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Technologieentwicklung Jena

UNIVERSITÄTS KLINIKUM jena

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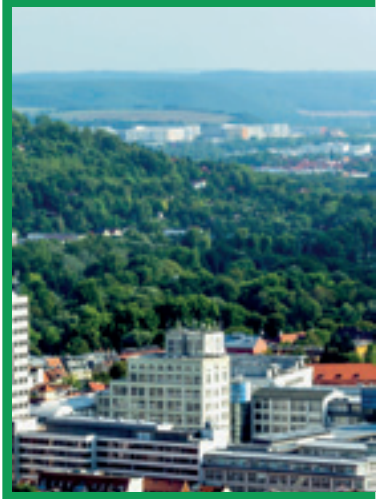

of the
German Society
for Biomaterials

14 – 16
September 2023 | JENA

www.dgbm-kongress.de

PROGRAMME

Venue
Ernst-Abbe-Hochschule Jena
Carl-Zeiß-Promenade 2
07745 Jena

Conference website
www.dgbm-kongress.de

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Dear colleagues, dear friends,

It is an honor and a great pleasure for us to invite you to the Annual Meeting of the German Society for Biomaterials in September in Jena, Germany. We are very happy to welcome you to the city that is considered the cradle of the European optical industry.

What began as a small “start up” in Jena in the middle of the 19th century, driven by visionary entrepreneurship, fundamental scientific discoveries and paired with social competence, became one of the early and most successful examples of translation of science into industrial practice.

As the pandemic has severely limited scientific conferences and meetings in the last three years and is still present at the moment, we look forward to lively discussions, exciting lectures, interesting posters, industry exhibitions, and last but not least personal communications and an entertaining social programme for all biomaterial scientists.

Following the known tradition this meeting will cover all aspects of biomaterial research with a special emphasis on biofilm formation and implant associated infections, additive manufacturing and biofabrication, tissue regeneration and regenerative medicine, surface modification procedures and cellmaterial interactions as well as clinical applications and translation. The meeting will take place at the conference center of the Ernst Abbe University of Applied Sciences in Jena, close to the historic city center. The meeting language will be English, and we want to invite international visitors to attend the meeting and to present their recent research results.

And besides interesting presentations and lively discussions, we hope that you will also enjoy the charm of our small City of Light on the river Saale surrounded by beautiful mountains and spectacular nature.

We look forward to meet you in Jena in September 2023.

Yours sincerely

PD Dr. Gerlind Schneider
Dr. Matthias Schnabelrauch

Wednesday

Research Center Lobeda

13.30–14.30
Lab Tour
p. 8

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Young Scientist Session
p. 8

18.30–22.00
Get-together
Fritz Mitte Jena
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Karine Anselme
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Surface Modification
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11.00–11.30 | Break

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Cell-Material Interaction
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Biofabrication/ Organon-a-Chip
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Get-together (Industry exhibition)
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Additive Manufacturing
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Valentina Russo
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10.30–11.15
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Legende

- Poster Session
- Young Scientist Programme
- DGBM General Assembly
- Short Talk Session
- Social Evening
- Plenary Session
- Welcome & Closing

13.30–14.30	Lab Tour
Room	University Hospital Jena, Research Center Lobeda, Building F4
15.00–18.00	Young Scientist Session
Room	University Hospital Jena, Research Center Lobeda, Building F4, Room SR13
15.00–16.00	Keynote Lecture: How to visualize your scientific results
16.00–16.20	*Break*
16.20–16.30	Effect of microenvironment on human dental pulp stem cells Yilin Tu (Hannover/DE)
16.30–16.40	Interaction of plasma and ECM proteins with self-assembled fibrinogen nanofibers Antoine E. Kwame (Bremen/DE)
16.40–16.50	Fabrication of oxidized alginate (ADA)/ gelatin (GEL) microcapsules incorporating Cu doped mesoporous bioactive glass nanoparticles (MBGNs) for soft tissue engineering applications Memoona Ahktar (Erlangen/DE)
16.50–17.00	Establishment of a 3D bio printed diabetes chondrocyte model Nils Fleischmann, Clemens Gögele, Maria Kokozidou, Christian Werner Gundula Schulze-Tanzil (Nuremberg(DE)
17.00–17.10	High-throughput characterization of interspecies interactions in oral implant-associated biofilms Rumjhum Mukherjee (Hannover/DE)
17.10–17.20	tba
17.20–17.30	*Break*
17.30–18.00	YSF award ceremony
18.30	Get Together Fritz Mitte Schlossgasse, Jena

09.00–09.15	Welcome
Room	Lecture hall 6
09.15–10.00	Plenary Talk – Karine Anselme
Room	Lecture hall 6
Chair	Matthias Schnabelrauch (Jena/DE)
09.15	Cell and tissue response to biomaterial topography Karine Anselme (Mulhouse/FR)
10.00–11.00	Short Talks 1 Surface Modification
Room	Lecture hall 6
Chair	Karine Anselme (Mulhouse/FR), Matthias Schnabelrauch (Jena/DE)
10.00 ST 01	Surface functionalization of calcium phosphate nanoparticles via click chemistry Kathrin Kostka (Essen/DE)
10.15 ST 02	Creation of a growth factor-based inner ear drug delivery system Luisa Vanessa Steingrube (Hannover/DE)
10.30 ST 03	Neuronal guidance scaffold for cochlear implants Monika Seegers (Hannover/DE)
10.45 ST 04	Control of protein adsorption on biomaterials by thin polyelectrolyte multilayers Tonya Andreeva, Rumen Krastev (Reutlingen/DE)
10.00–11.00	Short Talks 2 TRR225 – Biofabrication
Room	Lecture hall 7
Chair	Tomasz Jüngst (Wuerzburg/DE), Anja Lode (Dresden/DE)
10.00 ST 05	Tailored hydrogels as a platform technology for various biomedical applications – What is required to create an alginate-based bioink library? Rainer Detsch (Erlangen/DE)
10.10 ST 06	Biofabrication with fibers – How to combine 3D bioprinting and programmed fiber spinning Leonid Ionov (Bayreuth/DE)
10.20 ST 07	Nano-fibers can improve cell performance, acting as easy modifiable fillers to upgrade bioinks Natascha Schaefer (Wuerzburg/DE)

