

DGBM



ANNUAL MEETING



of the
German Society
for Biomaterials

15-17 University of
September 2022 | Duisburg-Essen

PROGRAMME

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ORGANISATION AND IMPRINT

Venue

University of Duisburg-Essen
Universitaetsstraße 2
Building S 04 | 45141 Essen, Germany

Conference website

www.dgbm-kongress.de

Conference chair

Prof. Dr. Matthias Epple
University of Duisburg-Essen
Inorganic Chemistry
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Fraunhofer Institute for Microelectronic Circuits and Systems

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Dr. Christoph Rehbock
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Prof. Dr. Christina Sengstock
Prof. Dr. Astrid M. Westendorf

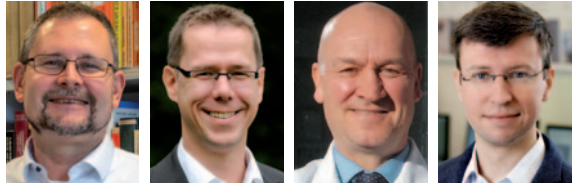
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Design/layout

Layout	Conventus Congressmanagement & Marketing GmbH
Print	printworld.com GmbH
Circulation	250
Editorial deadline	12.08.2022

WELCOME NOTE OF THE CONFERENCE CHAIRS



Dear colleagues and friends,

It is a pleasure and an honor for us to invite you to the Annual Meeting of the German Society for Biomaterials in September 2022 in the city of Essen.

As the pandemic has seriously constrained face-to-face meetings in the last 20 months, we look forward to lively discussions, exciting lectures, well-designed posters, and – last but not least – an entertaining social program for all biomaterials scientists.

The conference will take place at the University of Duisburg-Essen on the Campus Essen, close to Essen downtown. As a special feature, we will offer the participation at a live surgery at the University Hospital Bochum.

The conference language will be English, therefore we also invite international visitors to attend the conference and to present their most recent results.

We look forward to meet you in Essen in 2022.

Prof. Dr. Matthias Epple
Conference chair

Prof. Dr. Stephan Barcikowski
Dr. Jochen Salber
Prof. Dr. Karsten Seidl
Conference Co-chairs

Friday, September 16 th		Saturday, September 17 th	
Lecture Hall Essen 1	Lecture Hall Essen 2	Lecture Hall Essen 1	Lecture Hall Essen 2
09:00–10:00		09:00–10:00	
Plenary Talk Mustafa Citak p 16		Plenary Talk Maria Chatzinikolaidou p 20	
10:00–10:30		10:00–10:30	
Coffee Break p 16		Coffee Break	
10:30–12:30		10:30–12:00	10:30–12:00
Short Talks 4 NanoBioMaterials 1 p 16	Short Talks 5 Cell-Materials Inter- action p 17	Short Talks 8 Regenerative Medi- cine 2 p 20	Short Talks 9 Biobased Biomate- rials p 20
12:30–13:30		12:00–13:00	
Lunch Break p 17		Farewell p 20	
13:30–14:30		13:30–14:30	
Short Talks 6 NanoBioMaterials 2 p 18	Short Talks 7 Regenerative Medicine 1 p 18		
14:30–14:45 Break			
14:45–15:45			
Plenary Talk Antony Atala p 19			
15:45–16:00 Break			
16:00–18:30			
DGBM General Assembly p 19			
18:30–20:30		Plenary Session	
Poster Session and Get Together Poster Exhibition Foyer and Building S 06 S 22		Short Talk Session	
		Workshop	
		Rapid Fire Session	
		Poster Session	
		Get Together/Social Evening	
		General Assembly	
		Opening and Farewell	
		Break	

09:00–14:00 Workshop with Live Surgery

Room Lecture Hall at Knappschaftskrankenhaus Bochum

Chair Jochen Salber (Bochum/DE)

15:30–18:15 YSF Session in Bochum

Lecture on Scientific Presentation and YSF Session

Room Hörsaalzentrum Ost, HZO 100, Ruhr University Bochum

Chair Tomasz Jüngst (Würzburg/DE)

15:30 Keynote lecture on presenting scientific results

16:30 *Break*

16:50 Prolamine-silica hybrid materials: Characterization, functionality and biocompatibility
Franziska Trodtfeld (Jena/DE)

