

Scientific Program  
Friday March 12, 2021

Track A

Track B

9:00		<b>Scientific Session 5 (Session Hall)</b>			
		<b>Signal Processing</b>		<b>Sensor Data Analysis</b>	
		Chair: Prof. Alfred Mertins		Chair: Prof. Marcin Grzegorzec	
9:00	7	<i>Leonie Basso, Martin Oehler, Marcin Grzegorzec</i>		24	<i>Kamran Mohammad-Zadeh, Philipp Koch, Mark Dreier, Alfred Mertins</i>
		Breathing Rate Estimation during Sleep using Capacitive ECG Electrodes		From sEMG based Gesture Classification towards Regression	
9:12	38	<i>Annika Multusch, Anke Ihnken</i>		2	<i>Dominik Klein, Oliver Witt, Marcin Grzegorzec</i>
		Development of Breath Phase Detection Algorithms for the Performance Measurement of an Emergency Ventilator		Detection of glycemic abnormalities based on continuous glucose measurements	
9:24	41	<i>Claudius Böhnke</i>		9	<i>Sameed Quais, Petr Lukin, Achim Schweikard</i>
		Creating an envelope of an oscillometric signal for the evaluation of blood pressure		Test Automation of Auto-tuning of Velocity and Position Robot Controllers and Verifying Actual Stability	
9:36	12	<i>Svantje Voit, Fabrice Katzberg, Alfred Mertins</i>		34	<i>Benedikt Hein, Honghu Xue, Elmar Rückert, Bengt Abel</i>
		Acoustic Position Tracking of a Receiver in Reverberant Environments		Soft Actor Critic for Mapless Navigation in Warehouses	
9:48	40	<i>Jingyu Xie, Julia Sauer, Jan Grasshoff, Philipp Rostalski</i>		48	<i>Josefine Lekon</i>
		A Pipeline for Bioelectrical Signal Processing in Cardiac Applications		Camera Test for Distance Measurement by Laser Triangulation	
10:00	32	<i>Denise Ehlers, Sebastian Gerlich, Stephan Eisenbrand, Dennis Kleinewalter</i>			
		Development of a Software Tool for the Laboratory Management System			
10:15		<b>Coffee Break and 4-Eyes Appointments (Exhibition)</b>			
10:30		<b>Student Circuit 9 (Exhibition, Groups A, B)</b>			
10:45		<b>Scientific Session 6 (Session Hall)</b>			
		<b>Auditory Technology 1</b>		<b>Biomechanics</b>	
		Chair: Dr. Hendrik Husstedt		Chair: Dr. Robert Wendlandt	
10:45	18	<i>Philipp Kohlhauer, Hendrik Husstedt, Florian Denk, Volker Steenhoff</i>		8	<i>Carlos Javier Galdamez Calles, Robert Wendlandt, Corine Post</i>
		Development of a measurement setup for the transmission behavior of a Hearing Contact Lens®		The Effect of Interference Fit and Loading Activity on Implant Fixation of a Titanium Press-fit Tibial Knee Implant	
10:57	5	<i>Peter Ihly, Hartmut Meister, Daniela Hollfelder, Karl-Ludwig Bruchhage, Tim Jürgens</i>		85	<i>Mouayad Boukai, Robert Wendlandt</i>
		Audiovisual integration during speech recognition in cochlear implant listeners with contralateral acoustic hearing		Design of a Biomechanical Test setup to analyze the Symphysis Pubic motion under physiological loads	

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**Track A**

11:09 23 *Wiebke Hilgerdenaar, Simone Wollermann, Hendrik Husstedt*  
Evaluation of Impulse Noise Reduction in Hearing Aids

11:21 17 *Lukas Jürgensen, Hendrik Husstedt, Florian Denk*  
Comparison of an open source hearing aid prototype with commercially available hearing aids

11:35 **Coffee Break and 4-Eyes Appointments (Exhibition)**

11:50 **Postersession Final (Poster Area)**

12:30 **Group Picture (Poster Area)**

12:45 **Lunch Break**

13:30 **Scientific Session 7 / 8 (Session Hall)**

**Auditory Technology 2**

Chair: Prof. Jürgen Tchorz

13:30 44 *Larissa Jäger, Marlitt Frenz, Hendrik Husstedt*  
Evaluation of Noise Reduction Algorithms in Hearing Aids in Multi-Talker Conversations

13:42 68 *Larissa Scheller, Jürgen Tchorz, Silke Anders, Christoph Waldmann*  
Are Sound Emissions of the Harbour Porpoise Replicable Using Acoustic Lenses?

