

Abstracts of the 2020 Annual Meeting of the German Society of Biomedical Engineering (29 September – 1 October 2020, Leipzig)

Track name	Title	Authors with affiliation and country	Session Abbrev.	Session title
5G in Medicine	5G for Hospitals (Invited)	Christoph Thuemmler (Edinburgh Napier University, United Kingdom (Great Britain) & Helios Park Klinikum Leipzig, Germany)	A1.1	5G in Medicine
5G in Medicine	What to expect from 5G in medicine - a user's perspective (invited)	Georg Osterhoff (University Hospital Leipzig, Germany)	A1.2	5G in Medicine
5G in Medicine	5G4Healthcare	Steffen Hamm, Ann-Christin Schleser, Juliana Hartig, Silke Zoesch and Petra Thomas (Technical University of Applied Science Amberg-Weiden, Germany); Clemens Bulitta (Ostbayerische Technische Hochschule (OTH), Germany)	A1.3	5G in Medicine
5G in Medicine	Towards an integrated emergency medical care using 5G networks	Max Rockstroh (University of Leipzig, Germany); Julian Suleder (ERNW Research GmbH, Germany); Carsten Bockelmann (University of Bremen, Germany); Robert Wendlandt (University Hospital Schleswig-Holstein, Germany); Jan Gaebel (Innovation Center Computer Assisted Surgery, Germany); Christoph Georgi (University Leipzig, Faculty of Medicine, Germany); Armin Will (University Medical Centre Schleswig-Holstein, Germany); Thomas Neumuth (Universität Leipzig, Germany)	A1.4	5G in Medicine
5G in Medicine	Requirements for 5G Integrated Data Transfer in German Prehospital Emergency Care	Jan Gaebel (Innovation Center Computer Assisted Surgery, Germany); Carsten Bockelmann (University of Bremen, Germany); Robert Wendlandt (University Hospital Schleswig-Holstein, Germany); Armin Dekorsy (University of Bremen, Germany); Juliane Neumann (University of Leipzig, Germany); Torsten Musiol (MECSware GmbH, Germany); Thomas Neumuth (Universität Leipzig, Germany); Max Rockstroh (University of Leipzig, Germany)	A1.5	5G in Medicine
5G in Medicine	Telemedical consultation for remote islands	Lukas Konstantin Dölger, Robert Wendlandt, Jan-Thorsten Gräsner and Niels Renzing (University Hospital Schleswig-Holstein, Germany)	A1.6	5G in Medicine
5G in Medicine	Requirement Analysis for an Aerial Relay in Emergency Response Missions	Jonas Gruner (Universität zu Lübeck & Institute for Electrical Engineering in Medicine, Germany); Albrecht Bloße (Universität Leipzig, Germany); Max Rockstroh (University of Leipzig, Germany); Thomas Neumuth (Universität Leipzig, Germany); Philipp Rostalski (Universität zu Lübeck & Institute for Electrical Engineering in Medicine, Germany)	A1.7	5G in Medicine

Focus Session/Special Sessions	Digitale Patienten-Modelle für die Kopf-Hals-Onkologie (invited)	Matthaeus Stoehr (University Hospital of Leipzig, Germany)	B1.1	DGHNO-DGBMT-Joint Session
Focus Session/Special Sessions	Manual versus Automatic Classification of Laryngeal Lesions based on Vascular Patterns in CE+NBI Images	Nazila Esmaeili (Otto-von-Guericke University, Germany); Alfredo Illanes (Otto-von-Guericke University of Magdeburg, Germany); Axel Boese and Nikolaos Davaris (Otto-von-Guericke-University Magdeburg, Germany); Christoph Arens (Otto-von-Guericke-University, Magdeburg, Germany); Nassir Navab (Technische Universität München, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	B1.2	DGHNO-DGBMT-Joint Session
Focus Session/Special Sessions	Automated design of patient-specific fibula cutting guides in mandibular reconstruction with fibula flaps	Niclas Hagen and Urs Eisenmann (University of Heidelberg, Germany); Christain Freudlsperger (Heidelberg University Hospital, Germany); Hartmut Dickhaus (University of Heidelberg, Germany)	B1.3	DGHNO-DGBMT-Joint Session
Focus Session/Special Sessions	Indocyanine green fluorescence endoscopy in endonasal transsphenoidal surgery	Dirk Lindner (Universitätsklinikum Leipzig, Germany)	B1.4	DGHNO-DGBMT-Joint Session
Focus Session/Special Sessions	Plug&Play-Interoperabilität	Johannes Dehm (Germany)	C1.1	FS: Connected and Smart Implantable Devices
Focus Session/Special Sessions	Design of intelligent and communicating implants	Uwe Marschner (Technische Universität Dresden, Germany)	C1.2	FS: Connected and Smart Implantable Devices
Focus Session/Special Sessions	Use Case: Home Monitoring-Technologie	André van Ooyen (Biotronik SE & Co. KG, Germany)	C1.3	FS: Connected and Smart Implantable Devices
Focus Session/Special Sessions	Interoperating medical systems in clinical use	Bernhard Clasbrummel (Orthopädische Praxis Clasbrummel, Germany)	C1.4	FS: Connected and Smart Implantable Devices
Medical Photonics	Übergeordnetes Thema: Medical Photonics	Juergen Popp (Friedrich-Schiller University, Germany)	D1.1	Medical Photonics (1)

Medical Photonics	First results of computer-enhanced optical diagnosis of bladder cancer	Thomas Wittenberg (Fraunhofer Institute for Integrated Circuits IIS & University Erlangen, Germany); Wolfgang Becker (Becker & Hickl, Germany); Thomas Bocklitz (Leibniz-IPHT, Germany); Lukas Braun (Becker & Hickl GmbH, Germany); Ralf Hackner (Fraunhofer IIS, Germany); Niels Lemke (Schoelly Fiberoptics, Germany); Arkadiusz Miernik (University Medical Centre Freiburg, Germany); Philippe-Fabian Pohlmann and Rodrigo Suarez-Ibarrola (University Medical Center Freiburg, Germany); Christoph Krafft (Leibniz Institute of Photonic Technology, Germany)	D1.2	Medical Photonics (1)
Medical Photonics	Raman Spectroscopy to Characterize Bladder Tissue for Multidimensional Diagnostics of Cancer in Urology	Christoph Krafft and Shuxia Guo (Leibniz Institute of Photonic Technology, Germany); Thomas Bocklitz (Leibniz-IPHT, Germany); Peter Bronsert (University Medical Center Freiburg, Germany); Arkadiusz Miernik (University Medical Centre Freiburg, Germany); Jürgen Popp (Institut of Photonic Technology, Germany)	D1.3	Medical Photonics (1)
Medical Photonics	Metabolic Imaging by Simultaneous FLIM of NAD(P)H and FAD	Wolfgang Becker (Becker & Hickl, Germany); Rodrigo Suarez-Ibarrola (University Medical Center Freiburg, Germany); Arkadiusz Miernik (University Medical Centre Freiburg, Germany); Lukas Braun (Becker & Hickl GmbH, Germany)	D1.4	Medical Photonics (1)
Medical Photonics	Characterization of the Measurement Setup for Polarization-sensitive Imaging in Medicine	Alexander Anton (Karlsruhe Institute of Technology, Germany)	D1.5	Medical Photonics (1)
Ultrasound in Medicine	New innovations, time for ultrasound	Jürgen Müller (Universität Leipzig, Germany)	E1.1	Ultrasound in Medicine: Diagnostic (1)
Ultrasound in Medicine	MR-compatible ultrasound for improved biopsy needle guidance	Marc Fournelle (Fraunhofer Institut für Biomedizinische Technik, Germany); Holger Hewener (Fraunhofer Institute for Biomedical Engineering, Germany); Daniel Speicher (Fraunhofer Institut für Biomedizinische Technik, Germany); Sven Rothlübbers (University of Bremen & MEDIRI, Germany); Michael Schwenke (Fraunhofer MEVIS, Germany); Jürgen W Jenne (Fraunhofer MEVIS & Mediri GmbH, Germany); Arno Bücken (Universität Homburg, Germany); Steffen Tretbar (Fraunhofer IBMT, Germany)	E1.2	Ultrasound in Medicine: Diagnostic (1)
Ultrasound in Medicine	Artificial intelligence in ultrasound signal processing and image reconstruction	Georg Schmitz (Ruhr-University Bochum, Germany)	E1.3	Ultrasound in Medicine: Diagnostic (1)

Ultrasound in Medicine	Identification of hepatic steatosis using machine learning algorithms on high-frequency ultrasound data in patients with non-alcoholic fatty liver disease	Peter Hunyady (Goethe University Hospital, Germany); Lukas Brausch and Holger Hewener (Fraunhofer Institute for Biomedical Engineering, Germany); Steffen Tretbar (Fraunhofer IBMT, Germany); Stefan Zeuzem (Goethe University Hospital, Germany)	E1.4	Ultrasound in Medicine: Diagnostic (1)
Ultrasound in Medicine	Robotisierter Ultraschall - Automatisierte Bilderfassung und Navigation	Svenja Ipsen (University of Lübeck, Germany)	E1.5	Ultrasound in Medicine: Diagnostic (1)
Ultrasound in Medicine	Capacitive micromachined ultrasonic transducers for intracorporeal applications	Jorge Oevermann and Peter Weber (Fraunhofer IBMT, Germany)	E1.6	Ultrasound in Medicine: Diagnostic (1)
Ultrasound in Medicine	Super-resolution vascular imaging with ultrasound localization microscopy using advanced motion models	Stefanie Dencks (Ruhr-Universität Bochum, Germany)	E1.7	Ultrasound in Medicine: Diagnostic (1)
Focus Session/Special Sessions	Morphological and Functional Analysis of the Knee Joint for Implant Design Optimization	Malte Asseln (RWTH Aachen, Germany)	F1.1	Awards Winner Session Klee Price & Patientensicherheit
Focus Session/Special Sessions	Assessing Magnetic Fluid Hyperthermia - Magnetic Relaxation Simulation, Modeling of Nanoparticle Uptake inside Pancreatic Tumor Cells and in vitro Efficacy	Ulrich M Engelmann (FH Aachen University & Enmodes GmbH, Germany)	F1.2	Awards Winner Session Klee Price & Patientensicherheit
Focus Session/Special Sessions	Hierarchische Mikro- und Nanostrukturierung von Zahnimplantaten und Abutments zur Verbesserung der Weichgewebeintegration	Patrick W Doll (Karlsruher Institut für Technologie (KIT), Germany)	F1.3	Awards Winner Session Klee Price & Patientensicherheit
Focus Session/Special Sessions	Intraoperative Optische Bildgebung zur Lokalisation und Schonung funktioneller Hirnareale während neurochirurgischer Operationen	Martin Oelschlägel (Technische Universität Dresden, Germany)	F1.4	Awards Winner Session Klee Price & Patientensicherheit
Focus Session/Special Sessions	Überwachung des Atemantriebs intensiv beatmeter Patienten mittels des respiratorischen Oberflächen-Elektromyogramms	Eike Petersen (University of Luebeck, Germany)	F1.5	Awards Winner Session Klee Price & Patientensicherheit
Focus Session/Special Sessions	Robust Physiological Control of Left Ventricular Assist Devices	Daniel Rüschen (RWTH Aachen, Germany)	F1.6	Awards Winner Session Klee Price & Patientensicherheit

Focus Session/Special Sessions	Magnetic Resonance Elastography as Predictive Marker in Solid Tumor Progression (invited)	Josef Käs (University of Leipzig, Germany)	A2.1	Advances in MR Technology
Magnetics Methods in Medicine	A novel combined level set model for automatic MR image segmentation	Jianzhang Li (RWTH Aachen University Clinic, Germany); Sven Nebelung (University Hospital Düsseldorf, Germany); Björn Rath (Klinikum Wels-Grieskirchen, Austria); Markus Tingart and Jörg Eschweiler (RWTH Aachen University Clinic, Germany)	A2.2	Advances in MR Technology
Magnetics Methods in Medicine	Investigating the influence of dielectric pads in 7T magnetic resonance imaging - simulated and experimental assessment	Máira Martins Garcia (Universität Duisburg-Essen & Westfälische Hochschule Gelsenkirchen, Germany); Maryam Vatanchi (Westphalian University, Germany); Khallil Chaim and Maria Otaduy (University of São Paulo, Brazil); Andreas Rennings and Daniel Erni (University of Duisburg-Essen, Germany); Waldemar Zylka (Westphalian University, Campus Gelsenkirchen, Germany)	A2.3	Advances in MR Technology
Focus Session/Special Sessions	Development of a biodegradable microstent for minimally invasive treatment of Fallopian tube occlusions	Ariane Dierke (Institute for ImplantTechnology and Biomaterials e. V., Germany); Finja Borowski (Institute for ImplantTechnologie and Biomaterials, Germany); Swen Großmann (Institute for ImplantTechnology and Biomaterials e. V., Germany); Christoph Brandt-Wunderlich (Institute for ImplantTechnology and Biomaterials, Germany); Claudia Matschegewski (Institute for ImplantTechnology and Biomaterials e. V., Germany); Paula Rosam (Institut für ImplantatTechnologie und Biomaterialien, Germany); Nico Pilz and Paul Reister (Institute for Biomedical Engineering, Rostock University Medical Center, Germany); Rebekka Eienkel (University Medicine Greifswald, Germany); Ulf Hinze (Leibniz Universität Hannover, Germany); Jonas Keiler (University of Rostock, Germany); Michael Stiehm (University of Rostock & Germany, Germany); Kerstin Schümann (Rostock University Medical Center, Germany); Andrea Bock (Institute for ImplantTechnology and Biomaterials e. V., Germany); Boris Chichkov (Leibniz University of Hannover, Germany); Niels Grabow and Andreas Wree (Universität Rostock, Germany); Marek Zygmunt (Universitätsmedizin Greifswald, Germany); Klaus-Peter Schmitz and Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany)	B2.1	BMBF-Twenty20 Coordinated Research Project "RESPONSE"

Focus Session/Special Sessions	Sensitivity analysis of FDA's benchmark nozzle regarding in vitro imperfections - Do we need asymmetric CFD benchmarks?	Michael Stiehm (University of Rostock & Germany, Germany); Christoph Brandt-Wunderlich (Institute for ImplantTechnology and Biomaterials, Germany); Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany); Eric Poon and Andrew Ooi (Melbourne School of Engineering, The University of Melbourne, Australia); Peter Barlis (Dentistry & Health Sciences, The University of Melbourne, Australia); Titus Kühne (Charité - Universitätsmedizin Berlin, Germany); Leonid Goubergrits (Charité, Germany); Niels Grabow and Klaus-Peter Schmitz (Universität Rostock, Germany)	B2.2	BMBF-Twenty20 Coordinated Research Project "RESPONSE
Focus Session/Special Sessions	Stenting the blocked Eustachian tube	Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Malena Ezzat (MHH Hannover, Germany); Robert Schuon (Hannover Medical School, Germany); Niels Grabow (Universität Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e. V., Germany); Philipp Krüger and Tobias Stein (Bess, Germany); Gerrit Paasche (Medizinische Hochschule Hannover, Germany)	B2.3	BMBF-Twenty20 Coordinated Research Project "RESPONSE
Focus Session/Special Sessions	Dexamethasone release from photopolymerised PEGDA700 for cochlea drug delivery	Thomas Eickner (University Medical Center, Rostock); Michael Teske (University Medical Center Rostock, Germany); Natalia Rekowska and Volkmar Senz (University Medical Center, Rostock); Klaus-Peter Schmitz (Universität Rostock, Germany); Niels Grabow (University Medical Center, Rostock)	B2.4	BMBF-Twenty20 Coordinated Research Project "RESPONSE
Focus Session/Special Sessions	Transfer activities for cardiovascular, ophthalmologic and otolaryngologic medical device innovations - Progress report 2020 from the Twenty20 consortium RESPONSE	Niels Grabow, Volkmar Senz and Klaus-Peter Schmitz (Universität Rostock, Germany)	B2.5	BMBF-Twenty20 Coordinated Research Project "RESPONSE
Focus Session/Special Sessions	Assessing the quality of science: There must be more than the impact factor	Tobias Schilling (Hannover Medical School, Germany); Axel Haverich (Medizinische Hochschule Hannover, Germany)	B2.6	BMBF-Twenty20 Coordinated Research Project "RESPONSE
Focus Session/Special Sessions	Micro processing of plastics for biomedical applications	Peter Bloß and Gábor Jüttner (Kunststoff-Zentrum in Leipzig gGmbH (KuZ), Germany)	B2.7	BMBF-Twenty20 Coordinated Research Project "RESPONSE