10.30 ST 08	3D Bioprinting of vasculature based on induced vasculogenesis Nathaly Chicaiza Cabezas (Wuerzburg/DE)
10.40 ST 09	Biofabrication of a glomerular filtration barrier model through a biomimetic fibrous membrane to mimic functional core components Camilla Mussoni (Wuerzburg/DE)
10.50	General discussion
11.00–11.30	*Coffee break*
11.30–13.00	Short Talks 3 Cell-Material Interaction
Room	Lecture hall 6
Chair	Regine Willumeit-Römer (Geesthacht/DE), Ansgar Petersen (Berlin/DE)
11.30 ST 10	Amino group density of amine-based polymer coatings correlates with cell response Susanne Stählke (Rostock/DE)
11.45 ST 11	Modulation of the platelets adhesion and activation by TiO₂ crystallographic orientation-dependent fibrinogen conformation Maja Struczynska (Jena/DE)
12.00 ST 12	Mimicking bone marrow sinusoids of vascular hematopoietic stem cell niches Cornelia Lee-Thedieck (Hannover/DE)
12.15 ST 13	Regulating keratinocyte functions using polydopamine-based janus film Yan Nie (Teltow/DE)
12.30 ST 14	Promotion of wound healing with zinc oxide nanoparticles Nadine Wiesmann-Imilowski (Mainz/DE)
12.45 ST 15	Artificial 3D cell models – key technology for biomedical applications Doris Heinrich (Heilbad Heiligenstadt/DE)

11.30–13.00	Short Talks 4 Additive Manufacturing
Room	Lecture hall 7
Chair	Dorothea Brüggemann (Bremen/DE), Rainer Detsch (Erlangen/DE)
11.30 ST 16	Microfluidic printheads for multi-material extrusion-based bioprinting Florian Hofmann (Wuerzburg/DE)
11.45 ST 17	Process monitoring and control in drop-on-demand bioprinting – Merging sensor data in a real-time capable system Nils Lindner (Darmstadt/DE)
12.00 ST 18	Multi-axis electro-deposition platform to fabricate complex 3D scaffolds with controlled micro and macro-architecture Pietro Terranova (Garching/DE)
12.15 ST 19	Heat shock treatment increases cell viability after bioprinting Erin Spiller (Heidelberg/DE)
12.30 ST 20	Medical grade thermoplastic collagen – upgrade of a unique biomaterial Enno Klüver (Freiberg/DE)
12.45 ST 21	Surface and Infill optimization of binder based 3D-printed (FGF) biodegradable Mg-0.6Ca-alloy implant prototypes Martin Wolff (Geesthacht/DE)
13.00–14.00	*Lunch Break*
14.00–14.45	Plenary Talk – Chris Arts
Room	Lecture hall 6
Chair	Britt Wildemann (Jena/DE)
14.00	Antimicrobial resistance – the future challenge – How can material technology help defeat AMR? Chris Arts (Eindhoven/NL)
14.45–16.00	Short Talks 5 Bone Substitutes and Regeneration 1
Room	Lecture hall 6
Chair	Gunter Hofmann (Jena/DE), Chris Arts (Eindhoven/NL)
14.45 ST 22	Stability of biofunctionalized high-performance ceramics against 25 kGy gamma sterilization Philipp Schräder (Aachen/DE)

15.00 ST 23	Proteomic insights into personalised polycaprolactone (PCL) scaffold-guided diabetic bone healing Vivien Wiltzsch (Leipzig/DE)
15.15 ST 24	Comparative analysis of blood and synovia samples after implantation of new polymeric scaffolds in osteochondral defects of a sheep model Veronika Lehner (Giessen/DE)
15.30 ST 25	Healing of critical size bone defects by mechano-hybrid-scaffolds with bioactive architecture Ansgar Petersen (Berlin/DE)
15.45 ST 26	Rational engineering of glycosaminoglycan-based dickkopf-1 scavengers to improve bone regeneration Vera Hintze (Dresden/DE)
14.45–16.00	Short Talks 6 Tissue Regeneration 1
Room	Lecture hall 7
Chair	Svenja Nellinger (Reutlingen/DE), J. Barbara Nebe (Rostock/DE)
14.45 ST 27	Impact of stiffness on biomaterial scaffold tissue engineering following spinal cord injury Yifeng Zheng (Heidelberg/DE)
15.00 ST 28	Design and application of functional gelatin-based biomaterials as drug and cell carriers Axel Thomas Neffe (Teltow/DE)
15.15 ST 29	Free-standing collagen fiber scaffolds for soft tissue engineering Dorothea Brüggemann (Bremen/DE)
15.30 ST 30	Scaffold configuration and micromechanics regulating macrophage-driven biomaterial degradation through mechanosensing Yue Liu (Teltow/DE)
15.45 ST 31	Improving the transendothelial migration behavior of mesoangioblasts in a Boyden-Chamber model to improve the efficiency of a stem cell therapy Hanna Dunay (Aachen/DE)
16.00–16.30	*Coffee break*

