3rd International Conference
"Strategies in Tissue Engineering"

Scientific Program
Opening

10:00 - 10:30

Franconia Hall

Chair: Maximilian Rudert (Würzburg, Germany)

Welcome and opening remarks

W-001 Ulrich Nöth (Würzburg, Germany), President WITE e.V. 10 min

Heike Walles (Würzburg, Germany),
Chair Department of Tissue Engineering and
Regenerative Medicine, University Hospital of Würzburg

Jürgen Groll (Würzburg, Germany)
Chair Department for Functional Materials in
Medicine and Dentistry, University of Würzburg

W-002 Alfred Forchel (Würzburg, Germany) 10 min
President of the University of Würzburg

W-003 Matthias Frosch (Würzburg, Germany) 10 min
Dean of the Medical Faculty, University of Würzburg
Session 1: Stem Cells  
10:30 - 12:30

Franconia Hall

Chairs:  
Paolo Bianco (Rome, Italy)  
Wiltrud Richter (Heidelberg, Germany)

Keynote Lectures

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<th>O-001</th>
<th>Paolo Bianco (Rome, Italy)</th>
<th>25+5 min</th>
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<tr>
<td></td>
<td>Postnatal progenitors of skeletal and non-skeletal mesodermal tissues</td>
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<tr>
<th>O-002</th>
<th>Wiltrud Richter (Heidelberg, Germany)</th>
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<td></td>
<td>Activation or silencing - what is the true role of mesenchymal stem cells</td>
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Oral Presentations

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<th>O-003</th>
<th>Solvig Diederichs (Pittsburgh, USA)</th>
<th>9+3 min</th>
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<tr>
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<td>Mesenchymal progenitors derived from human induced pluripotent stem cells</td>
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<th>O-004</th>
<th>Ludmila Buravkova (Moscow, Russia)</th>
<th>9+3 min</th>
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<td>Modulation of multipotent mesenchymal stromal cell immunosuppressive capacity under low oxygen tension</td>
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<th>O-005</th>
<th>Stephan Hackenberg (Würzburg, Germany)</th>
<th>9+3 min</th>
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<td>Toxicity of nanoparticles in human mesenchymal stem cells</td>
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<th>O-006</th>
<th>David Guerit (Montpellier, France)</th>
<th>9+3 min</th>
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<td>Role of Mir-29a during the chondrogenic differentiation of mesenchymal stem cells</td>
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<th>O-007</th>
<th>Marc Mathieu (Montpellier, France)</th>
<th>9+3 min</th>
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<td>Collagen-based microspheres for vectorisation and differentiation of mesenchymal stem cells: a potential strategy for cartilage engineering</td>
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Wednesday May 23\textsuperscript{rd}, 2012

Session 2a: Symposium  
"Biomaterials for Regenerative Medicine 1"

10:30 - 12:30

Balthasar Neumann Hall

Chairs: Aldo Boccaccini (Erlangen, Germany)  
Jürgen Groll (Würzburg, Germany)

Keynote Lectures

O-008 Michael Gelinski (Dresden, Germany)  
Designing anisotropic biomaterials for engineering anisotropic tissues  
20+4 min

O-009 Hala Zreiqat (Sydney, Australia)  
The art of building new bone using uniquely designed ceramic  
20+4 min

Oral Presentations

O-010 Ruben D. Godoy-Silva (Colombia, Colombia)  
Improved human fibrin with alginate as a scaffold for tissue engineering of skin - microfluidic approach  
9+3 min

O-011 Antje Technau (Würzburg, Germany)  
Comparison of decellularized cartilage with collagen type I as a biomimetic material  
9+3 min

O-012 Ingo Heschel (Herzogenraht, Germany)  
Collagen membranes and three-dimensional collagen sponges for clinical applications in regenerative medicine  
9+3 min

O-013 Julio Suay (Valencia, Spain)  
Development of bioactive coating for metal implants  
9+3 min

O-014 Alexander Hoppe (Erlangen, Germany)  
In vitro and in vivo studies of Cu-releasing bioactive glass (type 45S5) derived scaffolds for bone tissue engineering  
9+3 min

O-015 Karla Lehle (Regensburg, Germany)  
Titanium coating increased biocompatibility of medical polyetherurethanes  
9+3 min
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<th>Lunch Break</th>
<th>12:30 - 14:15</th>
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<td>Posters &amp; Industrial Exhibition</td>
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VascuBone 12:30 - 14:15
Lunch Symposium (EU FP-7)