Focus Session/Special Sessions	On-demand antimicrobial coatings to combat biofilm formation on blood-contacting materials	Carsten Werner (Leibniz Institute for Polymer Research, Germany)	B2.8	BMBF-Twenty20 Coordinated Research Project "RESPONSE"
Biomaterials and Implants	Reproducibility of in vivo constitutive parameter identification based on 4D ultrasound strain imaging	Andreas Wittek (Frankfurt University of Applied Sciences & University of Siegen, Germany); Claus-Peter Fritzen (University of Siegen, Germany); Armin Huß (Frankfurt University of Applied Sciences, Germany); Christopher Blase (Frankfurt University of Applied Sciences & Goethe University Frankfurt, Germany)	C2.1	Biomaterials and Implants: Advanced Testing Methods for Biomaterials and Implants (1)
Biomaterials and Implants	Comparison of a standardised and advanced four-point bending test of an osteosynthetic system in static and dynamic load scenarios	Christian Halbauer (University of Applied Sciences & Biomechanics Research Group, Germany); Hendrik Schorler (University Medical Center Schleswig-Holstein & Biomechanics Laboratory, Germany); Felix Capanni (University of Applied Sciences Ulm & Biomechanics Research Group, Germany)	C2.2	Biomaterials and Implants: Advanced Testing Methods for Biomaterials and Implants (1)
Biomaterials and Implants	A modular bioreactor perfusion system for in vitro stimulation of native and bioartificial vessels under physiologic and pathologic conditions	Florian Helms (Hannover Medical School, Germany); Mathias Wilhelmi and Axel Haverich (Medizinische Hochschule Hannover, Germany); Ulrike Böer (Hannover Medical School, Germany)	C2.3	Biomaterials and Implants: Advanced Testing Methods for Biomaterials and Implants (1)
Biomaterials and Implants	Cross-sectional analysis of tubular polymer semifinished products using ultrasound in comparison with other measuring methods	Olga Sahmel (University of Rostock, Germany); Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany); Wolfram Schmidt, Klaus-Peter Schmitz and Niels Grabow (Universität Rostock, Germany)	C2.4	Biomaterials and Implants: Advanced Testing Methods for Biomaterials and Implants (1)
Biomaterials and Implants	Water uptake of various electrospun nonwovens	Katharina Wulf (University Medical Center Rostock, Germany); Volkmar Senz (Universität Rostock, Germany); Thomas Eickner (Rostock University Medical Center, Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany)	C2.5	Biomaterials and Implants: Advanced Testing Methods for Biomaterials and Implants (1)

Biomaterials and Implants	Investigations of flow alteration of commissural misalignment of TAVR using Particle Image Velocimetry	Finja Borowski (Institute for ImplantTechnologie and Biomaterials, Germany); Jan Oldenburg (Institute for Implant Technology and Biomaterials, Germany); Sylvia Pfensig (Institute for ImplantTechnologie and Biomaterials e. V., Germany); Sebastian Kaule (Institute for ImplantTechnologie and Biomaterials e. V. & Universität Rostock, Germany); Stefan Siewert (Institute for ImplantTechnologie and Biomaterials e. V., Germany); Alper Öner (Rostock University Medical Center, Germany); Niels Grabow (Universität Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnologie and Biomaterials e. V., Germany); Michael Stiehm (University of Rostock & Germany, Germany)	C2.6	Biomaterials and Implants: Advanced Testing Methods for Biomaterials and Implants (1)
Medical Photonics	A multispectral 3D-Endoscope for Cholesteatoma Removal	Eric L Wisotzky (Fraunhofer Heinrich Hertz Institute HHI & Humboldt-Universität zu Berlin, Germany); Jean-Claude Rosenthal (Fraunhofer Heinrich-Hertz-Institute, Germany); Anna Hilsmann (Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Germany); Peter Eisert (Fraunhofer HHI & Humboldt University, Germany); Florian Uecker (Charité University Hospital Berlin, Germany)	D2.1	Medical Photonics (2)
Medical Photonics	Semi-automatic decision-making process in histopathological specimens from Barrett's carcinoma patients by Hyperspectral imaging (HSI)	Marianne Maktabi (University of Leipzig, Germany); Yannis Wichmann (University Hospital Leipzig, Germany); Hannes Köhler (University of Leipzig, Innovation Center Computer Assisted Surgery (ICCAS), Germany); Claire Chalopin (University of Leipzig, Germany); Boris Jansen-Winkel (University Hospital of Leipzig, Germany); Thomas Neumuth (Universität Leipzig, Germany); Henning Ahle (Sana Clinic Offenbach GmbH, Germany); Dietmar Lorenz (Municipal Hospital of Darmstadt GmbH, Germany); Michael Bange and Susanne Braun (Institute of Pathology, Sana Clinic Offenbach GmbH, Germany); Ines Gockel and René Thieme (University Hospital of Leipzig, Germany)	D2.2	Medical Photonics (2)
Medical Photonics	Detecting Bacteria on Wounds with Hyperspectral Imaging in Fluorescence Mode	Bert Herrmann (Hochschule Wismar, Germany); Georg Daeschlein, Sebastian von Podewils and Claudia Sicher (University Medicine Greifswald, Germany); Jana Kuhn (Clinic for Diabetes and Metabolic Diseases, Karlsburg, INP Greifswald, Germany); Kai Masur and Mareike Meister (Leibniz Institute for Plasma Science and Technology, Greifswald, Germany); Philip Wahl (Diaspective Vision GmbH, Pepelow, Germany); Christoph Hornberger (Hochschule Wismar, Germany)	D2.3	Medical Photonics (2)

Medical Photonics	Simulating a Ground Truth for Transit Time Analysis of Indicator Dilution Curves	Michael Reiß and Ady Naber (Karlsruhe Institute of Technology (KIT), Germany); Werner Nahm (Karlsruhe Institute of Technology, Germany)	D2.4	Medical Photonics (2)
Medical Photonics	Neurophotonic Scanning System - Towards Automatic Infrared Neurostimulation	Celine Wegner (Inomed Medizintechnik GmbH, Germany); Paul Schlett (Uniklinik Freiburg, Section for Neuroelectronic Systems, Germany); Julian Höth (Institut für Mikrotechnik Mainz GmbH, Germany); Thomas Buckert (ARGES GmbH, Germany); Thomas Klotzbücher (Institut für Mikrotechnik Mainz GmbH, Germany); Ulrich Hofmann (Uniklinik Freiburg, Germany); Thilo Krüger (Inomed Medizintechnik GmbH, Germany)	D2.5	Medical Photonics (2)
Medizintechnik und Gesellschaft	Measurement of the retinal irradiation exposure during diaphanosopic illumination	Nicole Sieber and Philipp Kölbl (Ulm University of Applied Sciences, Germany); Christian Lingenfelder (Pharmpur GmbH, Germany); Kathrin Stucke-Straub (Ulm University of Applied Sciences, Germany); Sebastian Kupferschmid (Bundeswehrkrankenhaus Ulm, Germany); Martin Hessling (Hochschule Ulm - University of Applied Sciences, Germany)	D2.6	Medical Photonics (2)
Ultrasound in Medicine	Focused Ultrasound - A paradigm shift to non-invasive surgery (invited)	Thomas Andreae (Focused Ultrasound Foundation, Finland)	E2.1	Ultrasound in Medicine: Therapy (2)
Ultrasound in Medicine	Ultrasound therapy from clinical perspective (Prof. Franz t.b.c.)		E2.2	Ultrasound in Medicine: Therapy (2)
Ultrasound in Medicine	Magnetic resonance imaging-guided thermal Therapy with Focused Ultrasound in Preclinical MRI	Upasana Roy (Innovation Center Computer Assisted Surgery (ICCAS) & University of Leipzig, Germany); Marc Fournelle (Fraunhofer Institut für Biomedizinische Technik, Germany); Franziska Lange and Sebastian Greiser (Fraunhofer Institute for Cell Therapy and Immunology, Germany); Robbert van Gorkum (University and ETH Zurich, Switzerland); Daniel Speicher (Fraunhofer Institut für Biomedizinische Technik, Germany); Sebastian Kozerke (University and ETH Zurich, Switzerland); Steffen Tretbar (Fraunhofer IBMT, Germany); Lisa Landgraf (ICCAS, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	E2.3	Ultrasound in Medicine: Therapy (2)

Ultrasound in Medicine	MR guided Focused Ultrasound for moving Organs	Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	E2.4	Ultrasound in Medicine: Therapy (2)
Ultrasound in Medicine	Radiosensitization of human cancer cells with in vitro focused ultrasound	Xinrui Zhang and Shaonan Hu (ICCAS, Germany); Michael Unger (University Leipzig, Germany); Ina Patties (University of Leipzig, Germany); Lisa Landgraf (ICCAS, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	E2.5	Ultrasound in Medicine: Therapy (2)
Ultrasound in Medicine	Acoustic output measurements for the characterization of HIFU/FUS equipment	Volker Wilkens (PTB Braunschweig & Berlin, Germany)	E2.6	Ultrasound in Medicine: Therapy (2)
Ultrasound in Medicine	Regulatory requirements and safety aspects of FUS - Normung	Klaus V. Jenderka (University of Applied Sciences Merseburg, Germany)	E2.7	Ultrasound in Medicine: Therapy (2)
Digitisation in Medicine	AI-based relevance screening in Potential Technology Review to accelerate demand-pull innovation in medical technology	Mark Bukowski (RWTH Aachen University & Institute of Applied Medical Engineering AME, Germany); Thomas Schmitz-Rode (Institute of Applied Medical Engineering AME, RWTH Aachen University, Germany); Robert Farkas (RWTH Aachen University & Institute of Applied Medical Engineering AME, Germany)	F2.1	Digital Methods in Medicine
Digitisation in Medicine	Cytomorphologic classification of leukocytes in Acute Myeloid Leukemia using deep learning	Christian Matek (LMU Munich, Germany); Karsten Spiekermann (LMU Munich, Munich, Germany); Carsten Marr (Helmholtz Zentrum München, Germany)	F2.2	Digital Methods in Medicine
Digitisation in Medicine	Exploiting the taxonomic structure of SNOMED CT concepts for machine learning using modified tree representations - A feasibility study	Mark Bukowski and Stefanie Winkler (RWTH Aachen University & Institute of Applied Medical Engineering AME, Germany); Thomas Schmitz-Rode (Institute of Applied Medical Engineering AME, RWTH Aachen University, Germany); Robert Farkas (RWTH Aachen University & Institute of Applied Medical Engineering AME, Germany)	F2.3	Digital Methods in Medicine

Digitisation in Medicine	The PostStroke-Manager - An innovative digital and sensor-based concept allowing patient-centered stroke aftercare	Alexander G Prost, Dominik Michalski and Joseph Classen (University of Leipzig); Daniela Urban and Daniela Geisler (University of Leipzig, Germany); Max Schreiber, René Martin and Till Handel (Interdisciplinary Competence Center Biomedical Data Science & Institute for Applied Informatics, Germany); Katrin Rothmaler (Institute for Applied Informatics & Max-Planck-Institute for Human Cognitive and Brain Science, Germany); Davide Iacovazzi (Institute for Applied Informatics, Germany); Galina Ivanova (Institute for Applied Informatics & Innovation Center Computer Assisted Surgery (ICCAS), Germany)	F2.4	Digital Methods in Medicine
Digitisation in Medicine	Machine learning based identification of elderly persons with cognitive impairment using dynamic time warping	Jyothsna Kondragunta (Technische Universität Chemnitz, Germany); Roman Seidel (Chemnitz University of Technology, Germany); Gangolf Hirtz (Chemnitz University, Germany)	F2.5	Digital Methods in Medicine
Digitisation in Medicine	Data recording framework for physiological and surgical data in operating theatres	Tamer Abdulbaki Alshirbaji and Nour Aldeen Jalal (Furtwangen University, Germany); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany)	F2.6	Digital Methods in Medicine
Biomaterials and Implants	Image-based individual design and additive manufacturing of osteochondral bone tissue substitutes	Philipp Sembdner (TU Dresden, Germany); David Kilian, Tilman Ahlfeld and Anja Lode (TU Dresden); Dirk Hofmann, Stefan Holtzhausen, Ralph Stelzer and Michael Gelinsky (TU Dresden, Germany)	P01	Poster Session: Biomaterials and Implants
Biomaterials and Implants	The influence of strut-connectors in coronary stents: A comparison of numerical simulations and μ PIV measurements	Helena Melzer and Ralf Ahrens (Karlsruher Institut für Technologie (KIT), Germany); Jakob Dohse (MeKo Laserstrahl-Materialbearbeitungen e. K., Germany); Andreas Guber (Karlsruher Institut für Technologie (KIT), Germany)	P02	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Method for assessment of matching of total ankle joint endoprotheses based on CT data	Heiner Martin (Universität Rostock, Germany); Josephine Wittmüß (University Medicine Rostock, Germany); Niels Grabow and Thomas Mittlmeier (Universität Rostock, Germany)	P03	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Microstructured ceramic and metallic implant surfaces and their impact on the viscosity of a synovia fluid substitute	Philipp Drescher (University of Rostock, Germany); Paul Oldorf and Rigo Peters (Schweißtechnische Lehr- und Versuchsanstalt Mecklenburg Vorpommern GmbH, Germany); Hermann Seitz (University of Rostock, Germany)	P04	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Adhesion Properties of TiO ₂ ALD Films on PEEK for Medical Implants	Felix Blendinger (Hochschule Furtwangen, Germany); Monika Fleischer (University of Tübingen, Germany); Volker Bucher (Hochschule Furtwangen, Germany)	P05	Poster Session: Biomaterials and Implants

Biomaterials and Implants	Development of a realistic venepuncture phantom	Marius Engers, Kent W. Stewart and Jan Liu (University of Stuttgart, Germany); Peter P. Pott (Universität Stuttgart, Germany)	P06	Poster Session: Biomaterials and Implants
Biomaterials and Implants	DLP 3D printing of Dexamethasone-incorporated PEGDA-based photopolymers: compressive properties and drug release	Robert Mau, Hermann Seitz and Thomas Eickner (University of Rostock, Germany); Niels Grabow (Universität Rostock, Germany); Thomas Reske (Institute for ImplantTechnology and Biomaterials e. V., Germany)	P07	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Cell-derived Extracellular Matrix as maintaining Biomaterial for adipogenic differentiation	Svenja Nellinger, Simon Heine, Ann-Cathrin Volz and Petra Kluger (Reutlingen University, Germany)	P08	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Development of a new bio-mimicking heart valve prosthesis by using 3D-printing and multi-layered electrospinning	Benedikt Freystetter (Ludwig-Maximilians Universität München, Germany); Maximilian Grab, Fabian König, Christian Hagl and Nikolaus Thierfelder (Ludwig-Maximilians University, Munich, Germany)	P09	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Multi-channel impedance analyzer for automated testing of networks and biomaterials	Carsten Tautorat (Rostock University Medical Center, Germany); Frank Kamke (University Medical Center Rostock, Germany); Sylvia Pfensig, Stefan Siewert and Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e. V., Germany); Niels Grabow and Wolfram Schmidt (Universität Rostock, Germany)	P10	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Optimization of online particle counting with a 3D-printed bubble trap	Anja Kurzhals (Universitätsmedizin Rostock - Institut für Biomedizinische Technik, Germany); Christoph Brandt-Wunderlich (Institute for ImplantTechnology and Biomaterials, Germany); Jyoti Gurung (Universitätsmedizin Rostock, Germany); Finja Borowski (Institute for ImplantTechnologie and Biomaterials, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e. V., Germany); Niels Grabow and Wolfram Schmidt (Universität Rostock, Germany)	P11	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Real-time synchronization of active force control and movement ax-es in a knee simulator with viscoelastic elements in the force flow	Sameh Ben Nablia (Frankfurt University of Applied Sciences, Germany)	P12	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Study of poly(L-lactide) using Fast Scanning Calorimetry	Daniela Arbeiter (Universität Rostock, Germany); Stefan Oschatz (Universitätsmedizin Rostock, Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany); Niels Grabow (Universität Rostock, Germany)	P13	Poster Session: Biomaterials and Implants

Biomaterials and Implants	Composite polyelectrolyte multilayers for biofunctionalization of medical devices	Alexander Rudt (Reutlingen University, Germany); Tonya Andreeva (Hochschule Reutlingen, Germany); Rumen Krastev (Reutlingen University & NMI Natural and Medical Sciences Institute at the University of Tübingen, Germany); Stefka G Taneva (Institute of Biophysics and Biomedical Engineering, BAS, Bulgaria)	P14	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Fibrosis: Altered gene expression in TGF- β stimulated human fibroblast of the Tenon	Andreas Brietzke (Rostock University Medical Center, Institute for Biomedical Engineering, Germany); Rudolf Guthoff (Universität Rostock & Universitätsaugenklinik Rostock, Germany); Niels Grabow (Universität Rostock, Germany); Thomas Stahnke (Rostock University Medical Center & Institute for Biomedical Engineering, Germany)	P15	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Wear and corrosion in medical applications	Jana Markhoff (University Medical Center Rostock, Germany); Niels Grabow (Universität Rostock, Germany)	P16	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Computed fiber evaluation of SEM images using DiameterJ	Andreas Götz (Rostock University, Germany); Volkmar Senz (Universität Rostock, Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany); Niels Grabow (Universität Rostock, Germany)	P17	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Development of an in vitro measurement method for improved assessment of the side branch expansion capacity	Paula Rosam (Institut für ImplantatTechnologie und Biomaterialien, Germany); Finja Borowski (Institute for ImplantTechnologie and Biomaterials, Germany); Michael Stiehm (University of Rostock & Germany, Germany); Jonas Keiler (University of Rostock, Germany); Andreas Wree (Universität Rostock, Germany); Alper Öner (Rostock University Medical Center, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnologie and Biomaterials, Germany); Wolfram Schmidt (Universität Rostock, Germany)	P18	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Self-Sticking Surfaces for Medical Wearables by Nano-Structuring Bio-compatible Polymers	Franz Selbmann and Nooshin Saeidi (Fraunhofer ENAS, Germany); Markus Guttmann (Karlsruhe Institute for Technology, Germany); Marc Schneider (Karlsruher Institute of Technology, Germany); Mario Baum (Fraunhofer ENAS & ENAS, Germany); Maik Wiemer (Fraunhofer ENAS, Germany); Yvonne Joseph (TU Bergakademie Freiberg, Institute for Electronic and Sensor Materials, Germany); Thomas Otto (Fraunhofer ENAS, Germany)	P19	Poster Session: Biomaterials and Implants

