



Scientific Program
6th of March, 2024, AM 2

8:30	Registration	
9:30	Welcome	
Session 1 - Track A		
Medical Electronics		
Time	Chair: Prof. Philipp Rostalski	
9:45	5	<i>Abdulkader Chukr, Stefan Müller, Sebastian Jungbauer</i> Analyzing the Impact of Thermal Cycles on the Performance of Solid-State SMD Batteries (TDK)
10:00	10	<i>Benjamin Förster, Benjamin Finke, Jennifer Vibert, Stefan Müller</i> Orthopedic sockets and methods for adjustments – An approach with shape-memory-alloy actuators –
10:15	33	<i>Akin Caglayan, Max Urban</i> Indoor Air Quality Monitoring and Guiding Device to Decrease the Risk of Coronavirus and Similar Airborne Diseases
10:30	55	<i>Abdelhalim Elashram, Martin A. Koch, Luca Belloi</i> Improvement of SNR and Sensitivity in MRI receiving array coils for neonatal patients by preamplifier decoupling
10:45	58	<i>Sophia Merrath, Ludger Tappehorn, Philipp Rostalski</i> Test Standard for Controlling the Gas Temperature for Heated Breathing Hoses by Using Different Temperature Sensors
11:00	119	<i>Ahmad Alsalhani</i> Testing for Service-Oriented Device Connectivity Application
11:15	Coffee Break	
11:30	Postersession 1	
12:30	Lunch Break	
Session 2 - Track A		
Biomedical Engineering 1		
Time	Chair: Prof. Stefan Müller	
13:30	1	<i>Frederic Stichler, Dennis Kusnik, Stefan Müller</i> Development of an automated resistance measurement device
13:45	29	<i>Robert Schumann, Frédéric Li, Marcin Grzegorzek</i> Prototyping of a StandaloneWiFi Sensing System using Single-Antenna Devices
14:00	41	<i>Jennifer Vibert, Niklas Hainz, Pascal Krauß, Michael Nolte, Stefan Müller</i> Developing a portable data logger for medical devices using the Arduino Portenta H7
14:15	72	<i>Maron Alexander Vagt, Max Urban</i> Airtightness Testing Procedure for Electronic Anaesthesia Vaporizers – Ensuring Leakage-Free Operation –
14:30	Coffee Break	
15:00	Postersession 2	



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Session 3 - Track A		
Biomedical Engineering 2		
Time	Chair: Prof. Inken Wohlers	
9:00	73	<i>Nils Stumpf, Florian-Lennert Lau, Stefan Fischer</i>
		Review of CPU-Requirements in Medical Nanonetworks
9:15	80	<i>Jonathan Ahnfeldt, Stefan Müller</i>
		Optimizing Anaesthesia Devices: Temperature Sensor Integration for Enhanced Safety
9:30	91	<i>Annika Quack, Jens Lembke, Hauke Paulsen</i>
		Reduction of interference noises on the adjustable-pressure-limiting valve of an anaesthesia machine
9:45	92	<i>Kim Paulke, Jochen Behrends, Thomas Scholzen, Linda Zemke, Norbert Reiling, Inken Wohlers</i>
		Dimensionality Reduction for Innovative Cell-View Imaging Supported Flow Cytometry Data
10:00	105	<i>Marike Kallweit</i>
		Developmental Acquisition, and Processing of Immunoassay Data through an Automated Laboratory Analyzer – Expanding and Optimizing a Dashboard Visualization
10:15	Coffee Break	
10:30	Postersession 3	
Session 4 - Track A		
Biomedical Engineering 3		
Time	Chair: Dr. Robert Wendlandt	
11:30	12	<i>Christopher Carlisle, Joerg Schroeter and Robert Wendlandt</i>
		Finite Element Analysis of Fracture Plates for Periprosthetic Humerus Fractures: An Evaluation and Comparison of Non-linear Effects and Design Improvements
11:45	71	<i>Lea Peuckert, Thomas Friedrich</i>
		Construction of a Test Rig to Quantify the Cutting Characteristics of Additively Manufactured Phantoms
12:00	88	<i>Finjas Künnemann, Robert Wendlandt</i>
		Accurate Estimation of Yield Stress from Bending Test and FEM Analysis
12:15	49	<i>Sevda Golkar</i>
		Advancing Prostate Transurethral Resectoscope Testing: Enhancing Hydrogel-Based Tissue Mimics and Ensuring Storage Stability
12:30	Lunch Break	