16.30–17.15	Plenary Talk – Jürgen Groll
Room	Lecture hall 6
Chair	Matthias Schnabelrauch (Jena/DE)
16.30	Application oriented evolution of Melt-Electrowriting – Immunomodulation and Microvasculature as examples Jürgen Groll (Wuerzburg/DE)
17.15–18.30	Short Talks 7 Biofabrication/Organ-on-a-Chip
Room	Lecture hall 6
Chair	Doris Heinrich (Heilbad Heiligenstadt/DE), Susanne Stählke (Rostock/DE)
17.15 ST 32	Fabrication of 3D microstructures within a perfusable vasculature – on – a – chip system using two – photon polymerization Doris Heinrich (Heilbad Heiligenstadt/DE)
17.30 ST 33	A drop-on-demand bioprint process for the fabrication of vascularized Organ-on-a-Chip cultures Anna Fritschen (Darmstadt/DE)
17.45 ST 34	Magnetic nanoparticles pass a differentiating *in vitro* blood-placenta barrier Joachim Clement (Jena/DE)
18.00 ST 35	Gellan gum based inflammatory adipose tissue model Svenja Nellinger (Reutlingen/DE)
18.15 ST 36	Geometry is a key factor in defining the transcriptional background of bone marrow metastatic neuroblastoma cells in a multicellular 3D *in vitro* model Sanja Aveic (Aachen/DE)
17.15–18.45	Rapid Fire Session 1
Room	Lecture hall 7
Chair	Andrea Ewald (Wuerzburg/DE), Stefan Kranz (Jena/DE)
17.15 RF 01	Mechanical functionality and biocompatibility of Ti-Nb-Ta alloys additively manufactured by laser beam powder bed fusion Jan-Oliver Sass (Rostock/DE)
17.23 RF 02	Antimicrobial biopolymer nanocomposites containing encapsulated fumaric acid particles using layer-by-layer assembly Cornelia Wiegand (Jena/DE)
17.31 RF 03	Acute inflammatory response of glial cell co-culture to magnesium material Krathika Bhat (Geesthacht/DE)

17.39 RF 04	3D-bioprinting of microfiber-laden bioinks for the fabrication tissue precursors with anisotropic material properties Annabelle Neuhäusler (Darmstadt/DE)
17.47 RF 05	Recapitulating endochondral ossification with human mesenchymal stem cells (hMSC) – Influence of pH, oxygen tension, and chondroitin sulfate supplementation Poh Soo Lee (Dresden/DE)
17.55 RF 06	Chronic implants for electrostimulation of the larynx and electromyography of the stapedius muscle in a sheep model Dirk Arnold (Jena/DE)
18.03 RF 07	Effects of cellular senescence on the response to physical cues of the microenvironment Mina Sohrabi (Berlin/DE)
18.11 RF 08	Potential material for HIT immunoassay improvement Li-Yu Chen (Heilbad Heiligenstadt/DE)
18.19 RF 09	A simple pathway to biofabricate nacre Dietmar Blohm (Bremen/DE)
18.27 RF 10	Influencing parameters of ceramic wear particles on the viability of periprosthetic cells Adrian Buchholz (Magdeburg/DE)
18.35 RF 11	Rapid, round and reliable 3D cell models for successful *in vitro* assays Valentina Fermi (Mannheim/DE)
18.45–20.00 Room	Poster Session Poster Exhibition Foyer Ground Floor (page 25)
20.00–21.00 Room	Get Together Industry exhibition (Foyer Second Floor)

09.00–10.15	Short Talks 9 GEXOS – Experimental Osteology
Room	Lecture hall 6
Chair	Britt Wildemann (Jena/DE), Meike Stiesch (Hannover/DE)
09.00 ST 37	Quantification of differences in the shape of 3D structures using computed tomography Christian Dullin (Goettingen/DE)
09.15 ST 38	Post-Sectioning verification and spatial correlation of 2D histological slices with 3D CT-Scans through 3D printed phantoms Christian Dullin (Goettingen/DE)
09.30 ST 39	Individual implants of the hip joint and pelvis Andreas Birke (Lieskau/DE)
09.45 ST 40	Evaluation of additively manufactured titanium implant specimens using µCT Abed Asaad (Jena/DE)
10.00 ST 41	Histological and histomorphometric evaluation of photodynamic active biomaterials for periodontal regeneration in a 12 month animal bone study Stefan Kranz (Jena/DE)
09.00–10.15	Short Talks 10 Biofabrication/Artificial Vascular Structures
Room	Lecture hall 7
Chair	Leonid Ionov (Bayreuth/DE), Anne Bernhardt (Dresden/DE)
09.00 ST 42	Biofabrication of hybrid tubular constructs with adjusted mechanical properties for the development of small diameter vascular tissue models Tomasz Jüngst (Wuerzburg/DE)
09.15 ST 43	Melt electrowriting and its applications in biofabrication for the generation of synthetic tubular constructs with defined mechanical characteristics Michael Bartolf-Kopp (Wuerzburg/DE)
09.30 ST 44	Electrospinning as a versatile platform for the fabrication of prosthetic venous valves Dario Arcuti (Garching/DE)
09.45 ST 45	Two-photon-stereolithography of biosynthetic and cell-interactive microstructures for versatile tissue engineering applications Johanna Vetter (Darmstadt/DE)

10.00 ST 46	Shape-morphing fibre composite structures consisting of 3D plotted hydrogels and melt electrowritten PCL meshes for blood vessel tissue engineering Anja Lode (Dresden/DE)
10.15–11.00	Plenary Talk – Nina Lindfors
Room	Lecture hall 6
Chair	Gerlind Schneider (Jena/DE)
10.15	Novel bioactive glass for segmental bone healing and infection treatment Nina C. Lindfors (Helsinki/FI)
11.00–11.30	*Coffee break*
11.00–11.30	Preparation techniques and investigation methods in the field of experimental osteology Jessica Klehm (Halle a.d. Saale/DE)
Room	at the exhibition stand Walter Messner GmbH
11.30–13.00	Short Talks 11 Bone Substitutes and Regeneration 2
Room	Lecture hall 6
Chair	Nina C. Lindfors (Helsinki/FI), Cornelia Lee-Thedieck (Hannover/DE)
11.30 ST 47	siRNA delivery via cross-linked gelatine microparticles for bone tissue tissue regeneration Franziska Mitrach (Leipzig/DE)
11.45 ST 48	3D bioprinted constructs supporting the differentiation of primary human osteocytes Anne Bernhardt (Dresden/DE)
12.00 ST 49	Dental filaments from polycaprolactone-based composites – drug delivery and degradation Benjamin Kruppke (Dresden/DE)
12.15 ST 50	Fine-tuning the degradation of 3D-printed Calcite/Polycaprolactone scaffolds by mineral morphologies for use as bone graft substitute Franziska Alt (Dresden/DE)
12.30 ST 51	Enhancing polymeric implant component visibility with integrated radiopaque markers Crystal Emonde (Hannover/DE)

