneumatic muscle actuators. Engineering Structures, 2011, 33, 2237-2247.	5.3	52
15	Exploiting kinematic constraints to compensate magnetic disturbances when calculating joint angles of approximate hinge joints from orientation estimates of inertial sensors. , 2017, 2017, 971-976.		51
16	EEG-based BCI for the linear control of an upper-limb neuroprosthesis. Medical Engineering and Physics, 2016, 38, 1195-1204.	1.7	48
17	Sensing motion and muscle activity for feedback control of functional electrical stimulation: Ten years of experience in Berlin. Annual Reviews in Control, 2017, 44, 355-374.	7.9	44
18	A Tangible Solution for Hand Motion Tracking in Clinical Applications. Sensors, 2019, 19, 208.	3.8	38

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19	RehaMovePro: A versatile mobile stimulation system for transcutaneous FES applications. European Journal of Translational Myology, 2016, 26, 6076.	1.7	33
20	Design of a Symmetry Controller for Cycling Induced by Electrical Stimulation: Preliminary Results on Postâ€Acute Stroke Patients. Artificial Organs, 2010, 34, 663-667.	1.9	31
21	Evaluation of an EMG bioimpedance measurement system for recording and analysing the pharyngeal phase of swallowing. European Archives of Oto-Rhino-Laryngology, 2013, 270, 2149-2156.	1.6	25
22	Feedback control of arm movements using Neuro-Muscular Electrical Stimulation (NMES) combined with a lockable, passive exoskeleton for gravity compensation. Frontiers in Neuroscience, 2014, 8, 262.	2.8	25
23	The combined action of a passive exoskeleton and an EMG-controlled neuroprosthesis for upper limb stroke rehabilitation: First results of the RETRAINER project. , 2017, 2017, 56-61.		25
24	A Hybrid Robotic System for Arm Training of Stroke Survivors: Concept and First Evaluation. IEEE Transactions on Biomedical Engineering, 2019, 66, 3290-3300.	4.2	25
25	A Robotic System with EMG-Triggered Functional Eletrical Stimulation for Restoring Arm Functions in Stroke Survivors. Neurorehabilitation and Neural Repair, 2021, 35, 334-345.	2.9	25
26	Automatic Control of a Dropâ€Foot Stimulator Based on Angle Measurement Using Bioimpedance. Artificial Organs, 2008, 32, 649-654.	1.9	24
27	The Cybathlon RehaBike: Inertial-Sensor-Driven Functional Electrical Stimulation Cycling by Team Hasomed. IEEE Robotics and Automation Magazine, 2017, 24, 49-57.	2.0	24
28	Automated Detection and Evaluation of Swallowing Using a Combined EMG/Bioimpedance Measurement System. Scientific World Journal, The, 2014, 2014, 1-7.	2.1	22
29	Feedback control of foot eversion in the adaptive peroneal stimulator. , 2014, , .		21
30	Realtime assessment of foot orientation by Accelerometers and Gyroscopes. Current Directions in Biomedical Engineering, 2015, 1, 446-469.	0.4	20
31	Amplifier design for EMG recording from stimulation electrodes during functional electrical stimulation leg cycling ergometry. Biomedizinische Technik, 2011, 56, 23-33.	0.8	19
32	Iterative Learning Control and System Identification of the Antagonistic Knee Muscle Complex During Gait Using Functional Electrical Stimulation. IFAC-PapersOnLine, 2017, 50, 8786-8791.	0.9	16
33	Adaptive multichannel FES neuroprosthesis with learning control and automatic gait assessment. Journal of NeuroEngineering and Rehabilitation, 2020, 17, 36.	4.6	16
34	Modular finger and hand motion capturing system based on inertial and magnetic sensors. Current Directions in Biomedical Engineering, 2017, 3, 19-23.	0.4	15
35	Continuous Wrist Blood Pressure Measurement with Ultrasound. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.8	14
36	Iterative Learning Cascade Control of Continuous Noninvasive Blood Pressure Measurement. , 2013, , .		14

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37	An Automatic Identification Procedure to Promote the use of FES-Cycling Training for Hemiparetic Patients. Journal of Healthcare Engineering, 2014, 5, 275-292.	1.9	14
38	A patient-controlled functional electrical stimulation system for arm weight relief. Medical Engineering and Physics, 2016, 38, 1232-1243.	1.7	14
39	An EMG-controlled neuroprosthesis for daily upper limb support: A preliminary study. , 2011, 2011, 4259-62.		13