Biomaterials and Implants	Sulfated Hyaluronan coating of polyurethane-based implant materials	Kiriaki Athanasopulu, Larysa Kutuzova and Günter Lorenz (Reutlingen University, Germany); Ralf Kemkemer (Max Planck Institute for Medical Research & Reutlingen University, Germany)	P20	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Systematic microscopic analysis of retrieved stents from a patient with pancreatic necrosis	Valeria Khaimov (Institute for Biomedical Engineering & Institute for ImplantTechnology and Biomaterials e. V., Germany); Fabian Frost (University Medicine Greifswald, Germany); Volkmar Senz (Universität Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e. V., Germany); Niels Grabow (Universität Rostock, Germany); Markus Lerch (University Medicine Greifswald, Germany)	P21	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Impact of aortic annulus geometry according to ISO 5840:2019 (draft) on hydrodynamic performance of transcatheter aortic valve prostheses	Jan Oldenburg (Institute for Implant Technology and Biomaterials, Germany); Sebastian Kaule (Institute for ImplantTechnology and Biomaterials e. V. & Universität Rostock, Germany); Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany); Niels Grabow (Universität Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials, Germany); Michael Stiehm (University of Rostock & Germany, Germany)	P22	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Accelerated Degradation of polymeric surgical suture materials	Thomas Reske (Institute for ImplantTechnology and Biomaterials e. V., Germany); Thomas Eickner (Rostock University Medical Center, Germany); Niels Grabow (Universität Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials, Germany); Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany)	P23	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Permeability and wettability of bioresorbable nanofiber nonwoven membranes	Swen Großmann (Institute for ImplantTechnology and Biomaterials e. V., Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany); Jan Oldenburg (Institute for Implant Technology and Biomaterials, Germany); Robert Ott (Institute for ImplantTechnology and Biomaterials e. V. Rostock - Warnemünde, Germany); Michael Stiehm (University of Rostock & Germany, Germany); Niels Grabow (Universität Rostock, Germany); Klaus-Peter Schmitz and Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany)	P24	Poster Session: Biomaterials and Implants

Biomaterials and Implants	Adaptable superfibers as implant material - Opening new paths to tailored polymer properties with optional drug incorporation	Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany); Jonathan Ortelt (University Medical Center Rostock, Germany); Daniela Arbeiter (Universität Rostock, Germany); Valeria Khaimov (Institute for Biomedical Engineering & Institute for ImplantTechnology and Biomaterials e. V., Germany); Katharina Wulf (University Medical Center Rostock, Germany); Stefan Oschatz (Universitätsmedizin Rostock, Germany); Thomas Reske (Institute for ImplantTechnology and Biomaterials e. V., Germany); Volkmar Senz (Universität Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e. V., Germany); Niels Grabow (Universität Rostock, Germany)	P25	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Printing of vessels for small functional tissues - a preliminary study	Christian Polley (Justus-von-Liebig-Weg & University of Rostock, Germany); Sophie Kussauer (Rostock University Medical Center, Germany); Phillip Barkow and Robert Mau (University of Rostock, Germany); Robert David (Rostock University Medical Center, Germany); Hermann Seitz (University of Rostock, Germany)	P26	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Evaluation of antibacterial properties of polyelectrolyte multilayer coatings by norm tests	Leyla Djanklich (Reutlingen University, Germany); Ralf Kemkemer (Max Planck Institute for Medical Research & Reutlingen University, Germany); Tonya Andreeva (Hochschule Reutlingen, Germany); Rumen Krastev (Reutlingen University & NMI Natural and Medical Sciences Institute at the University of Tübingen, Germany); Xin Xiong (NMI Natural and Medical Sciences Institute at the University of Tübingen, Germany)	P27	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Patient-Specific Phantom Development for Smart Autonomous Robotic Assistant Surgeon (SARAS)	Yuting Ling, Andrew Dennison, Jashan Singh and Andreas Melzer (University of Dundee, United Kingdom (Great Britain))	P28	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Comparison of open versus endovascular surgical treatment of abdominal aortic aneurysm	Sabine Kischkel (Rostock University Medical Center, Germany); Carsten Bünger (Vivantes Humboldt-Klinikum, Germany)	P29	Poster Session: Biomaterials and Implants
Biomaterials and Implants	Polyimide-based Thin Film Conductors for High Frequency Data Transmission in Ultra-Conformable Implants	Benedikt Szabo (Albert-Ludwigs-University of Freiburg, Germany); Calogero Gueli (Albert-Ludwigs-Universität Freiburg, Germany); Max Eickenscheidt (Albert-Ludwigs-University of Freiburg, Germany); Thomas Stieglitz (Albert-Ludwigs-Universität Freiburg, Germany)	P30	Poster Session: Biomaterials and Implants

Biomaterials and Implants	Femoral Shape and Size Variability from segmented CT datasets for patient-specific THA planning	Christopher Fleischmann and Irina Leher (OTH Amberg-Weiden, Germany); David Scherb, Alexander Wolf and Jörg Miehling (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Sandro Wartzack (FAU Erlangen-Nürnberg, Germany); Stefan Sesselmann (Ostbayerische Technische Hochschule Amberg-Weiden, Germany)	P31	Poster Session: Biomaterials and Implants
Assisted Living	Fall Risk Assessment - A Comparative Analysis of Fall Risks in Elderly and their Underlying Causes	Carolin Wuerich and Christian Wiede (Fraunhofer IMS, Germany); Gregor Schiele and Anton Grabmaier (University of Duisburg-Essen, Germany)	P32	Poster Session : Assisted Living
Assisted Living	Wireless heart rate monitoring system with capacitive ECG sensors	Daniel Laqua, Matthias Kötz, Antje Borgmann, Oliver Engels and Alexander Stahlschmidt (Technische Universität Ilmenau, Germany); Peter Husar (Technische Universität Ilmenau, Germany)	P33	Poster Session : Assisted Living
Assisted Living	Intelligent Assistance Systems with Real-Time Sensor Data Analysis-Framework for Digital Care	Ulrich Fischer (Harz University of Applied Sciences, Germany); Sabrina Hoppstock (Hochschule Harz, Germany); Peter Kußmann (Research Assistant, Germany)	P34	Poster Session : Assisted Living
Assisted Living	AAL im Umfeld der Normung und Standardisierung	Janina Laurila-Dürsch (DKE, Germany); Anja Seeliger (DIN - Deutsches Institut für Normung, Germany)	P35	Poster Session : Assisted Living
Biosignale (KI + PM)	Head Localization and Orientation by Pruned Neural Networks in Thermal Images - A Method for a Robust and Automatic Pain Detection	Christian Wiede and David Stender (Fraunhofer IMS, Germany); Anton Grabmaier (University of Duisburg-Essen, Germany)	P36	Poster Session: Biosignals
Biosignale (KI + PM)	Inverse Relationship Between Electrode Size and Voltage During Intracardiac Mapping	Deborah Nairn, Axel Loewe, Jorge Patricio Sánchez and Olaf Doessel, Daniel Hunyar (Karlsruhe Institute of Technology (KIT), Germany)	P37	Poster Session: Biosignals
Biosignale (KI + PM)	Use of artificial intelligence and neural networks for analysis and gesture detection in electrical impedance tomography	Christian Gibas, Luca Mülln and Rainer Brück (University of Siegen, Germany)	P38	Poster Session: Biosignals
Biosignale (KI + PM)	Habituation of steady-state visual evoked potentials during peripheral stimulation	Benjamin Solf, Maren-Christina Blum, Stefan Schramm and Sascha Klee (Technische Universität Ilmenau, Germany)	P39	Poster Session: Biosignals
Biosignale (KI + PM)	Quantification of Interpatient 12-lead ECG Variabilities within a Healthy Cohort	Claudia Nagel (Karlsruhe Institute of Technology, Germany); Nicolas Pilia, Axel Loewe and Olaf Doessel (Karlsruhe Institute of Technology (KIT), Germany)	P40	Poster Session: Biosignals

Biosignale (KI + PM)	Mechanistic insights into arrhythmogenesis in atrial fibrillation - Exploring the underlying electrical activity in AF and effects of targeted focal ablation of the critical substrate in-silico	Mark Nothstein (Karlsruhe Institute of Technology, Germany); Björn Müller-Edenborn and Thomas Arentz (University-Heart-Center Freiburg-Bad Krozingen, Germany); Olaf Doessel (Karlsruhe Institute of Technology (KIT), Germany); Amir Jadidi (University-Heart-Center Freiburg-Bad Krozingen, Germany); Axel Loewe (Karlsruhe Institute of Technology (KIT), Germany)	P41	Poster Session: Biosignals
Biosignale (KI + PM)	An approach to a real time FastICA	Lea Christin Lang (Technische Hochschule Mittelhessen, Germany); Thomas Schanze (Technische Hochschule Mittelhessen THM, Germany)	P42	Poster Session: Biosignals
Biosignale (KI + PM)	MagCPP: A C++ toolbox for Combining Neurofeedback with Magstim transcranial magnetic stimulators	Hannes Oppermann and Felix Wichum (Technische Universität Ilmenau, Germany); Lorenz Esch (Ilmenau University of Technology, Germany); Jens Haueisen and Matthias Klemm (Technische Universität Ilmenau, Germany)	P43	Poster Session: Biosignals
Biosignale (KI + PM)	Deep learning-based recognition of cell structures in fluorescence microscopy sequences with respect to their morphology on cells infected with Marburgvirus	Dennis Schmidt (Grünberger Straße 26, Germany); Andreas Rausch (Technische Hochschule Mittelhessen, Germany); Thomas Schanze (Technische Hochschule Mittelhessen THM, Germany)	P44	Poster Session: Biosignals
Biosignale (KI + PM)	Evaluation of HRV extraction algorithms from PPG data using neural networks	Robert Koch (Fraunhofer Institute for Integrated Circuits IIS, Germany); Norman Pfeiffer (Fraunhofer Institute for Integrated Circuits IIS, Germany); Nadine Lang (Fraunhofer IIS, Germany); Bjoern M Eskofier (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Oliver Amft (Friedrich-Alexander Universität (FAU) Erlangen-Nürnberg, Germany); Matthias Struck (Fraunhofer Institute for Integrated Circuits, Germany); Thomas Wittenberg (Fraunhofer Institute for Integrated Circuits IIS & University Erlangen, Germany)	P45	Poster Session: Biosignals
Biosignale (KI + PM)	Continuous signal quality estimation for robust heart rate extraction from photoplethysmographic signals	Jonas Massmann, Timo Tigges and Reinhold Orglmeister (Technische Universität Berlin, Germany)	P46	Poster Session: Biosignals
Biosignale (KI + PM)	Investigating an Optimal Signal Epoch Length for Cardiotocographic Classification	Patricio Fuentealba (Otto-von-Guericke University of Magdeburg, Germany & Universidad Austral de Chile, Chile); Alfredo Illanes (Otto-von-Guericke University of Magdeburg, Germany); Prabal Poudel (Otto-von-Guericke-Universität Magdeburg, Germany); Frank Ortmeier (Otto-von-Guericke University of Magdeburg, Germany)	P47	Poster Session: Biosignals

Biosignale (KI + PM)	A new approach to improve the SNR of evoked potentials using a SPHARA-based spatial filter	Uwe Graichen, Ellen Zimmer, Jens Haueisen (Technische Universität Ilmenau, Germany)	P48	Poster Session: Biosignals
Biosignale (KI + PM)	AEA based medical diagnostic techniques: Screening and Monitoring of cartilage defects in knee joint osteoarthritis by Acoustic Emission Analysis	Jörg Subke (Technische Hochschule Mittelhessen, Germany); Sabine Krueger (Osteopathiepraxis Krueger, Germany); Heinz-Otto Junker (Rheumazentrum Mittelhessen, Germany); Hans-Joachim Schwalbe and Ralf Franke (BoneDiaS GmbH, Germany); Udo Wolf (University of Applied Sciences Fulda, Germany)	P49	Poster Session: Biosignals
Biosignale (KI + PM)	Influence of the polarity on the stimulation resistance of an ocular direct current stimulation using different electrode parameters	Maren-Christina Blum (Technische Universität Ilmenau, Germany); Sascha Klee (Ilmenau University of Technology, Germany)	P50	Poster Session: Biosignals
Biosignale (KI + PM)	Fast Triage of Covid-19 Patients in Hospitals by Means of Remote Respiration Rate Determination	Christian Wiede, Kai Grundmann, Carolin Wuerich, Robin Rademacher and Burkhard Heidemann (Fraunhofer IMS, Germany); Anton Grabmaier (University of Duisburg-Essen, Germany)	P51	Poster Session: Biosignals
Biosignale (KI + PM)	Monte-Carlo parameter variation study using a variance based feature selection technique for signal classification of cardiovascular aortic aneurysms	Stefan Krickl (FU Berlin, Germany); Stefan Bernhard (University of Applied Sciences Mittelhessen, Germany)	P52	Poster Session: Biosignals
Imaging	Diagnostic Capabilities of a Smartphone-Based Low-Cost Microscope	Dorina Hasselbeck, Max B. Schäfer and Kent W. Stewart (University of Stuttgart, Germany); Peter P. Pott (Universität Stuttgart, Germany)	P53	Poster Session: Imaging & Ultrasound in Medicine
Imaging	Implant dependent local weighting for iterative CT-image reconstruction	Nele Blum (University of Lübeck, Germany); Maik Stille (University of Luebeck, Germany); Thorsten M. Buzug (Universität zu Lübeck, Germany)	P54	Poster Session: Imaging & Ultrasound in Medicine
Imaging	Extension of the Stoichiometric Calibration of CT Hounsfield Values upon Metallic Materials	Zehra Ese (Westphalian University, Campus Gelsenkirchen & University of Duisburg-Essen and CENIDE, Germany); Waldemar Zylka (Westphalian University, Campus Gelsenkirchen, Germany)	P55	Poster Session: Imaging & Ultrasound in Medicine
Imaging	Compact Microscope Module for High-Throughput Microscopy	Max B. Schäfer, Sophie Weiland and Kent W. Stewart (University of Stuttgart, Germany); Peter P. Pott (Universität Stuttgart, Germany)	P56	Poster Session: Imaging & Ultrasound in Medicine

Imaging	Validation of iterative CT reconstruction by inter and intra observer performance assessment of artificial lung foci	Britta König (University of Duisburg-Essen & Westphalian University, Campus Gelsenkirchen, Germany); Nika Guberina (Institute of Diagnostic and Interventional Radiology and Neuroradiology & University of Duisburg-Essen, Germany); Hilmar Kühl (Clinic for Radiology, St.-Bernhard-Hospital Kamp-Lintfort GmbH & University of Duisburg-Essen, Germany); Waldemar Zylka (Westphalian University, Campus Gelsenkirchen, Germany)	P57	Poster Session: Imaging & Ultrasound in Medicine
Imaging	Increased Phase-Amplitude Coupling in Parkinson's Disease: Evidence from Source Localized Electroencephalography	Ruxue Gong (Max Planck Institute for Human Cognitive and Brain Sciences, Germany); Mirko Wegscheider and Christoph Muehlberg (University of Leipzig, Germany); Thomas Knösche (MPI Leipzig, Germany); Joseph Classen (University of Leipzig, Germany)	P58	Poster Session: Imaging & Ultrasound in Medicine
Imaging	EEG beamformer for correlated brain sources localization in realistic head models	A N M Shahebul Hasan (American International University-Bangladesh, Bangladesh & New Mexico State University, USA); Riasat Khan (North South University, Bangladesh & New Mexico State University, USA); Kwong T Ng (New Mexico State University, USA)	P59	Poster Session: Imaging & Ultrasound in Medicine
Ultrasound in Medicine	Determination of the Cavitation Pressure Threshold in Focused Ultrasound Wave Fields applied to Sonosensitive, Biocompatible Nanoparticles for Drug Delivery Applications	Benedikt George, Markus Lehner, Michael Fink, Helmut Ermert, Pia-Theresa Hiltl, Ula Savsek and Geoffrey Lee (Friedrich-Alexander-University Erlangen-Nuremberg, Germany); Stefan Johann Rupitsch (University of Erlangen Nuremberg, Germany)	P60	Poster Session: Imaging & Ultrasound in Medicine
Ultrasound in Medicine	Preliminary Simulation and Characterization of Capacitive Micromachined Ultrasonic Transducers for Targeted Cell Ablation Applications	Nooshin Saeidi (Fraunhofer ENAS, Germany); Yu Kou (Technical University of Chemnitz, Germany); Karman Selvam (Fraunhofer Institute for Electronic Nano Systems, Germany); Mario Baum (Fraunhofer ENAS & ENAS, Germany); Maik Wiemer and Thomas Otto (Fraunhofer ENAS, Germany)	P61	Poster Session: Imaging & Ultrasound in Medicine
Ultrasound in Medicine	In Vivo Study on Magnetomotive Ultrasound Imaging in the Framework of Nanoparticle based Magnetic Drug Targeting	Michael Fink (Friedrich-Alexander-University Erlangen-Nuremberg, Germany); Stefan Johann Rupitsch (University of Erlangen Nuremberg, Germany); Stefan Lyer (University Hospital Erlangen, Germany); Helmut Ermert (Friedrich-Alexander-University Erlangen-Nuremberg, Germany)	P62	Poster Session: Imaging & Ultrasound in Medicine
Modelbased Personalised Medicine	Validating a Numerical Simulation of Human Heart Motion Using Clinical Data	Armin Müller, Ekaterina Kovacheva, Marc Fritz, Olaf Doessel and Axel Loewe (Karlsruhe Institute of Technology (KIT), Germany)	P63	Poster Session: Modelbased Personalised Medicine

