Mirko Meboldt

List of Publications by Year
in descending order

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109 papers	1,909 citations	304743 22 h-index	315739 38 g-index
114 all docs	114 docs citations	114 times ranked	1846 citing authors

#	Article	IF	Citations
1	Design Strategies for the Process of Additive Manufacturing. Procedia CIRP, 2015, 36, 230-235.	1.9	136
2	Mechanical characterization of 3D printed polymers for fiber reinforced polymers processing. Materials and Design, 2017, 118, 256-265.	7.0	133
3	Design for Additive Manufacturing â€“ Supporting the Substitution of Components in Series Products. Procedia CIRP, 2014, 21, 138-143.	1.9	106
4	Considering Part Orientation in Design for Additive Manufacturing. Procedia CIRP, 2016, 50, 408-413.	1.9	82
5	Fluid Dynamics in the HeartMate 3: Influence of the Artificial Pulse Feature and Residual Cardiac Pulsation. Artificial Organs, 2019, 43, 363-376.	1.9	72
6	A Soft Total Artificial Heartâ€”First Concept Evaluation on a Hybrid Mock Circulation. Artificial Organs, 2017, 41, 948-958.	1.9	67
7	Blood Pump Design Variations and Their Influence on Hydraulic Performance and Indicators of Hemocompatibility. Annals of Biomedical Engineering, 2018, 46, 417-428.	2.5	64
8	Wearable Inertial Measurement Units for Assessing Gait in Real-World Environments. Frontiers in Physiology, 2020, 11, 90.	2.8	46
9	Design Guidelines for Additive Manufactured Snap-Fit Joints. Procedia CIRP, 2016, 50, 264-269.	1.9	45
10	Left Ventricular Assist Devices: Challenges Toward Sustaining Long-Term Patient Care. Annals of Biomedical Engineering, 2017, 45, 1836-1851.	2.5	42
11	Standardized Comparison of Selected Physiological Controllers for Rotary Blood Pumps: In Vitro Study. Artificial Organs, 2018, 42, E29-E42.	1.9	42
12	Development of VariLeg, an exoskeleton with variable stiffness actuation: first results and user evaluation from the CYBATHLON 2016. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 18.	4.6	42
13	Virtual surgical planning, flow simulation, and 3-dimensional electrospinning of patient-specific grafts to optimize Fontan hemodynamics. Journal of Thoracic and Cardiovascular Surgery, 2018, 155, 1734-1742.	0.8	41
14	3D Printing of Functional Assemblies with Integrated Polymer-Bonded Magnets Demonstrated with a Prototype of a Rotary Blood Pump. Applied Sciences (Switzerland), 2018, 8, 1275.	2.5	39
15	Composites Part Production with Additive Manufacturing Technologies. Procedia CIRP, 2017, 66, 306-311.	1.9	38
16	In Vivo Evaluation of Physiologic Control Algorithms for Left Ventricular Assist Devices Based on Left Ventricular Volume or Pressure. ASAIO Journal, 2017, 63, 568-577.	1.6	34
17	Value-driven clustering of industrial additive manufacturing applications. Journal of Manufacturing Technology Management, 2019, 30, 366-390.	6.4	34
18	Control of the Fluid Viscosity in a Mock Circulation. Artificial Organs, 2018, 42, 68-77.	1.9	28