17:00 Fabrication of electrospun hollow tubes to enhance diffusion in 3D printable hydrogels
Katharina Rogg (Reutlingen/DE)

17:10 Electro-polymerization of biodegradable and conductive polymer as inflammation sensing for the cochlear implant
Minh-Hai Nguyen (Hannover/DE)

17:20 Bioprinting of synthetic vesicles for tissue engineering applications
Ole Thaden (Heidelberg/DE)

17:30 Development of silicone-nanocomposites for an intentional facilitated implant-removal induced by light
Florian Klodwig (Hannover/DE)

17:40 Biotechnological applications of a bio-functionalized silicon oxide surface
Lisa Marie Langner (Recklinghausen/DE)

17:50 *Break*

18:00 Nomination of the YSF Award

18:15–19:00 YSF General Assembly

Room Hörsaalzentrum Ost, HZO 100, Ruhr University Bochum

19:00–23:00 Get Together Young Researchers – Bermuda3Eck Bochum

09:00–09:30

Welcome

Room Lecture Hall Essen 1

09:00 Welcome speech by the Vice Dean of the Faculty of Chemistry
Jochen S. Gutmann (Essen/DE)

09:10 Welcome speech by the Dean of the Faculty of Medicine
Jan Buer (Essen/DE)

09:20 Welcome speech of the organising committee
Matthias Epple (Duisburg/DE)

09:30–09:45

Musical intermezzo

Room Lecture Hall Essen 1

09:45–10:45

Plenary Talk – Aleksandr Ovsianikov

Room Lecture Hall Essen 1

Chair Stephan Barcikowski (Essen/DE)

09:45 High-resolution 3D printing – challenges and opportunities for
PT 1 biomedical applications
Aleksandr Ovsianikov (Wien/AT)

10:45–11:00 *Coffee Break*

11:00–13:15

Short Talks 1

3D-Bioprinting

Room Lecture Hall Essen 1

Chair Rainer Detsch (Erlangen/DE), Benjamin Kruppke (Dresden/DE)

11:00 Development of a multi-modal 3D-bioprinting process combining drop-on
ST 01 demand printing, microextrusion and spheroid-placement for advanced
biofabrication
Jamina Sofie Gerhardus (Darmstadt/DE)

11:15 Scaling-up 3D-bioprinting using automation technology and artificial
ST 02 intelligence
Nils Lindner (Darmstadt/DE)

11:30 Hybrid and tunable tubular constructs as small diameter vascular tissue models
ST 03 Tomasz Jüngst (Würzburg/DE)

11:45 Drop-on-demand acoustic bioprinting avoiding wall shear stress
ST 04 Stefan Jentsch (Aachen/DE)

12:00 ST 05	Hybrid bioprinting of PLA-bioglass-composites for bone tissue engineering Eva Schätzlein (Darmstadt/DE)
12:15 ST 06	High-speed printing technologies for scalable biofabrication of vascular network mimicking patterns Anna Fritschen (Darmstadt/DE)
12:30 ST 07	Build platforms in motion – an innovative approach for 3D-(bio)printing of cylindrical hollow bodies for biomedical applications Meik Neufurth (Mainz/DE)
12:45 ST 08	3D bioprinting of a diffusion enhanced bioink for tissue engineering Annabelle Neuhäusler (Darmstadt/DE)
13:00 ST 09	Scaling cell tissue production through screen printing as a novel 3D bioprinting technology Robin Maatz (Darmstadt/DE)
11:00–13:15	Short Talks 2 Implants
Room	Lecture Hall Essen 2
Chair	Katharina Doll (Hannover/DE), Wilhelm Jahnen-Dechent (Aachen/DE)
11:00 ST 10	Silk fiber-based implants for intervertebral disc regeneration Michael Wöltje (Dresden/DE)
11:15 ST 11	In-vivo investigation of powder-printed calcium magnesium phosphate (CaMgP) cylinders in a rabbit model Franziska Feichtner (München/DE)
11:30 ST 12	Porous zirconia/magnesia ceramics with variable mechanical properties and improved osteogenic response <i>in vitro</i> Oleg Prymak (Essen/DE)
11:45 ST 13	Creating an implant-associated drug delivery system for the inner ear based on a silicone matrix and silica nanoparticles Luisa Vanessa Steingrube (Hannover/DE)
12:00 ST 14	Eardrum implants with biomimetic mechanical and oscillatory properties for myringoplasty Lukas Benecke (Dresden/DE)