Modelbased Personalised Medicine	Loss of Resistance modelling for an Epidural Anaesthesia Simulator	Benjamin Lorenz Esterer (Upper Austria University of Applied Sciences Linz & Paracelsus Medical University (PMU) Salzburg, Austria); Andreas Schrempf (Upper Austria University of Applied Sciences, Austria)	P64	Poster Session: Modelbased Personalised Medicine
Modelbased Personalised Medicine	Simulation system for intraoperative neuromonitoring	Robert Thiel, Peter Haupt and Jens Jäkel (HTWK Leipzig University of Applied Sciences, Germany)	P65	Poster Session: Modelbased Personalised Medicine
Modelbased Personalised Medicine	Electrode Model and Simulation of His-Bundle-Pacing for Cardiac Resynchronization Therapy	Domenic Pascual (University of Applied Sciences Offenburg, Germany); Matthias Heinke (University of Applied Sciences Offenburg & Department of Electrical Engineering and Information Technology, Germany); Reinhard Echle and Johannes Hörth (University of Applied Sciences Offenburg, Germany)	P66	Poster Session: Modelbased Personalised Medicine
Modelbased Personalised Medicine	Characterization of the Fluid Dynamic Pressure Field in the Human Heart as a Basis for Coupled Fluid-Structure Simulations	Jochen Brenneisen (Karlsruhe Institute of Technology, Germany); Ekaterina Kovacheva and Tobias Gerach (Karlsruhe Institute of Technology (KIT), Germany); Anna Daub, Larissa Hütter and Bettina Frohnapfel (Karlsruhe Institute of Technology, Germany); Olaf Doessel and Axel Loewe (Karlsruhe Institute of Technology (KIT), Germany)	P67	Poster Session: Modelbased Personalised Medicine
Modelbased Personalised Medicine	How to Make Patients Embrace their Brace: The Influence of Aspects of a Brace on Patients' Compliance during Scoliosis Therapy	Jasmin S. Rein, Steven Mücke, Marc Kraft and Markus Feufel (Technische Universität Berlin, Germany)	P68	Poster Session: Modelbased Personalised Medicine
Modelbased Personalised Medicine	Analysis of airflow resistance of the nasal cavity based on CT data	Oleg Avrunin, Yana Nosova and Maksym Tymkovich (Kharkiv National University of Radio Electronics, Ukraine); Oleksandr Gryshkov and Birgit Glasmacher (Leibniz Universität Hannover, Germany)	P69	Poster Session: Modelbased Personalised Medicine
Modelbased Personalised Medicine	Transverse dose profile simulation of extruded lines for a 3D printed models for superficial skin cancer therapy	Ali Pashazadeh (Otto Von Guericke University, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	P70	Poster Session: Modelbased Personalised Medicine
Modelbased Personalised Medicine	Cole and Hanai models based postmastectomy lymphedema diagnostics	Airat Z. Galiamov (RWTH Aachen University, Germany & Bauman Moscow State Technical University, Russia)	P71	Poster Session: Modelbased Personalised Medicine

Digitisation in Medicine	Web-based Prostate Visualization Tool	Cristina Oyarzun Laura (Fraunhofer Institute for Computer Graphics Research & Technical University of Darmstadt, Germany); Katrin Hartwig, Anna-Sophie Hertlein, Florian Jung, Jan Burmeister, Jörn Kohlhammer and Stefan Wesarg (Fraunhofer Institute for Computer Graphics Research, Germany); Guido Sauter (University Medical Center Hamburg-Eppendorf, Germany)	P72	Poster Session: Digital Methods in Medicine
Digitisation in Medicine	The challenge for coping with informational deficits in palliative care	Pavel Larionov, Tom Juergens, René Happel, Clara Killian, Pascal Kieser, Christian Teichert and Wolfgang George (Technische Hochschule Mittelhessen, Germany); Thomas Schanze (Technische Hochschule Mittelhessen THM, Germany)	P73	Poster Session: Digital Methods in Medicine
Digitisation in Medicine	Swipe up to smoke less cigarettes! Introducing a mobile Approach-Avoidance Task Application to fight Smoking	Tanja Joan Eiler, Benjamin Haßler, Armin Grünwald, Alla Machulska, Tim Klucken, Katharina Jahn and Björn Niehaves (University of Siegen, Germany); Carl Gethmann (Research College FoKoS, Germany); Rainer Brück (University of Siegen, Germany)	P74	Poster Session: Digital Methods in Medicine
Medical Photonics	Testing a Point Distribution Model of the Head Designed From Healthy Subjects in Respect of Craniofacial Deformities	Matthias Schaufelberger and Werner Nahm (Karlsruhe Institute of Technology, Germany); Reinald Kühle (University Hospital Heidelberg, Germany); Frederic Weichel (University of Heidelberg, Germany); Christian Freudlsperger (University Hospital Heidelberg, Germany)	P75	Poster Session: Medical Photonics & Medical Robotics
Medical Photonics	3D printing of tissue-simulating fluorescence phantoms for diffuse optical imaging	Sandra Schädel-Ebner, Thomas Gladytz and Dirk Grosenick (Physikalisch-Technische Bundesanstalt (PTB), Germany)	P76	Poster Session: Medical Photonics & Medical Robotics
Medical Photonics	Optical Coherence Microscopy using Visible Light with Small Bandwidth	Yilun Su (Karlsruhe Institute of Technology (KIT), Germany); Werner Nahm (Karlsruhe Institute of Technology, Germany)	P77	Poster Session: Medical Photonics & Medical Robotics
Medical Photonics	Combined fluorescence imaging and angle-resolved light scattering detection in laser flow cytometry	Alexander Hoppe and Martin Hussels (Physikalisch-Technische Bundesanstalt (PTB), Germany); Jonas Gienger (Physikalisch-Technische Bundesanstalt (PTB) Berlin, Germany); Dirk Grosenick (Physikalisch-Technische Bundesanstalt (PTB), Germany)	P78	Poster Session: Medical Photonics & Medical Robotics
Medical Photonics	A Survey: Specular Reflection Removal Methods on Single Endoscopic Image	Lu Guo and Werner Nahm (Karlsruhe Institute of Technology, Germany)	P79	Poster Session: Medical Photonics & Medical Robotics
Medical Photonics	Investigation of the Potential of CycleGANs for Generating Artificial Photorealistic Images	Andreas Wachter and Robin Andlauer (Karlsruhe Institute of Technology (KIT), Germany); Werner Nahm (Karlsruhe Institute of Technology, Germany)	P80	Poster Session: Medical Photonics & Medical Robotics

Medical Robotics	Surgical Audio Guidance: Feasibility Check for Robotic Surgery Procedures	Anna Schaufler (Otto-von-Guericke University, Germany); Alfredo Illanes (Otto-von-Guericke University of Magdeburg, Germany); Ivan Maldonado, Axel Boese and Roland Croner (Otto-von-Guericke-University Magdeburg, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	P81	Poster Session: Medical Photonics & Medical Robotics
Patient Monitoring (KI)	Psychometric test system for measuring cognitive reaction time	Klaus Peter Peter Koch (Trier University of Applied Sciences, Germany); Julien Laigle Hoffmann (Trier University of Applied Sciences, Luxembourg); Lukas Jung (Trier University of Applied Sciences, Germany); Eric Auer (Hochschule für Technik und Wirtschaft des Saarlandes (htw saar), Germany); Hartmut Schächinger (Trier University of Applied Sciences, Germany)	P82	Poster Session: Patient Monitoring
Patient Monitoring (KI)	Progressive Dynamic Time Warping for Noninvasive Blood Pressure Estimation	Alexandru-Gabriel Pielmus, Reinhold Orglmeister, Michael Klum and Timo Tigges (Technische Universität Berlin, Germany); Mike Urban (Technische Universität Berlin & Osypka Medical GmbH, Germany)	P83	Poster Session: Patient Monitoring
Patient Monitoring (KI)	OCLIDA: Browser-based access and analysis of clinic-wide monitoring data from operation theatres and intensive-care units	Haisong Wang (Technische Universität Dresden, Germany); Nhu Nguyen and Marcelo Gama de Abreu (University Hospital Dresden, Germany); Ute Morgenstern and Robert Huhle (Technische Universität Dresden, Germany)	P84	Poster Session: Patient Monitoring
Patient Monitoring (KI)	Combination of anesthesia depth measurement and intraoperative neuromonitoring	Kristina Schweizer (Hochschule Offenburg, Germany); Thilo Krüger (Inomed Medizintechnik GmbH, Germany); Jennifer Biendara (Hochschule Offenburg, Germany)	P85	Poster Session: Patient Monitoring
Patient Monitoring (KI)	Decomposition and modeling of signal shapes of single point cardiac monitoring	Sven Ingebrandt (RWTH Aachen University & Institute of Materials in Electrical Engineering 1, Germany); Milad Eyvazi Hesar (RWTH Aachen University & Institute of Materials in Electrical Engineering 1 (IWE1), Germany); Nikhil Ponon, Walid Madhat Munief and Achim Müller (RAM Group DE GmbH, Germany)	P86	Poster Session: Patient Monitoring
Patient Monitoring (KI)	Quantification of Effects of Aging and Disease on Gait using Normalized Corrected Shannon Entropy	Anees Kumar Abbasi (Karlsruhe Institute of Technology, Germany & Women University of AJ&K Bagh, Pakistan); Mohsin Manshad (Udmurt State University, Russia & University of Azad Jammu and Kashmir Muzaffarabad, Pakistan); Werner Nahm (Karlsruhe Institute of Technology, Germany)	P87	Poster Session: Patient Monitoring

Bildgestützte navigierte Intervention (PM)	Augmented-Reality-based Needle Interventions with Hololens	Stefan Maas (SomaView GmbH); Heinrich M. Overhoff (Westphalian University of Applied Sciences, Germany); Martin Chmelnik (Children's Hospital, Goethe University Frankfurt, Germany)	P88	Poster Session: Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	A new filter system for endoscopic fluorescence detection of Protoporphyrin IX and its direct precursors in PDT and PDD	Axel Boese (Otto-von-Guericke-University Magdeburg, Germany); Alexander Wagner (Otto-von-Guericke University Magdeburg, Germany); Uwe-Bernd Liehr and Johann Wendler (Otto von Guericke University Magdeburg, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	P89	Poster Session: Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	Development of in-vitro Vessel Phantom for Computer-assisted MRI-guided Thrombectomy and Vena Cava Filter Implantation	Denis Gholami Bajestani, Annekatri Pfahl, C. Martin Reich, Erwin Immel (Innovation Center for Computer Assisted Surgery (ICCAS), Germany); Anja Neumann (Leipzig University, Germany); René Hammerschmidt (PHACON GmbH, Leipzig, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	P90	Poster Session: Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	Acquisition of Clinical Workflow of EMB for Development of Computer-assisted MRI-guided Interventions	Annekatri Pfahl, C. Martin Reich, Denis Gholami Bajestani, Erwin Immel, Leon Melzer (Innovation Center Computer Assisted Surgery (ICCAS) (Leipzig University), Germany); Karsten Lenk and Bettina Schöbel (University Hospital Leipzig, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	P91	Poster Session: Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	Test of a thin ureteroscope for imaging of intravascular procedures	Axel Boese (Otto-von-Guericke-University Magdeburg, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	P92	Poster Session: Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	Non-invasive, passive acoustic sensing - potential applications in arthroscopic surgery	Thomas Sühn (Otto-von-Guericke-University Magdeburg & Institute of Medical Technology, Germany); Alfredo Illanes (Otto-von-Guericke University of Magdeburg, Germany); Axel Boese and Christoph Lohmann (Otto-von-Guericke-University Magdeburg, Germany); Ajay Pandey (Queensland University of Technology, Australia); Michael Friebe (Otto-von-Guericke-Universität, Germany)	P93	Poster Session: Image Guided Interventions

Bildgestützte navigierte Intervention (PM)	Cochlear monitoring during and after CI-Insertion using intracochlearly recorded Electrocochleography	Sabine Haumann (Hannover Medical School & Cluster of Excellence Hearing4all, Germany); Max Timm (Hannover Medical School, Germany); Andreas Büchner (Medizinische Hochschule Hannover (MHH), Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Rolf Salcher (Hannover Medical School, Germany)	P94	Poster Session: Image Guided Interventions
Aus- und Weiterbildung	HealthTEC Innovation Design - a proposal for a novel Master degree program based on Unmet Clinical Need, global Healthcare Challenges, and 21st century skills	Michael Friebe (Otto-von-Guericke-Universität, Germany)	P95	Poster Session: Training and Further Education
Aus- und Weiterbildung	How do we need to adapt Biomedical Engineering Education for the Health 4.0 challenges?	Holger Fritzsche (INKA Institute of Medical Technology Otto-von-Guericke University, Germany); Axel Boese (Otto-von-Guericke-University Magdeburg, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	P96	Poster Session: Training and Further Education
Aus- und Weiterbildung	Public domain „Unmet Clinical Need“ Database derived from a dedicated Bio-Medical Engineering Innovation Generation Lecture	Holger Fritzsche (INKA Institute of Medical Technology Otto-von-Guericke University, Germany); Axel Boese (Otto-von-Guericke-University Magdeburg, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	P97	Poster Session: Training and Further Education
Aus- und Weiterbildung	From whole-day face-to-face instructor-led seminars with group work to successful instructor-led distance-learning alternatives	Maria Henke (Maria Henke, Germany)	P98	Poster Session: Training and Further Education
Automation in Medicine	Investigation of vibration parameters for needle insertion force reduction	Dennis Rehling, Jan Liu, Frank Schiele and Kent W. Stewart (University of Stuttgart, Germany); Peter P. Pott (Universität Stuttgart, Germany)	P100	Poster Session: Automation in Medicine
Automation in Medicine	Workflow and Human-Centered Risk Analysis for Novel Mechatronic Rescue Aids	Sergey Drobinsky (RWTH Aachen & Chair of Medical Engineering, Germany); Mark Verjans, Philipp Schleer, Benedikt Kolk and Henrike Bensiak (RWTH Aachen University, Germany); Klaus Radermacher (RWTH Aachen, Germany); Armin Janß (RWTH Aachen University, Germany)	P101	Poster Session: Automation in Medicine
Automation in Medicine	Additive Manufacturing of Medical Devices facing Regulatory Requirements	Marian Gransow (VIVE-MedTech GmbH, Germany); Susanne Kromnik (TU Dresden, Germany); Andreas Strauß (VIVE-Medtech GmbH, Germany); Christine Thiele (TU Dresden, Germany)	P102	Poster Session: Automation in Medicine

Automation in Medicine	Verification of Pressure Tightness of 3D-printed Cannulas for ex vivo Organ Perfusion	Susanne Kromnik and Philipp Talhofer (TU Dresden, Germany); Marian Gransow (VIVE-MedTech GmbH, Germany); Christine Thiele (TU Dresden, Germany); Andreas Strauß (VIVE-Medtech GmbH, Germany); Hagen Malberg (TU Dresden & Institute of Biomedical Engineering, Germany)	P103	Poster Session: Automation in Medicine
Automation in Medicine	On the fractal classification of subviral particle motion in fluorescence microscopy sequences of Ebola-infected live-cells	Andreas Rausch (Technische Hochschule Mittelhessen, Germany); Thomas Schanze (Technische Hochschule Mittelhessen THM, Germany)	P99	Poster Session: Automation in Medicine
Biosensorik, Bioanalytik	Evaluation of Semi-Supervised Learning Using Sparse Labeling to Segment Cell Nuclei	Roman Bruch (Karlsruhe Institute of Technology (KIT) & Mannheim University of Applied Sciences, Germany); Rüdiger Rudolf (Mannheim University of Applied Sciences, Germany); Ralf Mikut (Karlsruhe Institute of Technology (KIT), Germany); Markus Reischl (Karlsruhe Institute of Technology, Germany)	P104	Poster Session: Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	Rapid development of tailored micro-physiological systems using novel modular plug&play construction kit	Florian Schmieder, Stephan Behrens and Frank Sonntag (Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS, Germany)	P105	Poster Session: Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	High-Current Neutral Electrodes	Norbert Nessler (Nessler Medizin Elektronik GmbH, Austria)	P106	Poster Session: Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	Parallel online monitoring of substance transport processes in a micro-physiological tubular barrier	Felix Gottlöber, Frank Sonntag and Florian Schmieder (Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS, Germany); Jan Sradnick (TU Dresden, Medizinische Klinik III - Nephrologie, Germany)	P107	Poster Session: Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	pH- and oxygen sensors based on fluorescent nanoparticles for Lab-on-Chip applications	Alexander Netaev (Fraunhofer Institute for Microelectronic Circuits and Systems, Germany); Birvan Karaduman and Mohammed Sheikh (Fraunhofer IMS, Germany); Nicolas Schierbaum (Fraunhofer Institute for Microelectronic Circuits and Systems, Germany); Karsten Seidl (University of Duisburg-Essen & Fraunhofer IMS, Germany)	P108	Poster Session: Biosensorik, Bioanalytik
Imaging	3D-Ultrasound Modelation and Mitral Valve Simulation (Invited)	Thilo Noack (Herzzentrum Leipzig, Germany)	A3.1	Imaging (1)
Imaging	Novel Assistive Device for Tomographic Ultrasound Neck Imaging vs. Freehand	Marcel Köhler (Otto von Guericke Universität, Germany); Elmer Jeto Gomes Ataide (Otto-von-Guericke Universität & INKA - Intelligente Katheter, Germany); Jens Ziegler (Otto-von-Guericke University, Germany); Axel Boese (Otto-von-Guericke-University Magdeburg, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	A3.2	Imaging (1)