Chairs:  
Heike Walles (Würzburg, Germany)  
Dietmar Hutmacher (Brisbane, Australia)

Keynote Lectures

O-016  Doris Steinmüller-Nethl (Innsbruck, Austria)  
Construction kit for tailor-made vascularized bone implants  
15+3 min

O-017  Frank Kloss (Innsbruck, Austria)  
Construction kit for tailor-made vascularized bone implants- in vivo performance  
15+3 min

O-018  Andreas Briel (Berlin, Germany)  
VISCOVER™ preclinical imaging: Innovative imaging agents enhance and advance the impact of in vivo small animal imaging.  
15+3 min

Oral Presentations

O-019  Michaela Bruschi (Innsbruck, Austria)  
Protein Immobilization to hydrophilic diamond nanoparticles in synthetic scaffolds by mean of physisorption  
9+3 min

O-020  Xujun Wu (Innsbruck, Austria)  
Functionalization of Scaffolds with Nanodiamond Particles and Subsequent Immobilization of Angiopoietin-1 Results in Enhanced Neovascularization  
9+3 min

O-021  Katharina Scheller (Heidelberg, Germany)  
Upcyte® microvascular endothelial cells repopulate de-cellularized scaffolds  
9+3 min

O-022  Zhe Xing (Bergen, Norway)  
In vitro and In vivo evaluations of copolymer scaffolds modified with nano-diamond particles  
9+3 min
Wednesday May 23rd, 2012

Session 3: 3D Models for Tissue Engineering and Cancer Research

14:15 - 16:15

Franconia Hall

Chairs: Heike Walles (Würzburg, Germany)
       Dietmar Hutmacher (Brisbane, Australia)

Keynote Lectures

O-023 James Kirkpatrick (Mainz, Germany) 25+5 min
Co-culture models for tissue engineering and cancer

O-024 Dietmar Hutmacher (Brisbane, Australia) 25+5 min
Engineering of tumor microenvironments or tumor engineering

Oral Presentations

O-025 David Fecher (Würzburg, Germany) 9+3 min
Establishment of an in vitro three-dimensional tumor model by use of a decellularized lung Scaffold

O-026 Vehid Salih (London, UK) 9+3 min
Osteogenic events in hMSCs on Ti Implant surfaces are modified by tyrosine kinase AXL

O-027 Gerhard Unteregger (Homburg, Germany) 9+3 min
Invasive growing tumour cells from prostate carcinoma samples exhibit 3D-spheroid character

O-028 Gerhard Unteregger (Homburg, Germany) 9+3 min
3D-Tumorspheroids in prostate cancer research as a tool to mimic the tumor-environment

O-029 Verena Reichert (Erlangen, Germany) 9+3 min
Unraveling breast cancer cell interactions with the bone microenvironment
Session 2b: Symposium 14:15 - 16:15
"Biomaterials for Regenerative Medicine 2"

Balthasar Neumann Hall

Chairs: Aldo Boccaccini (Erlangen, Germany)
        Jürgen Groll (Würzburg, Germany)

Keynote Lectures

O-030 Paolo A. Netti (Naples, Italy) 20+4 min
Guiding tissue growth in 3D matrices by spatial and temporal control of signal presentation

O-031 Paul Dalton (Brisbane, Australia) 20+4 min
Melt electrospinning writing of tissue engineering scaffolds

Oral Presentations

O-032 Agnieszka Piegat (Szczecin, Poland) 9+3 min
Influence of carbon nanoparticles and fatty acids on antibacterial activity and blood compatibility of new polyesters

O-033 Toshiaki Takezawa (Saga, Japan) 9+3 min
Development of a collagen xerogel membrane composed of high density collagen fibrils and its application to transplantation in vivo and a culture chamber in vitro

O-034 Gerald Dräger (Hannover, Germany) 9+3 min
Towards biocompatible medical devices: functionalization of hydrocarbon surfaces with RGD Peptides

O-035 Andreina Parisi-Amon (Stanford, USA) 9+3 min
Protein engineered biomaterials for bioactive coating

O-036 Pascal Joly (Berlin, Germany) 9+3 min
Cell-matrix interaction in void regeneration: an age and inter-species comparison of ECM network formation in macroporous scaffolds
O-037  **Rainer Detsch** (Erlangen, Germany)  
Bioactive materials, cell & tissue printing: new therapeutic approaches for organ level tissue engineering and regenerative medicine
Coffee Break  16:15 - 16:45