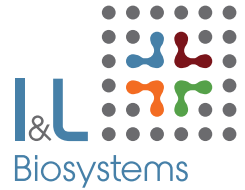
12:15 ST 15	Investigation of the mechanical performance of newly-developed PLLA braided stent through computational modelling Agnese Lucchetti (Aachen/DE)
12:30 ST 16	Fabrication of bone-cartilage implants by two-photon absorption Nadine Brandes (Heilbad Heiligenstadt/DE)
12:45 ST 17	Microstructure of implant materials CoCr28Mo6, TiAl6V4 and REX 734 determines corrosion susceptibility under inflammatory crevice conditions Maria Herbster (Magdeburg/DE)
13:15–14:00	<i>Lunch Break</i>
14:00–15:30	Short Talks 3 Antimicrobial strategies
Room	Lecture Hall Essen 1
Chair	Andrea Ewald (Würzburg/DE)
14:00 ST 18	Nutrient and time dependent pH inside <i>Streptococcus oralis</i> biofilms on titanium surfaces <i>in vitro</i> Katharina Doll (Hannover/DE)
14:15 ST 19	Insights into the regulation of light-induced cytotoxicity by photoactive nanomaterials Anzhela Galstyan (Essen/DE)
14:30 ST 20	Investigation to discriminate between photohydrophilic and photocatalytic effects on microbial primary adhesion and biofilm formation on TiO ₂ coatings Holger Rothe (Heilbad Heiligenstadt/DE)
14:45 ST 21	Sterilization-related impact on lubricant content on polypropylene surfaces for medical application Eva Berghaus (Osnabrück/DE)
15:00 ST 22	Novel atmospheric pressure plasma spraying for pure and Zn alloyed hydroxyapatite coatings on 3D printed, temperature and distortion sensitive polymer and titanium implants for reconstruction of face, jaw and finger bone defects Juergen M. Lackner (Niklasdorf/AT)
15:15 ST 23	The application of optical high-resolution microscopy (CLSM, SIM, STORM) to study the interaction between ultrasmall gold nanoparticles and bacteria Nataniel Bialas (Essen/DE)

14:00–15:30	Rapid Fire Session
Room	Lecture Hall Essen 2
Chair	Horst Fischer (Aachen/DE), Andreas Scherrieble (Denkendorf/DE)
14:00 P 44/RF 01	Fabrication of vascular-mimicking biomaterial compositions by the use of 3D bioprinting Tobias Hedtke (Halle a. d. Saale/DE)
14:03 P 23/RF 02	Gellan-based hydrogels show potential as a matrix material for the construction of 3-layered <i>in vitro</i> skin models Sophia Nowakowski (Reutlingen/DE)
14:06 P 51/RF 03	A period of static maturation before dynamic cultivation enhances the long-term stability of a vessel model Nadja Hansen (Aachen/DE)
14:09 P 39/RF 04	3D-Bioprinting effects on cell and organoid proliferation and metabolism Erin Spiller (Heidelberg/DE)
14:12 P 25/RF 05	Impact of AgAu-nanoparticles produced by laser ablation in a co-culture model Nils Heine (Hannover/DE)
14:15 P 32/RF 06	Therapeutic window of silver nitrate, strontium acetate, and their combination: Antibacterial effects and cytocompatibility Marjan Kheirmand Parizi (Hannover/DE)
14:18 P 01/RF 07	<i>In vivo</i> degradation and osseointegration of 3D powder-printed CMP-based scaffolds in the loaded segmental tibial defect model Elke Hemmerlein (München/DE)
14:21 P 04/RF 08	Degradation behavior and biocompatibility of magnesium-phosphate-(MPC) and calcium-magnesium-phosphate-cements (CMPC) <i>in-vivo</i> Sophia Hiepe (München/DE)
14:24 P 21/RF 09	Protection against apoptosis via siRNA-mediated modification of corneal endothelial cells Susanne Stählke (Rostock/DE)
14:27 P 24/RF 10	Development of an advanced encapsulation strategy for ibuprofen for controlled drug release from hydrogels for the treatment of inflammatory joint diseases Hanna Hartmann (Reutlingen/DE)

