

5th

International Symposium Interface Biology of Implants (IBI)



6–8 May 2015
Kurhaus Warnemünde

www.ibi-symposium.org



JAHRES | TAGUNG



der Deutschen
Gesellschaft für
Biomaterialien



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Freiburg



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conventus
CONGRESSMANAGEMENT

Tagungsleitung

Prof. Dr. Anke Bernstein
Universitätsklinikum Freiburg
Muskuloskelettales Forschungslabor
Hugstetter Straße 55 • 79106 Freiburg

Themen

- Synthese und Charakterisierung von Biomaterialien (Polymere, Metalle, Keramiken, Komposite)
- Scaffolds für den Gewebeersatz
- Drug-Delivery-Systeme
- Grenzflächen Biosystem und Biomaterial
- Biokompatibilität von Biomaterialien in vivo und in vitro
- Oberflächen (Funktionalisierung, Beschichtung, Strukturierung)
- Rapid Prototyping/Additive Manufacturing
- Klinische Anwendung von Biomaterialien

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Key

IS	Invited Speaker
T	Short Talk
P	Poster

Organisation and Imprint

Venue

Kurhaus Warnemünde
Seestraße 18
18119 Rostock (DE)

Date

6–8 May 2015

Congress Website

www.ibi-symposium.org

Congress Chair

Prof. Dr. Joachim Rychly
Rostock University Medical Center
Laboratory for Cell Biology
Schillingallee 69
18057 Rostock (DE)

Organising Committee

Prof. Dr. Barbara Nebe (Rostock/DE)
PD Dr. Kirsten Peters (Rostock/DE)
Prof. Dr. C. James Kirkpatrick (Mainz/DE)
Prof. Jan de Boer, PhD (Maastricht/NL)
Dr. Mathis Riehle (Glasgow/GB)

Congress Organisation & Industrial Exhibition

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Welcome Note



We are pleased to welcome you to the 5th Symposium “Interface Biology of Implants” in Rostock. It is traditionally held in the Kurhaus Warnemünde on the beautiful Baltic Sea coast.

Participants can expect a scientific program that will focus on the interdisciplinary aspects of designing medical implants in the field of regenerative medicine. Application of bioactive implants in different fields of medicine has considerably increased. However with a growing number of implants it has become obvious that a limiting factor to translate regenerative implants into the clinic an understanding of the molecular interactions between living tissue and the implant material is required.

Again, this Symposium will bring together scientists from multiple disciplines, because to guide cell and tissue development using biomaterials, a collaboration between a variety of disciplines, such as materials science, physics, chemistry and life sciences is necessary. High-ranked invited speakers will present their latest results concerning the generation of bioactive materials and cellular responses. Because this field of applied research requires continuous input from basic sciences, cellular mechanisms of cell adhesion and mechanical control of cells will be discussed.

We hope you will enjoy the time in Rostock and I am sure that we will have a meeting to remember.

A handwritten signature in blue ink, appearing to read 'J. Rychly', written in a cursive style.

Prof. Dr. Joachim Rychly
Conference Chair

Conference Fees

Registration

Please register online via www.ibi-symposium.org.

Conference

Regular	310 EUR
Student	210 EUR

Get Together

Regular	0 EUR
Student	0 EUR
Accompanying person	15 EUR

Social Evening

Regular	35 EUR
Student	25 EUR
Accompanying person	35 EUR

Payment and Confirmation of Payment

An invoice or confirmation of registration will be sent to you via postal or electronic mail within 14 days. This invoice is a valid invoice which may be submitted to the local tax and revenue office. All fees are due upon receipt of invoice/registration confirmation. Payment transfers must include participants name and invoice number. Payment is also accepted by credit card (Master-/Eurocard, American Express, VISA). In case you have transferred the registration fee shortly before the start of the congress, (up to 10 days prior to congress opening), we ask you to please present your transfer remittance slip onsite.