Foyer
Wednesday May 23rd, 2012

Session 4: Musculoskeletal Tissue Engineering I  16:45 - 18:45

Franconia Hall

Chairs: Lars Rackwitz (Würzburg, Germany)
       Andre Steinert (Würzburg, Germany)

Keynote Lectures

O-038  Rocky Tuan (Pittsburgh, USA)  25+5 min
Adult stem cells in skeletal tissue engineering and regeneration:
Application of nanostructured biomaterials and microenvironmental regulation

O-039  Chris Evans (Boston, USA)  25+5 min
Gene therapy approaches - Clinical trials and hurdles

Oral Presentations

O-040  Alexandra Karl (Regensburg, Germany)  9+3 min
The Role of TGFβ/BMP signaling in the terminal differentiation in the in vitro chondrogenesis of mesenchymal stem cells

O-041  Gundula Schulze-Tanzil (Berlin, Germany)  9+3 min
Chondrogenesis by heterotopic chondrocytes in polyglycolic acid scaffolds

O-042  Jakob Sieker (Würzburg, Germany)  9+3 min
Direct gene transfer for cartilage repair using coagulated bone marrow aspirate - bone morphogenetic protein-2 [BMP-2] as potent chondrogenic inductor with the risk of osteophyte formation in a rabbit model

O-043  Anika Krase (Heidelberg, Germany)  9+3 min
The correlation between biochemical and biomechanical properties in chondrocyte-seeded scaffolds for cartilage tissue engineering

O-044  Marcy Zenobi-Wong (Zürich, Switzerland)  9+3 min
Engineering MSC condensations for cartilage engineering
Wednesday May 23rd, 2012

Session 5: Cardiovascular System 16:45 - 18:45

Balthasar Neumann Hall

Chairs: Katja Schenke-Layland (Stuttgart, Germany) 
W. Robb MacLellan (Seattle, USA)

Keynote Lectures

O-045 W. Robb MacLellan (Seattle, USA) 25+5 min
Characterization and therapeutic potential of human cardiovascular progenitor cells

O-046 Anthony Weiss (Sydney, Australia) 25+5 min
Elasticity, cell interactions and vascular repair

Oral Presentations

O-047 Afshin Arti (Leipzig, Germany) 9+3 min
Potential application of different types of adult stem cells on the treatment of patients following myocardial infarction (a clinical review)

O-048 Anja Metzner (Kiel, Germany) 9+3 min
Use of CD133+-cells for percutaneous tissue-engineered pulmonary valved stent implantation

O-049 Miriam Votteler (Tübingen, Germany) 9+3 min
Acquisition of RNA from FFPE fetal and adult human heart valve leaflets for transcriptional profiling

O-050 Ranjana Rai (Erlangen, Germany) 9+3 min
Poly(glycerol sebacate) based platform for cardiac tissue engineering

O-051 Rodrigo Rezende (Campinas, Brazil) 9+3 min
Organ printing enabling technologies: toward organ biofabrication line
The poster session with "Wine & Cheese" (free of charge) starts at 19:00 at the Foyer of the Congress Center.

Please be available at your poster and ready to present it in the time from

19:00 - 20:00 if you have an odd poster number

20:00 - 21:00 if you have an even poster number

During the poster presentation, the poster-prize-jury will go through the posters and will nominate the best posters of the conference. The winners will be announced at the closing session on Friday, May 25th.
Thursday May 24th, 2012

Session 6: Biomimetic Materials 8:00 - 10:00

Franconia Hall

Chairs:  
Jürgen Groll (Würzburg, Germany)  
Michael Gelinski (Dresden, Germany)

Keynote Lectures

O-052 Jos Malda (Utrecht, Netherland)  25+5 min  
Induction of complex tissue organisation in articular cartilage

O-053 Carsten Werner (Dresden, Germany)  25+5 min  
Modular Biohybrid Hydrogels

Oral Presentations

O-054 Daniel Seitz (Bayreuth, Germany)  9+3 min  
Tissue ingrowth and osteoclast behavior on microporous BCP 3D-printed bone scaffolds in co-culture

O-055 Lars Rackwitz (Würzburg, Germany)  9+3 min  
Heteropolymeric polycaprolactone-collagen type II nanofiber scaffolds - Co-Electrospinning