12.45 ST 52	Antibacterial properties of Mg – based alloys studied in a murine model of periprosthetic osteomyelitis Regine Willumeit-Römer (Geesthacht/DE)
11.30–13.00	Short Talks 12 Biofabrication/Scaffolds
Room Chair	Lecture hall 7 Sabine Neuß-Stein (Aachen/DE), Petra J. Kluger (Reutlingen/DE)
11.30 ST 53	Development of a newly synthesized biopolymer for industrial laser-based nano-3D printing of hierarchically structured bone-cartilage implants Steffen Czich (Heilbad Heiligenstadt/DE)
11.45 ST 54	Wet spinning of silk fibroin fibers and fiber-based additive manufacturing of 3D scaffolds for regenerative medicin Michael Wöltje (Dresden/DE)
12.00 ST 55	Tunable microporous scaffolds via melt electrowriting Kilian Arthur Maria Mueller (Garching/DE)
12.15 ST 56	Bioink development for multi-modal 3D-bioprinting of large tissues David Sipos (Darmstadt/DE)
12.30 ST 57	Design evolution and attachment of a melt electrowritten cardiac patch to regenerate ischemic heart disease Johannes Braig (Wuerzburg/DE)
12.45 ST 58	A filament-based melt electrowriting approach for the fabrication of multiscale scaffolds Annika Hangleiter (Garching/DE)
13.00–14.00	*Lunch Break*
14.00–14.45	Plenary Talk – Valentina Russo
Room Chair	Lecture hall 6 Matthias Schnabelrauch (Jena/DE)
14.00	Innovative strategies in tendon tissue engineering – how can biomimetic scaffolds boost the regenerative process Valentina Russo (Teramo/IT)

14.45–16.15	Short Talks 13 Tissue Regeneration 2
Room	Lecture hall 6
Chair	Andreas Blaeser (Darmstadt/DE), Valentina Russo (Teramo/IT)
14.45 ST 59	Enhancing Collagen Properties for Tissue Engineering with UVA/Riboflavin Crosslinking – a promising alternative to chemical crosslinking Lu Fan (Reutlingen/DE)
15.00 ST 60	Generation and characterization of a blue light crosslinkable bioink for corneal tissue engineering Friederike Dehli (Heidelberg/DE)
15.15 ST 61	Influence of Mg-Li biomaterials on schwann cell response in an *in vitro* nerve injury model Krathika Bhat (Geesthacht/DE)
15.30 ST 62	A novel dynamic bioreactor system enables the investigation of mechanobiological cues in periodontal ligament fibroblasts *in vitro* Kuo-Hui Chiu (Aachen/DE)
15.45 ST 63	Mechanical testing of a nanocomposite based on alginate and calcium phosphate nanoparticles for application as bone glue Benedikt Kruse (Essen/DE)
16.00 ST 64	High hydrostatic pressure as a novel method for devitalization and quality enhancement of cartilage tissue grafts in head and neck surgery Friederike Kalle (Rostock/DE)
14.45–16.15	Short Talks 14 TRR298 – SIIRI: Safety-integrated and infection-reactive implants
Room	Lecture hall 7
Chair	Matthias Epple (Essen/DE), Vera Hintze (Dresden/DE)
14.45 ST 65	Mechanisms of biofilm development and progression on implants in health and disease Meike Stiesch (Hannover/DE)
15.00 ST 66	*In vitro* analysis of anti-biofilm and tissue-integrative properties of biocompatible liquid-infused structured surfaces Katharina Nikutta-Doll (Hannover/DE)
15.15 ST 67	Towards an *in vitro* flow chamber model for oral multispecies biofilm dysbiosis on implant materials Nils Heine (Hannover/DE)

15.30 ST 68	Development of 3D-implant-tissue-oral-biofilm-model (INTERbACT) Muhammad Imran Rahim (Hannover/DE)
15.45 ST 69	Laser-based culturomics and single cell force spectroscopy for studying interspecies interactions in implant-associated biofilms Taoran Qu (Hannover/DE)
16.00 ST 70	Barrier layers to control growth factor release kinetics from an implant coating Henning Menzel (Braunschweig/DE)
16.15–16.30	*Coffee break*
16.30–17.45 Room	DGBM General Assembly Lecture hall 6
16.30–17.45 Room	Poster Session Poster Exhibition Foyer Ground Floor (page 25)
19.00–23.00	Social Evening – Restaurant “Zur Noll”, Jena

Patientenspezifische Implantate

Gesichts- und Hirnschädelbereich

Hart- und Weichgewebemodelle

für Übungs- und Planungszwecke

Patientenspezifische Implantate

Medizinische Übungsmodelle

Zukunft einsetzen

09.00–10.15	Short Talks 15 Antimicrobial Coatings
Room	Lecture hall 6
Chair	Rumen Krastev (Reutlingen/DE), Cornelia Wiegand (Jena/DE)
09.00 ST 71	Antibacterial nanotechnology and thin films on various substrates and flexible textiles Guobin Jia (Jena/DE)
09.15 ST 72	Microstructured ta-C coatings for knee joint application Vadym Voropai (Magdeburg/DE)
09.30 ST 73	Anti-adhesive and antibacterial hydrogel coatings for short-term implants Ulrike Ritz (Mainz/DE)
09.45 ST 74	Antibacterial surface functionalization by silver nano-powder mixed electrical discharge machining of biomaterials Viet Duc Bui (Chemnitz/DE)
10.00 ST 75	Novel antimicrobial coating on titanium with stable non-antibiotic quaternary ammonium compounds to prevent implant-associated infection Martijn Riool (Regensburg/DE)
09.00–10.15	Short Talks 16 Biofabrication/Hydrogels
Room	Lecture hall 7
Chair	Anayancy Osorio-Madrazo (Heilbad Heiligenstadt/DE) Henning Menzel (Braunschweig/DE)
09.00 ST 76	A new 3D printable bioink of alginate/cellulose hydrogel loaded with thrombocyte concentrate Till Grandjean (Mainz/DE)
09.15 ST 77	Fibrin-dextran hydrogels with tunable porosity and mechanical properties Hanna Malyaran (Aachen/DE)
09.30 ST 78	Fabrication of functional, biocompatible and biodegradable biomaterials by 3D printing of cellulose nanofiber-filled chitosan hydrogel constructs for tissue engineering applications Anayancy Osorio-Madrazo (Heilbad Heiligenstadt/DE)
09.45 ST 79	Understanding degradation and mechanical performance of hyperelastic polylactide copolymers through bulk and ultrathin film analysis correlation Hanin Alkhamis (Teltow/DE)