Sponsors, Exhibitors and Media Cooperations

We would like to thank the following companies and institutions for their support:

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Sponsors

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DFG Research Group "Welisa": Analysis
an Simulation of Electrical Interactions of
Implants with Bio-Systems (Rostock(DE)



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(Weinheim/DE)

GIT Labor-Fachzeitschrift



State at printing

Social and Cultural Program

Get Together

The Get Together takes place in one of the closest buildings to the beach, the Kurhaus Warnemünde.

With its beautiful backyard, the maritime climate and its beach promenade nearby, it allows interesting conversations between colleagues, old friends and new acquaintances. Catering will be served.



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Enjoy the evening!

Time	20:00–21:30 hrs
Date	Wednesday, 6 May 2015
Venue	Kurhaus Warnemünde

Social Evening

Let's boating/ship ahoy

The Social Evening of the Symposium will take place on 7 May on the boat "MS Warnemünde". Our ride will cross the Baltic Sea and on the river "Warnow" we will pass different parts of Rostock.



© wikipedia.com/Kriemann

In the city port you will have a beautiful view to the skyline of the old Rostock with St. Peter's Church, which was built in the middle of the 14th century. The boat will then return to Warnemünde. Enjoy the evening with music entertainment and finish the day with your colleagues and friends with a delicious dinner and a glass of wine.

Meeting Point*	19:30 hrs at the "Am Alten Strom, near lighthouse"
Date	Thursday, 7 May 2015
Costs	35 EUR (Regular) 25 EUR (Student)

* Please be punctual

General Hints for Authors and Presenters

Presentation Submission

The presentation submission is situated in the lecture hall. Time allotment: Please prepare your presentation so that you remain within the time allotment. Chair persons have been advised to avoid delays. Contact your chair person before your session begins and advise of any changes or special wishes.

Presentation Form/Submission of Presentation

PDF and PowerPoint presentations are permitted. The use of Macintosh as well as the use of a personal laptop for a presentation is not planned, but possible.

Required technical equipment will be available on site.

For video and audio files please submit AVI, WMV and MPG files only as a separate file. Please make sure that any required CODEC files for any videos are also submitted. Your presentation and any additional files should be submitted at least two hours before your presentation time.

Please note: If you use a USB stick to save your files, do not protect it with software.

The projection data of your presentations before and during the whole congress will be recorded and managed centrally. There is a notebook with MS PowerPoint 2007 and a video projector in location.

General Hints for Authors and Presenters

Poster Sessions

Poster authors with an odd program-ID:

Please be present in poster session I on
Thursday, 7 May 2015 at 13:35 hrs.

Poster authors with an even program-ID:

Please be present in poster session II on
Friday, 8 May 2015 at 13:20 hrs.

All posters should be mounted on Wednesday, 6 May in the morning and removed on Friday, 8 May 2015 at 18:30 hrs.

Posters should be prepared in size DIN A0 portrait (width: 84.1 cm x height: 118.9 cm or 33,11 inches x 46,81 inches) and not laminated. Mounting materials will be provided.

Poster Overview

Generation of regenerative materials	see page 18
Cellular mechanisms	see page 21
Material induced biological responses	see page 23
Mechanical control of cells	see page 31

Scientific Program • Wednesday, 6 May 2015

19:00–20:00 **Welcome Session**

*This session is supported by the
DFG-funded research group „Welisa“*

Joachim Rychly (Rostock/DE)
(Organizing Committee)

Welcome Address

Wolfgang Schareck (Rostock/DE)
(Rector of the University of Rostock)

IS-1

Keynote Lecture

**Dynamic Cross-Talk Between
Cell-Matrix Adhesion and the
Cytoskeleton**

Alexander Bershadsky
(Rehovot, Israel/IL; Singapore/SG)

20:00–21:30 **Informal Get Together with Buffet**

Kurhaus
Warnemünde

Scientific Program • Thursday, 7 May 2015

09:00–12:35 **Session 1 – Generation of Regenerative Materials**

Co-Chairs N. Ma (Helmholtz Center, Teltow/DE)
K. Leong (Columbia University
New York, NY/US)

09:00 **Designing Nature and Host Inspired
IS-2 Biomaterials Systems**
A. Pandit (Galway/IE)