14:30 P 55/RF 11	Drillable magnesium phosphate cements and bone adhesives in the <i>in-vivo</i> femoral defect model Uwe Gbureck (Würzburg/DE)
14:33 P 03/RF 12	Biomimetic self-assembling peptide nanofibers for neuroregeneration Yu-Liang Tsai (Mainz/DE)
14:36 P 33/RF 13	Fabrication and characterization of cotton-like electrospun fibers based on sol-gel bioactive glasses Hsuan-Heng Lu (Erlangen/DE)
14:39 P 19/RF 14	Fatty acid-terminated low molecular weight poly(L-lactide)s as parenteral drug delivery matrices Charline Hoffmann (Düsseldorf/DE)
14:42 P 42/RF 15	Effects of gamma irradiation and supercritical carbon dioxide sterilization on biopolymer-based hydrogels intended for bone substitution Vera Hintze (Dresden/DE)
14:45 P 12/RF 16	The therapy enhancing effect of noble metal nanoparticles in proton therapy is defined through their surface functionality Christoph Rehbock (Essen/DE)
14:48 P 09/RF 17	Modification of thermoplastic polyurethane with zwitterionic oligomers for tailored cell behavior Jana Markhoff (Rostock/DE)
14:51 P 10/RF 18	Impact of Mg-based materials on the chondrogenic differentiation of mesenchymal stem cells Heike Helmholz (Geesthacht/DE)
14:54 P 45/RF 19	Fibrin-based hydrogel containing a novel fibrin-binding-peptide Hanna Malyaran (Aachen/DE)
14:57 P 56/RF 20	A novel human whole blood culture system provides a detailed and long-term study of immune cell-biomaterial interactions Marbod Weber (Reutlingen/DE)
15:00 P 07/RF 21	Strategies to establish an electroactive hydrogel library based on Ppy-functionalized ADA-GEL Lisa Schöbel (Erlangen/DE)

15:03 P 17/RF 22	Modulation of biomaterial-induced immune responses by application of polyelectrolyte multilayer coatings Florian Billing (Reutlingen/DE)
15:06 P 50/RF 23	Macromer-based icroporous scaffolds with tunable degradation kinetics controlled by macromer chemistry Jan Krieghoff (Leipzig/DE)
15:09 P 11/RF 24	Co-doping of iron and copper ions in nanosized bioactive glass by reactive laser fragmentation in liquids Christoph Rehbock (Essen/DE)
15:12 P 20/RF 25	Impact of physical forces on cell physiology for tissue regeneration Susanne Stählke (Rostock/DE)
15:30–17:00	Poster Session Poster Exhibition
Room	Foyer Building S 06 (page 22)
17:00–18:00	Plenary Talk – Jens Trötzschel
Room	Lecture Hall Essen 1
Chair	Karsten Seidl (Duisburg/DE)
17:00 PT 2	Great ideas with real-world issues – the other side of innovation Jens Trötzschel (Hanau/DE)
19:00–23:00	Social Evening – Restaurant Rosemarie, Essen

Tailor-made lab solutions



3D Bioprinting

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Engineering



Rheology

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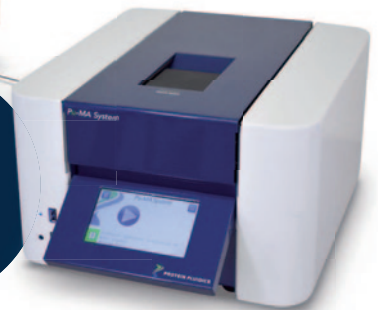
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09:00–10:00 Plenary Talk – Mustafa Citak

Room Lecture Hall Essen 1
 Chair Jochen Salber (Bochum/DE)

09:00 Periprosthetic joint infections – the orthopaedic surgeon’s perspective
 PT 3 Mustafa Citak (Hamburg/DE)

