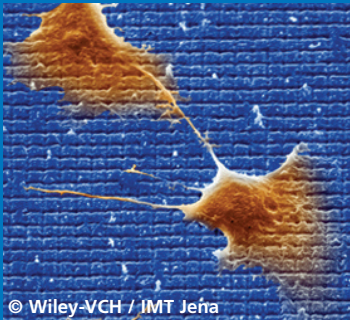


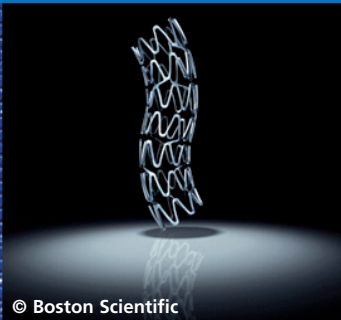
Euro

BioMat

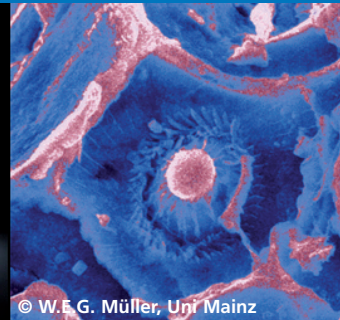
European Symposium on Biomaterials
and Related Areas



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13-14 April 2011



Jena, Germany

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EURO BioMat - Overview -

Time	Wednesday, 13.4.2011			Time	Thursday, 14.4.2011		
	Berlin Saal				Berlin Saal		
9:00	Welcome			8:30	Plenary, Prof. Martin		
9:15	Plenary, Prof. Lensen			9:00	Plenary, Prof. van der Giessen		
9:45	Plenary, Prof. Webster			9:30	Coffee Break		
10:15	Coffee Break				Berlin 1	Berlin 2	Carl Zeiss
	Berlin 1	Berlin 2	Carl Zeiss		Topic E	Topic H	Topic C
	Topic A	Topic B	Topic C	10:00			
10:45	HL			10:20	HL		
11:05				10:40		HL	
11:25		HL		11:00			HL
11:45				11:20			
12:05			HL	11:40	HL		
12:25				12:00		HL	
12:45	Lunch Break			12:20			HL
	Topic A	Topic B	Topic J	12:40	Lunch Break		
13:45	HL				Berlin 1	Berlin 2	Carl Zeiss
14:05			HL		Topic E	Topic F	Topic D
14:25		HL		13:30	HL		
	Topic E	Topic B	Topic G	13:50		HL	
14:45		HL		14:10			HL
15:05			HL	14:30			
15:25	HL			14:50	Coffee Break		
15:45	Coffee Break				Topic E	Topic F	Topic D
	Berlin Saal			15:15			HL
16:15	30 Oral Poster Show			15:35	HL		
17:45	Posterdiskussion with Snacks and Drinks			15:55		HL	
20:00	Conference Dinner at 'Planetarium'			16:15			
				16:35	Closing Address and Announcement of the ZIMMER Poster Award		
				16:50	End of the Conference		

Topics

- A:** Bioinspired Materials
- B:** Bio-Nano Materials
- C:** Biointerfaces
- D:** Computational Biomaterials Science
- E:** Biomaterial Application /Clinical Application
- F:** Biofilms, Biofouling and Antimicrobial Biomaterials
- G:** Bio-based Polymers
- H:** Tissue Engineering / Regenerative Medicine
- J:** Dental Materials



Euro BioMat 2011
European Symposium on Biomaterials
and Related Areas
13 -14 April 2011
Jena, Germany

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Klaus D. Jandt
Friedrich-Schiller-
University Jena

Chairman



Thomas F. Keller
Friedrich-Schiller-
University Jena

Vice-Chairman

The international symposium Euro BioMat 2011 of the German Society for Materials Science (DGM) addresses the growing interest of science and industry in the different aspects of the creation, characterization, testing and application of biomaterials and bioinspired materials.

The motivation for this symposium is twofold. Firstly, there has been much recent scientific progress and new challenges emerging within this exciting, interdisciplinary field of science and engineering. And, secondly, engineers, materials scientists, physicists, chemists and biologists in industrial R&D as well as medical professionals are increasingly confronted with situations where materials are required with high performance characteristics within a challenging biological host environment.

The DGM and its panel of experts in biomaterials address these developments with the European symposium Euro BioMat 2011 in Jena, Germany.

At Euro BioMat 2011, the current state of progress in development, characterization, application, testing and modeling of biomaterials in basic science and in industry will be presented and discussed. In addition, this symposium will bring together experts in closely related areas, such as biomimetics, biomineralization and biopolymers. Euro BioMat 2011 with 260 submitted abstracts from more than 30 countries brings together fascinating science and stimulating

people in a delightful setting in historic Jena in the very heart of Europe.

The program committee of EURO BioMat 2011 is pleased to announce the following plenary talks:

- Implications of Nanotechnology in Regenerative Medicine: What Have We Learned and What's Next? T. Webster, Brown University, Providence (USA)
- Cells' Responses to Micro- and Nanopatterned Biointerfaces, M. Lensen, Technische Universität Berlin (Germany)
- From Permanent Coronary Artery Implants to Bioabsorbable Stents, W.J. van der Giessen, Erasmus University Medical Center, Rotterdam (Netherlands)
- Engineering 3D Stromal Tissues, I. Martin, University Hospital Basel (Switzerland)

We are looking forward to welcome you in Jena on the 13th-14th of April 2011!

Klaus D. Jandt
Thomas F. Keller

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Technology (IMT)
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Program Committee



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Aldo Boccaccini
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Erlangen-Nürnberg



Hubert Büchner
Heraeus Holding
GmbH, Hanau



Petra Kluger
Fraunhofer Institute
for Interfacial
Engineering and
Biotechnology,
Stuttgart



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Italy



Erhan Piskin
Haccettepe
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**Doris Steinmüller-
Nethl**
r-Best coating Hart-
stoffbeschichtungs
GmbH, Innsbruck,
Austria



David Watts
University of
Manchester, UK

Room	Berlin 1 + Berlin 2
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9:00 **Welcome**

Plenary Lectures

Chairman Prof. Dr. K. D. Jandt, Friedrich-Schiller University of Jena, Germany

9:15 Cells' Responses to Micro- and Nanopatterned Biointerfaces

M. Lensen , Technische Universität Berlin, Germany

Biointerfaces represent the contact area of a (bio)material with a biological system and this is the area where interactions with proteins and cells take place. Upon the first contact of a material with a biological fluid (e.g. blood, urine, saliva), proteins adsorb to the biointerface. This adsorption can be very unspecific, however, the non-specific protein adsorption (NSPA) is extremely important, as it determines the initial cell adhesion and can influence further cellular responses. NSPA is often undesired, since it can lead to unwanted cell growth, biofilm formation and inflammation reactions. Consequently, a wealth of strategies has been developed to suppress NSPA in order to enable specific biointeraction, for example the adhesion of desired cell types in a controlled density at a predetermined location and with spatio-temporal control of cells' responses.

Attempts to prevent NSPA include the development of "non-fouling" materials to which basically no proteins can adsorb at all. Poly(ethylene glycol) (PEG) is one of the most popular biomaterials for this purpose. PEG owes its inertness to a combination of several (physico-)chemical properties; it is hydrophilic, electrically neutral and highly hydrated. In order to enable specific cell adhesion to PEG biointerfaces, specific (bio)chemical cues, e.g. cell adhesion molecules (CAMs), can be introduced to the surface, for example by soft lithography techniques such as micro-contact printing.

Besides (bio)chemical cues also surface topography and elasticity have been demonstrated to play an important role in cells' responses; we have discovered for example that micro- and nanometer-sized surface topography enables cell adhesion on intrinsically inert PEG-based hydrogels. Also other researchers have revealed that cell adhesion, spreading and migration depend critically on the substrate's stiffness, and that the stiffness of the biointerface (which can also be a 3-dimensional matrix or scaffold) can even dictate the differentiation of stem cells.

This lecture will give an overview of successful strategies to control cell's responses on biointerfaces and will also highlight some achievements from our own research in which we aim at controlling cell adhesion and migration on biomaterials' surfaces by employing micropatterns of chemistry, topography and elasticity; separately and in combination.

9:45 Implications of Nanotechnology in Regenerative Medicine: What Have We Learned and What's Next ?

Th. J. Webster, Brown University, USA

This presentation will summarize studies which have demonstrated enhanced in vitro and in vivo tissue growth on nanostructured metals, ceramics, polymers, and composites thereof compared to currently-used (nano-smooth) implants. Tissue growth to be emphasized will consist of bone, cartilage, vascular, skin, bladder, nervous system, and other tissues. These results strongly imply that nanomaterials may improve tissue regeneration compared to what is being implanted today. This review will also focus on a fundamental explanation why tissue growth is enhanced on nanostructured compared to conventional tissue engineering materials summarizing a wide range of research efforts, including those which have already received FDA approval for implantation. Thoughts on the necessary future studies for the field of nanotechnology and tissue engineering to progress will also be presented.