Imaging	Impact of artificial airway resistances on regional ventilation distribution during airway closure	Melanie März (Furtwangen University, Germany); Sarah Howe (University of Canterbury, New Zealand); Bernhard Laufer (Institute of Technical Medicine, Germany); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany); Sabine Krueger-Ziolek (Furtwangen University, Germany)	A3.3	Imaging (1)
Imaging	Global Inhomogeneity Index Evaluation of a DCT-based EIT Lung Imaging	Rongqing Chen (Furtwangen University, Germany); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany)	A3.4	Imaging (1)
Imaging	A Deep-Learning Approach to Detect Fiducials in Planar X-Ray Images for Undistortion of Conventional C-Arm Images	Julio C Alvarez-Gomez and Arne Spieß (University of Siegen, Germany); Hubert J Roth (University Siegen, Germany); Jürgen Wahrburg (University of Siegen, Germany)	A3.5	Imaging (1)
Imaging	Deep-learning based reconstruction of the stomach from monoscopic video data	Ralf Hackner (Fraunhofer IIS, Germany); Martin Raithel (Malteser Waldkrankenhaus St. Marien, Germany); Edgar Lehmann (E & L Medical Systems, Germany); Thomas Wittenberg (Fraunhofer Institute for Integrated Circuits IIS & University Erlangen, Germany)	A3.6	Imaging (1)
Modelbased Personalised Medicine	Wearable Pressure Sensing for Vojta Therapy Guidance	Steffen Büchner and Christian Gibas (University of Siegen, Germany); Nina Nemcová (International Vojta Society, SPZ DRK Kinderklinik Siegen); Wolfram Müller (International Vojta Society, SPZ DRK Kinderklinik Siegen, Germany); Katrin Schürholz (International Vojta Society, SPZ DRK Kinderklinik Siegen, Germany); Rainer Brück (University of Siegen, Germany)	B3.1	Modelbased Personalised Medicine (1)
Modelbased Personalised Medicine	In-silico adaptation of a myofibroblast electrophysiology model including intracellular calcium handling	Jorge Patricio Sánchez (Karlsruhe Institute of Technology (KIT), Germany); Beatriz Trénor and Javier Saiz (Universitat Politècnica de València, Germany); Olaf Doessel and Axel Loewe (Karlsruhe Institute of Technology (KIT), Germany)	B3.2	Modelbased Personalised Medicine (1)
Modelbased Personalised Medicine	Automated incisional hernia characterization by non-rigid registration of CT images - a pilot study	Samuel Voß (University of Magdeburg & Research Campus STIMULATE, Germany); Philipp Lösel (Interdisciplinary Center for Scientific Computing, Germany); Sylvia Saalfeld and Philipp Berg (University of Magdeburg, Germany); Vincent Heuveline (Interdisciplinary Center for Scientific Computing, Germany); Friedrich Kallinowski (University Hospital Heidelberg, Germany)	B3.3	Modelbased Personalised Medicine (1)
Modelbased Personalised Medicine	Characteristics in Wideband Acoustic Immittance Measurements and their Underlying Mechanical Causes	Benjamin Sackmann and Michael Lauxmann (Reutlingen University, Germany)	B3.4	Modelbased Personalised Medicine (1)

Modelbased Personalised Medicine	Optimization Framework to Identify Constitutive Law Parameters of the Human Heart	Ekaterina Kovacheva (Karlsruhe Institute of Technology (KIT), Germany); Lukas Baron (IBT, Germany); Steffen Schuler, Tobias Gerach, Olaf Doessel and Axel Loewe (Karlsruhe Institute of Technology (KIT), Germany)	B3.5	Modelbased Personalised Medicine (1)
Biomaterials and Implants	Development of a multi-well-chip for studying 2D and 3D tumor cell migration and spheroid growth in electrical fields	Benjamin Karem Naggay, Tobias Schmidt and Karen Ende (Reutlingen University, Germany); Ralf Kemkemer (Max Planck Institute for Medical Research & Reutlingen University, Germany)	C3.1	Biomaterials and Implants: Cell-, Surface- and Drug-Based Material Innovations (2)
Biomaterials and Implants	Degradable dual co-electrospun polyester based nonwovens for guided tissue regeneration	Stefan Oschatz (Universitätsmedizin Rostock, Germany); Thomas Eickner (Rostock University Medical Center, Germany); Thomas Reske (Institute for ImplantTechnology and Biomaterials e. V., Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany); Jana Markhoff (University Medical Center Rostock, Germany); Niels Grabow (Universität Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e. V., Germany)	C3.2	Biomaterials and Implants: Cell-, Surface- and Drug-Based Material Innovations (2)
Biomaterials and Implants	Immobilizing hydrolytic active Papain on biodegradable PLLA for biofilm inhibition in cardiovascular applications	Michael Teske (University Medical Center Rostock, Germany); Tina Kießlich (Das Helmholtz-Zentrum Dresden-Rossendorf, Germany); Julia Fischer and Hubert Bahl (Universität Rostock, Germany); Katharina Wulf (University Medical Center Rostock, Germany); Thomas Eickner (Rostock University Medical Center, Germany); Niels Grabow (Universität Rostock, Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany)	C3.3	Biomaterials and Implants: Cell-, Surface- and Drug-Based Material Innovations (2)
Biomaterials and Implants	Initial study on removing cellular residues from hydrostatic high-pressure treated allogeneic tissue using ultrasound	Christoph Drobek (University of Rostock, Germany); Janine Waletzko (Universitätsmedizin Rostock, Germany); Volker Weißmann (University of Applied Sciences Technology, Business and Design, Germany); Stefan Seehafer and Robert Mau (University of Rostock, Germany); Anika Jonitz-Heincke (University Medicine Rostock, Germany); Rainer Bader (Universität Rostock, Germany); Daniela Schwerdt (University of Applied Sciences Technology, Business and Design, Germany); Michael Dau (University Medical Centre Rostock, Germany); Bernhard Frerich (Universität Rostock, Germany); Hermann Seitz (University of Rostock, Germany)	C3.4	Biomaterials and Implants: Cell-, Surface- and Drug-Based Material Innovations (2)

Biomaterials and Implants	Protein Adsorption Hysteresis and Transient States of Fibrinogen and BMP-2 as Model Mechanisms for Proteome-Binding to Implants	Herbert Jennissen (Universität Duisburg-Essen, Germany); Daniel-Debastian Dohle (Universität Mainz, Germany); Thomas Zumbrink and Michael Meißner (Universität Duisburg-Essen, Germany)	C3.5	Biomaterials and Implants: Cell-, Surface- and Drug-Based Material Innovations (2)
Biomaterials and Implants	Development of patient-specific drug-releasing round window implants for the treatment of inner ear diseases	Farnaz Matin and Gao Ziwen (Medizinische Hochschule Hannover, Germany); Felix Repp (OtoJig GmbH, Germany); Samuel John (HörSys GmbH, Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Verena Scheper (Hannover Medical School & Cluster of Excellence Hearing4all, German Research Foundation, Germany)	C3.6	Biomaterials and Implants: Cell-, Surface- and Drug-Based Material Innovations (2)
Bildgestützte navigierte Intervention (PM)	Bernoulli effect exacerbates malperfusion of the femoral-arterial cannulated leg during ECLS - an in silico study	Markus Bongert (University of Applied Sciences and Arts, Germany); Johannes Gehron, Andreas Böning and Philippe Grieshaber (University Hospital Gießen and Marburg, Germany)	D3.1	Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	Developing an Intuitive and Feasible Setup for In-room Control During MRI-guided Interventions	C. Martin Reich and Michael Unger (University Leipzig, Germany); Leon Melzer (Leipzig University, Germany); Thies Jochimsen, Bernhard Sattler and Osama Sabri (University Hospital Leipzig, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	D3.2	Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	Fully Data-Driven Pseudohealthy Synthesis for Planning Valve-Sparing Aortic Root Reconstruction using Conditional Variational Autoencoders	Jannis Hagenah, Mohamad Mehdi and Floris Ernst (University of Lübeck, Germany)	D3.3	Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	A minimally invasive approach for cochlear implantation: On site manufacturing of patient individual drilling jigs	Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Max Timm and Geraldine Zuniga (Hannover Medical School, Germany); Samuel John, Marcel Kluge, Felix Repp and Jan Stieghorst (OtoJig GmbH, Germany)	D3.4	Image Guided Interventions
Bildgestützte navigierte Intervention (PM)	3D imaging technique for high-resolution slit lamp microscopy in ophthalmology	Lukas Kornelius and Stephan Allgeier (Karlsruhe Institute of Technology (KIT), Germany); Sebastian Bohn (Rostock University Medical Center, Germany); Klaus-Martin Reichert (Karlsruhe Institute of Technology (KIT), Germany); Karsten Sperlich (Rostock University Medical Center, Germany); Oliver Stachs (Universität Rostock, Germany); Bernd Köhler (Karlsruhe Institute of Technology (KIT), Germany)	D3.5	Image Guided Interventions

Bildgestützte navigierte Intervention (PM)	Concept of a flexible endoscope with swiveling camera tip	Axel Boese (Otto-von-Guericke-University Magdeburg, Germany); Christoph Arens (Otto-von-Guericke-University, Magdeburg, Germany); Michael Friebe (Otto-von-Guericke-Universität, Germany)	D3.6	Image Guided Interventions
Focus Session/Special Sessions	How radiologists can use Artificial Intelligence for better clinical decisions	Bjoern Heismann (Siemens Healthineers, Germany)	E3.1	Medical Technologies and Society
Medizintechnik und Gesellschaft	Standardization of in vitro testing for cardiovascular implants in the era of European Medical Device Regulation	Wolfram Schmidt (Universität Rostock, Germany); Christoph Brandt-Wunderlich (Institute for ImplantTechnology and Biomaterials, Germany); Anja Kurzhals (Universitätsmedizin Rostock - Institut für Biomedizinische Technik, Germany); Michael Stiehm (Institute for ImplantTechnology and Biomaterials e. V.); Sebastian Kaule (Institute for ImplantTechnology and Biomaterials e. V. & Universität Rostock, Germany); Stefan Siewert, Andrea Bock and Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e. V., Germany); Niels Grabow (Universität Rostock, Germany)	E3.2	Medical Technologies and Society
Medizintechnik und Gesellschaft	Medical Device Regulation and current challenges for the implementation of new technologies	Sebastian Kaule (Institute for ImplantTechnology and Biomaterials e. V. & Universität Rostock, Germany); Ernst Klar (Universitätsmedizin Rostock, Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Matthias Leuchter (Universitätsmedizin Rostock, Germany); Ariane Dierke (Institute for ImplantTechnology and Biomaterials e. V., Germany); Marek Zygmunt (Universitätsmedizin Greifswald, Germany); Wolfram Schmidt and Niels Grabow (Universität Rostock, Germany); Andrea Bock, Klaus-Peter Schmitz and Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany); Michael Stiehm (University of Rostock & Germany, Germany)	E3.3	Medical Technologies and Society
Medizintechnik und Gesellschaft	First detected cases of service shortages regarding medicinal product using patients in pandemic isolation	Stephan J. Schließmann (University of Würzburg & MainSport, Research and Ethics, Seligenstadt, Germany); Stefanie Rödiger (MainSport, Research and Ethics, Seligenstadt, Germany)	E3.4	Medical Technologies and Society
Focus Session/Special Sessions	Minimal invasive Extracorporeal Circulation and reduced anticoagulation strategies - less bleeding after coronary surgery?	Adrian Bauer (MediClin Herzzentrum Coswig, Germany)	F3.1	New Aspects in Cardiovascular Perfusion

Focus Session/Special Sessions	Optimized mechanical rinsing to improve packed red blood cells	Nicola Kwapil (Friedrich-Alexander-Universität Erlangen-Nürnberg & Universitätsklinikum Erlangen, Germany); Robert Cesnjevar (Freidrich-Alexander-Universität Erlangen-Nürnberg, Germany); Folker Wenzel (Hochschule Furtwangen, Germany); Muhannad Alkassar, Manfred Rauh, Robert Zimmermann and Frank Münch (Freidrich-Alexander-Universität Erlangen-Nürnberg, Germany)	F3.2	New Aspects in Cardiovascular Perfusion
Focus Session/Special Sessions	Monitoring of myocardial microcirculation in ex vivo machine perfusion of donor hearts	Lars Saemann (University Hospital Heidelberg & Furtwangen University, Germany); Folker Wenzel (Hochschule Furtwangen, Germany); Gábor Veres, Sevil Korkmaz-Içöz and Matthias Karck (University Hospital Heidelberg, Germany); Gábor Szabó (University Heidelberg, Germany)	F3.3	New Aspects in Cardiovascular Perfusion
Imaging	A method to determine the radial compliance of porcine coronary arteries ex vivo via optical coherence tomography	Christoph Brandt-Wunderlich (Institute for ImplantTechnology and Biomaterials, Germany); Franziska Bonin and Wolfram Schmidt (University Medical Center Rostock, Germany); Swen Großmann (Institute for ImplantTechnology and Biomaterials e. V., Germany); Michael Stiehm (Institute for ImplantTechnology and Biomaterials e.V., Germany); Alper Öner (Rostock University Medical Center, Germany); Niels Grabow (University Medical Center Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials e.V., Germany); Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany)	A4.1	Imaging (2)
Imaging	EIT based intrathoracic pulsatile impedance measurements during apnea: a case study	Sabine Krueger-Ziolek (Furtwangen University, Germany); András Lovas and Fatime Hawchar (University of Szeged, Hungary); Bernhard Laufer (Institute of Technical Medicine, Germany); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany)	A4.2	Imaging (2)
Imaging	Automated Cephalometric Landmark Localization using a Coupled Shape Model	Andreas Wirtz (Fraunhofer Institute for Computer Graphics Research & TU Darmstadt, Germany); Julian Lam and Stefan Wesarg (Fraunhofer Institute for Computer Graphics Research, Germany)	A4.3	Imaging (2)

Imaging	Estimating regional pulmonary blood flow in EIT with regularized deconvolution with a Tikhonov regularization	Xenia Augustin (Karlsruhe Institute of Technology, Germany); Michael Kircher (Karlsruhe Institute of Technology (KIT), Germany); Birgit Stender (Drägerwerk AG & Co. KGaA, Germany); Thomas Bluth and Marcelo Gama de Abreu (Pulmonary Engineering Group Dresden, University Hospital Carl Gustav Carus, Germany); Olaf Doessel (Karlsruhe Institute of Technology (KIT), Germany)	A4.4	Imaging (2)
Focus Session/Special Sessions	Hyperspectral imaging (HSI) as a new diagnostic tool in free flap monitoring for soft tissue reconstruction	Lukas H. Kohler (Leipzig University Hospital, Germany); Hannes Köhler (University of Leipzig, Innovation Center Computer Assisted Surgery (ICCAS), Germany); Simon Kohler (Leipzig University Hospital, Germany); Ines Gockel (University Hospital of Leipzig, Germany); Stefan Langer, Rima Nuwayhid and Nick Spindler (Leipzig University Hospital, Germany); Georg Osterhoff (University Hospital Leipzig, Germany)	A4.5	Imaging (2)
Modelbased Personalised Medicine	Sensitivity analysis of a computer model of neonatal oxygen transport	Veronika Huttova and Jakub Rafl (Czech Technical University in Prague, Czech Republic); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany); Thomas Bachman, Petr Kudrna and Martin Rožánek (Czech Technical University in Prague, Czech Republic)	B4.1	Modelbased Personalised Medicine (2)
Modelbased Personalised Medicine	A rule-based expert system for real-time feedback-control in deep brain stimulation	Rene Peter Bremm (Centre Hospitalier de Luxembourg & University of Luxembourg, Luxembourg); Klaus Peter Peter Koch (Trier University of Applied Sciences, Germany); Rejko Krüger (University of Luxembourg, Luxembourg); Frank Hertel (Centre Hospitalier de Luxembourg, Luxembourg); Jorge Gonçalves (University of Luxembourg, Luxembourg)	B4.2	Modelbased Personalised Medicine (2)
Modelbased Personalised Medicine	3D-Printed Cardiovascular Phantoms - Planning of Surgical and Interventional Therapies	Maximilian Grab (Ludwig-Maximilians University, Munich, Germany); Adrian Curta (Ludwig-Maximilians Universität München, Germany); Sabrina Frenzel (Technische Universität München, Germany); Nikolaus A. Haas (Ludwig Maximilians University Munich, Germany); Carina Hopfner and Nikolaos Tsilimparis (Ludwig-Maximilians Universität München, Germany); Christian Hagl and Nikolaus Thierfelder (Ludwig-Maximilians University, Munich, Germany)	B4.3	Modelbased Personalised Medicine (2)