10:00–10:30 *Coffee Break*

**10:30–12:30 Short Talks 4
NanoBioMaterials 1**

Room Lecture Hall Essen 1
 Chair Michael Wöltje (Dresden/DE), Jürgen Groll (Würzburg/DE)

10:30 Influence of divalent metal ions on the precipitation of fibrinogen
 ST 24 Dorothea Brüggemann (Bremen/DE)

10:45 Effect of ink formulation on the detection limit of a printed and AuNP based
 ST 25 colorimetric biosensor
 Tim Eike Weber (Darmstadt/DE)

11:00 GIFT: An ImageJ macro for automated fiber diameter quantification of
 ST 26 electrospun biomaterials
 Jennifer Huling (Rostock/DE)

11:15 Nanoparticles for biomedicine: A machine learning-based approach to
 ST 27 analyse transmission electron microscopic images
 Nina Gumbiowski (Essen/DE)

11:30 Incorporation of non-polymeric components in polyelectrolyte multilayers
 ST 28 as a strategy for biofunctionalization
 Tonya Andreeva (Reutlingen/DE)

11:45 Neurotransmitter detection based on near-infrared fluorescent carbon
 ST 29 nanotubes
 Julia Ackermann (Duisburg/DE)

12:00 *In vivo* biodistribution of calcium phosphate nanoparticles illustrated by
 ST 30 small animal PET/CT
 Sebastian Kollenda (Essen/DE)

12:15 Biocompatible magnetoelectric nanorobots for theranostics
 ST 31 Roman Chernozem (Tomsk/RU)

10:30–12:30 Short Talks 5

Cell-Materials Interaction

Room Lecture Hall Essen 2

Chair Petra J. Kluger (Reutlingen/DE), Michael Gelinsky (Dresden/DE)

10:30 Development of a three component bioink for a vascularized bioprinted
ST 32 liver model
Mariana Acedo Mestre (Darmstadt/DE)

10:45 Bone marrow analogs for drug testing
ST 33 Peter Schertl (Hannover/DE)

11:00 Ultrasmall gold nanoparticles (2 nm) conjugated with small-interfering RNA
ST 34 for gene silencing of eGFP, proinflammatory NFκB and inhibition of herpes
simplex virus (HSV) replication *in vitro*
Natalie Wolff (Essen/DE)

11:15 Investigations of therapeutic strategies against oral peri-implant infections
ST 35 in a unique 3D-implant-tissue-bacterial biofilm model
Carina Mikolai (Hannover/DE)

11:30 Biofunctionalization of titanium and zirconia surfaces by cross-linked ECM
ST 36 proteins promotes enhanced biological activity of gingival cells while
reducing bacterial accumulation
Alena Palkowitz (Aachen/DE)

11:45 Generation of perfusable microvascular networks for 3D tissue models via
ST 37 sacrificial thermoresponsive polymer scaffolds based on freeform printing
and melt electrowriting
Matthias Ryma (Würzburg/DE)

12:00 The in situ-implant proteome: Linking tissue and material
ST 38 Andrea Sowislok (Essen/DE), Marcus Jäger (Mülheim a. d. R/DE)

12:15 Self-assembled fibrinogen nanofibers: Interaction with blood platelets and
ST 39 skin cells
Dorothea Brüggemann (Bremen/DE)

12:30–13:30 Lunch Break

13:30–14:30 Short Talks 6
NanoBioMaterials 2

Room Lecture Hall Essen 1
 Chair Sebastian Kollenda, Anzhela Galstyan (Essen/DE)

13:30 Drug delivery systems for polycaprolactone-based growth factor releasing
 ST 40 implants
 Henning Menzel (Braunschweig/DE)

13:45 Short-term and long-term CNT-Silicone rubber in-vivo biocompatibility
 ST 41 study using a mouse model
 Theodor Doll (Hannover/DE)

14:00 Zinc oxide nanoparticles to promote tissue integration of biomaterials
 ST 42 Nadine Wiesmann (Mainz/DE)

14:15 Carbon nanotubes for optical biosensing
 ST 43 Svenja Herberth (Duisburg/DE)

13:30–14:30 Short Talks 7
Regenerative Medicine 1

Room Lecture Hall Essen 2
 Chair Tomasz Jüngst (Würzburg/DE)