09:30 **Engineered Fibrous Hydrogels for
IS-3 Applications in Regenerative Medicine**
J. Burdick (Philadelphia, PA/US)

10:00 **Biofunctional Hydrogels for Cell Delivery
IS-4 and Tissue Repair**
A. Garcia (Atlanta, GA/US)

10:30 **Reversible Photoswitching of
T-5 Integrin-mediated Cell Adhesion**
C. Selhuber-Unkel (Kiel/DE)

10:45 Coffee Break & Industrial Exhibition

11:05 **Microfabricated Hydrogel Culture Platform
IS-6 to Study Cell Response to Drugs**
M. Textor (Zurich/CH)

11:35 **High Throughput Materials Discovery with
IS-7 Polymer Microarrays**
M. R. Alexander (Nottingham/GB)

12:05 **Polyelectrolyte Multilayers with Controlled
T-8 Stiffness Influence the Response of Human
Adipose-Derived Stem Cells**
M. Niepel (Halle a. d. S./DE)

Scientific Program • Thursday, 7 May 2015

- 12:20
T-9 Covalent Coating of Human Extracellular Matrix on Titanium Implant Surfaces Using Click Chemistry
M. Ruff (Stuttgart/DE)
- 12:35 Lunch Break
- 13:15 QI™ – New generation of quantitative nanomechanical atomic force microscopy measurements in life sciences
C. Pettersson (JPK Instruments AG)
- 13:35 **Poster Session I**
- 15:00–18:20 **Session 2 – Cellular Mechanisms**
Co-Chairs B. Nebe (Rostock University Medical Center, Rostock/DE)
M. Riehle (University of Glasgow, Glasgow/GB)
- 15:00
IS-10 Bioengineering of Direct Cellular Reprogramming
K. W. Leong (New York, NY/US)
- 15:30
IS-11 Fibroblasts and Biomaterials: A Recipe for Fibrosis and Scar
T. H. Barker (Atlanta, GA/US)
- 16:00
T-12 Determination of Macrophage Polarization in Biomimetic 3D Microenvironments
T. Pompe (Leipzig/DE)
- 16:15
T-13 Combinatorial Biomolecular Nano-patterning for High-throughput Screening of Stem Cell Behavior
R. Ogaki (Aarhus/DK)
- 16:30 Coffee Break & Industrial Exhibition

Scientific Program • Thursday, 7 May 2015

- 16:50
IS-14 Modulation of Integrin-dependent Cell-matrix Adhesions and Signaling by Adapter Protein Recruitment and Posttranslational Modification
B. Wehrle-Haller (Geneva/CH)
- 17:20
IS-15 Dynamic Hydrogel Niches Through Photochemical Reactions
K. Kyburz (Boulder, CO/US)
- 17:50
T-16 Impact of Cell Culture Matrix Stiffness and Stretch on Expression and Localisation of Mechanotransducers YAP and TAZ in Aortic Valvular Interstitial Cells
C. Dittfeld (Dresden/DE)
- 20:00–23:00 Social Evening**
Boat Cruise



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- 09:00–12:20** **Session 3 – Material Induced Biological Responses**
- Co-Chairs K. Peters (Rostock University Medical Center, Rostock/DE)
C. J. Kirkpatrick (University of Mainz, Mainz/DE)
- 09:00** **Attachment Onto Nanostructured Black Silicon Antibacterial Surfaces: the Clash Between Eukaryotic Cells versus Pathogenic Bacteria**
IS–17 E. Ivanova (Hawthorn/AU)
- 09:30** **Engineering Tissues via Matrix-Guided Stem Cell Self-organization**
IS–18 M. P. Lutolf (Lausanne/CH)
- 10:00** **Non-pathogenic Bacteria as Functional Biointerfaces Between Synthetic Materials and Mammalian Cells**
T–19 M. Salmeron-Sanchez (Glasgow/GB)
- 10:15** **Opposing Growth Factor Gradients to Create Distinct Tissue Patterning: In-vivo Feasibility Study at the Bone-cartilage Junction**
T–20 E. Lippens (Berlin/GE)
- 10:30** **Analysis of Osteoclastogenesis/Osteoblastogenesis Using Human Bone Marrow Derived Co-cultures on Nanotopographical Titania Surfaces**
T–21 P. M. Tsimbouri (Glasgow/GB)
- 10:45** **Coffee Break & Industrial Exhibition**
- 11:05** **Characterizing the Bone-implant Interface Using Ex-vivo and In-vivo Approaches**
IS–22 P. Fratzl (Potsdam/DE)