Modelbased Personalised Medicine	Reduced order modeling for finite difference cardiac bidomain	Riasat Khan (North South University, Bangladesh & New Mexico State University, USA); Kwong T Ng (New Mexico State University, USA); A N M Shahebul Hasan (American International University-Bangladesh, Bangladesh & New Mexico State University, USA)	B4.4	Modelbased Personalised Medicine (2)
Modelbased Personalised Medicine	Developments in Modelling Bone Screwing	Jack A Wilkie (Hochschule Furtwangen, Germany); Paul Docherty (University of Canterbury, New Zealand); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany)	B4.5	Modelbased Personalised Medicine (2)
Modelbased Personalised Medicine	Analysis and visualisation of tremor dynamics in deep brain stimulation patients	Rene Peter Bremm (Centre Hospitalier de Luxembourg & University of Luxembourg, Luxembourg); Klaus Peter Peter Koch (Trier University of Applied Sciences, Germany); Rejko Krüger and Jorge Gonçalves (University of Luxembourg, Luxembourg); Frank Hertel (Centre Hospitalier de Luxembourg, Luxembourg)	B4.6	Modelbased Personalised Medicine (2)
Biomaterials and Implants	Hierarchically Micro- and Nanostructured Surfaces for Dental Implant Abutments	Patrick W Doll (Karlsruher Institut für Technologie (KIT), Germany); Ayman Husari (Medical Center - University of Freiburg, Germany); Ralf Ahrens (Karlsruher Institut für Technologie (KIT), Germany); Bruno Spindler (MedTeOr GmbH & Co KG, Germany); Thorsten Steinberg and Ali Al-Ahmad (Medical Center - University of Freiburg, Germany); Andreas Guber (Karlsruher Institut für Technologie (KIT), Germany)	C4.1	Biomaterials and Implants: Manufacturing and Evaluation of Novel Biomaterials (3)
Biomaterials and Implants	Investigating dynamic-mechanical properties of multi-layered materials for biomedical applications	Nicklas Fiedler (Rostock University Medical Center, Germany); Daniela Arbeiter (Universität Rostock, Germany); Kerstin Schümann (Rostock University Medical Center, Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany); Niels Grabow (Universität Rostock, Germany)	C4.2	Biomaterials and Implants: Manufacturing and Evaluation of Novel Biomaterials (3)
Biomaterials and Implants	Development of UV-Reactive Electrospinning Method Based on Poly(ethylene glycol) diacrylate Crosslinking	Jennifer Huling (University Medicine Rostock & Institute for Biomedical Engineering, Germany); Beate Lyko (Rostock University Medical Center, Germany); Sabine Illner (University Medical Center Rostock & Institute for Biomedical Engineering, Germany); Nicklas Fiedler (Rostock University Medical Center, Germany); Niels Grabow (Universität Rostock, Germany); Michael Teske (University Medical Center Rostock, Germany)	C4.3	Biomaterials and Implants: Manufacturing and Evaluation of Novel Biomaterials (3)

Biomaterials and Implants	PEGDA drug delivery scaffolds prepared with UV curing process	Natalia Rekowska (Medical University of Rostock, Germany); Alexander Riess and Hermann Seitz (University of Rostock, Germany); Michael Teske (University Medical Center Rostock, Germany); Robert Mau (University of Rostock, Germany); Niels Grabow (Universität Rostock, Germany); Thomas Eickner and Jan Konasch (University of Rostock, Germany)	C4.4	Biomaterials and Implants: Manufacturing and Evaluation of Novel Biomaterials (3)
Biomaterials and Implants	Thickness-reduced pericardial tissue for catheter-based aortic heart valve prostheses	Christine Müller (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Alexander Rzany (Max Schaldach-Stiftungsprofessur für Biomedizinische Technik, Germany); Bernhard Hensel (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)	C4.5	Biomaterials and Implants: Manufacturing and Evaluation of Novel Biomaterials (3)
Focus Session/Special Sessions	Impulse Paper of the German National Academy of Science and Engineering: Medical Device Regulation - Effects, Challenges and Scope for National Implementation	Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Thomas Schmitz-Rode (Institute of Applied Medical Engineering AME, RWTH Aachen University, Germany)	D4.1	EAMBES Joint Session: Medical Device Regulations, Standards, Accreditation, Certification
Focus Session/Special Sessions	Medical Device Regulations, Standards, Accreditation, Certification	Almir Badnjevic (University of Sarajevo, Bosnia and Herzegovina)	D4.2	EAMBES Joint Session: Medical Device Regulations, Standards, Accreditation, Certification
Focus Session/Special Sessions	Prediction of medical device failures using machine learning algorithms	Lejla Gurbeta Pokvić (International Burch University, Bosnia and Herzegovina)	D4.3	EAMBES Joint Session: Medical Device Regulations, Standards, Accreditation, Certification

Focus Session/Special Sessions	Medical Device Nomenclature	Leandro Pecchia (University of Warwick, United Kingdom (Great Britain))	D4.4	EAMBES Joint Session: Medical Device Regulations, Standards, Accreditation, Certification
Focus Session/Special Sessions	Introduction Research Alliance Leibniz Health Technologies	Jens Hellwage (Leibniz Gesundheitstechnologien, Germany)	E4.1	Leibniz Health Technologies - From Basic Research to Clinical Practice
Focus Session/Special Sessions	Biophotonic imaging - the medical needs in otolaryngology, head and neck surgery	Orlando Guntinas-Lichius (Universitätsklinikum Jena, Germany); Andreas Dittberner, Rafat Ziadat and Franziska Hoffmann (Jena University Hospital, Germany); Nikolaus Gassler (University Hospital Jena, Germany); Joachim Denzler (Friedrich Schiller University Jena, Germany); Michael Schmitt (Friedrich-Schiller-Universität Jena, Germany); Jürgen Popp (Institut of Photonic Technology, Germany)	E4.2	Leibniz Health Technologies - From Basic Research to Clinical Practice
Focus Session/Special Sessions	Intraoperative diagnosis, monitoring and therapy using spectro-scopic multi-contrast imaging	Michael Schmitt (Friedrich-Schiller-Universität Jena, Germany); Juergen Popp (Friedrich-Schiller University, Germany)	E4.3	Leibniz Health Technologies - From Basic Research to Clinical Practice
Focus Session/Special Sessions	Cold plasma therapy systems for medical application	Thomas von Woedtke (INP Greifswald e.V., Germany); Klaus-Dieter Weltmann (Leibniz-Institute for Plasma Science and Technology Greifswald, Germany)	E4.4	Leibniz Health Technologies - From Basic Research to Clinical Practice
Focus Session/Special Sessions	Living Therapeutic Materials - Hydrogel-confined Bacteria for Smart Drug Delivery	Shrikrishnan Sanakran, Priyanka Dhakane, Shardul Bhusari and Aránzazu del Campo (INM–Leibniz Institute for New Materials, Germany)	E4.5	Leibniz Health Technologies - From Basic Research to Clinical Practice
Magnetics Methods in Medicine	Safety aspects of diagnostic and interventional MRI (invited)	Harald Busse and Timm Denecke (Leipzig University Hospital, Germany)	A5.1	MRI Safety
Focus Session/Special Sessions	New MR instruments and ancillary systems for MR guided procedures	Martin Reich (ICCAS, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	A5.2	MRI Safety

Focus Session/Special Sessions	New developments in numerical and experimental MR image artifact testing and (ASTM) standardization	Tobias Spronk, Jakob Kreutner and Gregor Schaefers (MR:comp GmbH, Germany)	A5.3	MRI Safety
Focus Session/Special Sessions	ASTM based RF heating testing of non-active implants - in-vitro to in-vivo transfer	Manuel Murbach (Murbach EMConsulting, Germany); Thomas Doering, Jakob Kreutner and Gregor Schaefers (MR:comp GmbH, Germany)	A5.4	MRI Safety
Medical Robotics	New Developments in Surgical Robotics, Laparoscopy (Invited)	Jens-Uwe Stolzenburg (Medizinische Fakultät Leipzig, Germany)	B5.1	Medical Robotics (1)
Medical Robotics	Intraoperative motion patterns of surgical microscopes in neurosurgery	Markus Philipp (Karlsruhe Institute of Technology & Carl Zeiss Meditec AG, Germany); Marielena Gutt-Will (University Hospital Bern, Switzerland); Stefan Saur (Carl Zeiss Meditec AG, Germany); Andreas Raabe (University Hospital Bern, Switzerland); Franziska Mathis-Ullrich (Karlsruhe Institute of Technology, Germany)	B5.2	Medical Robotics (1)
Medical Robotics	Efficient Body Registration Using Single-View Range Imaging and Generic Shape Templates	Tolga-Can Çallar, Elmar Rückert and Sven Böttger (Universität zu Lübeck, Germany)	B5.3	Medical Robotics (1)
Medical Robotics	Path Planning for Robotic Camera Guidance in Laparoscopy	Paul Scheikl, Zhebin Jiang and Franziska Mathis-Ullrich (Karlsruhe Institute of Technology, Germany)	B5.4	Medical Robotics (1)
Medical Robotics	Autonomous guidewire navigation using neural networks	Lennart Karstensen, Tobias Behr and Tim Pusch (Fraunhofer IPA, Germany); Franziska Mathis-Ullrich (Karlsruhe Institute of Technology, Germany); Jan Stallkamp (Fraunhofer IPA, Germany)	B5.5	Medical Robotics (1)
Medical Robotics	A simulation environment for visual multi-agent reinforcement learning in robot-assisted laparoscopy	Paul Scheikl, Ulla Scheler, Nikolai Franke and Franziska Mathis-Ullrich (Karlsruhe Institute of Technology, Germany)	B5.6	Medical Robotics (1)
Implantierbare Assistenzsysteme (KI + PM) und Rehabilitationstechnik (PM)	Comparison of resistive and optical strain measurement for early fracture detection	Alina Carabello (Chemnitz University of Technology, Germany); Constanze Neupetsch (Fraunhofer Institute for Machine Tools and Forming Technology IWUFraunhofer, Germany); Dirk Zajonz (Zeisigwaldkliniken BETHANIEN Chemnitz, Germany); Michael Werner and Christian Rotsch (Fraunhofer-Institut für Werkzeugmaschinen und Umformtechnik, Germany); Welf-Guntram Drossel (Fraunhofer Institute for Machine Tools and Forming Technology IWU, Germany)	C5.1	Neural Engineering and Rehabilitation

Implantierbare Assistenzsysteme (KI + PM) und Rehabilitationstechnik (PM)	Recognition of tenogenic differentiation using convolutional neural network	Gözde Dursun and Saurabh Balkrishna Tandale (RWTH Aachen University, Germany); Jörg Eschweiler (RWTH Aachen University Clinic, Germany); Mersedeh Tohidnezhad, Bernd Markert and Marcus Stoffel (RWTH Aachen University, Germany)	C5.2	Neural Engineering and Rehabilitation
Implantierbare Assistenzsysteme (KI + PM) und Rehabilitationstechnik (PM)	Comparison of Results from a Spasticity Assessment of the Ankle Joint using the Tardieu Scale and EMG Activity Recorded Simultaneously in Stroke Patients	Thordur Helgason (Landspítali - University Hospital, Iceland)	C5.3	Neural Engineering and Rehabilitation
Implantierbare Assistenzsysteme (KI + PM) und Rehabilitationstechnik (PM)	Dynamics of intermuscular coupling in unilateral transfemoral amputees	Cristian Pasluosta, Thomas Krauskopf and Torben Lauck (IMTEK, University of Freiburg, Germany); Lukas Klein (Medical Center, Faculty of Medicine, University of Freiburg, Germany); Marc Mueller (Sanitätshaus Pfänder, Germany); Georg Herget (Medical Center, Faculty of Medicine, University of Freiburg, Germany); Thomas Stieglitz (Albert-Ludwigs-Universität Freiburg, Germany)	C5.4	Neural Engineering and Rehabilitation
Neuroprothetik und Intelligente Implantate (PM + KI)	Explanted Human Skin Acts as a Serious Alternative to Skin Mimicking Phantom Materials for Electrical Evaluations of AIMDs	Patrick Kiele (Albert-Ludwigs-Universität Freiburg, Germany); Cristian Pasluosta (IMTEK, University of Freiburg, Germany); Thomas Stieglitz (Albert-Ludwigs-Universität Freiburg, Germany)	C5.5	Neural Engineering and Rehabilitation
Neuroprothetik und Intelligente Implantate (PM + KI)	Micro-Riveted Interconnections for Flexible Electrode Arrays	Helen Steins, Rene P. von Metzen and Arij Briki (NMI Natural and Medical Sciences Institute, Germany)	C5.6	Neural Engineering and Rehabilitation
Hygiene und Medizintechnik	6 Years review and Future outlook - The heater cooler unit for extra-corporeal circulation as a source for bacterial infection in open heart surgery	Mirko Kaluza (University Clinic Jena, Germany); Torsten Doenst (Jena University Hospital, Germany)	D5.1	Hygiene and Medical Technologies

Hygiene und Medizintechnik	Proof of Concept for Ozone-Based Disinfection of Heater Cooler Units	Markus Bongert (University of Applied Sciences and Arts, Germany); Jan Wüst (Fachhochschule Dortmund, Germany); Justus Strauch and Dirk Buchwald (Universitätsklinikum Bergmannsheil Bochum, Germany)	D5.2	Hygiene and Medical Technologies
Hygiene und Medizintechnik	VDI status report for the performance description of antimicrobial surface materials and active ingredients: Test procedures and regulatory framework	Clemens Bulitta (Ostbayerische Technische Hochschule (OTH), Germany)	D5.3	Hygiene and Medical Technologies
Hygiene und Medizintechnik	Integration of antimicrobial substances in 3-D printed plastics	Sebastian Buhl (Ostbayerische Technische Hochschule Amberg-Weiden, Germany); Jeannine Vogt (Technical University of Applied Science Amberg-Weiden, Germany); Alexander Stich (Ostbayerische Technische Hochschule Amberg-Weiden, Germany); Ralph Brückner (HECOSOL GmbH Bamberg, Germany); Clemens Bulitta (Ostbayerische Technische Hochschule (OTH), Germany)	D5.4	Hygiene and Medical Technologies
Hygiene und Medizintechnik	Durability and stability of antimicrobial coated surfaces	Sebastian Buhl (Ostbayerische Technische Hochschule Amberg-Weiden, Germany); Jonas Peter (Technical University of Applied Science Amberg-Weiden, Germany); Alexander Stich (Ostbayerische Technische Hochschule Amberg-Weiden, Germany); Ralph Brückner (HECOSOL GmbH Bamberg, Germany); Clemens Bulitta (Ostbayerische Technische Hochschule (OTH), Germany)	D5.5	Hygiene and Medical Technologies
Hygiene und Medizintechnik	Clinical validation and efficacy of a temperature-controlled ventilation system (TcAF) in the OR to reduce surgical site infections	Sergeii Vasiuk and Yaroslav Vasylychshyn (Swedish-Ukrainian Clinic Angelholm Ltd, Ukraine); Volodymyr Vasyuk (Bukovinian State Medical University, Ukraine); Regina Guttenberger (Technical University of Applied Science Amberg-Weiden, Germany); Sebastian Buhl (Ostbayerische Technische Hochschule Amberg-Weiden, Germany); Clemens Bulitta (Ostbayerische Technische Hochschule (OTH), Germany)	D5.6	Hygiene and Medical Technologies
Hygiene und Medizintechnik	Relevance and implications of positioning analysis for infection-preventive effectiveness of ventilation systems with low-turbulence displacement flow	Burkhard Schlautmann (Avidicare AB, Sweden); Clemens Bulitta (Ostbayerische Technische Hochschule (OTH), Germany)	D5.7	Hygiene and Medical Technologies
Hygiene und Medizintechnik	Constructional requirements of medical devices for hygienic design	Sebastian Buhl (Ostbayerische Technische Hochschule Amberg-Weiden, Germany)	D5.8	Hygiene and Medical Technologies
Hygiene und Medizintechnik	Usability und Hygiene - Wo liegen die Schnittstellen ausregulatorischer Sicht?	Sebastian Buhl (Ostbayerische Technische Hochschule Amberg-Weiden, Germany); Torsten Gruchmann (Use-Lab GmbH, Germany)	D5.9	Hygiene and Medical Technologies

Hygiene und Medizintechnik	Building an Effective Hygiene Management System	Lena Schomakers, Susan Lindner and Marcus Grohmann (HTK Hygiene Technologie Kompetenzzentrum GmbH, Germany)	D5.10	Hygiene and Medical Technologies
Biosignale (KI + PM)	Needs for better monitoring in Neonatology (invited)	Ulrich Thome (Universitätsklinikum Leipzig, Germany)	E5.1	Biosignals (1)
Biosignale (KI + PM)	Towards non-invasive fetal blood oxygen level acquisition: ECG-triggered separation of superimposed PPG	Marvin Schubert (THM, Germany); Fars Samann (University of Duhok, Iraq); Thomas Schanze (Technische Hochschule Mittelhessen THM, Germany)	E5.2	Biosignals (1)
Biosignale (KI + PM)	Automatic detection of pediatric craniofacial deformities using Convolutional Neural Networks	Sonja Wattendorf (University of Applied Sciences Giessen, Germany); Seyed Amir Hossein Tabatabaei (JL-Universität Giessen, Germany); Patrick Fischer (Institute of Medical Informatics, Faculty of Medicine, Justus-Liebig-University Giessen, Germany); Hans-Peter Howaldt and Martina Wilbrand (University Hospital Giessen, Germany); Jan-Falco Wilbrand (Diakonie-Klinikum Jung-Stilling, Germany); Keywan Sohrabi (Technische Hochschule Mittelhessen, Germany)	E5.3	Biosignals (1)
Biosignale (KI + PM)	Use of Electrical Impedance Spectroscopy to Distinguish Cancer from Normal Tissues with a Four Electrode Terminal Setup	Viviane Silva Teixeira (Technical University of Hamburg, Germany); Vera Labitzky and Udo Schumacher (Universitätsklinikum Hamburg-Eppendorf (UKE), Germany); Wolfgang Krautschneider (Hamburg University of Technology, Germany)	E5.4	Biosignals (1)
Biosignale (KI + PM)	Introducing a Linear Gamma Variate Fit to Measure Pulmonary Perfusion with Electrical Impedance Tomography	Felix Schuderer (Karlsruhe Institute of Technology, Germany); Michael Kircher (Karlsruhe Institute of Technology (KIT), Germany); Birgit Stender (Drägerwerk AG & Co. KGaA, Germany); Thomas Bluth and Marcelo Gama de Abreu (Pulmonary Engineering Group Dresden, University Hospital Carl Gustav Carus, Germany); Olaf Doessel (Karlsruhe Institute of Technology (KIT), Germany)	E5.5	Biosignals (1)
Assisted Living	Knetex - Development of a textile-integrated sensor system for feedback-supported rehabilitation after surgery of the anterior cruciate ligament	Julia Demmer and Andreas Kitzig (Niederrhein University of Applied Sciences, Germany); Nana Schlage (Niederrhein University of Applied Science, Germany); Gudrun Stockmanns (Niederrhein University of Applied Sciences, Germany); Edwin Naroska (University of Applied Sciences Niederrhein, Germany)	F5.1	AAL (1)