13:30 Development of a BMP-2 delivery system based on mineralized collagen – a
 ST 44 translational approach towards clinical application
 Leonie Schlicht (Dresden/DE)

13:45 Bone sialoprotein immobilized in collagen type I as carrier system induces
 ST 45 bone regeneration *in vitro* and *in vivo*
 Ulrike Ritz (Mainz/DE)

14:00 Surgical-site released tissue for bone regeneration? The BoneFlo concept
 ST 46 Marcus Jäger (Mülheim a. d. R./DE), Andrea Sowislok (Essen/DE)

14:15 Development of a novel bioreactor to study mechanobiological cues of
 ST 47 periodontal ligament fibroblast embedded in collagen-based hydrogel during
 mechanical stretching
 Kuo-Hui Chiu (Aachen/DE)

14:30–14:45 *Coffee Break*

14:45–15:45 Plenary Talk – Antony Atala

Room Lecture Hall Essen 1
 Chair Viktoriya Sokolova (Essen/DE)

14:45 Regenerative medicine – current concepts and changing trends
 PT 4 Anthony Atala (Winston-Salem, NC/US)

15:45–16:00 Coffee Break

16:00–18:30 DGBM General Assembly

Room Lecture Hall Essen 1

18:30–20:30 Poster Session

Poster Exhibition

Room Foyer Building S 06 (page 22)

09:00–10:00 Plenary Talk – Maria Chatzinikolaïdou

Room Lecture Hall Essen 1
Chair Henning Menzel (Braunschweig/DE)

09:00 Biomaterial matrices in bone tissue engineering
PT 5 Maria Chatzinikolaïdou (Heraklion/GR)

10:00–10:30 *Coffee Break*

**10:30–12:00 Short Talks 8
Regenerative Medicine 2**

Room Lecture Hall Essen 1
Chair Sebastian Kruss (Duisburg/DE), Aldo R. Boccaccini (Erlangen/DE)

10:30 Influence of electrical stimulation on the differentiation capacity of rabbit
ST 48 chondrocytes seeded on ADA-GEL scaffolds
Janine Waletzko-Hellwig (Rostock/DE)

10:45 PEM and collagen encapsulated multi-metal ions with sustained release and
ST 49 improved osteogenesis and angiogenesis effects
Lu Fan (Reutlingen/DE)

11:00 Appearance and functionality of fibroblasts in ultra-longtime cell culture as
ST 50 a model for tissue scaffolds
Goetz Pilarczyk (Heidelberg/DE)

11:15 3D blood-brain barrier organoid model as a platform for the application of
ST 51 extracellular vesicles
Viktoriya Sokolova (Essen/DE)

11:30 Novel protocol for preparation of regenerated silk fibroin protein solution
ST 52 Michael Wöltje (Dresden/DE)

**10:30–12:00 Short Talks 9
Biobased Biomaterials**

Room Lecture Hall Essen 2
Chair Nataniel Białas (Essen/DE), Sanja Aveic (Aachen/DE)

10:30 Adipose stem cell-derived extracellular matrix – characterization and
ST 53 chemical functionalization
Svenja Nellinger (Reutlingen/DE)

10:45 ST 54	Delivery of bioactive bone healing compounds from intermixed polyelectrolyte coatings Martin Müller (Dresden/DE)
11:00 ST 55	Degradation of resorbable calcium phosphate bone substitutes under continuous fluid exchange Benjamin Kruppke (Dresden/DE)
11:15 ST 56	Collagen fiber spinning and collagen fiber scaffolds Hendrik Florian Pöttsch (Dresden/DE)
11:30 ST 57	Mechanical and adhesion properties of coatings obtained from aqueous silk fibroin solution Benedetta Isella (Aachen/DE)
12:00–13:00 Room	Farewell Lecture Hall Essen 1

Poster Sessions

Posters will be displayed during the whole conference. The poster exhibition is located in the Foyer of the Building S 06.