40	Model-based control approach for a CPAP-device considering patientâ€™s breathing effort. IFAC-PapersOnLine, 2017, 50, 9948-9953.	0.9	13
41	Automatic pairing of inertial sensors to lower limb segments â€“ a plug-and-play approach. Current Directions in Biomedical Engineering, 2016, 2, 715-718.	0.4	12
42	Inertial-Robotic Motion Tracking in End-Effector-Based Rehabilitation Robots. Frontiers in Robotics and AI, 2020, 7, 554639.	3.2	12
43	Reviewâ€”Emerging Portable Technologies for Gait Analysis in Neurological Disorders. Frontiers in Human Neuroscience, 2022, 16, 768575.	2.0	11
44	A new semi-automatic approach to find suitable virtual electrodes in arrays using an interpolation strategy. European Journal of Translational Myology, 2016, 26, 6029.	1.7	10
45	Alignment-free, self-calibrating elbow angles measurement using inertial sensors. , 2016, , .		10
46	Linearisation of electrically stimulated muscles by feedback control of the muscular recruitment measured by evoked EMG. , 2012, , .		9
47	The Effect of Using Variable Frequency Trains During Functional Electrical Stimulation Cycling. Neuromodulation, 2008, 11, 216-226.	0.8	8
48	Position and orientation control of an omni-directional mobile rehabilitation robot. , 2012, , .		8
49	A muscle model for hybrid muscle activation. Current Directions in Biomedical Engineering, 2015, 1, 386-389.	0.4	8
50	Hybrid Inertial-Robotic Motion Tracking for Posture Biofeedback in Upper Limb Rehabilitation. , 2018, , .		8
51	Supporting front crawl swimming in paraplegics using electrical stimulation: a feasibility study. Journal of NeuroEngineering and Rehabilitation, 2020, 17, 51.	4.6	8
52	First-aid sensor system: New methods for single-point detection and analysis of vital parameters such as pulse and respiration. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 2928-31.	0.5	7
53	Iterativ Lernende Regelung einer Gang-Neuroprothese Iterative Learning Control of a Gait Neuroprosthesis. Automatisierungstechnik, 2008, 56, 494-501.	0.8	7
54	Active vibration control of a light and flexible stress ribbon footbridge using pneumatic muscles. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 911-916.	0.4	7

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55	Multivariable Control of Foot Motion During Gait by Peroneal Nerve Stimulation via two Skin Electrodesâˆ—âˆ—As part of the research project APeroStim, this work was supported by the German Federal Ministry of Education and Research(FKZ 01EZ1204B).. IFAC-PapersOnLine, 2015, 48, 315-320.	0.9	7
56	Realtime EMG analysis for transcutaneous electrical stimulation assisted gait training in stroke patients**The work was conducted within the research project BeMobil, which is supported by the German Federal Ministry of Education and Research (BMBF) (FKZ16SV7069K).. IFAC-PapersOnLine, 2016, 49, 183-187.	0.9	7
57	Robust Discrimination of Flexion and Extension Phases for Mobile Functional Electrical Stimulation (FES) Induced Cycling in Paraplegics. IFAC-PapersOnLine, 2016, 49, 210-215.	0.9	7
58	Compensating the effects of FES-induced muscle fatigue by rehabilitation robotics during arm weight support. Current Directions in Biomedical Engineering, 2017, 3, 31-34.	0.4	7
59	Automatic Detection of Stimulation Artifacts to Isolate Volitional from Evoked EMG Activity. IFAC-PapersOnLine, 2018, 51, 282-287.	0.9	7
60	Iterativ Lernende Regelung mit variabler ZykluslÃnge fÃ¼r FES-basierte Kompensation einer FuÃŸheberschwÃche / Iterative Learning Control with Variable Pass Length applied to FES-based Drop Foot Treatment. Automatisierungstechnik, 2013, 61, 630-637.	0.8	6
61	Efficacy of EMG/bioimpedance-triggered functional electrical stimulation on swallowing performance. European Journal of Translational Myology, 2016, 26, 6065.	1.7	6
62	User-centered practicability analysis of two identification strategies in electrode arrays for FES induced hand motion in early stroke rehabilitation. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 123.	4.6	6
63	Facade-Integrated Semi-Active Vibration Control for Wind-Excited Super-Slender Tall Buildings. IFAC-PapersOnLine, 2020, 53, 8395-8400.	0.9	6