Scientific Program • Friday, 8 May 2015

- 11:35
T-23 **Novel Mechanism Identified in Early Implant Healing in Rabbit Bone by Direct Viewing of the Interface**
A. Boyde (London/GB)
- 11:50
IS-24 **Cellular Barrier Systems in Nanomedicine Research**
C. J. Kirkpatrick (Mainz/DE)
- 12:20 Lunch Break
- 12:50 **ATUMTome and ATLAS Array Tomography - automated large volume SEM imaging**
J. Lindenau (Carl Zeiss Microscopy)
- 13:20 **Poster Session II**
- 14:45–18:00
Co-Chairs **Session 4 – Mechanical Control of Cells**
A. Bershadsky (Weizmann Institute, Rehovot/IL and Mechanobiology Institute, Singapore/SG)
J. de Boer (Maastricht University, Maastricht/NL)
- 14:45
IS-25 **Second-generation Biosensors to Measure Molecular Cell Adhesion Forces in Cells**
C. Grashoff (Planegg/DE)
- 15:15
IS-26 **Mechanical Aspects of the Forceful Play of Macrophages with their Prey**
V. Vogel (Zurich/CH)
- 15:45
IS-27 **Talking to Cells – Surface Topography as Tool to Evoke Cellular Responses**
J. de Boer (Maastricht/NL)
- 16:15
T-28 **Stress-stiffening Mediated Commitment Switch in Soft Responsive Hydrogels**
R. Das (Nijmegen/NL)

Scientific Program • Friday, 8 May 2015

- 15:30 Coffee Break & Industrial Exhibition
- 16:50 **Mechanobiology of Cell Reprogramming**
IS-29 S. Li (Berkeley, CA/US)
- 17:20 **Understanding the Cell-extracellular
IS-30 Matrix Mechanical Link – from
Molecular Roles to Emerging
Behaviors**
P. Roca-Cusachs (Barcelona/ES)
- 17:50 Closing Remarks

Overview Poster Sessions

Thursday, 7 May 2015 at 13:35 hrs, Poster with odd IDs

Friday, 8 May 2015 at 13:20 hrs, Poster with even IDs

Generation of regenerative materials	see page 18
Cellular mechanisms	see page 21
Material induced biological responses	see page 23
Mechanical control of cells	see page 31

Poster Sessions

Generation of regenerative materials

- P-31 Controlled local release of synthetic messenger RNA to restore the vessel wall biology in atherosclerosis
S. Krajewski, M.-K. Abraham, R. Reus, A. Behring, A. Nolte
M. Avci-Adali, C. Schlensak, H.-P. Wendel (Tübingen/DE)
- P-32 The use of hydrostatic high pressure for the devitalization of cartilage tissue
B. Hiemer, J. Ostwald, A. Jonitz-Heincke, J. Pasold, A. Wree
A. Salamon (Rostock/DE), S. Dommerich (Berlin/DE)
R. Bader (Rostock/DE)
- P-33 Sustainable release of vancomycin from nanostructured collagen/hydroxyapatite composite layers
M. Šupová (Prague/CZ)
- P-34 Multi-component artificial extracellular matrices for the regulation of osteoclast differentiation
S. Rother, J. Salbach-Hirsch (Dresden/DE), S. Moeller
M. Schnabelrauch (Jena/DE), L. C. Hofbauer, V. Hintze
D. Scharnweber (Dresden/DE)
- P-35 Electrochemically assisted RF plasma oxidation for the controlled surface modification of Ti-40Nb implants
M. Göttlicher, M. Rohnke (Giessen/DE), A. Helth
U. Hempel, A. Gebert (Dresden/DE), J. Janek (Giessen/DE)
- P-36 Dextran hydrogels and their interaction with the co-culture of osteoblasts (OB) and endothelial progenitor cells (EPC)
E. Schiegnitz (Mainz/DE), P. Kämmerer (Rostock/DE)
T. Ziebart (Mainz/DE), U. Jonas (Siegen/DE)
B. Al-Nawas (Mainz/DE)
- P-37 The extraction of bone chips with maximum regenerative power for the optimization of implant surgery in dentistry
H. Meissner, U. Teicher, C. Petto, A. Ben Achour
G. Wittenburg, G. Lauer (Dresden/DE)
- P-38 Histomorphometric and physical characteristics of elastic bone grafting blocks
F. Zaage, T. Gerber (Rostock/DE)
- P-39 Antibiotic delivery from different synthetic bone graft substitutes
C. Ganz, T. Gerber (Rostock/DE)
- P-40 Human chondrocytes seeded into self-assembling scaffolds to assist cartilage repair
L. Recha Sancho, C. Semino (Barcelona/ES)