10:15-10:45 Coffee Break + Exhibition + Postershow

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic A: Bioinspired Materials	Topic B: Bio-Nano Materials	Topic C: Biointerfaces
	Chair: T. Scheibel, University of Bayreuth (Germany)	Chair: G. Marletta, University of Catania (Italy)	Chair: K.D. Jandt, Friedrich-Schiller- University of Jena (Germany)

Highlight

10:45	Bio-Inspired, Smart, Multiscale Interfacial Materials L. Jiang (Sp), Chinese Academy of Sciences, Beijing (China)	Bioactivity of PCL, PLA – Based Nanocomposites Modified with Ceramic Nanoparticles E. Soltysiak (Sp), M. Blazewicz, AGH University of Science and Technology, Krakau (Poland)	Quantifying Cell-Nanostructure Interactions with Force Microscopy C. Selhuber-Unkel, Universität zu Kiel ; J. Deeg (Sp), University of Heidelberg, M. López-García,, H. Kessler, University of Munich, Garching ; J.P. Spatz, MPI for Metals Research, Stuttgart (Germany)
11:05	Design of Multilayered Spruce Laminates for Moisture-Sensitive Actuating Components S. Spitzer (Sp), W. Hufenbach, C. Neinhuis, A. Wagenführ, F. Adam, M. Gude, M. Horbens, C. Kirvel, C. Siegel, Technische Universität Dresden (Germany)	Nanoparticles for Cancer Therapy: Effects of Morphology and Surface Functionalization J. Worley (Sp), Christian-Albrechts-University of Kiel (Germany); V. Witte, Otto-Von-Guericke University, Magdeburg (Germany); M. Elbahri, Christian-Albrechts-University of Kiel (Germany)	Analyzing the Interactions of Mesenchymal Stem Cells with OPN Coated Surfaces Using QCM- F. Andersson (Sp), Q-Sense, Göteborg (Sweden), R. Sauter (Sp), LOT-Oriel Germany, Darmstadt (Germany)
11:25	Bioinspired Hierarchical Reinforcement of Polyurethane Films R. Libanori (Sp), D.M. Montenegro, F. Münch, A.R. Studart, ETH Zürich (Switzerland)	Study of Biogenic Composites by Nano-Scale Elastic Modulus Mapping H. Moshe-Drezner, D. Shilo (Sp), A. Dorogoy, E. Zolotoyabko, Technion - Israel Institute of Technology, Haifa (Israel)	Bioactive Surface Modification of Zirconia for Dental and Orthopedic Applications K. Pardun (Sp), L. Treccani, K. Rezwan, University of Bremen (Germany)
11:45	Bioinspired Nanocomposites Based on Self-Assembling Bacterial Surface Layer Proteins K. Pollmann (Sp), Forschungszentrum Dresden-Rossendorf (Germany); T. Günther, U. Weinert, A. Marquard, S. Kutschke, F. Lehmann, J. Raff, Forschungszentrum Dresden-Rossendorf (Germany)	Peptide Adsorption to Oxide Nanoparticles L. Derr (Sp), M.M. Schmidt, Y. Köhler, L. Treccani, University of Bremen (Germany); G. Tomba, L. Colombi Ciacchi, Hybrid Materials Interfaces, Bremen (Germany); R. Dringen, K. Rezwan, University of Bremen (Germany)	Nanoscale Design of Polymer Biointerfaces T.F. Keller (Sp), S. Schröder, Friedrich Schiller University of Jena (Germany); M. Schnabelrauch, A. Schmidt, INNOVENT e.V., Jena (Germany); M. Müller, Institute of Polymer Research Dresden e.V. (Germany); K.D. Jandt, Friedrich Schiller University of Jena (Germany)

Wednesday, 13 April 2011
Lectures

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic A: Bioinspired Materials	Topic B: Bio-Nano Materials	Topic C: Biointerfaces
	Chair: T. Scheibel, University of Bayreuth (Germany)	Chair: G. Marletta, University of Catania (Italy)	Chair: K.D. Jandt, Friedrich-Schiller- University of Jena (Germany)

Highlight

**Protein Hybrid Materials:
Novel Functional Materials
Ranging from Elastine Like
Block Copolymers and Pro-
tein Nano-Rings to Enzyma-
tic Systems**
S. Schiller (Sp), A. Schreiber, M.
Huber, C. Hege, C. Yao, Albert-
Ludwig-University of Freiburg
(Germany)

New Enzymatically Mineralized Hydrogel Scaffolds for Bone Substitution
T. Douglas (Sp), Radboud University Medical Center, Nijmegen (Netherlands); P.B. Messersmith, Northwestern University, Evanston (USA); J.A. Jansen, S.C.G. Leeuwenburgh, Radboud University Medical Center, Nijmegen (Netherlands)

A Detailed Physicochemical Study of Peptide-Silica Interactions; Importance of Peptide Composition, Silica Particle Size, Surface Chemistry and pH
V. Puddu (Sp), D.J. Belton, C.C. Perry, Nottingham Trent University (UK)

Towards the Generation of a New Class of Composite Materials: Using Chimeric Fusion Proteins to Direct Mineral Formation
V. Puddu, L.S. Canabady-Rochelle, E. Boix Lopez (Sp), O. Deschaume, H.A. Currie, D.L. Kaplan, C.C. Perry, Nottingham Trent University (UK)

CNT-Modified Polyamide 12 for Application as Balloon Catheter Material
G. Lorenz (Sp), T. Wörsching, Reutlingen University (Germany); M. Ghahremanpour, M. Bogner, University of Stuttgart (Germany); M. Detert, Coperion GmbH, (Germany); I. Maier, Ensinger GmbH, (Germany); J. Sägebarth, H. Sandmaier, University of Stuttgart (Germany)

**Physiological Corrosion –
Towards in Vitro Setups for
Degradable Metals**
F. Feyerabend (Sp), L. Yang, N. Hort, K.U. Kainer, A. Schreyer, Helmholtz-Zentrum Geesthacht (Germany); C. Vogt, H. Drücker, Leibniz-University, Hannover (Germany); R. Willumeit, Helmholtz-Zentrum Geesthacht (Germany)

12:45 Lunch Break Lunch will be served in the foyer of the lecture halls

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic A: Bioinspired Materials	Topic B: Bio-Nano Materials	Topic J: Dental Materials
	Chair: T. Scheibel, University of Bayreuth (Germany)	Chair: G. Marletta, University of Catania (Italy)	Chair: D. Watts, University of Manchester (UK)
	Highlight		
13:45	Bio-Inspired Synthesis and Self-assembly of Functional Inorganic Materials and Hybrids S.-H. Yu (Sp), University of Science and Technology of China, Hefei (China)	Attachment and Proliferation of Human Adipose-Derived Stem Cells (HASCs) on Poly (DL-Lactide-Co-Glycolide)/ Bioactive Glass Nanocomposite Coating. M. Mehdikhani-Nahrkhalaji (Sp), M.H. Fathi, Isfahan University of Technology (Iran); V. Mortazavi, S.B. Mousavi, B. Hashemi-Beni, Isfahan University of Medical Sciences (Iran)	<u>Shortlecture 13:45-13:55</u> Dental Filling Materials – Crystallographic and Physical Properties C. Hartmann (Sp), H. Klein, L. Raue, Georg-August-Universität Göttingen (Germany) <u>Shortlecture 13:55-14:05</u> Morphology and Thickness of Polymer Layers Protecting Human Dental Enamel Against Erosion M. Beyer (Sp), Friedrich Schiller University Jena (Germany) ¹⁴⁾
14:05	From Siliceous Sponge Skeleton to Multifunctional Bionic Nanostructures W.E.G. Müller (Sp), Johannes Gutenberg University Mainz (Germany)	SPS Consolidation of Biometric Nanocrystalline Calcium Phosphate Apatites at Low Temperature S. Rollin-Martinet (Sp), E. Champion, University of Limoges (France); D. Grossin, University of Toulouse (France); C. Damia, University of Limoges (France); C. Estournès, University of Toulouse (France); F. Rosignol, University of Limoges (France); C. Combes, C. Rey, D. Drouet, University of Toulouse (France)	Highlight Raman Analysis of Titanium Oxides on Dental Implants N. Silikas (Sp), University of Manchester (UK); S. Zinelis, G. Eliades, University of Athens (Greece)
14:25	Hierarchically Structured Materials for Bone Regeneration: Morphology, Micro-mechanics and Properties S. Henning (Sp), Fraunhofer Institute for Mechanics of Materials IWM, Halle (Germany); H.R. Imam Khasim, G.H. Michler, Martin Luther University Halle-Wittenberg (Germany); J. Brandt, Universitätsklinikum Halle (Germany)	Highlight Cellularized Silica-Collagen Bionanocomposites S. Quignard (Sp), M.F. Desimone, C. Hély, M.M. Giraud-Guille, T. Coradin, University Pierre et Marie Curie, Paris (France)	<u>Shortlecture 14:25-14:35</u> Influence of Porosity on Corrosion Behaviour of Ti39Nb Alloy for Dental Applications J. Fojt (Sp), L. Joska, Institute of Chemical Technology, Prag (CZ) <u>Shortlecture 14:35-14:45</u> Microtribological investigations of the Interactions of Toothbrush Monofilaments on Human Enamel Surfaces S. Sarembe (Sp), Fraunhofer Institute for Mechanics of Materials, Halle (Germany) ¹⁵⁾