10.00 ST 80	Material design of polymer composites with shape-changing capability for medical applications – Comparison of shape memorypolymers and liquid crystal elastomers Lukas Benecke (Dresden/DE)
10.15–10.30	*Coffee break*
10.30–11.15	Plenary Talk – Oliwia Makarewicz
Room	Lecture hall 6
Chair	Gerlind Schneider (Jena/DE)
10.30	Bacterial biofilms – How to reasonably determine the antimicrobial properties Oliwia Makarewicz (Jena/DE)
11.15–13.00	Short Talks 17 Antimicrobials and Translation
Room	Lecture hall 6
Chair	Joachim Clement (Jena/DE), Aldo R. Boccaccini (Erlangen/DE)
11.15 ST 81	Electrospun nonwoven materials as local drug-delivery systems Torsten Walter (Jena/DE)
11.30 ST 82	Development of anti-platelet adhesion/activation surfaces Thi-Huong Nguyen (Heilbad Heiligenstadt/DE)
11.45 ST 83	Plasma-activated water as decontamination agent for healthcare textiles Markus Ahrens (Garching/DE)
12.00 ST 84	Printed biosensors for the cost-effective and comprehensive detection of Interleukin-6 as an early stage sepsis marker Tim Eike Weber (Darmstadt/DE)
12.15 ST 85	Bacteria capturing alumina textiles for wound dressing applications Deepanjalee Dutta (Bremen/DE)
12.30 ST 86	*In vitro* response of monocytes to PHMB-coated Ti6Al4V alloy implant material Paula Zwicker (Greifswald/DE)
12.45 ST 87	*In vivo* application of calcium phosphate nanoparticles carrying anti-p65 NF-κB siRNA to treat murine colon inflammation Nataniel Białas (Essen/DE)

11.15–12.45	Short Talks 18 Rapid Fire Session 2
Room	Lecture hall 7
Chair	Katharina Nikutta-Doll, Muhammad Imran Rahim (Hannover/DE)
11.15	tba
11.23 RF 13	Assessment of corrosion, cytocompatibility and immunological effects i vitro of magnesium-based biomaterials for regenerative applications in oral surgery Sandra Fuest (Hamburg/DE)
11.31 RF 14	Plasma proteomics to reveal liquid biopsy-accessible indicative biomarkers to impaired bone fracture healing in type 2 diabetes mellitus using personalized 3D-printed scaffolds Johannes R. Schmidt (Leipzig/DE)
11.39 RF 15	Surface bio-functionalization for anti-adhesive properties in biotechnological applications Lisa Marie Langner (Recklinghausen/DE)
11.47 RF 16	Keratocyte differentiation of bone marrow-derived mesenchymal stromal cells for corneal bioprinting Alexandre Taoum (Heidelberg/DE)
11.55 RF 17	Traumatic fracture treatment – Calcium phosphate bone substitute case-control study in humerus, radius, tibia fractures – assessing efficacy and recovery outcomes Gero Knapp, Jonas Pawelke (Giessen/DE)
12.03 RF 18	Development of bioresins for volumetric printing for vascular applications Csaba Gergely (Wuerzburg/DE)
12.11 RF 19	Harnessing 3D models of the bone marrow to study cellular interactions in hematopoietic stem cell niches Cornelia Lee-Thedieck (Hannover/DE)
12.19 RF 20	Bioprinting of pegylated giant unilamellar lipid vesicles for tissue engineering applications Ole Thaden (Heidelberg/DE)

12.27 RF 21	A mechanically homogeneous equivalent of real cells Sebastian Wohlrab (Bayreuth/DE)
12.35 RF 22	Process development for droplet-based bioprinting of cell-laden tissue models in the context of cardiac lesions Shaghayegh Jahangir (Heilbad Heiligenstadt/DE)
13.00–13.15 Room	Closing Lecture hall 6
13.15–13.20 Room	Welcome 2024 Lecture hall 6

Poster sessions

Posters will be displayed during the whole conference. The poster exhibition is located in the Foyer on the ground floor.

Please note that there are two poster sessions. Each presenter should be available for discussion during the following poster session:

Postersessions

Thursday, September 14th | 18:45–20:00
Friday, September 15th | 16:30–17:45

P 01 Influence of the use of reactive amphiphilic copolymers on capillary formation by HUVEC in 2D and 3D fibrin hydrogel constructs
Svenja Wein (Aachen/DE)

P 02 Fabrication of oxidized alginate (ADA)/ gelatin (GEL) microcapsules incorporating Cu doped mesoporous bioactive glass nanoparticles (MBGNs) for soft tissue engineering applications
Memoona Akhtar (Erlangen/DE)

P 03 Optimization of allografts for local antibiotic release
Britt Wildemann (Jena/DE)

P 04 High-throughput characterization of interspecies interactions in oral implant-associated biofilms
Rumjhum Mukherjee (Hannover/DE)

P 05 Biocompatibility and long-term stability of bacterial magnetosomes from Magnetospirillum gryphiswaldense
Joachim Clement (Jena/DE)

P 06 Quantification of LDH activity – a useful method for assessing cell viability in hydrogels and bioinks
Christian Freudigmann (Reutlingen/DE)

P 07 Bacteriophages as potential tools to combat pathogenic bacteria
Ivanna Kostina (Essen/DE)

P 08 Polymer coatings on titanium containing antibiotics for 3D peri-implant oral mucosa-biofilm model
Nelly Senze Nnane (Braunschweig/DE)