- P-41 A versatile microbial polyester – peripheral nerve regeneration based on poly (3-hydroxybutyrate)
C. Hinüber (Dresden/DE), K. Chwalek (Boston, MA/US)
 F. Pan-Montojo (Munich/DE), M. Nitschke, H. Brünig
 R. Vogel, C. Werner, G. Heinrich (Dresden/DE)
- P-42 Isolation and differentiation potential of human mesenchymal stem cells from adipose tissue harvested by water jet-assisted liposuction
J. Meyer, A. Salamon, N. Herzmann, S. Adam
 H.-D. Kleine (Rostock/DE), I. Matthiesen (Schwerin/DE)
 K. Ueberreiter (Birkenwerder/DE), K. Peters (Rostock/DE)
- P-44 Evaluation of SLM established titanium and magnesium implants
J. Matena, M. Gieseke, A. Kampmann (Hanover/DE)
 S. Petersen (Osnabrueck/DE), M. Teske (Rostock/DE)
 L. Roland, M. Grau (Hanover/DE),
 H. Murua Escobar (Rostock/DE), N.-C. Gellrich, H. Haferkamp
 I. Nolte (Hanover/DE)
- P-45 Fabrication and surface characterization of electron beam melted Ti-6Al-4V customized root form dental implant
R. Ramakrishnaiah, D. Devang Divakar
 A. A. Al Kheraif (Riaydh/SA)
- P-47 Encapsulation of proteins in micro and nano hydrogel carrier systems for controlled drug delivery
 N. Poth, W. Dempwolf, A. Bertz, S. Wöhl-Bruhn, H. Bunjes
 P. P. Mueller, G. Gross, K.-H. Gericke, J.-E. Ehlers
H. Menzel (Braunschweig/DE)
- P-48 Chitosan membranes for guided bone engineering: preparation and wear resistance measurement using nanoindentation technique
 J. Wosek (Gdańsk/PL)
- P-49 Evaluation of murine adiposal derived mesenchymal stem cell behavior on PCL and P(3HB)/P(4HB) coated magnesium scaffolds
M. Grau, J. Matena, L. Roland, M. Gieseke (Hanover/DE)
 M. Teske (Rostock/DE), S. Petersen (Osnabrueck/DE)
 A. Kampmann (Hanover/DE), H. Murua Escobar (Rostock/DE)
 N.-C. Gellrich, H. Haferkamp, I. Nolte (Hanover/DE)