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterial Applications	Topic B: Bio-Nano Materials	Topic G: Bio-based Polymers
	Chair: V. Alt, Universitätsklinikum Gießen und Marburg (Germany)	Chair: G. Marletta, University of Catania (Italy)	Chair: D. Watts, University of Manchester (UK)

14:45	In-Vivo Study of Simultaneous Plasma Electrolytic Nitrocarburising with Hydroxyapatite Coating on Stainless Steel 316L in the Rabbit Tibia N. Afsar Kazerooni (Sp), M.E. Bahrololoom, M.H. Shariat, S. Dehghani, T. Jozaghi, Shiraz University (Iran)	Highlight Biomimetic Hydroxyapatite Nanocrystals Surface Activated with Alendronate to Develop Bone Implants with Improved Functionality M. Iafisco (Sp), M. Prat, Alma Mater Studiorum Università di Bologna (Italy); et. al. ¹⁾	Thermoplastic Chitosan – Conventional Processing of an Innovative Biomaterial S. Hein (Sp), P. Imgrund, Fraunhofer IFAM, Bremen (Germany)
15:05	Coatings on Titanium Implants Enhance Peri-Implant Bone Volume and Bone-Implant Contact in a Rat Model C. Schrader (Sp), J. Schmidt, INNOVENT e.V., Jena (Germany); M. Diefenbeck, T. Mückley, Universitätsklinikum, Jena (Germany); et. al. ²⁾	Synthesis, Characterization and Applications of Carbon-Nanotube-Protein Hybrid Nanofibers G. Wei (Sp), L. Xie, T.F. Keller, K.D. Jandt, Friedrich Schiller University Jena (Germany)	Highlight Production of Polyhydroxyalkanoates and their Biomedical Applications I. Roy (Sp), E. Akaraonye, L. Francis, R. Rai, University of Westminster, London (UK); D. Meng, Imperial College London (UK); A.R. Boccaccini, University of Erlangen-Nürnberg (Germany)
15:25	Highlight High-Velocity Suspension Flame Sprayed (HVSFS) Hydroxyapatite Coatings for Biomedical Applications N. Stiegler (Sp), Universität Stuttgart (Germany); et. al. ³⁾	Nano-Patterning of Titanium Surfaces for Improving Osseointegration of Implants S. Sjöström, B. Su (SP) University of Bristol (UK); et. al. ⁴⁾	Characterization and Modeling of Bamboo-Polypropylene Composites G.S. Venkatesh (Sp), Indian Institute of Science, Bangalore (India); et. al. ⁵⁾
15:45	Coffee Break + Exhibition + Postershow		
Room	Berlin 1 + Berlin 2		

16:15	Oral Poster Show, Chair: T.F. Keller, Friedrich-Schiller-University of Jena Oral Poster presentations allow poster authors to introduce their poster in a 3-minute oral presentation. According to the schedule mentioned in the program, the session chair will ask the speaker to come in front to present her/his Oral Poster. The Oral Posters are marked in the Poster Index with "oral". In addition, like the basic Posters, Oral Posters will permanently be on display during the conference and will also be presented at the Poster Discussion in the foyer.
17:45	Poster discussion in the Foyer with snacks and beverages
20:00	Conference Dinner at „Planetarium“

Room Berlin 1 + Berlin 2

Plenary Lecture

Chairman: Prof. Dr. A. R. Boccaccini, University of Erlangen-Nürnberg, Germany

8:30 Engineering 3D Stromal Tissues

I. Martin, University Hospital Basel, Switzerland

The use of bone marrow- or adipose tissue-derived mesenchymal stromal cells (MSC) for treatment of genetic or immunologic pathologies, as well as in the emerging field of regenerative medicine, typically requires cell expansion by sequential passages in monolayer (2D) cultures. The process generally leads to large cell numbers, but is associated with a progressive and dramatic reduction of the MSC 'early progenitor' functions. The present study proposes a different paradigm for the efficient expansion of human MSC within porous, three-dimensional (3D) scaffolds under direct alternate perfusion, which totally bypasses the 2D culture step. As compared to cells grown in 2D for the same time or the same number of doublings, human MSC expanded directly under perfusion for up to 3 weeks reproducibly maintained (i) higher clonogenic properties and more efficient multilineage differentiation capacity, as assessed after enzymatic extraction from the scaffold pores, and (ii) more reproducible osteogenicity, as assessed by direct ectopic implantation of the 3D scaffold-MSC constructs. Moreover, the 3D culture system allowed generating in vitro 'stromal tissues', as models to study interactions of MSC with different cell types (e.g., hematopoietic, endothelial, tumorigenic) under physiologically relevant conditions. Direct culture of freshly isolated MSC within 3D scaffolds under perfusion could not only improve efficacy, automate and streamline the process of MSC expansion for a variety of experimental or clinical applications, but also support the development of co-culture models, as paradigm for engineered 'stem cell niches'.



Plenary Lecture

Chairman: P. Albrecht, Boston Scientific Technologie Zentrum GmbH, Germany

9:00 From Permanent Coronary Artery Implants to Bioabsorbable Stents

W. J. van der Giessen, Erasmus University Medical Center, Netherlands

Since the first coronary angioplasty procedure by Andreas Gruntzig about 35 years ago a tremendous development has taken place. Following pioneering work by Gianturco, Palmaz, Maass and Wallsten in 1986 the first coronary stent was implanted in patients. Early enthusiasm was tempered by the incidence of stent thrombosis and still a high rate of restenosis ($\geq 25\%$). Since then important improvements have been made in the metal base material (from 316L stainless steel to PtCr), stent design (from slotted tube to cellular geometry), coatings (passive hemocompatible to immobilized heparin) and elution of anti-restenosis drugs. This has resulted in important improvements of patient outcomes. A recent development is the introduction of the biodegradable stent, which received approval earlier this year in Europe. A major advantage of this new product is that it will disappear in about two years, leaving the patients without a permanent implant with potential longterm complications.



9:30 Coffee Break + Exhibition + Postershow

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterials Applications / Clinical Applications	Topic H: Tissue Engineering / Regenerative Medicine	Topic C: Biointerfaces
	Chair: R. Schnettler, Universitäts- klinikum Marburg (Germany)	Chair: A.R. Boccaccini, University of Erlangen-Nürnberg (Germany)	Chair: T.F. Keller, Friedrich-Schiller- University of Jena (Germany)
10:00	Biocompatibility Evaluation of Innovative Materials: An Update J.-P. Boutrand, S. Framery (Sp), BIOMATECH – NAMSA, Chasse-sur-Rhône (France)	Bioresorbable Bioactive Bone Scaffold: a New Scaffold for Regenerative Medicine G. Pertici, Industrie Biomediche Insubri S/A, Mezzovico (Switzer- land); M. Müller, MicroSphere S/A, Ponte Cremenaga (Switzer- land); F. Rossi, T. Villa, Politecni- co di Milano (Italy); G. Carusi, MD, Pisa (Italy); S. Maccagnan, Gimac MicroExtruders, Castron- no (Italy); F. Carù, Università degli Studi di Milano (Italy); F. Crivelli, AO Sant'Antonio, Gallarate (Italy); G. Perale (Sp), Politecnico di Milano (Italy)	Assessment of Interaction between Cells and Ti and PEEK Surfaces Using Interfe- rence Microscope H. Weinhold (Sp), T. Spintig, W.-D. Müller, Charité Universi- taetsmedizin Berlin (Germany)
	Highlight		
10:20	Metal Bioabsorbable Stents R. Radhakrishnan (Sp), C. Deng, S. Larsen, D. Boismier, J. Stin- son, A. Hotchkiss, E. Petersen, Boston Scientific, Maple Grove (USA); J. Weber, Boston Scienti- fic,, Maastrich (Netherlands); T. Scheuermann, Boston Scientific Technology Center GmbH, Munich (Germany)	A Novel Nano-Crystalline HAP-Bioceramic with Chan- nel-like Pores for Bone Rege- neration F. Despang (Sp), Technische Uni- versität Dresden (Germany); R. Dittrich, TU Bergakademie Frei- berg (Germany); A. Bernhardt, A. Lode, Technische Universität Dresden (Germany); A. John, Institute for Medical Sciences and Technology, Trivandrum (India); M. Gelinsky, Technische Universität Dresden (Germany)	Human Plasma Fibrinogen Adsorption on Ion Beam Nano-Patterned Si and TiO2 Surfaces J. Hönic, J. Sommerfeld (Sp), T.F. Keller, K.D. Jandt, C. Ron- ning, Friedrich Schiller University Jena (Germany)
		Highlight	
10:40	A New Technology to Improve Mechanical and Biological Properties of Metallic Medi- cal Devices B. Mingler (Sp), M. Krystian, M. Bammer, AIT Austrian Institute of Technology, Wiener Neustadt (Austria)	Chemical-Physical and In Vitro Characterization Of A Novel Composite Scaffold For Osteo-Chondral Tissue Regeneration M. Fiorini (Sp), L. Dolcini, A. Nicoletti, D. Pressato, Fin-Cera- mica Faenza S.p.A., Faenza (RA) (Italy); B. Grigolo, G. Lisignoli, C. Cavallo, C. Manferdini, A. Facchini, Rizzoli Orthopaedic Institute, Bologna (Italy)	Chemical and Genetic Modi- fication of Recombinant Spi- der Silk Proteins for Cell Cul- ture A. Smith (Sp), S. Wohlrab, A. Leal, S. Müller, K. Spieß, T. Scheibel, University of Bayreuth (Germany)