64	Multisensor classification system for triggering FES in order to support voluntary swallowing. European Journal of Translational Myology, 2016, 26, 6224.	1.7	5
65	An Inertial Sensor-based Trigger Algorithm for Functional Electrical Stimulation-Assisted Swimming in Paraplegics. IFAC-PapersOnLine, 2019, 51, 278-283.	0.9	5
66	Active Vibration Control of a Convertible Structure based on a Linear Parameter-Varying Model. IFAC-PapersOnLine, 2019, 52, 190-195.	0.9	5
67	Linear Parameter-Varying Models for Convertible Structures in Civil and Structural Engineering. IFAC-PapersOnLine, 2019, 52, 555-560.	0.9	5
68	Active Vibration Control of a Convertible Structure based on a Polytopic LPV Model Representation. IFAC-PapersOnLine, 2020, 53, 8389-8394.	0.9	5
69	Algorithms for Automated Calibration of Transcutaneous Spinal Cord Stimulation to Facilitate Clinical Applications. Journal of Clinical Medicine, 2021, 10, 5464.	2.4	5
70	Linear Controller Design for the Single Limb Movement of Paraplegics. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2000, 33, 7-12.	0.4	4
71	Bioimpedance- and EMG-Triggered FES for Improved Protection of the Airway During Swallowing. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.8	4
72	Multichannel FES parameterization for controlling foot motion in paretic gait. Current Directions in Biomedical Engineering, 2015, 1, 480-483.	0.4	4

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73	Adaptive Control of a Neuroprosthesis for Stroke Patients Amplifying Weak Residual Shoulder-Muscle Activity. IFAC-PapersOnLine, 2017, 50, 8792-8797.	0.9	4
74	Acceleration-based active vibration control of a footbridge using grey-box model identification. , 2017, , .		4
75	Self-adapting Classification System for Swallow Intention Detection in Dysphagia Therapy. Current Directions in Biomedical Engineering, 2019, 5, 49-52.	0.4	4
76	Modeling of Mixed Artificially and Voluntary Induced Muscle Contractions for Controlled Functional Electrical Stimulation of Shoulder Abduction. IFAC-PapersOnLine, 2019, 51, 284-289.	0.9	4
77	Mobil4Park: development of a sensor-stimulator network for the therapy of freezing of gait in Parkinson patients. Current Directions in Biomedical Engineering, 2020, 6, .	0.4	4
78	Real-Time Detection of Freezing Motions in Parkinson's Patients for Adaptive Gait Phase Synchronous Cueing. Frontiers in Neurology, 2021, 12, 720516.	2.4	4
79	Iteratively Learning Electromyography (EMG)-based Functional Electrical Stimulation (FES) for Stroke Rehabilitation. Biomedizinische Technik, 2012, 57, .	0.8	3
80	Accelerometer-based estimation and modal velocity feedback vibration control of a stress-ribbon bridge with pneumatic muscles. Journal of Physics: Conference Series, 2016, 744, 012041.	0.4	3
81	Intention recognition for FES in a grasp-and-release task using volitional EMG and inertial sensors. Current Directions in Biomedical Engineering, 2017, 3, 161-165.	0.4	3
82	Multi-Modal Active Vibration Control of a Lightweight Stress-Ribbon Footbridge Based on Subspace Identification. IFAC-PapersOnLine, 2017, 50, 7058-7063.	0.9	3
83	A new approach for a Patient-Cooperative Upper Limb FES Support based on Vector Fields * *The work was conducted within the research project BeMobil, which is supported by the German Federal Ministry of Education and Research (BMBF) (FKZ16SV7069K). We would further like to acknowledge Axelgaard Manufacturing Co., USA for donating the used stimulation electrodes. The performed trials have been approved by the ethics committee of the Berlin Chamber of Physicians. IFAC-PapersOnLine, 2017, 50, 9954-9960.	0.9	3
84	Reaching and Grasping Training based on Robotic Hybrid Assistance for Neurological Patients. , 2016, , .		3
85	Optimized passive/semi-active vibration control using distributed-multiple tuned facade damping system in tall buildings. Journal of Building Engineering, 2022, 52, 104416.	3.4	3
86	Control system for neuro-prostheses integrating induced and volitional effortâˆ—âˆ—This work was partially funded by the German Federal Ministry of Education and Research (BMBF) within the project BeMobil (FKZ 16SV7069K) and by European project RETRAINER (Horizon 2020, Research and Innovation) Tj ETQq0 0 0 rgBT /Overlock 1	0.9	2