P 09 Rheological design of experiment to optimize printability of an alginate and hyaluronic acid hydrogel
Leon Balters (Braunschweig/DE)

P 10 Streptavidin-biotin interaction – Basis for surface modification of implant surfaces
Chaymae Boukari (Recklinghausen/DE)

P 11 Immune cell integration in a 3D peri-implant oral mucosa-biofilm model (INTER/ACT)
Shuli Chen (Hannover/DE)

P 12 An innovative hybrid hydrogel for *in vitro* models
Celia Sofia Salazar Silva (Halle (Saale)/DE)

P 13 Relative quantification of potential bioactive collagen peptides using tandem mass tags
Tobias Hedtke (Halle (Saale)/DE)

P 14 Interaction of plasma and ECM proteins with self-assembled fibrinogen nanofibers
Antoine Eyram Kwame (Bremen/DE)

P 15 Micro-/nanostructured surfaces for anti-platelet activation using newly developed bioinspired materials
Dikshita Madkatte (Heilbad Heiligenstadt/DE)

P 16 Adsorptive functionalization of Mesoporous Silica nanoparticles for photodynamic therapy
Janina Hald (Ulm/DE)

P 17 Switchable antimicrobial materials
Sadaf Khalatbarizamanpoor (Jena/DE)

P 18 Ultrathin surface-attached hydrogel coatings for intentional implant removal
Laura Finck (Braunschweig/DE)

P 19 Biological effect of ultra-small nanoparticles as a possible prevention strategy of implant-associated infections
Christina Sengstock (Dortmund/DE)

P 20 ADA-GEL bioink system with tailored oxidation degree of ADA for biofabrication approaches
Hsuan-Heng Lu (Erlangen/DE)

P 21 Antibiotic coating for ceramic implant surfaces
Svea Sachse (Jena/DE)

P 22 Effect of microenvironment on human dental pulp stem cells
Yilin Tu (Hannover/DE)

P 23 Adhesion and biofilm formation of Candida albicans to polymeric materials
Saba Tamjidtash (Hannover/DE), Laura Kurzendorfer (Regensburg/DE)

P 24 Biomaterials and biophysical stimuli – Cellular interactions by alternating electric fields affect bone remodeling processes
Rainer Detsch (Erlangen/DE)

P 25 Role of mechanical characterisation in assessing the effect of *in vitro* applied electrical stimulation on cell-seeded hydrogels for cartilage tissue engineering
Nada Abroug (Rostock/DE)

P 26 Additive manufacturing of patient-specific implants using an AI-based digital workflow in oromaxillofacial surgery
Johannes Krösbacher (Hamburg/DE)

P 27 Assessment of corrosion, cytocompatibility and immunological effects *in vitro* of magnesium-based biomaterials for regenerative applications in oral surgery
Sandra Fuest (Hamburg/DE)

P 28 Implementing curvature into 3D scaffold microenvironments for guided regeneration of bone defects
Esther de Mercurio (Berlin/DE)

P 29 Antibacterial properties of functionalized silk fibroin and sericin membranes for wound healing applications in oral and maxillofacial surgery
Sandra Fuest (Hamburg/DE)

P 30 Graphene based antimicrobial biomaterials
Gaurvanshi Gupta (Jena/DE)

P 31 Decoupling the effects of pore size and extracellular matrix stiffness on 3D stem cell mechanosensation
Samuel Maher (Perth/AU)

P 32 Fabrication of oxidized-alginate-microgels by applying microfluidics
Jonas Röder (Erlangen/DE)

P 33 Vibration measurement for the characterisation of osseointegration of implants
Jan Wietzel (Jena/DE)

P 34 Novel bioreactor for multi-layer and multi-fluid perfusions of channels inside hydrogels
Sven Heilig (Wuerzburg/DE)

P 35 Effect of phosphate on bioactive glass ion release and surface reactions
Pavel Kachanov (Jena/DE)

P 36 Fabrication of microparticles from three-armed, biodegradable macromers by oil-in-water emulsion and subsequent photo-cross-linking
Jan Krieghoff (Leipzig/DE)

P 37 Amino acid-derivatized amphiphiles for protein/antibody stabilization and release control
Johannes Reiß (Duesseldorf/DE)

P 38 Gelatin microparticles cross-linked with second generation anhydride-containing amphiphilic oligomers – cross-linking characteristics by confocal Raman microscopy
Burak Demir (Duesseldorf/DE)

P 39 Antimicrobial biomaterials with tailored structures and properties – scientific programme
Delia Brauer (Jena/DE)

P 40 Antimicrobial biomaterials with tailored structures and properties – qualification programme
Delia Brauer (Jena/DE)

RF 01 Mechanical functionality and biocompatibility of Ti-Nb-Ta alloys additively manufactured by laser beam powder bed fusion
Jan-Oliver Sass (Rostock/DE)

RF 02 Antimicrobial biopolymer nanocomposites containing encapsulated fumaric acid particles using layer-by-layer assembly
Cornelia Wiegand (Jena/DE)

RF 03 Acute inflammatory response of glial cell co-culture to magnesium material
Krathika Bhat (Geesthacht/DE)

RF 04 3D-bioprinting of microfiber-laden bioinks for the fabrication tissue precursors with anisotropic material properties
Annabelle Neuhäusler (Darmstadt/DE)

RF 05 Recapitulating endochondral ossification with human mesenchymal stem cells (hMSC) – Influence of pH, oxygen tension, and chondroitin sulfate supplementation
Poh Soo Lee (Dresden/DE)

RF 06 Chronic implants for electrostimulation of the larynx and electromyography of the stapedius muscle in a sheep model
Dirk Arnold (Jena/DE)

RF 07 Effects of cellular senescence on the response to physical cues of the microenvironment
Mina Sohrabi (Berlin/DE)

RF 08 Potential material for HIT immunoassay improvement
Li-Yu Chen (Heilbad Heiligenstadt/DE)

RF 09 A simple pathway to biofabricate nacre
Dietmar Blohm (Bremen/DE)

RF 10 Influencing parameters of ceramic wear particles on the viability of periprosthetic cells
Adrian Buchholz (Magdeburg/DE)