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19	A Novel Multi-objective Physiological Control System for Rotary Left Ventricular Assist Devices. Annals of Biomedical Engineering, 2017, 45, 2899-2910.	2.5	27
20	Hydraulic Characterization of Implantable Rotary Blood Pumps. IEEE Transactions on Biomedical Engineering, 2019, 66, 1618-1627.	4.2	27
21	Continuous Heart Volume Monitoring by Fully Implantable Soft Strain Sensor. Advanced Healthcare Materials, 2020, 9, e2000855.	7.6	27
22	Combining Additive Manufacturing with Advanced Composites for Highly Integrated Robotic Structures. Procedia CIRP, 2016, 50, 402-407.	1.9	26
23	Blood trauma potential of the HeartWare Ventricular Assist Device in pediatric patients. Journal of Thoracic and Cardiovascular Surgery, 2020, 159, 1519-1527.e1.	0.8	24
24	A Physiological Controller for Turbodynamic Ventricular Assist Devices Based on Left Ventricular Systolic Pressure. Artificial Organs, 2016, 40, 842-855.	1.9	22
25	Investigation of the Axial Gap Clearance in a Hydrodynamicâ€Passive Magnetically Levitated Rotary Blood Pump Using Xâ€Ray Radiography. Artificial Organs, 2018, 42, 510-515.	1.9	22
26	Improving Usage Metrics for Pay-per-Use Pricing with IoT Technology and Machine Learning. Research Technology Management, 2018, 61, 32-40.	0.8	22
27	Comparing the effectiveness of augmented reality-based and conventional instructions during single ECMO cannulation training. International Journal of Computer Assisted Radiology and Surgery, 2021, 16, 1171-1180.	2.8	22
28	ELPHA: Dynamically deformable liver phantom for realâ€time motionâ€adaptive radiotherapy treatments. Medical Physics, 2019, 46, 839-850.	3.0	21
29	Performance of modern syringe infusion pump assemblies at low infusion rates in the perioperative setting. British Journal of Anaesthesia, 2020, 124, 173-182.	3.4	21
30	Design and manufacturing of high-performance prostheses with additive manufacturing and fiber-reinforced polymers. Production Engineering, 2018, 12, 203-213.	2.3	20
31	Performance comparison of prediction filters for respiratory motion tracking in radiotherapy. Medical Physics, 2020, 47, 643-650.	3.0	20
32	A Versatile Hybrid Mock Circulation for Hydraulic Investigations of Active and Passive Cardiovascular Implants. ASAIO Journal, 2019, 65, 495-502.	1.6	19
33	Minimally invasive method for the point-of-care quantification of lymphatic vessel function. JCI Insight, 2019, 4, .	5.0	19
34	Multilevel Design Education for Innovation Competencies. Procedia CIRP, 2016, 50, 759-764.	1.9	18
35	A long-term mechanical cavopulmonary support device for patients with Fontan circulation. Medical Engineering and Physics, 2019, 70, 9-18.	1.7	18
36	Corporate makerspaces as innovation driver in companies: a literature review-based framework. Journal of Manufacturing Technology Management, 2019, 31, 91-123.	6.4	17

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37	Ultrasonic sensor concept to fit a ventricular assist device cannula evaluated using geometrically accurate heart phantoms. Artificial Organs, 2019, 43, 467-477.	1.9	17
38	Internet on animals: Wiâ€Fiâ€enabled devices provide a solution for big data transmission in biologging. Methods in Ecology and Evolution, 2023, 14, 87-102.	5.2	17
39	Iteration-based Performance Measurement in the Fuzzy Front End of PDPs. Procedia CIRP, 2016, 50, 14-19.	1.9	15
40	Cavopulmonary mechanical circulatory support in Fontan patients and the need for physiologic control: A computational study with a closed-loop exercise model. International Journal of Artificial Organs, 2018, 41, 261-268.	1.4	15
41	Assessment of the Flow Field in the HeartMate 3 Using Three-Dimensional Particle Tracking Velocimetry and Comparison to Computational Fluid Dynamics. ASAIO Journal, 2020, 66, 173-182.	1.6	15
42	Computational design synthesis of additive manufactured multi-flow nozzles. Additive Manufacturing, 2020, 35, 101231.	3.0	15
43	Mapping value clusters of additive manufacturing on design strategies to support part identification and selection. Rapid Prototyping Journal, 2020, 26, 1797-1807.	3.2	14
44	Novel augmented physical simulator for the training of transcatheter cardiovascular interventions. Catheterization and Cardiovascular Interventions, 2020, 95, 1202-1209.	1.7	13
45	Comparison of Flow Estimators for Rotary Blood Pumps: An In Vitro and In Vivo Study. Annals of Biomedical Engineering, 2018, 46, 2123-2134.	2.5	12
46	In Vitro Testing and Comparison of Additively Manufactured Polymer Impellers for the CentriMag Blood Pump. ASAIO Journal, 2021, 67, 306-313.	1.6	12
47	Automated interpretation of eyeâ€“hand coordination in mobile eye tracking recordings. KI - Kunstliche Intelligenz, 2017, 31, 331-337.	3.2	11
48	Evaluation of a novel flowâ€controlled syringe infusion pump for precise and continuous drug delivery at low flow rates: a laboratory study. Anaesthesia, 2019, 74, 1425-1431.	3.8	11
49	A comparison of how novice and experienced design engineers benefit from design guidelines. Design Studies, 2019, 63, 204-223.	3.1	11
50	Toward a new age of patient centricity? The application of eye-tracking to the development of connected self-injection systems. Expert Opinion on Drug Delivery, 2019, 16, 163-175.	5.0	11
51	Additive Manufacturing of Structural Cores and Washout Tooling for Autoclave Curing of Hybrid Composite Structures. Journal of Manufacturing Science and Engineering, Transactions of the ASME, 2018, 140, .	2.2	10
52	Empirical study on innovation motivators and inhibitors of Internet of Things applications for industrial manufacturing enterprises. Journal of Innovation and Entrepreneurship, 2018, 7, .	4.0	9
53	Long-Term Performance of a Pneumatically Actuated Soft Pump Manufactured by Rubber Compression Molding. Soft Robotics, 2019, 6, 206-213.	8.0	9
54	Increased Longevity and Pumping Performance of an Injection Molded Soft Total Artificial Heart. Soft Robotics, 2021, 8, 588-593.	8.0	9