87	Gait Training by FES. Biosystems and Biorobotics, 2018, , 307-323.	0.3	2
88	Real-Time Joint Axes Estimation of the Hip and Knee Joint during Gait using Inertial Sensors. , 2018, , .		2
89	Iterative Learning Vector Field for FES-Supported Cyclic Upper Limb Movements in Combination with Robotic Weight Compensation. , 2018, , .		2
90	Automatic control of grasping strength for functional electrical stimulation in forearm movements via electrode arrays. Automatisierungstechnik, 2018, 66, 1027-1036.	0.8	2

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91	Nonlinear joint-angle feedback control of electrically stimulated and Î»-controlled antagonistic muscle pairs. , 2013, , .		2
92	Model-Based Active Vibration Control for Next Generation Bridges Using Reduced Finite Element Models. , 2017, , .		2
93	Reactive Exercises with Interactive Objects: Interim Analysis of a Randomized Trial on Task-Driven NMES Grasp Rehabilitation for Subacute and Early Chronic Stroke Patients. Sensors, 2021, 21, 6739.	3.8	2
94	Inertial-Sensor-Controlled Functional Electrical Stimulation for Swimming in Paraplegics: Enabling a Novel Hybrid Exercise Modality. IEEE Control Systems, 2020, 40, 117-135.	0.8	2
95	Belastungsregelung bei der Elektrostimulationsergometrie (Power Control of Electrical Stimulation) Tj ETQq1 1 0.784314 rgBT /Overl	0.8	1
96	Model-based predictive control of blood-sugar level in intensive care. , 2007, , .		1
97	Gelenkwinkelregelung durch Elektrostimulation eines antagonistischen Muskelpaares. Automatisierungstechnik, 2011, 59, 629-637.	0.8	1
98	Advances in Functional Electrical Stimulation modelling and control. Medical Engineering and Physics, 2016, 38, 1157-1158.	1.7	1
99	Enhancing the smoothness of joint motion induced by functional electrical stimulation using co-activation strategies. Current Directions in Biomedical Engineering, 2017, 3, 155-159.	0.4	1
100	A bioimpedance measurement device for sensing force and position in neuroprosthetic systems. IFMBE Proceedings, 2009, , 1642-1645.	0.3	1
101	8. Funktionelle Elektro- und Magnetstimulation in der Rehabilitation. , 2015, , 395-444.		1
102	Regelung der Trittgeschwindigkeit beim Liegedreiradfahren von QuerschnittgelÃhmten (Cadence) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.8	0
103	Automatisierungstechnische Verfahren fÃ¼r die Medizin. Automatisierungstechnik, 2010, 58, 239-240.	0.8	0
104	Breathing synchronized electrical stimulation of the abdominal muscles in patients with acute tetraplegia. Biomedizinische Technik, 2012, 57, .	0.8	0
105	Feedback Control of the Electrical Stimulation induced Muscular Recruitment Determined by the Evoked Electromyogram. Biomedizinische Technik, 2012, 57, .	0.8	0
106	Control of a Mobile Rehabilitation Robot using Exact Feedback Linearisation. Biomedizinische Technik, 2013, 58 Suppl 1, .	0.8	0
107	13. Funktionelle Elektrostimulation nach QuerschnittlÃhmung und Schlaganfall. , 2014, , 333-356.		0
108	Discretisation & control of irregularly actuated and sampled LTI systems. , 2014, , .		0

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109	Entwurf einer lernenden Kaskadenregelung fÃ¼r ein nichtinvasives kontinuierliches Blutdruckmesssystem. Automatisierungstechnik, 2015, 63, 5-13.	0.8	0
110	Breathing-synchronised electrical stimulation of the abdominal muscles in patients with acute tetraplegia: A prospective proof-of-concept study. Journal of Spinal Cord Medicine, 2016, 39, 628-637.	1.4	0
111	Automatisierungstechnische Verfahren fÃ¼r die Medizin. Automatisierungstechnik, 2016, 64, 855-857.	0.8	0
112	Automation in medicine: from homecare to clinical applications. Automatisierungstechnik, 2018, 66, 990-992.	0.8	0
113	14 Rehabilitationstechnik. , 2014, , 405-440.		0
114	Chancen der Digitalisierung bei der Versorgung mit mobilitÃtsfÃ¶rdernden Hilfsmitteln. , 2019, , 75-99.		0
115	Automation in medical technology: Model-based design as a key for safe and effective medicine. Automatisierungstechnik, 2020, 68, 911-912.	0.8	0