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterials Applications / Clinical Applications	Topic H: Tissue Engineering / Regenerative Medicine	Topic C: Biointerfaces
	Chair: R. Schnettler, Universitätsklinikum Marburg (Germany)	Chair: A.R. Boccaccini, University of Erlangen-Nürnberg (Germany)	Chair: T.F. Keller, Friedrich-Schiller-University of Jena (Germany)

Highlight

11:00	In-Vivo Research on the Biocompatibility of the New Magnesium Alloy LAND442 on the Basis of Imaging Procedures C. Hampp (Sp), D. Rittershaus, J. Reifenrath, Stiftung Tierärztliche Hochschule Hannover (Germany); D. Bormann, J. Seitz, University of Hannover (Germany); A. Meyer-Lindenberg, Stiftung Tierärztliche Hochschule Hannover (Germany)	Artificial Branched Blood Vessel Systems With Small Diameter Generated by Combining Inkjet Printing and Multiphoton Polymerization P. Kluger (Sp), K. Borchers, Fraunhofer Institute for Interfacial Engineering and Biotechnology, Stuttgart (Germany), O. Refle, Fraunhofer Institute for Manufacturing Engineering and Automation, (Germany); et. al.⁶⁾	In-Situ-ATR-FTIR Spectroscopy: A Versatile Tool to Address Interfacial Problems in Biomaterial Science M. Müller (Sp), Leibniz Institute of Polymer Research Dresden (Germany)
11:20	New Development of Bio-ceramic Polymer Composites for Orthopaedic Applications X. Zhang (Sp), B. McCarthy, A. Binod-Nair, P. Jackson, CERAM, Stoke-on-Trent (UK)	<u>Shortlecture 11:20-11:30</u> Ultra-Fast Laser Micro-Processing of Medical Polymers for Cell Engineering Applications R. Ortiz (Sp), Tekniker Research Center, Eibar (Gipuzkoa) (Spain); et. al.⁷⁾ <u>Shortlecture 11:30-11:40</u> Biofunctionalized Rapid Prototyping Generated Blood Vessels for Vascularization of Tissue Engineering Constructs E. Novosel (Sp), University Stuttgart (Germany); et al.⁸⁾	Surface Plasmon Resonance Based DNA Sensor for the Detection of Influenza A and B Viruses M.O. Caglayan, Hacettepe University, Ankara (Turkey); D. Ozkan-Arisoyal, M. Ozsoz, Ege University, Izmir (Turkey); M. Duman, E. Piskin (Sp), Hacettepe University, Ankara (Turkey)
11:40	Drug-Coated Angioplasty Balloon Catheters: Coating Compositions and Methods U. Speck (Sp), M. Berg, Humboldt Universität, Berlin (Germany)	Development and Characterisation of Patterned Bioglass Substrates for Bone Regeneration S. Cao, O. Guillon, Technische Universität Darmstadt (Germany); R. Detsch, L. Wondraczek, A.R. Boccaccini (Sp), University of Erlangen-Nürnberg (Germany)	Corrosion Behaviour of Conducting Polymer Coatings on Magnesium Alloys in Simulated Body Fluid Solutions C.M. Turhan (Sp), S. Virtanen, University of Erlangen Nürnberg (Germany)

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterials Applications / Clinical Applications	Topic H: Tissue Engineering / Regenerative Medicine	Topic C: Biointerfaces
	Chair: R. Schnettler, Universitätsklinikum Marburg (Germany)	Chair: A.R. Boccaccini, University of Erlangen-Nürnberg (Germany)	Chair: K.D. Jandt, Friedrich-Schiller- University of Jena (Germany)

12:00	Biodegradation of Nanopartic-ular Hydroxyapatite V. Alt (Sp), Universitätsklinikum Gießen und Marburg, (Germany)	Highlight In Vitro Tissue Growth in Three-Dimensional Scaffolds of PCL-TiO2 Nanocomposite Prepared by an Indirect 3D Printing Process E. Tamjid, A. Simchi, K.P. Kom-mareddy, J. Dunlop (Sp), R. Bagheri, M. Vossoughi, P. Fratzl, Max Planck Institute of Colloids and Interfaces, Potsdam (Germany)	Properties of Biodegradable Alloys Based on Mg-Zn System D. Vojtech (Sp), Institute of Chemical Technology of Prague (Czech Republic); J. Kubasek, Institute of Chemical Technolo-gy of Prague (Czech Republic)
12:20	Biomedical Coatings by Elec-trophoretic Deposition (EPD) Based on Bioactive Glass and Chitosan/Bioactive Glass Composites A.R. Boccaccini (Sp), University of Erlangen-Nürnberg (Ger-many); F. Pishbin, Imperial Col-lege London (UK); A.S. Sharif, Sharif University of Technology, Teheran (Iran); M.P. Ryan, Impe-rial College London (UK)	Biodegradable, In Situ Foamable Poly(ester-uretha-ne) Materials for the Repair of Soft Tissue Defects T. Laube, J. Weisser, S. Berger, INNOVENT e.V., Jena (Ger-many); S. Bischoff, H. Schubert, M. Gajda, R. Bräuer, University Hospital, Jena (Germany); O. Tulaszewski, telos GmbH, Mar-burg (Germany); S. Börner, Frie-rich Schiller University, Jena (Germany); M. Schnabelrauch (Sp), INNOVENT e.V., Jena (Ger-many)	Highlight Corrosion of Magnesium in Static and Dynamic (Bioreac-tor) Systems R. Willumeit (Sp), J. Fischer, Helmholtz-Zentrum Geesthacht (Germany); R. Pörtner, Techni-sche Universität Hamburg Har-burg (Germany); T. Di, N. Hort, K.U. Kainer, A. Schreyer, Helm-holtz-Zentrum Geesthacht (Ger-many); C. Vogt, H. Drücker, Universität Hannover (Ger-many); U. Bismayer, B. Mihailo-va, Universität Hamburg (Ger-many); F. Feyerabend, Helm-holtz-Zentrum Geesthacht (Germany)
12:40	Lunch Break Lunch will be served in the foyer of the lecture halls		

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterials Applications / Clinical Applications	Topic F: Biofilms, Biofouling and Antimicrobial Biomaterials	Topic D: Computational Biomaterials Science
	Chair: C. Heiß, Universitäts- klinikum Marburg (Germany)	Chair: K. Rezwan, University of Bremen (Germany)	Chair: S. Köppen, University of Bremen (Germany)