Assisted Living	Sensation thresholds in electrocutaneous stimulation: Comparison of textile cuff and TENS electrodes	Eva-Maria Dölker (Technische Universität Ilmenau, Germany); Alkisah binti Mubin (Universiti Teknologi Malaysia & Faculty of Biosciences and Medical Engineering, Johor Bahru, Malaysia); Eko Supriyanto (UTM, Malaysia); Elke Haase and Sybille Krzywinski (Technische Universität Dresden, Germany); Jens Haueisen (Technische Universität Ilmenau, Germany)	F5.2	AAL (1)
Assisted Living	Machine Learning Techniques for Parkinson's Disease Detection using Wearables during a Timed-up-and-Go-Test	David Pedrosa (Philipps-University Marburg, Germany); Seyed Amir Hossein Tabatabaei (JL-Universität Giessen, Germany); Patrick Fischer (Institute of Medical Informatics, Faculty of Medicine, Justus-Liebig-University Giessen, Germany); Max Wullstein, Urs Kleinholdermann and Carsten Eggers (Philipps-University Marburg, Germany); Keywan Sohrabi (Technische Hochschule Mittelhessen, Germany)	F5.3	AAL (1)
Assisted Living	A Concept for Context Awareness in Smart Environments	Jochen Bauer (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Thomas Wittenberg (Fraunhofer Institute for Integrated Circuits IIS & University Erlangen, Germany); Klemens Waldhör (FOM Hochschule für Ökonomie und Management & Heartsome Europe GmbH, Germany); Michael Hechtel, Martin Holzwarth and Julian Sessner (Lehrstuhl für Fertigungsautomatisierung und Produktionssystematik, Germany); Bruno Ristok (C&S Computer und Software GmbH, Germany); Florian Böhle (EasierLife GmbH, Germany); Annamaria Schena and Annarita Falanga (Villa delle Ginestre S. r. l., Germany); Jörg Franke (FAU Erlangen-Nuremberg, Germany)	F5.4	AAL (1)
Assisted Living	ForeSight - AI based Smart Living Platform Approach	Jochen Bauer (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Hilko Hoffmann (Deutsches Forschungszentrum für Künstliche Intelligenz, Germany); Ingo Zinnikus (DFKI GmbH, Germany); Thomas Feld (Strategion GmbH, Germany); Mathias Runge (Connctd GmbH, Germany); Oliver Hinz (Goethe University Frankfurt, Germany); Michael Hechtel, Christoph Konrad, Martin Holzwarth, Andreas Mayr and Sven Schneider (Lehrstuhl für Fertigungsautomatisierung und Produktionssystematik, Germany); Jörg Franke (FAU Erlangen-Nuremberg, Germany)	F5.5	AAL (1)
Assisted Living	Skeleton-based 3D real-time activity detection in living environments for elderly	Lars Lehmann and Gangolf Hirtz (Chemnitz University, Germany); Roman Seidel (Chemnitz University of Technology, Germany)	F5.6	AAL (1)

Assisted Living	Contactless Interactive Fall Detection and Sleep Quality Estimation for Supporting Elderly with Incipient Dementia	Roman Seidel and Tobias Scheck (Chemnitz University of Technology, Germany); Ana C Perez Grassi (Technische Universität Chemnitz, Germany); Julian B. Seuffert, André Apitzsch and Jingrui Yu (Chemnitz University of Technology, Germany); Norbert Nestler and Danny Heinz (Technische Universität Chemnitz, Germany); Lars Lehmann (Chemnitz University, Germany); Anne Goy (Chemnitz University of Technology, Germany); Gangolf Hirtz (Chemnitz University, Germany)	F5.7	AAL (1)
Focus Session/Special Sessions	Spannungsfeld MDR: zwischen Patientensicherheit, Praktikabilität und Innovation	Ernst Klar (Universitätsmedizin Rostock, Germany)	.1	Keynote
Focus Session/Special Sessions	Panel MDR	Ernst Klar (Universitätsmedizin Rostock, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain)); Thomas Schmitz-Rode (Institute of Applied Medical Engineering AME, RWTH Aachen University, Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany)	.1	Panel MDR
Focus Session/Special Sessions	Advanced electrochemical sensor methods turn neural implant electrodes into long-term stable sensors	Andreas Weltin and Dev Ganatra (University of Freiburg, Germany); Kevin Joseph (Neuroelectronic Systems, Germany); Ulrich Hofmann (Uniklinik Freiburg, Germany); Gerald Urban (Albert-Ludwigs-Universität Freiburg, Germany); Jochen Kieninger (University of Freiburg, Germany)	A6.1	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants
Focus Session/Special Sessions	Spectrally selective activation of the auditory nerve using an optical cochlear implant based on thin-film micro LEDs	Eric Klein (University of Freiburg, Germany); Alexander Dieter, Daniel Keppeler, Lukasz Jablonski, Tamas Harcos, Gerhard Hoch, Vladan Rankovic and Marcus Jeschke (University Medical Center Göttingen, Germany); Oliver Paul (Albert-Ludwigs-Universität Freiburg, Germany); Tobias Moser (University Medical Center Göttingen, Germany); Patrick Ruther (Albert-Ludwigs-Universität Freiburg, Germany)	A6.2	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants

Focus Session/Special Sessions	Modelling Electrochemical-Structural Failure Mechanisms in Active Medical Implanted Devices (AMID)	Theodor Doll (Medizinische Hochschule Hannover, Germany); Achim Hassel (Linz University, Austria); Jan Kollender (University Linz, Austria); Thomas Stieglitz (Albert-Ludwigs-Universität Freiburg, Germany); Adrian Onken (Jade Hochschule Wilhelmshaven, Germany); Yuyang Mao (Leibniz University Hannover, Germany); Athanasia Warnecke (Hanover Medical School, Germany); Ivan Pechenizkiy (MH Hannover, Germany)	A6.3	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants
Focus Session/Special Sessions	The role of structural biocompatibility for tissue integration of intra-cortical neural probes	Maria Asplund (University of Freiburg); Maria Vomero (University of Freiburg, Germany); Francesca Ciarpella (Italian Institute of Technology, Ferrara, Italy); Matthias Kirsch (University of Freiburg, Germany); Luciano Fadiga (Istituto Italiano di Tecnologia, Italy); Thomas Stieglitz (Albert-Ludwigs-Universität Freiburg, Germany)	A6.4	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants
Focus Session/Special Sessions	Plasma-Coatings for controlled adhesion processes on inner ear prostheses	Athanasia Warnecke (Hanover Medical School, Germany)	A6.5	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants
Focus Session/Special Sessions	Rodent models for adaptive stimulation in neurological disorders	Assel Saryyeva (Medical School Hannover, Germany)	A6.6	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants
Focus Session/Special Sessions	Cadaver studies help to refine the design space for micromachined auditory implants and associated surgical tools	Thomas Stieglitz and Paul Cvancara (Albert-Ludwigs-Universität Freiburg, Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Rolf Salcher (Hanover Medical School, Germany)	A6.7	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants

Focus Session/Special Sessions	Multimodal polyimide-based μ -DBS device tailored for rat's brain	Thomas Stieglitz (Albert-Ludwigs-Universität Freiburg, Germany); Volker Coenen and Máté Döbrössy (University Medical Center Freiburg, Germany); Danesh Ashouri Vajari (University of Freiburg, Germany)	A6.8	Micro-Implant-Translation: Approaches Towards Long-Term Stability and Functionality of Active Implants
Medical Robotics	New Developments in Surgical Robotics, Endourology	Jens Rassweiler (SLK Kliniken Heilbronn GmbH, Germany)	B6.1	Medical Robotics (2)
Medical Robotics	Robot-assisted Ultrasound-guided Tracking of Anatomical Structures for the Application of Focused Ultrasound	Michael Unger (University Leipzig, Germany); Johann Berger (Innovation Center Computer Assisted Surgery (ICCAS), Universität Leipzig, Germany); Bjoern Gerold (Theralion SA, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	B6.2	Medical Robotics (2)
Medical Robotics	Multipolar Stimulation Probe for Robotic Cochlear Implantation	Celine Wegner and Maria Rombach (Inomed Medizintechnik GmbH, Germany); Juan Anso (University of Bern, Switzerland); Andreas Holzner, Marco Matulic and Stefan Weber (CAScination AG, Switzerland); Cilgia Dür (Inselspital Bern, Switzerland); Frederic Venail (CHU Montpellier, France); Thilo Krüger (Inomed Medizintechnik GmbH, Germany)	B6.3	Medical Robotics (2)
Medical Robotics	Robotic Assistance System for Cone Beam Computed Tomography-guided Needle Placement	Andreas J Rothfuss (BEC GmbH, Germany); Philipp Lautenschläger (Fraunhofer IPA, Germany); Simon Störk (BEC GmbH, Germany); Markus Kühne (Fraunhofer IPA, Germany); Matthias Buck (BEC GmbH, Germany); Jan Stallkamp (Fraunhofer IPA, Germany)	B6.4	Medical Robotics (2)
Medical Robotics	A Collaborative and Integrated Robotic System for the Application in Image-Guided Interventions	Johann Berger (Innovation Center Computer Assisted Surgery (ICCAS), Universität Leipzig, Germany); Johannes Keller (Innovation Center Computer Assisted Surgery (ICCAS), Germany); Michael Unger (University Leipzig, Germany); Lisa Landgraf (ICCAS, Germany); Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	B6.5	Medical Robotics (2)
Medical Robotics	Telemanipulation of an Articulated Robotic Arm using a Commercial Virtual Reality Controller	Max B. Schäfer, Kent W. Stewart and Nico Lösch (University of Stuttgart, Germany); Peter P. Pott (Universität Stuttgart, Germany)	B6.6	Medical Robotics (2)
Patient Monitoring (KI)	Klinische Betrachtung eines integrierten OP Saal's (invited)	Markus Pirlich (University of Leipzig, Germany)	C6.1	Hemodynamic Monitoring in Acute Care

Patient Monitoring (KI)	Multi-sensors in cardiac surgery: How many sensors do you need to keep a patient alive?	Dirk Buchwald (Universitätsklinikum Bergmannsheil Bochum, Germany)	C6.2	Hemodynamic Monitoring in Acute Care
Patient Monitoring (KI)	Single-Signal Noninvasive Blood Pressure Estimation	Alexandru-Gabriel Pielmus and Michael Klum (Technische Universität Berlin, Germany); Mike Urban (Technische Universität Berlin & Osypka Medical GmbH, Germany); Timo Tigges and Reinhold Orglmeister (Technische Universität Berlin, Germany)	C6.3	Hemodynamic Monitoring in Acute Care
Patient Monitoring (KI)	PPG-based blood pressure estimation using residual neural networks and spectrograms	Fabian Schrupf (HTWK Leipzig, University of Applied Sciences, Germany); Patrick Frenzel (HTWK Leipzig, University of Applied Sciences & Laboratory for Biosignal Processing, Germany); Christoph Mönch (HTWK Leipzig, University of Applied Sciences, Germany); Georg Osterhoff (University Hospital Leipzig, Germany); Mirco Fuchs (HTWK Leipzig, University of Applied Sciences, Germany)	C6.4	Hemodynamic Monitoring in Acute Care
Patient Monitoring (KI)	Utilizing automatically estimated facial descriptors for pain detection during surgical interventions	Bianca Reichard and Fabian Schrupf (HTWK Leipzig, University of Applied Sciences, Germany); Franz Anders (Leipzig University of Applied Sciences & Laboratory for Biosignal Processing, Germany); Christoph Mönch (HTWK Leipzig, University of Applied Sciences, Germany); Kerstin Bode (Heart Center Leipzig, Germany); Mirco Fuchs (HTWK Leipzig, University of Applied Sciences, Germany)	C6.5	Hemodynamic Monitoring in Acute Care
Patient Monitoring (KI)	Dual-Lead 55 mm Impedance Pneumography	Michael Klum (Technische Universität Berlin, Germany); Mike Urban (Technische Universität Berlin & Osypka Medical GmbH, Germany); Alexandru-Gabriel Pielmus and Reinhold Orglmeister (Technische Universität Berlin, Germany)	C6.6	Hemodynamic Monitoring in Acute Care
Focus Session/Special Sessions	First results with the active osseointegrated implant system Osia in patients with single-sided deafness	Kerstin Willenborg (Medizinische Hochschule Hannover, Germany); Rolf Salcher (Hannover Medical School, Germany); Hannes Maier (Medical University of Hannover, Germany); Thomas Lenarz and Susan Busch (Medizinische Hochschule Hannover, Germany)	D6.1	Hearing4All: Active Middle Ear Implants
Focus Session/Special Sessions	Effect of ambient pressure changes on coupling efficiency of a middle ear implant actuator	Ute A. Gamm (Medizinische Hochschule Hannover, Germany); Nils Prenzler (Medical School Hannover, Germany); Max Timm (Hannover Medical School, Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Hannes Maier (Medical University of Hannover, Germany)	D6.2	Hearing4All: Active Middle Ear Implants

Focus Session/Special Sessions	Improvement of speech perception of Carina implanted patients by an external speech processor	Thomas Giere and Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Hannes Maier (Medical University of Hannover, Germany)	D6.3	Hearing4All: Active Middle Ear Implants
Focus Session/Special Sessions	Single-Scala Intracochlear Pressure Recordings for Determining Performance of Middle Ear Actuators	Stefan Raufer (Medizinische Hochschule Hannover (MHH), Germany); Martin Grossöhmichen (Hannover Medical School, Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Hannes Maier (Medical University of Hannover, Germany)	D6.4	Hearing4All: Active Middle Ear Implants
Focus Session/Special Sessions	Hyperthermia and interaction with radiotherapy - Preclinical research and clinical application (Invited)	Rolf-Dieter Kortmann (University of Leipzig); Annegret Glasow and Ina Patties (University of Leipzig, Germany)	E6.1	DGMP-Joint Session: Modern Technologies for Radiation Therapy
Focus Session/Special Sessions	A heating coil insert to combine MFH and preclinical MPI	Huimin Wei and André Behrends (Universität zu Lübeck, Germany); Thomas Friedrich (University of Luebeck, Germany); Thorsten M. Buzug (University of Lübeck, Germany)	E6.2	DGMP-Joint Session: Modern Technologies for Radiation Therapy
Focus Session/Special Sessions	Actuation of a magnetically coated swimmer in viscous media with a magnetic particle imaging scanner	Anna C. Bakenecker (University of Luebeck, Germany); Carlos J. Chinchilla and Thorsten M. Buzug (Universität zu Lübeck, Germany)	E6.3	DGMP-Joint Session: Modern Technologies for Radiation Therapy
Magnetics Methods in Medicine	Interlaboratory comparison of static magnetization measurements using two commercial SQUID devices	Patricia Radon, Tilmann Sander-Thoemmes, Uwe Steinhoff and Frank Wiekhorst (Physikalisch-Technische Bundesanstalt, Germany); Zvonko Jaglicic (Institute of Mathematics, Physics and Mechanics University of Ljubljana, Slovenia)	A7.1	Magnetic Methods in Medicine (1)
Magnetics Methods in Medicine	Development of a guidance system made of permanent magnets in Halbach configuration	Yvonne Blancke Soares (Universität zu Lübeck, Germany); Anna C. Bakenecker and Thomas Friedrich (University of Luebeck, Germany); Kerstin Lüdtke-Buzug, Thorsten M. Buzug and Jonas Beuke (Universität zu Lübeck, Germany)	A7.2	Magnetic Methods in Medicine (1)
Magnetics Methods in Medicine	Magnetic Drug Targeting Simulations of a 3D Tumor Vessel Network	Max C Lindemann and Till Luttke (RWTH Aachen University, Germany); Nadine Nottrodt (Fraunhofer ILT, Germany); Thomas Schmitz-Rode (Institute of Applied Medical Engineering AME, RWTH Aachen University, Germany); Ioana Slabu (RWTH Aachen University, Germany)	A7.3	Magnetic Methods in Medicine (1)