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

Poster Sessions

Thursday, September 15th 15:30–17:00

Friday, September 16th 18:30–20:30

- P 01/RF 07 *In vivo* degradation and osseointegration of 3D powder-printed CMP-based scaffolds in the loaded segmental tibial defect model
Elke Hemmerlein (München/DE)
- P 02 Anti-infective bimetallic nanopatches – prevention of implant-associated infections based on the sacrificial anode effect
Marina Breisch (Bochum/DE)
- P 03/RF 12 Biomimetic self-assembling peptide nanofibers for neuroregeneration
Yu-Liang Tsai (Mainz/DE)
- P 04/RF 08 Degradation behavior and biocompatibility of magnesium-phosphate-(MPC) and calcium-magnesium-phosphate-cements (CMPC) *in-vivo*
Sophia Hiepe (München/DE)
- P 05 Calcium phosphate nanoparticles with attached proteins as drug delivery systems
Kathrin Kostka (Essen/DE)
- P 07/RF 21 Strategies to establish an electroactive hydrogel library based on PPy-functionalized ADA-GEL
Lisa Schöbel (Erlangen/DE)
- P 08 Mechanical properties of PEGDA_{4K}, PEGDA_{10K} and PEGDA_{20K} hydrogels
Natalia Rekowska (Rostock/DE)
- P 09/RF 17 Modification of thermoplastic polyurethane with zwitterionic oligomers for tailored cell behavior
Jana Markhoff (Rostock/DE)
- P 10/RF 18 Impact of Mg-based materials on the chondrogenic differentiation of mesenchymal stem cells
Heike Helmholz (Geesthacht/DE)

- P 11/RF 24 Co-doping of iron and copper ions in nanosized bioactive glass by reactive laser fragmentation in liquids
Christoph Rehbock (Essen/DE)
- P 12/RF 16 The therapy enhancing effect of noble metal nanoparticles in proton therapy is defined through their surface functionality
Christoph Rehbock (Essen/DE)
- P 13 Prolamine-silica hybrid materials: Characterization, functionality and biocompatibility
Franziska Trodtfeld (Jena/DE)
- P 14 Ultrasmall gold nanoparticles as cell-permeable carriers for biomolecules
Kai Klein (Essen/DE)
- P 15 Synthesis and characterization of a calcium phosphate nanoparticle-based paste and binding particles
Benedikt Kruse (Essen/DE)
- P 16 Fabrication of electrospun hollow tubes to enhance diffusion in 3D-printable hydrogels
Katharina Rogg (Reutlingen/DE)
- P 17/RF 22 Modulation of biomaterial-induced immune responses by application of polyelectrolyte multilayer coatings
Florian Billing (Reutlingen/DE)
- P 18 The synthesis and biocompatibility of the mucin-mimicking glycopolymers
Peter Trošan (Rostock/DE)
- P 19/RF 14 Fatty acid-terminated low molecular weight poly(L-lactide)s as parenteral drug delivery matrices
Charline Hoffmann (Düsseldorf/DE)
- P 20/RF 25 Impact of physical forces on cell physiology for tissue regeneration
Susanne Stähle (Rostock/DE)
- P 21/RF 09 Protection against apoptosis via siRNA-mediated modification of corneal endothelial cells
Susanne Stähle (Rostock/DE)
- P 22 On the incorporation of fluoride into human tooth enamel by dental care products
Kateryna Loza (Essen/DE)

- P 23/RF 02 Gellan-based hydrogels show potential as a matrix material for the construction of 3-layered *in vitro* skin models
Sophia Nowakowski (Reutlingen/DE)
- P 24/RF 10 Development of an advanced encapsulation strategy for ibuprofen for controlled drug release from hydrogels for the treatment of inflammatory joint diseases
Hanna Hartmann (Reutlingen/DE)
- P 25/RF 05 Impact of AgAu-nanoparticles produced by laser ablation in a co-culture model
Nils Heine (Hannover/DE)
- P 26 Nanodiamond functionalized oral implant surfaces for the formation of a vital implant/soft tissue interface
Cornelia Wolf-Brandstetter (Dresden/DE)
- P 27 *Streptococcus oralis* and *Actinomyces naeslundii* biofilm formation on hydrophobic and hydrophilic titanium surfaces *in vitro*
Maya Duitscher (Hannover/DE)
- P 28 Electro-polymerization of biodegradable and conductive polymer as inflammation sensing for the cochlear implant
Minh-Hai Nguyen (Hannover/DE)
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Get together Young Researchers – Bermuda3Eck Bochum

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Date	Wednesday, September 14 th
Time	19:00–23:00
Venue	Bermuda3Eck Bochum
Fee	at your own cost, no registration required

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Time	19:00–23:00
Venue	Rosemarie Kettwiger Straße 36 45127 Essen
Fee	70 EUR, registration required



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Get together Poster Session

The poster authors will be happy to answer questions and discuss with you at the corresponding poster. Snacks and drinks will be provided during this session.