	Highlight		
13:30	Biocompatible Materials for Rapid Prototyping Processes Building up Vascular Grafts W. Meyer (Sp), Fraunhofer, Golm (Germany); E. Novosel, University of Stuttgart (Germany); S. Engelhardt, RWTH Aachen (Germany); M. Wegener, B. Elling, Fraunhofer, Golm (Germany); P. Kluger, K. Borchers, Fraunhofer IGB, Stuttgart (Germany); A. Gillner, Fraunhofer ILT, Aachen (Germany); G. Tovar, Fraunhofer IGB, Stuttgart (Germany); H. Krüger, Fraunhofer, Golm (Germany)	In Vitro Bio-optical Fluorescence Imaging of Biofilm Formation J. Sjollem (Sp), University Medical Center Groningen (Netherlands); J. Li, Jiaotong University, Beijing (China); H.J. Busscher, University Medical Center Groningen (Netherlands)	Biomechanical Modelling of Meniscus Replacement Materials J.H. Yi (Sp), M. Stoffel, D. Weichert, RWTH-Aachen (Germany); K. Gavenis, R. Müller-Rath, University Hospital Aachen (Germany)
13:50	Spider Silk Films and Particles for Drug Delivery S. Wohlrab (Sp), K. Spieß, A. Lammel, T. Scheibel, University of Bayreuth (Germany)	Highlight Topographical Functionalization of Polymer Surfaces for Preventing Bacteria Adhesion Using Direct Laser Interference Patterning D. Langheinrich (Sp), Fraunhofer IWS, Dresden (Germany); R. Helbig, Leibniz Institute for Polymer Research Dresden e.V. (Germany); A. Toledo-Arana, B. García, I. Lasa, L. Valle, Universidad Pública de Navarra-CSIC-Gobierno de Navarra, Pamplona (Spain); C. Werner, Leibniz Institute for Polymer Research Dresden e.V., (Germany); A. Lasagni, Fraunhofer IWS, Dresden (Germany)	Experimental Premechanics of Trabecular Bone Strength: Role of Terzaghi's Effective Stress and of Tissue Level Stress Fluctuations T. Brynk, Warsaw University of Technology (Poland); C. Hellmich, A. Fritsch (Sp), P. Zysset, J. Eberhardsteiner, Vienna University of Technology, Wien (Austria)

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterials Applications / Clinical Applications	Topic F: Biofilms, Biofouling and Antimicrobial Biomaterials	Topic D: Computational Biomaterials Science
	Chair: C. Hei, Universittsklinikum Marburg (Germany)	Chair: K. Rezwan, University of Bremen (Germany)	Chair: S. Kppen, University of Bremen (Germany)
14:10	An Injectable Drug Delivery Hydrogel for Sustained Combination Therapy: In Vitro and In Vivo Studies F. Rossi, Politecnico di Milano (Italy); P. Veglianesi, Istituto di Ricerche Farmacologiche Mario Negri, Milan (Italy); M. Santoro, Politecnico di Milano (Italy); M. Peviani, Istituto di Ricerche Farmacologiche Mario Negri, Milan (Italy); T. Casalini, Politecnico di Milano (Italy); D. Llupi, Istituto di Ricerche Farmacologiche Mario Negri, Milan (Italy); M. Masi, Politecnico di Milano (Italy); G. Forloni, Istituto di Ricerche Farmacologiche Mario Negri, Milan (Italy); G. Perale (Sp), Politecnico di Milano (Italy)	<u>Shortlecture 14:10-14:20</u> A New Standard Testing Device for Studying Biofilm Formation on Biomaterials Using a Constant Depth Film Fermentor C. Ldecke (Sp), Friedrich Schiller University Jena (Germany); M. Roth, Leibniz Institute for Natural Product Research and Infection Biology e.V., Jena (Germany); J. Bossert, K.D. Jandt, Friedrich Schiller University Jena (Germany) <u>Shortlecture 14:20-14:30</u> Antimicrobial Activity of Highly Stable Silver Nanoparticles Embedded in Agar-Agar Matrix as a Thin Film S. Ghosh (Sp), Indian Institute of Science, Bangalore (India), et al. ⁹⁾	Highlight Modelling Yttrium Alumino-silicate Glass for Radiotherapy J. Christie (Sp), A. Tilocca, University College London (UK)
14:30	Biocompatible Materials Structured In-vivo Using High-Resolution AMT J. Torgersen (Sp), Vienna University of Technology, Wien (Austria); A. Baudrimot, Biocenter, Vienna (Austria); N. Pucher, K. Stadlmann, R. Liska, J. Stampfl, Technische Universitt Wien, Vienna (Austria)	<u>Shortlecture 14:30-14:40</u> Functionalised Nanomaterials for Antifouling Sensor Design F. Regan, J. Chapman (Sp), Dublin City University (Ireland) <u>Shortlecture 14:40-14:50</u> Visible Light Antimicrobial Photocatalysts - N-Doped TiO2 and Silver Nanoparticles C.W. Dunnill, Z. Ansaria, S. Perni (Sp), M. Wilson, I.P. Parkin, Univeristy College London (UK)	Arthropod Cuticle: a Biological Multi-Functional Composite Used as Template for Nano-to-Macro-Scale Hierarchical Modeling M. Friak (Sp), M. Petrov, Max Planck Institute for Iron Research GmbH, Dsseldorf (Germany); S. Nikolov, Bulgarian Academy of Sciences, Sofia (Bulgarian); C. Sachs, H. Fabritius, P. Elstnerova, D. Ma, L. Lymperakis, D. Raabe, T. Hickel, Max Planck Institute for Iron Research GmbH, Dsseldorf (Germany); et. al. ¹⁰⁾
14:50	Coffee Break + Exhibition + Postershow		

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterials Applications / Clinical Applications	Topic F: Biofilms, Biofouling and Antimicrobial Biomaterials	Topic D: Computational Biomaterials Science
	Chair: D. Steinmüller-Nethl, r-Best coating Hartstoffbesch. GmbH	Chair: J. Bossert, Friedrich Schiller University Jena (Germany)	Chair: A. Fritsch, Vienna University of Technology, (Austria)
15:15	Synthesis and Characterisation of Multi-Substituted Hydroxyapatite P. Jackson, Trinity College Dublin (Ireland); B. McCarthy (Sp), CERAM Research Ltd, Stoke-on- Trend (UK); A. Binod-Nair, X. Zhang, Trinity College Dublin (Ireland)	<u>Shortlecture 15:15-15:25</u> Antifungal Nanoparticles and Surfaces C. da Silva Oliveira Paulo (Sp), Biocant and CNC, Cantanhede (Portugal); et. al. ¹¹⁾ <u>Shortlecture 15:25-15:35</u> Antibiotic-loaded Calcium Phosphate Cement/Biodegradable Polymer Composites for Bone Repair Z. Irbe (Sp), Riga Tec11nical University (Latvia); et. al. ¹²⁾	Highlight Bioadsorption Properties of Tropocollagen like Molecules onto Rough Titania Surfaces W. Friedrichs, B. Ohler, W. Lang- gel, University of Greifswald, (Germany); S. Monti, Istituto per i Processi Chimico-Fisici (IPCF-CNR), Pisa (Italy); S. Köp- pen (Sp), University of Bremen (Germany)
15:35	Highlight Innovative Stent with Nano- structured Ceramic Coating for Fast and Complete Artery Endothelization and Healing: From Design to In-Vivo Assessment. L. Marras (Sp), IBS-International Biomedical Systems, Trieste (Italy); A. Maresta, Gruppo Villa Maria Cecilia Hospital, Ravenna (Italy); A. Ravaglioli, ISTEC-CNR, Faenza (Italy)	Antimicrobial Potential of Titanium Surfaces Generated by Cu-PIII and Dual HIPIMS K. Schröder (Sp), B. Finke, M. Polak, F. Hempel, Leibniz Insti- tute for Plasma Science and Technology e.V. (INP), Greifswald (Germany); H. Rebl, C. Zietz, University of Rostock, Rostock (Germany); V. Stranak, Ernst-Moritz-Arndt-University, Greifswald (Germany); et. al. ¹³⁾	Computer Simulation of PLGA Micro/Nano Particles Degradation G. Erkizia (Sp), E.M. de Juan- Pardo, G.-M. Kim, University of Navarra, San Sebastian (Spain); A. Estella-Hermoso de Mendoza, University of Navarra, Pam- plona (Spain); E. Garbayo, M.J. Blanco-Prieto, University of Navarra, Pamplona (Spain); J. Aldazabal, University of Navar- ra, San Sebastian (Spain)
15:55	Ti-6Al-4V-0.5B – A Novel Alloy for Implants Made by Metal Injection Moulding T. Ebel (Sp), F. Feyerabend, C. Blawert, Helmholtz-Zentrum Geesthacht (Germany)	Highlight Improving the Cytocompati- bility of Antibacterial Active Silver Nanocomposites with an Adjustable Gradient Film Design E. Körner (Sp), Swiss Federal Laboratories for Materials Testing and Research, St. Gallen (Switzerland); P. Cierniak, S. Wiesenmüller, Universität Köln (Germany); D. Hegemann, Swiss Federal Laboratories for Materials Testing and Research, St. Gallen (Switzerland)	A Simplified Finite Element Model for Wound Healing F. Vermolen (Sp), Delft Universi- ty of Technology (Netherlands); E. Javierre, University of Zaragoza (Spain)