Poster Sessions

- P-50 Injectable extracellular matrix-inspired gelatin/hyaluronic acid hydrogels for soft tissue engineering
S. Poveda-Reyes (Valencia/ES), V. Moulisova (Glasgow/GB)
E. Sanmartín-Masiá (Valencia/ES)
M. Salmerón-Sánchez (Glasgow/GB)
G. Gallego-Ferrer (Valencia/ES)
- P-51 Overview of dorsal skinfold chamber models used in mice
J. Sauber, S. Meyer, S. Langer (Leipzig/DE)
- P-52 The hydroxyapatite coating on titanium alloys with biological protection.
M. Bartmanski (Gdańsk/PL)
- P-53 Dendritic glycopolymers and their polyelectrolyte complexes as efficient drug delivery systems for retarded release of bortezomib from calcium phosphate cements
D. Appelhans, C. Striegler, B. Torger, M. Müller
M. Schumacher, M. Gelinsky (Dresden/DE)
- P-54 3D-growth of bone marrow cells on porous scaffolds from poly(3-hydroxybutyrate)-poly(ethylene glycol) copolymer
A. Bonartsev, I. Zharkova, V. Voinova, V. Myshkina, T. Makhina
N. Andreeva, G. Bonartseva, K. Shaitan (Moscow/RU)
- P-55 Development of nanofibres with tuned biodegradability for regenerative medicine
H. Hajiali, J. A. Heredia-Guerrero, I. Liakos, A. Athanassiou
E. Mele (Genova/IT)
- P-56 In vivo-tracking of human mesenchymal stem cells in magnetic resonance imaging using magnetic nanoparticles
B. J. Siegmund, A. Kasten (Rostock/DE)
J.-P. Kühn (Greifswald/DE), K. Winter (Leipzig/DE)
B. Frerich (Rostock/DE)

Cellular mechanisms

- P-57 Characterization of platelet rich plasma for the generation of bioactive material surfaces
H. Rebl, I. Lütcherath, C. Prinz, J. B. Nebe, H.-G. Neumann
V. Kiefel, J. Rychly (Rostock/DE)
- P-58 Proteomic analysis of copper treated mesenchymal stem cells
J. Rychly, I. Burghardt, S. Mikkat, M. Kreutzer
M. Glocker (Rostock/DE)

- P-59 Cells can sense and respond to cell-scale curved topography
L. Pieuchot (Mulhouse/FR), M. Bigerelle (Valenciennes/FR)
 A. Spangenberg, K. Anselme (Mulhouse/FR)
- P-60 Effects of bacterial components on migration of mesenchymal stem cells in vitro
N. Herzmann, A. Salamon, T. Fiedler, J. Rychly
 K. Peters (Rostock/DE)
- P-61 Extracellular matrix and the microenvironment influence formation of orthogonal arrays of particles and AQP4-expression in the brain
P. Fallier-Becker, S. Noell (Tübingen/DE)
- P-62 Visualization of plasma membrane protein cluster with nanometer resolution
V. Bandmann, D. Peckys, N. de Jonge, I. Weiss (Saarbrücken/DE)
- P-63 The native root extract of *Linum usitatissimum* – stabilization of breast cancer cells by strengthening the actin stress fibers
N. Engel-Lutz, K. Kraft, P. Müller, B. Nebe (Rostock/DE)
- P-64 Wound-implant interface microenvironment – the role of fibrin in macrophage polarization
V. Malheiro, A. Bruinink, K. Maniura-Weber (St. Gallen/CH)
- P-65 A novel in vitro system for the analysis of electric stimulation of human osteoblasts and bacteria
J. Ziebart, T. Dauben, Y. Su, A. Jonitz-Heincke, B. Kreikemeyer
 R. Bader (Rostock/DE)
- P-66 Histomorphometric appearance of titanium implants after 3 weeks healing in the oral cavity of the rat
J. Eberhard, A. Winkel, S. Glage, J. Sun, M. Stiesch (Hanover/DE)
- P-67 ATUMTome and ATLAS array tomography – automated large volume SEM imaging
J. Lindenau, M. Thaler (Jena/DE)
- P-68 Balanced differentiation of fibroblasts by paracrine IL-10 in a biomimetic wound healing model
 J. Sapudom, M. Ansorge, M. Chkolnikov, K. Franke
 U. Anderegg, T. Pompe (Leipzig/DE)