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55	A Novel Hybrid Membrane VAD as First Step Toward Hemocompatible Blood Propulsion. Annals of Biomedical Engineering, 2021, 49, 716-731.	2.5	9
56	Evolution of Design Guidelines for Additive Manufacturing - Highlighting Achievements and Open Issues by Revisiting an Early SLM Aircraft Bracket. , 2018, , 3-13.		8
57	The Integration of Quantitative Biometric Measures and Experimental Design Research. , 2016, , 97-112.		7
58	Promoting user-centricity in short-term ideation workshops. International Journal of Design Creativity and Innovation, 2018, 6, 130-145.	1.2	7
59	Individualized lightweight structures for biomedical applications using additive manufacturing and carbon fiber patched composites. Design Science, 2019, 5, .	2.1	7
60	Evaluating Patient Safety And Ease Of Use Of A Novel Connection-Assist Device For Peritoneal Dialysis . Patient Preference and Adherence, 2019, Volume 13, 1785-1790.	1.8	7
61	Visual Behaviour Strategies of Operators during Catheter-Based Cardiovascular Interventions. Journal of Medical Systems, 2020, 44, 12.	3.6	7
62	Quantification of Avoidable Radiation Exposure in Interventional Fluoroscopy With Eye Tracking Technology. Investigative Radiology, 2020, Publish Ahead of Print, 457-462.	6.2	7
63	Building Block Synthesis of Self-Supported Three-Dimensional Compliant Elements for Metallic Additive Manufacturing. Journal of Mechanical Design, Transactions of the ASME, 2021, 143, .	2.9	7
64	High-frequency operation of a pulsatile VAD â€“ a simulation study. Biomedizinische Technik, 2017, 62, 161-170.	0.8	7
65	Cytotoxic and Inflammatory Effects of Electronic and Traditional Cigarettes on Oral Gingival Cells Using a Novel Automated Smoking Instrument: An In Vitro Study. Toxics, 2022, 10, 179.	3.7	7
66	Increasing the Power Density of e-motors by Innovative Winding Design. Procedia CIRP, 2015, 36, 236-241.	1.9	6
67	Modeling and performance evaluation of a robotic treatment couch for tumor tracking. Biomedizinische Technik, 2016, 61, 557-566.	0.8	6
68	Viscosity Prediction in a Physiologically Controlled Ventricular Assist Device. IEEE Transactions on Biomedical Engineering, 2018, 65, 2355-2364.	4.2	6
69	Eye Tracking Supported Human Factors Testing Improving Patient Training. Journal of Medical Systems, 2021, 45, 55.	3.6	6
70	Conceptualizing Ideation Workshops for SMEs. Procedia CIRP, 2015, 36, 248-253.	1.9	5
71	The ideal couch tracking systemâ€"Requirements and evaluation of current systems. Journal of Applied Clinical Medical Physics, 2019, 20, 152-159.	1.9	5
72	Shortâ€term physiological response to highâ€frequencyâ€actuated pVAD support. Artificial Organs, 2019, 43, 1170-1181.	1.9	5