RF 11 Rapid, round and reliable 3D cell models for successful *in vitro* assays
Valentina Fermi (Mannheim/DE)

RF 13 Assessment of corrosion, cytocompatibility and immunological effects *in vitro* of magnesium-based biomaterials for regenerative applications in oral surgery
Sandra Fuest (Hamburg/DE)

RF 14 Plasma proteomics to reveal liquid biopsy-accessible indicative biomarkers to impaired bone fracture healing in type 2 diabetes mellitus using personalized 3D-printed scaffolds
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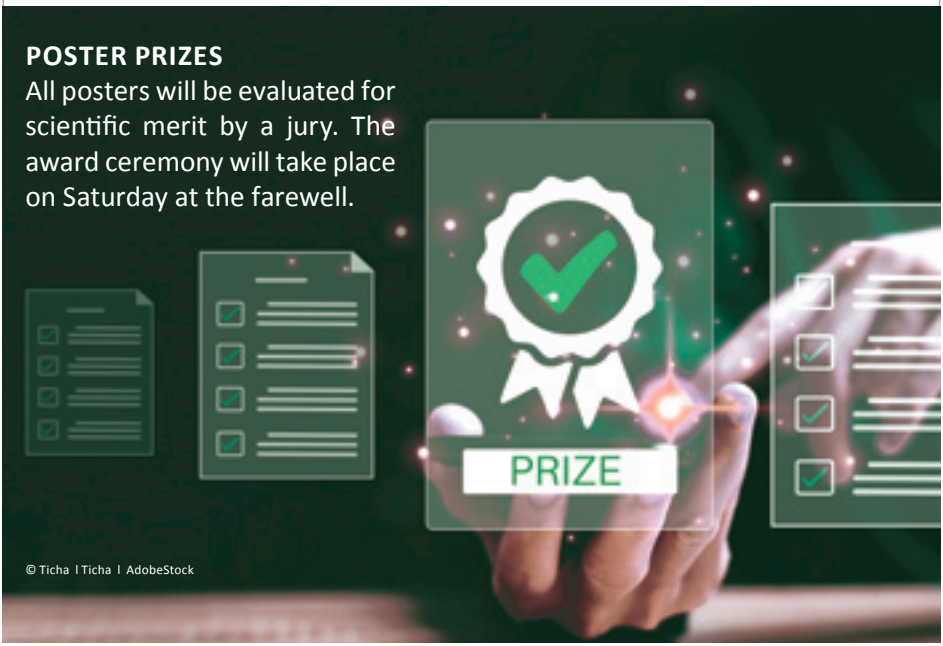
Shaghayegh Jahangir (Heilbad Heiligenstadt/DE)

POSTER PRIZES
All posters will be evaluated for scientific merit by a jury. The award ceremony will take place on Saturday at the farewell.



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Get together Young Researchers – "Fritz Mitte"

Following the Young Scientist Day, there will be an informal get-together at the "Fritz Mitte" – but not only for young scientists. We look forward to exchanging ideas and making new connections!

Date	Wednesday, 13 September
Time	from 18.30 h
Venue	Fritz Mitte I Schlossgasse 20 I Jena
Fee	at your own cost, registration required

Get-together

End the first conference evening after the post-session with your colleagues in a relaxed atmosphere at the get-together in the industry exhibition.

Date	Thursday, 14 September
Time	20.00–21.00 h
Venue	Industry exhibition
Fee	0 EUR, no registration required

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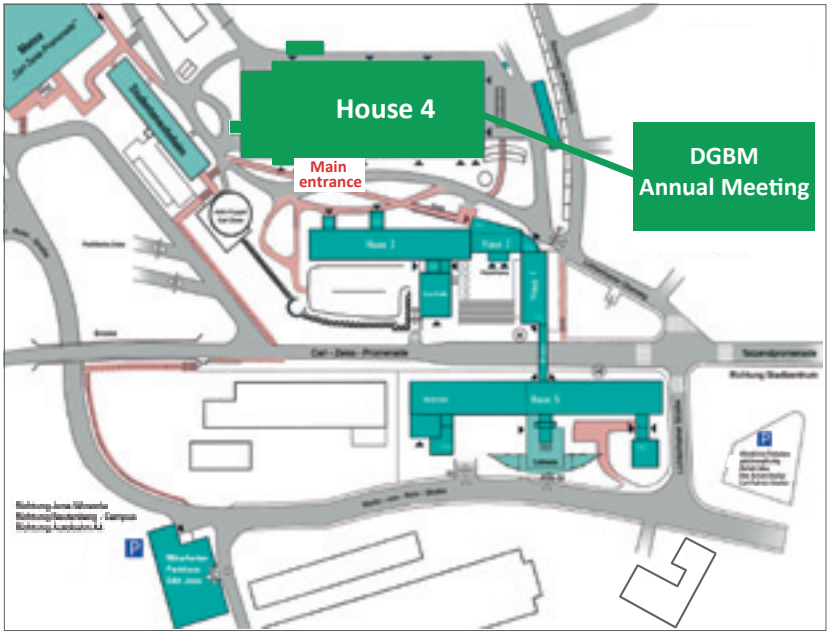
Social evening: Dinner in "Zur Noll"

In the center of Jena, in a charming alley and behind historical walls, you will find the guesthouse "Zur Noll". It combines tradition with high comfort and offers well-known Thuringian delights and the popular hospitality. Enjoy the local, interesting cuisine in an extraordinary ambience and discover the Jena culture a little different.

Date	Friday, 15 September
Time	19.00–23.00 h
Venue	Zur Noll | Oberlauengasse 19 | 07743 Jena
Fee	60 EUR, registration required

Map of Campus Ernst-Abbe-Hochschule Jena

Ernst-Abbe-Hochschule Jena
University of Applied Sciences



Abstracts
All abstracts will be available at the online programme.

Certificates of attendance
Certificates of attendance will be sent via email after the conference.

Conference language
The conference language is English.

General Terms and Conditions
Please find all details on our website at www.dgbm-kongress.de.