Room	Berlin 1	Berlin 2	Carl Zeiss
	Topic E: Biomaterials Applications / Clinical Applications	Topic F: Biofilms, Biofouling and Antimicrobial Biomaterials	Topic D: Computational Biomaterials Science
	Chair: D. Steinmüller-Nethl, r-Best coating Hartstoffbesch. GmbH	Chair: J. Bossert, Friedrich Schiller University Jena (Germany)	Chair: A. Fritsch, Vienna University of Technology, (Austria)
16:15	Aging of ZrO₂ - Al₂O₃ Dispersion Ceramics – Is it a Subject Matter of Discussions at all? T. Oberbach (Sp), S. Begand, Mathys Orthopädie GmbH, Mörsdorf (Germany); J. Schneider, Bauhaus Universität Weimar (Germany)	Hyperbranched Polymer Hybrids with Silver or Zinc Ion Release Properties as Agents to Inhibit Growth of Infectious Microorganisms on Surfaces of Medico-techni- cal Plastic Applications M. Gladitz (Sp), S. Reinemann, Thüringisches Institut für Textil- und Kunststoff-Forschung e.V., Rudolstadt-Schwarza (Germany)	Enhancing Mechanical Pro- perties of Calcite by Mg Sub- stitutions: A Quantum- Mechanical Study P. Elstnerova (Sp), M. Friak, T. Hickel, H.O. Fabritius, D. Raabe, A. Ziegler, S. Hild, J. Neugebauer, Max-Planck Institut für Eisen- forschung GmbH, Düsseldorf (Germany)

16:35 **End of the Lecture Program**

Room	Berlin 1
16:35	Announcement of the BioMat 2011 Poster Award sponsored by  The best three posters will be awarded a poster prize (1st: 250 EUR, 2nd: 150 EUR, 3rd: 100 EUR). The winners will be decided by a jury. Jury of the Poster award: K. D. Jandt, Friedrich-Schiller- University of Jena (Germany) V. Alt, Universitätsklinikum Gießen und Marburg (Germany) A. R. Boccaccini, University of Erlangen-Nürnberg (Germany) H. Büchner, Heraeus Medical GmbH (Germany) A. Fritsch, Vienna University of Technology (Austria) I. Roy, University of Westminster (UK)
16:50	Closing Address: Prof. Dr. K. D. Jandt and Dr. T. F. Keller Friedrich-Schiller-University of Jena (Germany)
17:00	End of the Conference

Bioinspired Materials		Bioinspired Materials		Bio-Nano Materials	
A-147	Bioinspired Methods for the Production of Functional Nano-Materials S. Patwardhan (Sp), University of Strathclyde, Glasgow (UK)	A-277	Porous 3D Scaffolds from Mineralized Fish Skin Collagen - A Novel Bone Replacement Material B. Hoyer (Sp), A. Bernhardt, Technische Universität Dresden (Germany); I. Stachel, Research Institute of Leather and Plastic Sheeting, Freiberg (Germany); M. Meyer, M. Gelinsky, Technische Universität Dresden (Germany)	B-18 oral	Influence of Al₂O₃/Ag Nanoparticles on Soil, Air and Water Microorganisms A. Jastrzebska (Sp), P. Mosdorf, E. Karwowska, A. Olszyna, A. Kunicki, Warsaw University of Technology (Poland)
A-177	Production and Characterization of Recombinant Spider Silk Protein Fibers G. Lang (Sp), T. Scheibel, University of Bayreuth (Germany)			B-23	Synthesis and Characterization of Hydroxyapatite/Beta-Tricalcium Phosphate Nanocomposites Using Microwave Irradiation A. Farzadi (Sp), M. Solati-Hashjin, A. Aminian, Amirkabir University of Technology (Tehran Polytechnic) (Iran); M. Kazari, University of Tehran, Karaj (Iran)
A-183	Biomimetic Synthesis of Octacalcium Phosphate Coatings on Zirconia Ceramics M. Stefanic (Sp), K. Krnel, T. Kosmac, Jozef Stefan Institute, Ljubljana (Slovenia)			B-41	Mechanical and Biological Properties of PLA,PCL-Based Nanocomposites Modified with Ceramic Nanoparticles E. Soltysiak (Sp), M. Blazewicz, AGH University of Science and Technology, Krakau (Poland)
A-190	Corrosion Behaviour of Sintered Biodegradable Mg-Ca Alloys M. Wolff (Sp), C. Blawert, T. Ebel, Helmholtz-Zentrum Geesthacht (Germany)			B-46	Processing and Characterization of Sol-Gel Derived Hydroxyapatite-Bioglass Composite Nanopowder for Biomedical Applications S. Adibnia (Sp), Science and Research Branch of IAU University, Tehran (Iran); A. Nemati, Sharif University of Technology, Tehran (Iran); M.H. Fathi, Isfahan University of Technology, (Iran)
A-194	Bioinspired 3D Reinforced Composites R. Erb (Sp), R. Libanori, A.R. Studart, ETH Zürich (Switzerland)				
A-203	Why to Study Bionics D. Kroisová (Sp), Technical University of Liberec (Czech Republic)				

Bio-Nano Materials

Bio-Nano Materials

Bio-Nano Materials

B-56	Studying of Polyoxometalates with Fullerene Structure as Potential Agency of Address Delivery of Substances A. Ostroushko (Sp), I.G. Danilova, M.O. Tonkushina, S.J. Medvedeva, I.F. Gette, A.V. Prokofieva, M.V. Morozova, Ural State University, Yekaterinburg (Russian Federation)	B-114	Mechanical Properties and Biological Performance of Silica/Collagen/HAP Nanocomposites S. Heinemann (Sp), C. Heinemann, H. Worch, T. Hanke, Technische Universität Dresden (Germany)	B-173 oral	Biofunctionalized Nandiamonds - Coupling Aptamers to Chemical Modified Detonation Nanodiamonds A. Pohl (Sp), J. Schreiber, Fraunhofer Institut für Zerstörungsfreie Prüfverfahren, Dresden (Germany); E. Boschke, P. Weber, Technische Universität Dresden (Germany); V. Lapina, Academy of Science of Belarus, Minsk (Belarus); J. Opitz, Fraunhofer Institut für Zerstörungsfreie Prüfverfahren, Dresden (Germany)
B-71	Biomedical Applications of Zinc Peroxide Nanoparticles Fabricated by Shock Synthesis Using the Leidenfrost Phenomenon R. Abdelaziz (Sp), J. Worley, R. Podschun, C. Röhl, M. Elbahri, Christian-Albrechts-Universität zu Kiel (Germany)	B-134 oral	Synthesis, Characterization and Bioactivity of Silicon-Substituted Hydroxyapatite Nanopowders A. Aminian, Tehran Pezeshki Azad Islamic (Iran); A.H. Hakami Vala (Sp), M. Solati-Hashjin, Amirkabir University of Technology, Tehran (Iran); A. Samadikhaksaraeib, University of Medical Science, Tehran (Iran)	B-213	Microspheres of Polyethyleneglycol Adsorbed with Nanofractions of Herbal Mixture from Brazilian Flora Representing a Potential Functional Nanomaterial A.P.B. Reinaque (Sp), M.M. Posamai, C.C.P. Hara, F.J. Souto, E.L. França, A.C. Honório-França, Federal University of Mato Grosso, Barra do Garças (Brazil)
B-79 oral	Synthesis and Characterization of a Novel Biocompatible Dendrimer Suitable for Drug and Gene Delivery S. Zamani (Sp), S. Khoei, University of Tehran (Iran)	B-140 oral	Synthesis and Characterization of Gamma-Fe2O3 – Poly-L-Alanine Core-Shell Hybrid as Potential Therapeutic Agent I.-C. Covaliu (Sp), I. Jitaru, University Politehnica of Bucharest (Romania); E. Vasile, Metav, Research and Development, Bucharest (Romania); O. Oprea, University Politehnica of Bucharest (Romania); L. Diamandescu, National Institute of Materials Physics, Bucharest (Romania); I. Valentin, C. Cristea, H. Iovu, University Politehnica of Bucharest (Romania)	B-215	Effect of Microspheres of Polyethyleneglycol Adsorbed with Nanofractions of Strychnos Pseudoquina ST. HILL Extract by Functional Activity from Human Blood Phagocytes M.A. Côrtes (Sp), F.C. Valentim, G.T. Nunes, M.J.S. Rondon, E.L. Franca, Federal University of Mato Grosso, Barra do Garças (Brazil)
B-87 oral	Synthesis and Characterization of Ag-TiO2 Nano-Composite Particles for Antimicrobial Applications C. Noberi (Sp), A.C. Zaman, C.B. Ustundag, Yildiz Technical University, Istanbul (Turkey); F. Kaya, Zonguldak Karaelmas University (Turkey); C. Kaya, E.S. Abamor, M. Bagrova, A. Allahverdiyev, Yildiz Technical University, Istanbul (Turkey)				