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73	Response of a physiological controller for ventricular assist devices during acute patho-physiological events: an in vitro study. Biomedizinische Technik, 2017, 62, 623-633.	0.8	4
74	Benchmark of the Compactness Potential of Adjustable Stiffness Mechanisms. Journal of Mechanisms and Robotics, 2017, 9, .	2.2	4
75	Selection of High-Variety Components for Selective Laser Sintering: An Industrial Case Study. , 2018, , 238-251.		4
76	Advancing empirical evidence of iteration stereotypes in the fuzzy front end of product development processes. Procedia CIRP, 2020, 91, 61-70.	1.9	4
77	Ultrasound-based prediction of interventricular septum positioning during left ventricular supportâ€"an experimental study. Journal of Cardiovascular Translational Research, 2020, 13, 1055-1064.	2.4	4
78	Posture related in-vitro characterization of a flow regulated MEMS CSF valve. Biomedical Microdevices, 2020, 22, 21.	2.8	4
79	Control of ventricular unloading using an electrocardiogramâ€synchronized pulsatile ventricular assist device under high stroke ratios. Artificial Organs, 2020, 44, E394-E405.	1.9	4
80	Body motion during dynamic couch tracking with healthy volunteers. Physics in Medicine and Biology, 2019, 64, 015001.	3.0	3
81	Real-Time Ventricular Volume Measured Using the Intracardiac Electromyogram. ASAIO Journal, 2021, 67, 1312-1320.	1.6	3
82	Cardiac Output Estimation: Online Implementation for Left Ventricular Assist Device Support. IEEE Transactions on Biomedical Engineering, 2021, 68, 1990-1998.	4.2	3
83	Transcatheter Mitral Valve Repair Simulator Equipped with Eye Tracking Based Performance Assessment Capabilities: A Pilot Study. Cardiovascular Engineering and Technology, 2021, 12, 530-538.	1.6	3
84	An algorithmic approach to determine expertise development using object-related gaze pattern sequences. Behavior Research Methods, 2022, 54, 493-507.	4.0	3
85	Value of Eye-Tracking Data for Classification of Information Processingâ€"Intensive Handling Tasks: Quasi-Experimental Study on Cognition and User Interface Design. JMIR Human Factors, 2020, 7, e15581.	2.0	3
86	Pressure and Bernoulli-Based Flow Measurement via a Tapered Inflow VAD Cannula. IEEE Transactions on Biomedical Engineering, 2022, 69, 1620-1629.	4.2	3
87	Automated Knowledgeâ€Based Design for Additive Manufacturing: A Case Study with Flow Manifolds. Chemie-Ingenieur-Technik, 0, , .	0.8	3
88	CURRENT CHALLENGES IN PRODUCT DEVELOPMENT PROCESSES OF SWISS SMEs. International Journal of Innovation Management, 2016, 20, 1640009.	1.2	2
89	Work density analysis of adjustable stiffness mechanisms. , 2016, , .		2
90	Unconscious physiological response of healthy volunteers to dynamic respiration-synchronized couch motion. Radiation Oncology, 2017, 12, 189.	2.7	2

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91	Rethinking automated skin fabrication for regeneration: adapting to commercial challenges. Current Opinion in Biomedical Engineering, 2019, 10, 165-173.	3.4	2
92	High-frequency operation of pulsatile ventricular assist devices: A computational study on circular and elliptically shaped pumps. International Journal of Artificial Organs, 2019, 42, 725-734.	1.4	2
93	Acute changes in preload and the QRS amplitude in advanced heart failure patients. Biomedical Physics and Engineering Express, 2019, 5, 045015.	1.2	2
94	Exploring how design guidelines benefit design engineers: an international and global perspective. Design Science, 2020, 6, .	2.1	2
95	Flow irregularities from syringe infusion pumps caused by syringe stiction. Paediatric Anaesthesia, 2020, 30, 885-891.	1.1	2
96	Dual-Modality Volume Measurement Integrated on a Ventricular Assist Device. IEEE Transactions on Biomedical Engineering, 2022, 69, 1151-1161.	4.2	2
97	Physiologic Data-Driven Iterative Learning Control for Left Ventricular Assist Devices. Frontiers in Cardiovascular Medicine, 0, 9, .	2.4	2
98	Performance behavior of prediction filters for respiratory motion compensation in radiotherapy. Current Directions in Biomedical Engineering, 2017, 3, 429-432.	0.4	1
99	ConVes: The Sutureless Aortic Graft Anastomotic Device. Annals of Thoracic Surgery, 2018, 105, 1558-1562.	1.3	1
100	Design and manufacture of hybrid metal composite structures using functional tooling made by additive manufacturing. Design Science, 2019, 5, .	2.1	1
101	Improving design engineersâ€™ performance through novelly structured design guidelines: aÂstudy in and with industry. Forschung Im Ingenieurwesen/Engineering Research, 2020, 84, 11-19.	1.6	1
102	Skimming and Scrutinizing: Quantifying Two Basic Patterns of Visual Behavior in Design. Smart Innovation, Systems and Technologies, 2015, , 479-489.	0.6	1
103	The HEV Ventilator: at the interface between particle physics and biomedical engineering. Royal Society Open Science, 2022, 9, 211519.	2.4	1
104	Anthropomorphic and Linear Arm Models for Mechanical Power Tool Testing. , 2013, , .		0
105	SAT0264â€…GAZE PATTERN ANALYSIS IN THE ASSESSMENT OF DIGITAL ULCERS IN PATIENTS WITH SYSTEMIC SCLEROSIS. , 2019, , .		0
106	Design Automation and Additive Manufacturing for Anatomically Diversified Medical Simulators. Procedia CIRP, 2020, 91, 458-463.	1.9	0
107	Analyse von Trends in der Implementierung der Additiven Fertigung anhand aktueller industrieller Anwendungen. , 2020, , 37-53.		0
108	Visual assessment of digital ulcers in systemic sclerosis analysed by eye tracking: implications for wound assessment. Clinical and Experimental Rheumatology, 2020, 38 Suppl 125, 137-139.	0.8	0

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109	Automated Design Workflow for Structural Nodes of Space Frame Structures. Procedia CIRP, 2022, 109, 419-424.	1.9	0