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13:45		Postersession 4
14:45		Group Picture
15:00		Coffee Break
		Session 5 - Track A
		Biomedical Engineering 4
Time	Chair: Dr. Young-Hwa Song	
15:15	52	<i>George Makhoulchahin, Robert Wendlandt</i>
		Probability Filtering for AI Monocular Video Motion Analysis
15:30	97	<i>Marcel Zulim</i>
		Development and validation of a process for the reprocessing of components of a washer-disinfector for endoscopes
15:45	74	<i>Lea Antonia Rossa, Michael Scharfschwerdt, Stephan Ensminger, Anas Aboud</i>
		Concept Study for the Development of a Motionless Skin Lead-through for the Energy Supply of an Implanted Ventricular Assist Device
16:00	76	<i>Corinna Warnecke, Björn Bargstädt, Andreas Kater</i>
		Dilute Injection of Anesthetic Gases to Reduce an Unintended Bolus
16:15	116	<i>Ratul Hassan, Monika Schneider, Anna Natrup, Stefan Müller</i>
		Implementation of a Declaration of Conformity (DoC) Process in the Process of Registration for Medical Devices in Compliance with European Regulations for a Medical Device Manufacturer



Session 6 - Track A		
Biomedical Engineering 5		
Time	Chair: Prof. Maik Rahlves	
9:00	6	<i>Greta Göttling, Eduard Weber</i>
		Construction of an endurance test rig for pressure regulators with associated pre-tests
9:15	27	<i>Eleana Noti, Alexander Altmann, Ramtin Rahmzadeh</i>
		Characterization of porphyrin-based sensor films to improve food safety of black tiger shrimps
9:30	86	<i>Lynn Yehia, Alexandra Eberenz, Georg Wolf, Georg Männel, Marcus Heldmann, Freschta Malekzeda, Michael Thomaschewski, Jannis Hagenah</i>
		Exploring Cognitive Load in Surgical Skill Assessment using Event-Related Potentials
9:45	99	<i>Celina-Christin Schubbe, Javier Plou Izquierdo, Andreas Seifert, Erhardt Barth</i>
		Unveiling Cell-to-Cell Evolution by Raman Micro-Spectroscopy
10:00	96	<i>Joel-Maxim Gillner, Dominik Gaus, Ludger Tappehorn, Norbert Linz</i>
		Development of a Cuvette Prototype for Infrared Temperature Measurement During Active Breathing Gas Conditioning
10:15	Coffee Break	
Session 7 - Track A		
Biomedical Optics 1		
Time	Chair: Prof. Gereon Hüttmann	
10:30	24	<i>Andra-Karina Poetschki, Eric Seifert, Selma Bolterauer, Ralf Brinkmann</i>
		Laser induced microbubbles in blood vessel phantoms
10:45	70	<i>Baris Bargu, Sarvesh Thakur, Pepijn Klooster, Gereon Hüttmann, Dierck Hillmann</i>
		Optimization of the triggering sequence in Phase Sensitive Full Field Swept Source OCT
11:00	106	<i>Julian Lennard Völter, Maik Rahlves</i>
		Towards Microcontact Printing and Nanoimprint Lithography of Polymer-based Photonic Biosensors
11:15	117	<i>Jana Hadjichrysanthou, Noah Heldt, Martin Ahrens, Svea Höhl, Tim Eixmann, Gereon Hüttmann</i>
		Setup for comparative studies to find optimal measurement parameters for specific tissue using dmOCT
11:30	26	<i>Tjalfe Laedtke, Sazgar Burhan, Simon Lotz, Robert Huber</i>
		Robotically-enabled angular compounding for speckle reduction in optical coherence tomography
11:45	53	<i>Lukas Pohl, Lara Buhl, Maron Dolling, Michael Wang-Evers, Felix Hilge, Dieter Manstein, Reginald Birngruber</i>
		Motion artifact correction for in-vivo corneal OCT in rabbits
12:00	Lunch Break	
13:00	Postersession Jury	



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Session 8 - Track A		
Biomedical Optics 2		
Time	Chair: Dr. Fred Reinholz	
13:50	14	<i>Rafat Saeed, Maik Rahlves, Dirk Grosenick</i>
		Estimation of Absorption Using Spatially Resolved Spectroscopy Method
14:05	23	<i>Allegra Behr, Philipp Lamminger, Robert Huber</i>
		Development of an optical distance measurement system for fiber Fabry-Pérot tunable filters
14:20	25	<i>Marlin Kasdorf, Marie Klufts, Robert Huber</i>
		Fiber-Based Fabry-Pérot Filters: Design, Manufacturing and Characterization
14:35	7	<i>Nina Kleineberg, Astrid Link, Paula Enzian, Ramtin Rahmanzadeh</i>
		Intracellular localization of light-sensitive liposomes
14:50	112	<i>Anna-Lena Urban, Zuzana Penxová, Birgit Lange, Paula Enzian,</i> <i>Ramtin Rahmanzadeh, Ralf Brinkmann, Karl-Ludwig Bruchhage, Anke Leichtle</i>
		Influence of blue light irradiation on keratinocyte viability
15:05	Coffee Break	
15:20	Award Presentation and Farewell	