Postersession
Your printed poster should be prepared in English, DIN A0 (84.1 cm wide x 118.9 cm high) and in vertical format. Pins will be provided on your poster board. Poster boards will be labelled with your poster number. You will find your poster number in the programme booklet on page 25 ff.

Registration fees

Member DGBM	270 EUR
Nonmember	320 EUR
Students*	170 EUR
Young Scientist Day	0 EUR
YSD Lab Tour	0 EUR
YSD Get together	0 EUR
Social Evening	60 EUR

* Proof required

Speakers preview area
Speakers can connect their presentation on a USB stick directly to the laptop in the lecture hall Please use a USB stick, CD or DVD that is not protected by software for the submission. Please note that for technical reasons it will not be possible to connect your own laptop. Professional staff and equipment will be available to prepare and preview your presentation.

Lecture prizes
All presentations will be judged on scientific merit and presentation style by a jury and the three best presentations will be awarded 300 EUR, 200 EUR and 100 EUR. The award ceremony will take place on Saturday at the farewell.

Poster prizes
All posters will be evaluated for scientific merit by a jury. The three best posters will be awarded with 200 EUR, 150 EUR and 100 EUR. The award ceremony will take place on Saturday at the farewell.

The prizes are donated by the Thüringer AG Biomaterial

We would like to thank the following sponsors and exhibitors for their great support:

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State at printing

Look forward to a high-class keynote lectures by renowned invited speakers.

"Cell and tissue response to biomaterial topography"
Karine Anselme
French National Centre for Scientific Research
(Mulhouse/FR)

"Antimicrobial resistance – the future challenge – How can material technology help defeat AMR?"
Chris Arts
Eindhoven University of Technology
(Maastricht/NL)

"Application oriented evolution of Melt-Electrowriting: Immunomodulation and Microvasculature as examples"
Jürgen Groll
Hospital Wuerzburg
(Wuerzburg/DE)

„Novel bioactive glass for segmental bone healing and infection treatment"
Nina C. Lindfors
Helsinki University Central Hospital
(Helsinki/FIN)

"Bacterial biofilms: How to reasonably determine the antimicrobial properties"
Oliwia Makarewicz
University Hospital Jena
(Jena/DE)

"Innovative strategies in tendon tissue engineering: how can biomimetic scaffolds boost the regenerative process"
Valentina Russo
University of Teramo
(Teramo/IT)

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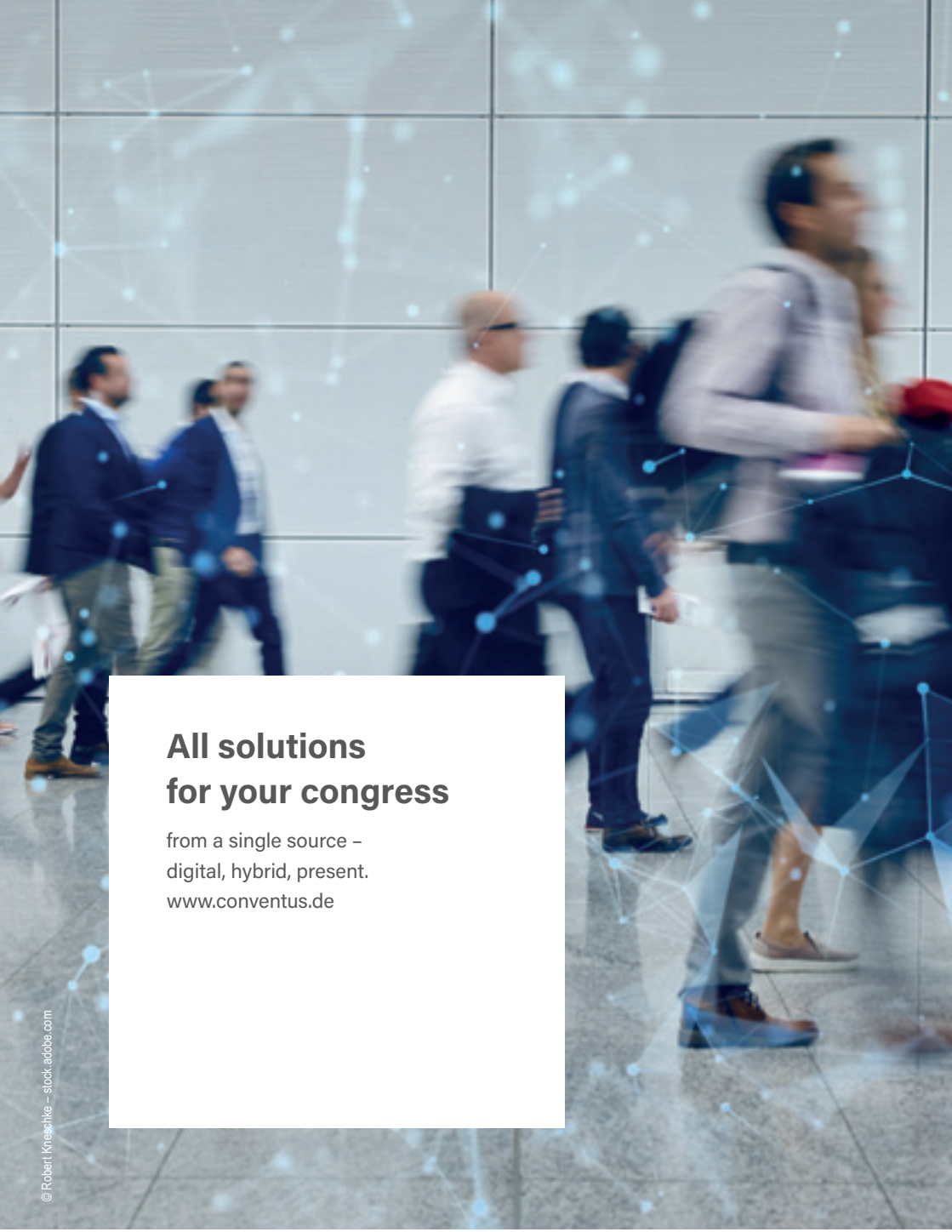

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