Bio-Nano Materials		Biointerfaces		Biointerfaces	
B-239 oral	Precipitation of Nano-Structured CaP Coatings from Supersaturated CaP Solutions K. Krnel (Sp), S.B. Klopčič, I. Pribošič, T. Kosmac, Jozef Stefan Institute, Ljubljana (Slovenia)	C-5	Surface Treatment by Vibrations for Granular Work-Pieces K. Hamouda (Sp), M.A. Tamar-kin, A.P. Babichev, T. Sayah, M.N. Benallal, A. Djabbar, USTHB of Algiers, Algier, Bab Ezzouar (Algeria)	C-98 oral	Comparison of the Electrochemical Corrosion Behavior of Different Experimental Magnesium Alloys in PBSminus and Artificial Plasma (AP) as Simulated Body Fluid (SBF) C. Schille (Sp), E. Schweizer, University Hospital of Tübingen (Germany); N. Hort, Helmholtz-Zentrum Geesthacht (Germany); H.P. Reichel, Weissensee Warm-pressteile GmbH, Eichenzell (Germany); J. Geis-Gerstorfer, University Hospital of Tübingen (Germany)
B-255 oral	Deposition of Carbon Films on Polyurethane Substrate Using CVD Methods T. Kazmierczak (Sp), W. Kaczorowski, D. Batory, P. Niedzielski, Technical University of Lodz (Poland)	C-20	Influence of Oxidation on Functional Properties of NiTi Wire for Stents D. Vojtech (Sp), Institute of Chemical Technology of Prague (Czech Republic)	C-109 oral	Electrochemical Behavior of Novel Superelastic Biomedical Ti-Nb-Ta Alloy in Simulated Physiological Media Y. Zhukova (Sp), Y.A. Pustov, M.R. Filonov, National University of Science and Technology "MISIS", Moscow (Russian Federation)
B-257	Microspheres of Polyethylene-glycol Adsorbed with Nanofractions of Momordica Charantia L. Represent a Potential Functional Nanomaterial for Future Clinical Applications in Diabetes E. Scherer (Sp), J.V.S. Ormonde, A. Ziebell-Scherer, F.L. França, A.C. Honório- França, E.L. França, Federal University of Mato Grosso, Barra do Garças (Brazil)	C-39	WE54 Alloy as Potential Biodegradable Material - Microstructure, Cell and Corrosion Behavior B. Smola (Sp), Charles University, Prague (Czech Republic); L. Loska, Institute of Chemical Technology, Prague (Czech Republic); V. Bezina, University of South Bohemia (Czech Republic); I. Stulíková, Charles University, Prague (Czech Republic); F. Hnilica, Czech Technical University, Praha (Czech Republic)	C-139	Micro- vs. Nano-Array Platforms: A Comparative Study for DNA Detection Based on SPR B. Celen, Hacettepe University, Ankara (Turkey); G. Demirel, Gazi University, Ankara (Turkey); E. Piskin (Sp), Hacettepe University, Ankara (Turkey)
B-276	TiO2 Thin Films for Biomedical Applications by Means of Physical Vapour Deposition M. Scholz (Sp), A. Genvad, H. Engqvist, M. Åstrand, Uppsala University (Sweden)	C-66 oral	Interdisciplinary Investigation of Metal Injection Moulded Regular Implant Surface Patterns V. Friederici (Sp), P. Imgrund, Fraunhofer-Institute for Manufacturing Technology and Applied Materials Research, Bremen (Germany); M. Bitar, Novartis, Basel (Switzerland); V. Zell, C. Brose, A. Bruinink, Empa- Materials Science and Technology, St. Gallen (Switzerland)	C-153 oral	Tailoring Magnesium Alloy Corrosion and Biocompatibility by Protein Coatings V. Wagener (Sp), F. Deleanu, C.M. Turhan, S. Virtanen, Universität Erlangen Nürnberg (Germany)

Biointerfaces

Biointerfaces

Biointerfaces

C-155 Electrochemical Characterization of Magnesium-Silver Alloys Using the Mini-Cell System

D. Tie (Sp), GKSS Research Center, Geesthacht (Germany); F. Feyerabend, K.U. Kainer, R. Wilumeit, N. Hort, GKSS Forschungszentrum Geesthacht (Germany); W.D. Mueller, Charité Universitätsmedizin, Berlin (Germany)

C-174 oral Novel Drug-Eluting Coatings for Implantable Medical Devices

J. Motley (Sp), Bayer Material Science, Sheffield (UK); C. Koppenborg, Bayer MaterialScience, Leverkusen (Germany)

C-180 Evaluation of the Apatite Coating on Y-TZP - TiO₂ Sintered Ceramics

J. Marchi (Sp), J. Marchi, Universidade Federal do ABC, Santo André (Brazil); D.R.R. Lazar, Instituto de Pesquisas Energéticas e Nucleares, Sao Paulo (Brazil); V. Ussui, Instituto de Pesquisas Energéticas e Nucleares, Sao Paulo (Brazil); E.C.S. Rigo, Universidade de São Paulo, Pirassununga, (Brazil); A.H. de Almeida Bressiani, Instituto de Pesquisas Energéticas e Nucleares, Sao Paulo (Brazil)

C-188 oral Micro- and Nanofabrication Methods to Create Patterned PEG Hydrogels for Nano-Biotechnological Applications

A. Löbus (Sp), S. Kelleher, M.C. Lensen, Technische Universität Berlin (Germany)

C-189 Synthesis of New Poly(ethylene glycol) (PEG)-Based Hydrogels Using Photo-Initiated Cross-Linking and Click Chemistry

Z. Zhang (Sp), S. Kelleher, M.C. Lensen, Technische Universität Berlin (Germany)

C-192 oral Phospholipid-Based Biometric Coatings for Improving the Biocompatibility of Titanium-Based Porous Material.

B. Luthringer (Sp), F. Feyerabend, F. Ali, R. Willumeit, Helmholtz-Zentrum Geesthacht (Germany)

C-201 oral Evaluation of Chosen Mechanical and Physicochemical Properties of Protection Coatings Obtained by Sol-Gel Method

M. Tkaczyk (Sp), J. Krzak-Ros, J. Kaleta, Wrocław University of Technology (Poland)

C-202 Nanolayers with Medical Applications

F. Miculescu, University Politehnica of Bucharest (Romania); I. Jepu, Institute for Physics of Laser, Plasma and Radiation, Magurele (Romania); C. Lungu, National Institute for Physics of Laser, Plasma and Radiation, Magurele (Romania); M. Branzei (Sp), I. Antoniac, University Politehnica of Bucharest (Romania)

C-219 oral Inorganic Thin Films Obtained by the Sol-Gel Method on Metallic Implant Materials as Biocoating

J. Krzak-Ros (Sp), M. Miller, Wrocław University of Technology (Poland); W. Urbanski, S. Dragan, Orthopaedic Clinic of Wrocław Medical University (Poland); K. Marycz, Wrocław University of Environmental and Life Science (Poland); R. Bedzinski, C. Pezowicz, Wrocław University of Technology (Poland)

C-229 oral Toner Particles for Three-Dimensional Laser Printing in Biomaterial Applications

C. Speyerer (Sp), University of Stuttgart (Germany); S. Guettler, Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart (Germany); K. Borchers, Fraunhofer Institute for Interfacial Engineering and Biotechnology, Stuttgart (Germany); G. Tovar, T. Hirth, A. Weber, University of Stuttgart (Germany)

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Conference Location	Lunch	
Steigenberger Esplanade Carl-Zeiss-Platz 4 07743 Jena http://www.steigenberger.com/Jena	Lunch is included in the conference fees and will be served on Wednesday and Thursday in the foyer of the Lecture Halls.	01 Participant University EUR 550,- (EUR 500,- for full DGM members)
		02 Participant Industry EUR 715,- (EUR 650,- for full DGM members)

Internet Access	List of Participants	
Vouchers for Internet Access for conference visitors can be purchased at the hotel reception of the Steigenberger Esplanade.	An updated List of Participants is available on our homepage: http://www.dgm.de/biomat/	03 Participant PHD Student * EUR 165,- (EUR 150,- for full DGM members) * up to the age of 35 / Student ID or Certificate of PhD required

Organisation	Abstracts	
Anja Mangold, Yvonne Koall, Ute Riedel Deutsche Gesellschaft für Materialkunde e.V. Senckenberganlage 10 D-60325 Frankfurt	All abstracts are on display on the conference website and will remain online after the conference for print or download.	The conference fees include the Technical Programme, refreshments during the official breaks, lunch, Conference Dinner

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Get-together

Tuesday, 12 April 2011
Restaurant „Zur Noll“

Tables have been reserved for an informal Get-together in the restaurant „Zur Noll“ for participants who have already arrived in Jena on Tuesday night.