Poster Sessions

- P-69 Expression of Nrf2 protects cells from HEMA-induced oxidative stress and apoptotic cell death
M. Gallorini, C. Petzel, C. Bolay, K.-A. Hiller (Regensburg/DE)
A. Cataldi (Chieti/IT), W. Buchalla, S. Krifka
H. Schweikl (Regensburg/DE)
- P-70 Structural and mechanical characterization of periprosthetic tissue
A. Oostlander (Leiden/NL), A. Moerman, A. Zadpoor (Delft/NL)
M. Schoeman, R. Nelissen (Leiden/NL)
E. Valstar (Leiden, Delft/NL)
- P-71 Sulfated glycosaminoglycans promote the osteogenic differentiation of osteoblast precursor cells
S. Vogel, U. Hempel (Dresden/DE), S. Möller
M. Schnabelrauch (Jena/DE), V. Hintze
D. Scharnweber (Dresden/DE)
- P-72 Artilysin® – a new antimicrobial platform technology
M. Griebel (Regensburg/DE), Y. Briers (Leuven/BE)
H. Inufusa (Gifu/JP)
- P-73 Interaction of sulfated hyaluronan with TGF- β 1 alters receptor complex formation and impairs growth factor signaling
L. Huebner, S. Samsonov, S. Rother (Dresden/DE)
S. Moeller, M. Schnabelrauch (Jena/DE), M. T. Pisabarro
D. Scharnweber, V. Hintze (Dresden/DE)
- P-74 Lymphocyte – matrix interaction pilots cellular immune surveillance (CIS) of human central nervous system (CNS): revealed with the Marburg Cerebrospinal-Fluid (CSF) Model
T. O. Kleine (Marburg/DE)

Material induced biological responses

- P-75 Osteoinductive activities of demineralized bone materials vs. growth factors on gene expression in MG-63, Part II
Surena V. (Tehran/IR)
- P-76 Blue light activated photocatalytic bactericidal effect on anatase
Y. Wu, M. Walter, I. Stephan, J. Geis-Gerstorf
L. Scheideler, F. Rupp (Tübingen/DE)

- P-77 Foreign body giant cell reaction after implantation of different biodegradable materials in rats
S. Lucke, U. Walschus (Karlsburg/DE), A. Hoene (Greifswald/DE)
 J.-W. Pissarek (Neustadt-Glewe/DE), M. Schnabelrauch (Jena/DE)
 B. Finke (Greifswald/DE), M. Schlosser (Karlsburg/DE)
- P-78 In vitro comparison of growth & function of endothelial progenitor cells cultured on deproteinized bovine bone modified with specific covalently bound fibronectin and bound vascular endothelial growth factor
V. V. Kumar (Mainz/DE), M. Heller, H. Götz, E. Schiegnitz
 W. Wagner, B. Al-Nawas, P. Kämmerer (Mainz/DE)
- P-79 Investigating the interactive effect of surface-modified polyurethane catheters with ureteral tissue for the inhibition of cell adhesion and incrustation of urological implants
W. Kram, C. Knaupp, H. Rebl, B. Nebe (Rostock/DE)
 H. Testrich (Greifswald/DE), O. Hakenberg (Rostock/DE)
- P-80 Live imaging of bacteria/osteoblast dynamic co-culture for bone implant material testing
V. Prévost (Mulhouse/FR), O. Gallet (Cergy-Pontoise/FR)
 K. Anselme, L. Ploux (Mulhouse/FR)
- P-81 Temporary implant surfaces equipped with an anti-adhesive plasma fluorocarbon polymer film
B. Finke, H. Testrich (Greifswald/DE), H. Rebl, B. Nebe
 R. Bader (Rostock/DE), U. Walschus, M. Schlosser
 K.-D. Weltmann, J. Meichsner (Greifswald/DE)
- P-82 Failing dental implant
A. A. Al Kheraif, R. Ramakrishnaiah, D. Devang Divakar (Riyadh/SA)
- P-83 Interactions of mesenchymal stem cells with collagen-based scaffolds cross-linked by EDC/NHS or Genipin
P. Sauerova (Pilsen/CZ), M. Verdanova, T. Suchy
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