Date	Friday, September 16 th
Time	18:30–20:30
Venue	Poster exhibition area
Fee	included in the conference fee



Abstracts

All abstracts will be available at the online programme.



Certificates of attendance

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



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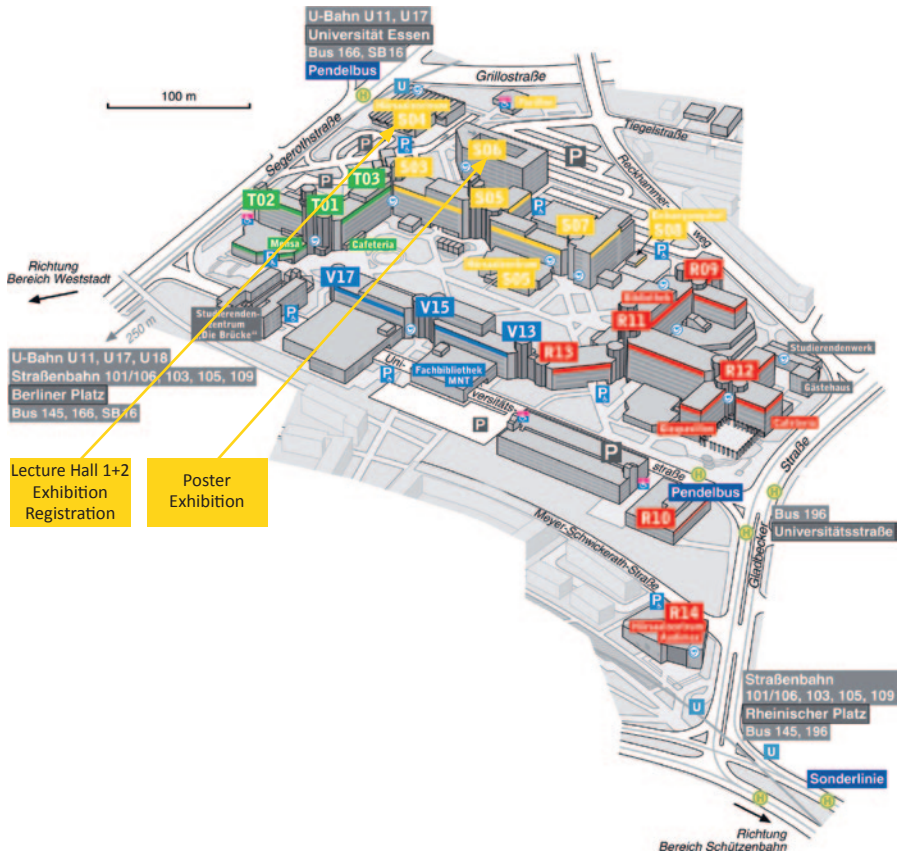


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Maria Chatzinikolaïdou, University of Crete
(Heraklion, GR)

“Periprosthetic joint infections – the orthopaedic surgeon’s perspective”

Mustafa Citak, Helios ENDO-Klinik Hamburg
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“High-resolution 3D printing – challenges and opportunities for biomedical applications”

Aleksandr Ovsianikov, Technische Universität Wien
(Wien, AT)

„Great ideas with real-world issues – the other side of innovation“

Jens Trötzschel, Heraeus Medical Components
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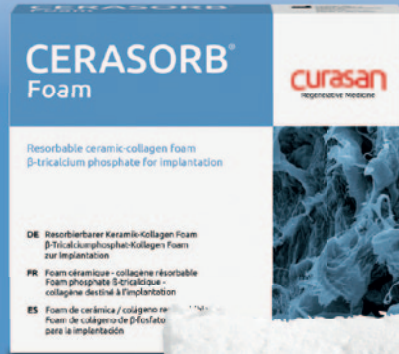
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