Restaurant „Zur Noll“
Oberlauengasse 19
07743 Jena
<http://www.zur-noll.de/>

Postersession

Wednesday, 13 April 2011
Room Berlin 1 + Berlin 2
16:15 OralPoster Show
17:45 Poster Discussion

The Postersession will give poster authors the opportunity to be available in front of their posters to discuss their subjects and respond to questions. Snacks and beverages will be offered.

Young Scientist poster Award

A prize for the best poster will be awarded by a jury. The prize will be announced and awarded on Thursday, 14.04.2011 16:35 before the closing address.

The prize will be sponsored by:



Biomat Conference Dinner

Wednesday, 13 April 2011
Planetarium Jena

The Conference Dinner on Wednesday, April, 13, 2011 will start at the conference hotel at 17:45 with a discussion in front of the poster panels. Snacks and beverages will be served. At the end of the poster show we will walk to the Planetarium where the BioMat Conference Dinner will take place.

At 20:00 we are ready for the "journey throughout the universe". This evening will be an extraordinary and very special event under a „starry sky“ (the second best starry sky after nature...)! We will learn some details about the Zeiss-Planetarium, and with the help of a special projector an artificial sky will be created on the dome, which has a diameter of 23 m.

Please note that the Zeiss-Planetarium in Jena is the oldest planetarium in the world. It opened its doors to the public on 18. Juli 1926.

Another highlight of this evening will be the "Queen Show". Do not miss this unique event!

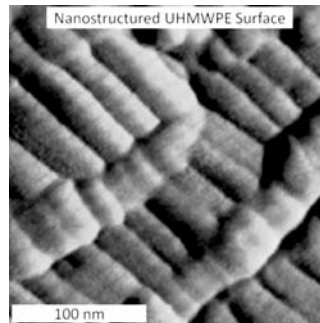
All the conference attendees are automatically registered for this extraordinary dinner.

Goals and Objectives

- Addressing the industrial and scientific issues in the area of known and new materials with interfaces to biological systems, with focus on materials in medicine.
- Development of a scientifically based understanding of materials properties in interaction with biological systems, especially the area of "biological performance" and biocompatibility.
- Focussing the panel on scientific, technical and economic issues in the priority areas resorbable / degradable biomaterials, permanent implants, dental materials, interfaces, tissue engineering, modelling and simulations, antimicrobial biomaterials, biomimetic biomaterials, certification, accreditation, standardization, legal issues.
- Initiating research and development activities: joint projects between universities, research institutes and industry.
- Exchange of experiences between groups that are active in the field of biomaterials, and networking.

The Institute of Materials Science and Technology (IMT) at the Friedrich Schiller University of Jena focuses its research on biomaterials, surfaces and interfaces of materials, and nano-materials. At the Chair of Materials Science at IMT, novel biomaterials, 3D scaffolds for tissue engineering, antimicrobial materials for inhibiting biofilm formation, dental materials and biopolymers just to name a few, are created, characterized, and biologically tested. Applications are ranging from the medical field to pharmacy and biotechnology.

Novel strategies to functionalize and pattern biomedical surfaces at the nano- and microscale are deve-



loped at IMT by techniques such as layer by layer deposition, micro-contact printing and ink jet printing. Surfaces of amphiphilic, degradable, or crystalline polymers suitable for the investigation of biomolecule-surface interactions are designed by utilizing polymer physics and molecular self-assembly.

Furthermore the molecular self-assembly of protein nanofibers have recently attracted the interest of scientists at IMT.

Materials characterization at IMT comprises the application of state-of-the-art instrumental techniques such as in situ atomic force microscopy and quartz-crystal microbalance, X-ray photoelectron spectroscopy and field emission scanning electron microscopy with focused ion beam, ellipsometry and more.

The Chair in Materials Science initiated the panel of experts in biomaterials of the Deutsche Gesellschaft für Materialkunde (DGM) and laid the foundation of this Euro BioMat symposium.

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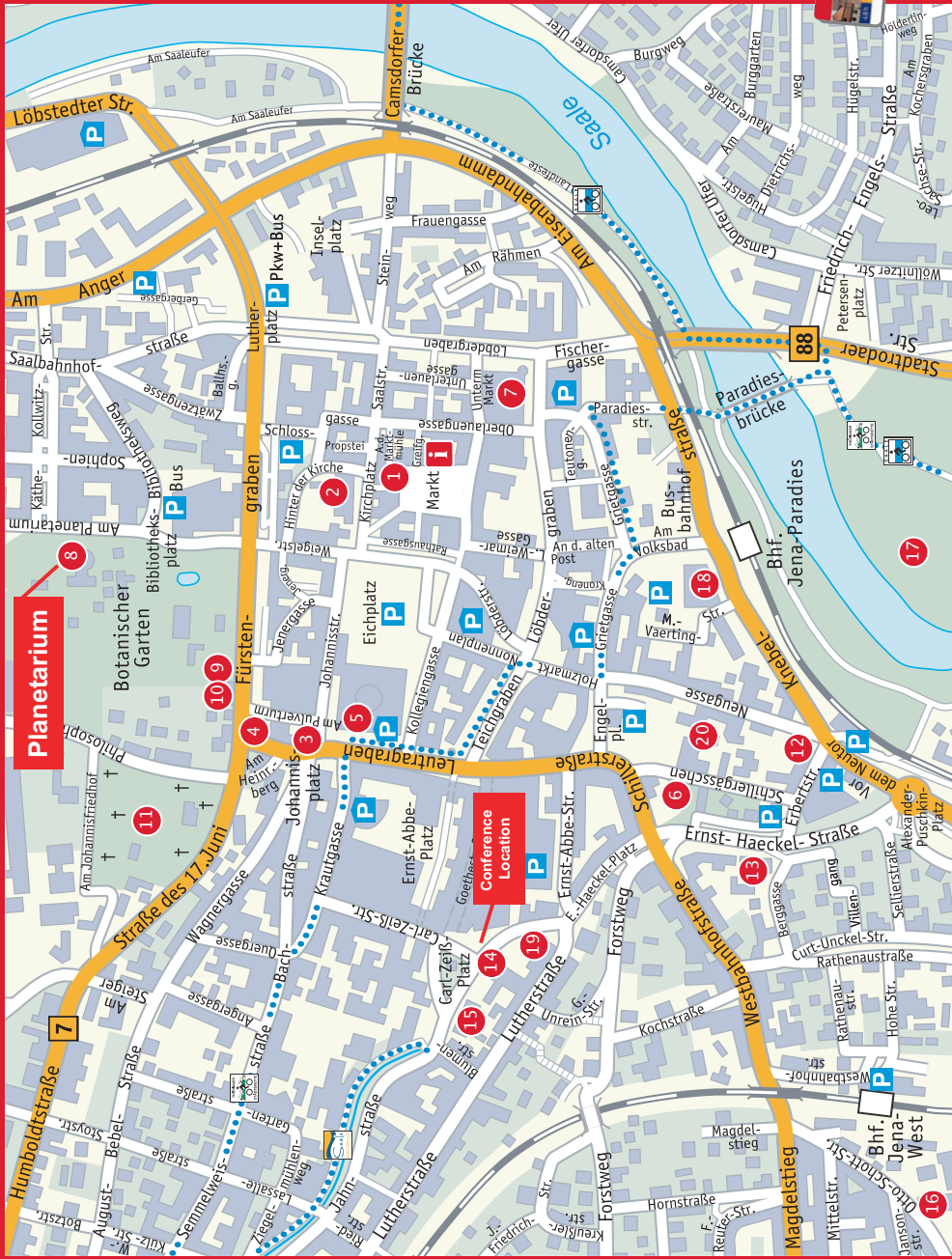
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- 1 Stadtmuseum und Kunstsammlung der Stadt Jena
 - 2 Stadtkirche St. Michael
 - 3 Johannistor
 - 4 Pulverturm
 - 5 Jen Tower
 - 6 Schillers Gartenhaus
 - 7 Romantikerhaus
 - 8 Zeiss-Planetarium Jena
 - 9 Botanischer Garten
 - 10 Goethe-Gedenkstätte
 - 11 Johannisfriedhof
 - 12 Phyletisches Museum
 - 13 Ernst-Haeckel-Haus
 - 14 Ernst-Abbe-Denkmal
 - 15 Optisches Museum
 - 16 Schott GlasMuseum / Schott Villa
 - 17 Paradies / Volkspark Oberer Saale
 - 18 Volkssbad
 - 19 Volkshaus
 - 20 Theaterhaus Jena
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