Magnetics Methods in Medicine	Velocity simulations of a magnetically steered swimmer	Carlos J. Chinchilla (Universität zu Lübeck, Germany); Anna C. Bakenecker (University of Luebeck, Germany); Thorsten M. Buzug (Universität zu Lübeck, Germany)	A7.4	Magnetic Methods in Medicine (1)
Magnetics Methods in Medicine	Evaluation of the Impact of Static Interference on an Empirical Data Based Static Magnetic Localization Setup for Capsule Endoscopy	Samuel Zeising (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany); Daisuke Anzai (Nagoya Institute of Technology, Japan); Angelika Thalmayer (Friedrich-Alexander-University Erlangen-Nürnberg, Germany); Georg Fischer and Jens Kirchner (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany)	A7.5	Magnetic Methods in Medicine (1)
Biomaterials and Implants	Smart 4D-printed implants and instruments	Michael de Wild (University of Applied Sciences Northwestern Switzerland, FHNW, Switzerland); Sebastian Dany (Hochschule Hamm-Lippstadt, Germany); Christoph John (University of Basel, Switzerland); Felix Schuler (University of Applied Sciences Northwestern Switzerland, FHNW, Switzerland)	C7.1	Biomaterials and Implants: Advances in Novel Implantable Devices (4)
Biomaterials and Implants	Modeling of a Piezo-Electric Hearing Aid Device coupled to a Middle Ear Model	Dmitrii Burovikhin and Michael Lauxmann (Reutlingen University, Germany)	C7.2	Biomaterials and Implants: Advances in Novel Implantable Devices (4)
Biomaterials and Implants	Polymeric stents for the Eustachian tube: development and human cadaver study	Kerstin Schümann (Rostock University Medical Center, Germany); Tamara Wilfling and Gerrit Paasche (Medizinische Hochschule Hannover, Germany); Robert Schuon (Hannover Medical School, Germany); Carsten Tautorat (Rostock University Medical Center, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials, Germany); Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Niels Grabow (Universität Rostock, Germany)	C7.3	Biomaterials and Implants: Advances in Novel Implantable Devices (4)
Biomaterials and Implants	Transcatheter mitral valve repair devices - in vitro studies on the influence of device-width on mitral regurgitation	Robert Ott (Institute for ImplantTechnology and Biomaterials e. V. Rostock - Warnemünde, Germany); Swen Großmann (Institute for ImplantTechnology and Biomaterials e. V., Germany); Alper Öner (Rostock University Medical Center, Germany); Hüseyin Ince (Universität Rostock, Germany); Michael Stiehm (University of Rostock & Germany, Germany); Niels Grabow (Universität Rostock, Germany); Klaus-Peter Schmitz and Stefan Siewert (Institute for ImplantTechnology and Biomaterials e. V., Germany)	C7.4	Biomaterials and Implants: Advances in Novel Implantable Devices (4)

Biomaterials and Implants	Development of a limbal fixation mechanism for a minimally invasive implantable glaucoma microstent	Stefan Siewert and Swen Großmann (Institute for ImplantTechnology and Biomaterials e. V., Germany); Christoph Brandt-Wunderlich (Institute for ImplantTechnology and Biomaterials, Germany); Ariane Dierke (Institute for ImplantTechnology and Biomaterials e. V., Germany); Olga Sahmel (University of Rostock, Germany); Michael Stiehm (Institute for ImplantTechnology and Biomaterials e.V., Germany); Sabine Kischkel (Rostock University Medical Center, Germany); Wolfram Schmidt, Thomas Stahnke and Niels Grabow (Universität Rostock, Germany); Rudolf Guthoff (Universität Rostock & Universitätsaugenklinik Rostock, Germany); Klaus-Peter Schmitz (Institute for ImplantTechnology and Biomaterials, Germany)	C7.5	Biomaterials and Implants: Advances in Novel Implantable Devices (4)
Biomaterials and Implants	A pilot study: development of bone-preserving-biomimetic artificial femoral head cover	Nad Siroros, Yu Liu, Sophie Lecouturier, Markus Tingart and Jörg Eschweiler (RWTH Aachen University Clinic, Germany)	C7.6	Biomaterials and Implants: Advances in Novel Implantable Devices (4)
Automation in Medicine	Hemodynamic Monitoring with an Implantable Sensor Enables Automated Pharmacological Heart Failure Management	Andreas Arndt (BIOTRONIK SE & Co. KG, Germany)	D7.1	Automation in Medicine
Automation in Medicine	Real World Experience with an Optimized Control Scheme for a Ventricular Assist Device	Robert S. Steingrüber and Matthias Kiesner (Berlin Heart GmbH, Germany)	D7.2	Automation in Medicine
Automation in Medicine	Robust predictive control for respiratory CO2 gas removal in closed-loop mechanical ventilation: An in-silico study	Matthias Schmal (Technical University Ilmenau, Germany); Georg Männel (Universität zu Lübeck, Germany); Michael Kircher (Karlsruhe Institute of Technology (KIT), Germany); Thomas Bluth and Marcelo Gama de Abreu (Pulmonary Engineering Group Dresden, University Hospital Carl Gustav Carus, Germany); Jens Haueisen (Technische Universität Ilmenau, Germany); Philipp Rostalski (Universität zu Lübeck & Institute for Electrical Engineering in Medicine, Germany); Birgit Stender (Drägerwerk AG & Co. KGaA, Germany)	D7.3	Automation in Medicine

Automation in Medicine	A novel approach for increasing the traceability of 3D printed medical products	Natalia Matvieieva (Fraunhofer Institute for Machine Tools and Forming Technology, Germany); Constanze Neupetsch (Fraunhofer Institute for Machine Tools and Forming Technology IWUFraunhofer, Germany); Markus Oettel (Fraunhofer Institute for Machine Tools and Forming Technology, Germany); Varun Makdani and Welf-Guntram Drossel (Fraunhofer Institute for Machine Tools and Forming Technology IWU, Germany)	D7.4	Automation in Medicine
Automation in Medicine	The evaluation of synthetic datasets on training AlexNet for surgical tool detection	Ning Ding (ITeM, Hochschule Furtwangen, Germany); Nour Jalal (Institute of Technical Medicine, Germany); Tamer Abdulkaki Alshirbaji (Furtwangen University, Germany); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany)	D7.5	Automation in Medicine
Automation in Medicine	Automatic Detection and Classification of Cough Events Based on Deep Learning	Gabriela Augustinov (Technische Hochschule Mittelhessen, Germany); Patrick Fischer (Institute of Medical Informatics, Faculty of Medicine, Justus-Liebig-University Giessen, Germany); Volker Gross (Technische Hochschule Mittelhessen, Germany); Ulrich Koehler (Philipps-Universität Marburg, Germany); Keywan Sohrabi (Technische Hochschule Mittelhessen, Germany); Seyed Amir Hossein Tabatabaei (JL-Universität Giessen, Germany)	D7.6	Automation in Medicine
Biosignale (KI + PM)	Sparse autoregressive signal modelling and estimation of the l1-regularization parameter	Thomas Schanze (Technische Hochschule Mittelhessen THM, Germany)	E7.1	Biosignals (AI & PM) (2)
Biosignale (KI + PM)	Sleep-stage detection at home: Wearable sleep EEG for automated sleep stage analysis using Mentalab Explore	Sebastian Herberger (Charité Universitätsmedizin Berlin); Mohamad Atayi (Mentalab, Germany); Masooma Fazelian (Embedded System Engineer at Mentalab, Germany); Salman Rahman (Mentalab, Germany); Thomas Penzel (Charité - Universitätsmedizin Berlin, Germany)	E7.2	Biosignals (AI & PM) (2)
Biosignale (KI + PM)	EEG-Based Classification of the Driver Alertness State	Martin Golz, Sebastian Thomas and Adolf Schenka (University of Applied Sciences Schmalkalden, Germany)	E7.3	Biosignals (AI & PM) (2)
Biosignale (KI + PM)	Estimation of transfer function parameters to describe pathological conditions in cardiovascular system models	Urs Hackstein (Technische Hochschule Mittelhessen, Germany); Stefan Krickl (FU Berlin, Germany); Stefan Bernhard (University of Applied Sciences Mittelhessen, Germany)	E7.4	Biosignals (AI & PM) (2)
Biosignale (KI + PM)	Stability assessment of bipolar coronary sinus sequences during atypical atrial flutter	Laura Anna Unger (Karlsruhe Institute of Technology, Germany); Armin Luik and Annika Haas (Städtisches Klinikum Karlsruhe, Germany); Olaf Doessel (Karlsruhe Institute of Technology (KIT), Germany)	E7.5	Biosignals (AI & PM) (2)

Biosignale (KI + PM)	Using Level Set Functions and Gaussian Mixture Models for Skin Segmentation in Imaging Photoplethysmography	Alexander Woyczyk (Fachhochschule Dortmund, Germany); Sebastian Zaunseder (University of Applied Sciences and Arts Dortmund, Germany)	E7.6	Biosignals (AI & PM) (2)
Focus Session/Special Sessions	What can BME do for Deep Space Mission ?	Markus Braun (German Aerospace Center DLR, Germany)	.1	Keynote
Magnetics Methods in Medicine	System design considerations for biomagnetic applications using optically pumped magnetometers	Tilmann Sander-Thoemmes, Maik Liebl, Frank Wiekhorst and Thomas Middelmann (Physikalisch-Technische Bundesanstalt, Germany)	A8.1	Magnetic Methods in Medicine: Bioelectromagnetism (2)
Magnetics Methods in Medicine	Magnetic field compensation coil design for magnetoencephalography	Hermann Sonntag and Burkhard Maess (Max Planck Institute for Human Cognitive and Brain Sciences, Germany)	A8.2	Magnetic Methods in Medicine: Bioelectromagnetism (2)
Magnetics Methods in Medicine	Real-time time-frequency analysis in MNE-CPP	Johannes Vorwerk (Eduard-Wallnöfer-Zentrum 1 & UMIT - Private University for Health Sciences, Medical Informatics and Technology, Austria); Lorenz Esch (Ilmenau University of Technology, Germany); Matthias Klemm and Jens Haueisen (Technische Universität Ilmenau, Germany); Daniel Baumgarten (UMIT - University for Health Sciences, Medical Informatics and Technology, Austria & Technische Universität Ilmenau, Germany)	A8.3	Magnetic Methods in Medicine: Bioelectromagnetism (2)
Magnetics Methods in Medicine	A Fourier transformation based convolutional neural network layer for physics-informed deep learning of magnetic dipole inversion	Nora Küchler and Jens Haueisen (Technische Universität Ilmenau, Germany); Ferdinand Schweser (The State University of New York, USA); Thomas Jochmann (Technische Universität Ilmenau, Germany)	A8.4	Magnetic Methods in Medicine: Bioelectromagnetism (2)
Magnetics Methods in Medicine	PyRates - A Python Toolbox for Neurodynamic Systems Modeling	Richard Gast (Max Planck Institute for Human Cognitive and Brain Sciences, Germany); Thomas Knösche (MPI Leipzig, Germany); Daniel Rose (Max Planck Institute for Human Cognitive and Brain Sciences, Germany)	A8.5	Magnetic Methods in Medicine: Bioelectromagnetism (2)
Magnetics Methods in Medicine	Efficiently localizing cortical representations by combining biophysiological measurements with electric field simulations of TMS	Ole Numssen and Gesa Hartwigsen (Max-Planck-Institute for Human Cognitive and Brain Sciences, Germany); Thomas Knösche (MPI Leipzig, Germany); Konstantin Weise (Max-Planck-Institute for Human Cognitive and Brain Sciences, Germany)	A8.6	Magnetic Methods in Medicine: Bioelectromagnetism (2)

Magnetics Methods in Medicine	Reconstructing Network dynamics from MEG Signals	Shih-Cheng Chien (Max Planck Institute for Human Cognitive and Brain Sciences, Germany); Thomas Knösche (MPI Leipzig, Germany); Burkhard Maess and Richard Gast (Max Planck Institute for Human Cognitive and Brain Sciences, Germany)	A8.7	Magnetic Methods in Medicine: Bioelectromagnetism (2)
Biosensorik, Bioanalytik	Biomedical optoelectronic sensor system for fluid analysis based on optical microring resonators	Jakob Reck (Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, HHI, Germany); Moritz Kleinert (Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Germany)	B8.1	Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	Approaches for Solution-Processed Encapsulation of Printed Medical Wearable Devices	Zehua Chen (Karlsruhe Institute of Technology, Germany); Maher Mansour (German-Jordanian University, Amman, Jordan); Ulrich Gengenbach (Karlsruhe Institute of Technology & Campus North, Germany); Liane Koker (Karlsruhe Institute of Technology, Germany)	B8.2	Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	Modelling and prototyping of a microfluidic cartridge for extracting immune cells from small volume blood samples	Stephan Behrens, Frank Sonntag and Florian Schmieder (Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS, Germany)	B8.3	Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	Novel dry electrode EEG headbands for home use: Comparing performance and comfort	Anna Bernhardt (Technische Universität Ilmenau, Germany); Patrique Fiedler (Eemagine Medical Imaging Solutions GmbH, Germany); Fonseca (INEB, Portugal); Ricardo Spyrides (TU Ilmenau, Germany); Jens Hauelsen (Technische Universität Ilmenau, Germany)	B8.4	Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	In situ impedance measurements on postmortem porcine brain	Lucas Poßner (HTWK Leipzig, Germany); Matthias Laukner (Leipzig University of Applied Sciences, Germany); Florian Wilhelmy (University Hospital Leipzig, Germany); Dirk Lindner (Universitätsklinikum Leipzig, Germany); Uwe Pliquet (Institute for Bioprocessing and Analytical Measurement Techniques, Germany); Bojana Petkovic (Ilmenau Technical University, Germany); Marek Ziolkowski (Ilmenau University of Technology, Germany); Thomas Knösche (MPI Leipzig, Germany); Konstantin Weise (Max-Planck-Institute for Human Cognitive and Brain Sciences, Germany)	B8.5	Biosensorik, Bioanalytik
Biosensorik, Bioanalytik	Automatic Classification of the Movements of Directed and Undirected Subviral Particles	Michelle Kaak (Technische Hochschule Mittelhessen, Germany); Andreas Rausch (Technische Hochschule Mittelhessen, Germany); Thomas Schanze (Technische Hochschule Mittelhessen THM, Germany)	B8.6	Biosensorik, Bioanalytik

Patient Monitoring (KI)	Wearable motion sensors and digital biomarkers in stroke rehabilitation	Adrian Derungs (Universität Erlangen-Nürnberg & Universität Passau, Germany); Corina Schuster (Reha Rheinfelden, Switzerland); Oliver Amft (Friedrich-Alexander Universität (FAU) Erlangen-Nürnberg, Germany)	C8.1	Advances in Measurement Technologies
Patient Monitoring (KI)	Wearable Impedance Pneumography	Michael Klum (Technische Universität Berlin, Germany); Mike Urban (Technische Universität Berlin & Osypka Medical GmbH, Germany); Alexandru-Gabriel Pielmus and Reinhold Orglmeister (Technische Universität Berlin, Germany)	C8.2	Advances in Measurement Technologies
Patient Monitoring (KI)	Measurement of respiratory rate with inertial measurement units	Simon Beck (Institut for Technical Medicine, Furtwangen University); Bernhard Laufer (Institute of Technical Medicine, Germany); Sabine Krueger-Ziolek (Furtwangen University, Germany); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany)	C8.3	Advances in Measurement Technologies
Patient Monitoring (KI)	An alternative way to measure total lung capacity: a pilot study	Bernhard Laufer (Institute of Technical Medicine, Germany); Paul Docherty (University of Canterbury, New Zealand); Sabine Krueger-Ziolek (Furtwangen University, Germany); Fabian Hoeflinger (University of Freiburg, Germany); Leonhard M. Reindl (University of Freiburg & IMTEK - Institute for Microsystem Technology, Germany); Knut Moeller (Furtwangen University & Institute of Technical Medicine (ITeM), Germany)	C8.4	Advances in Measurement Technologies
Focus Session/Special Sessions	Persönliche Schutzausrüstung (PSA) oder Medizinprodukt: CE-Kennzeichnung, Marktzugang und aktuelle Änderungen zu Corona-Zeiten	Cord Schlötelburg (VDE Verband der Elektrotechnik Elektronik Informationstechnik e.V. & DGBMT Deutsche Gesellschaft für Biomedizinische Technik im VDE, Germany)	D8.1	Pandemy and BMT
Focus Session/Special Sessions	Recent developments in COVID-19 detection	Gerald Urban (Albert-Ludwigs-Universität Freiburg, Germany); Can Dincer (University of Freiburg, Germany)	D8.2	Pandemy and BMT
Focus Session/Special Sessions	3D Printing for Respiratory Support Systems	Andreas Melzer (ICCAS Universität Leipzig, Germany & IMSaT University Leipzig, United Kingdom (Great Britain))	D8.3	Pandemy and BMT
Biomaterials and Implants	Individualisierte Pharmaimplantate für das Innenohr	Farnaz Matin (Medizinische Hochschule Hannover, Germany)	E8.1	Biomaterials and Implantats: Individualised Implants

Biomaterials and Implants	Individualisierte Cochlea-Implantation	Thomas Lenarz (Medizinische Hochschule Hannover, Germany); Max Timm (Hannover Medical School, Germany)	E8.2	Biomaterials and Implantats: Individualised Implants
Biomaterials and Implants	Antiinflammatorisch beschichtete Cochlea Implantate	Gerrit Paasche (Medizinische Hochschule Hannover, Germany)	E8.3	Biomaterials and Implantats: Individualised Implants
Biomaterials and Implants	Individualisierte Stentgrafts	Valentine Gesché (RWTH Aachen University, Germany)	E8.4	Biomaterials and Implantats: Individualised Implants
Biomaterials and Implants	Biohybride Implantate	Stefan Jockenhoevel (AME-Helmholtz-Institute for Biomedical Engineering, RWTH Aachen University, Germany)	E8.5	Biomaterials and Implantats: Individualised Implants
Biomaterials and Implants	Digitale Prozessketten in der industriellen Medizintechnik	Michael Wehmöller (Hochschule Osnabrück, Germany); Michael Utz (Aesculap AG, Germany); Valentine Gesché (RWTH Aachen University, Germany)	E8.6	Biomaterials and Implantats: Individualised Implants
Focus Session/Special Sessions	Organspende und Organersatzverfahren	Volkmar Falk (Charité – Universitätsmedizin Berlin, Germany)	K5	Keynote