13:54 65 *Julian Weigert, Siegrid Meier*  
Development of a Knowledge Base and a Learning Content Management System Course for a Medical Measurement Software

14:06 33 *Nils Odenwald, Florian Denk, Hendrik Husstedt*  
Determination of the source parameters of a balanced-armature driver for modelling the individual sound propagation in the human ear canal

**Track B**

27 *Denise Bruhn, Michael Scharfschwerdt, Stephan Ensminger, Buntaro Fujita*  
Influence of high pressure balloon aortic valvuloplasty on the hydrodynamic result after valve-in-valve procedure

30 *Vincent M. Arriens, Jana Brehmer, Iris Bruchhaus, Thomas Gutschmann*  
Implementing a single-cell force spectroscopy set-up to investigate adhesion between Plasmodium falciparum-infected erythrocytes and various human endothelial receptors

**Biomedical Engineering 2**

Chair: Dr. Alexander Neumann

72 *Raffaella Wegner, Heidi Fröhlich, Ulrich Timm, Bernd Lindner, Ksenija Gräfe*  
Finger blood pressure measurement – Development of a finger cuff prototype –

82 *Mohammed Rasheed, Christian Damiani*  
Development of an in-vitro Model for Validation of Pulse Wave Velocity Measurements of Blood Vessels Under MRI

45 *Leonora Meier, Christian Pottkämper, Thomas Gutschmann, Christian Nehls*  
Development of a Micro-Force-Spectroscopy for measuring the deformation energy of soft pellets

22 *Jonas Reck, Philipp Kraus*  
Feasibility Study of a Smart Device Controlled Single Use Infusion Pump



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- 14:18 31 *Katharina Schlecht, Björn Heichen, Miriam Sparr*  
Comparison of different sound pressure level measurement systems for industrial facilities

**Medical Electronics**

Chair: Prof. Philipp Rostalski

- 14:35 46 *Roshanak Talebi, Caitlin Toogood, Malte Gienow-Broers*  
High Power LED Driver for Multispectral Flash Illumination

- 14:47 4 *Niklas Schmid, Jelle Dijkstra, Hossam Abbas, Philipp Rostalski*  
Control of an electrosurgical generator

- 14:59 77 *Ann-Catrin Schurig, Jonas Gruner*  
LTE Measurements Using a Cellular-Connected Drone

- 15:11 54 *Joshua Kirsch*  
MSP430: Realization of an interface converter from SPI to 1-wire – Integration of an EEPROM on a medical sensor's PCB –

15:25 **Coffee Break**

15:40 **Award Presentation and Farewell**

Track B

- 81 *Minshang Liang, Ole Thomsen, Alfred Mertins*  
Electrical Impedance Tomography for Different Hand Gestures

**Biomedical Optics**

Chair: Prof. Gereon Hüttmann

- 87 *Sabine Wünsche, Sebastian Karpf*  
Characterization of a diffractive phase mask for chromatic depth-scanning microscopy

- 66 *Sazgar Burhan, Madita Göb, Wolfgang Draxinger, Robert Huber*  
Design and construction of a motorized XYZ positioning stage for large field of view optical coherence tomography imaging

- 49 *Svea Höhl, Salim Melikov, Clara Pfäffle, Gereon Hüttmann, Dierck Hillmann*  
Comparison of light sources with different spatial and temporal characteristics for full-field swept-source OCT

- 78 *Igor Knor, Paula Enzian, Astrid Link, Ramtin Rahmzadeh*  
Investigation of intracellular Localization of the Photosensitizer Amphinex and the Antibody TuBB-9 for their potential Use in photochemical Internalization