O-056 Jürgen Paletta (Marburg, Germany)  9+3 min  
Influence of PLLA nanofiber functionalization on colonialization, bone healing, angiogenesis and stem cell migration in vivo

O-057 Robert G. Stigler (Innsbruck, Austria)  9+3 min  
Pluronic F-127 - A potential scaffold in stem cell based tissue engineering

O-058 Afshin Arti (Leipzig, Germany)  9+3 min  
The role of the Biomaterials for the treatment of Myocardial Infarction - a review
Session 7: Microsystem Technology  8:00 - 10:00

Balthasar Neumann Hall

Chairs:  Norbert Schütze (Würzburg, Germany)
        Joachim Nickel (Würzburg, Germany)

Keynote Lectures

O-059  Martin Richter (Munich, Germany)  25+5 min
Bioreactors with microfluidic components for tissue engineering

O-060  Matthias Lutolf (Lausanne, Switzerland)  25+5 min
Microtechnologies to deconstruct and reconstruct stem cell environments

Oral Presentations

O-061  Michael Monaghan (Galway, Irland)  9+3 min
Delivery and efficacy of interfering RNA via a crosslinked collagen hydrogel in an excisional in vivo model and a human pre-clinical model to reduce fibrosis

O-062  Meike Simann (Würzburg, Germany)  9+3 min
Fibroblast growth factor signaling during the adipogenic conversion of osteoblasts

O-063  Michaela Leyh (Regensburg, Germany)  9+3 min
Cartilage-, and subchondral bone derived Factors regulate collagen production in MSC

O-064  Sylvia Hondke (Würzburg, Germany)  9+3 min
WISP1 and -3 affect cell survival in human mesenchymal stem cells (hMSCs) and TC28a2 chondrocytes

O-065  Theresa Schildberg (Dresden, Germany)  9+3 min
Array-based identification of potential osteoarthritis key genes using mesenchymal stromal cells from osteoarthritic versus healthy donors
Thursday May 24th, 2012

Coffee Break 10:00 - 10:30
Foyer
**Thursday May 24th, 2012**

**Session 8: Nanomaterials in Regenerative Medicine**

10:30 - 12:30

Franconia Hall

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**Chairs:** [Julia Will](Erlangen, Germany)  
[Uwe Gbureck](Würzburg, Germany)

**Keynote Lectures**

- **O-066** [Sarah Heilshorn](Stanford, USA)  
  Designing stem cell delivery systems through protein engineering  
  25+5 min

- **O-067** [Andreas Greiner](Marburg, Germany)  
  Nanofibres by electrospinning for TE applications  
  25+5 min

**Oral Presentations**

- **O-068** [Lars Rackwitz](Würzburg, Germany)  
  Electrospun collagen type I nanofibers with highly isotropic scaffold architecture support the tenogenic differentiation of human mesenchymal stem cells  
  9+3 min

- **O-069** [Bettina Ibold](Berlin, Germany)  
  Immunological in vitro characterization of xenogeneic extracellular matrix proteins for novel electrospun matrices in cardiovascular tissue-engineering  
  9+3 min

- **O-070** [Elena Andreeva](Moscow, Russia)  
  Silica-based nanoparticle cytotoxicity is composition and cell type dependent  
  9+3 min

- **O-071** [Elham Vatankhah](Isfahan, Iran)  
  Structural characterization of PCL-gelatin composite scaffolds electrospun with different solvent systems  
  9+3 min

- **O-072** [Ali Negahi Shirazi](Sydney, Australia)  
  The effect of cellulose nanofibres on mechanical properties and bioactivity of chitosan  
  9+3 min
Session 9: Symposium "Start MSC" (BMBF)  10:30 - 12:30
Standardization of Innovative Stem Cell Products for Regenerative Medicine

Balthasar Neumann Hall

Chairs:  Albrecht Müller (Würzburg, Germany)  
Anthony D. Ho (Heidelberg, Germany)

Keynote Lectures

O-073   Claus Cichutek (Langen, Germany)  25+5 min
Development and regulation of tissue engineered products

O-074   Anthony D. Ho (Heidelberg, Germany)  25+5 min
Mesenchymal stem cells, pluripotent, multipotent or impotent?  
Results of the collaborative research consortium START MSC

Oral Presentations

O-075   Karen Bieback (Heidelberg, Germany)  15+5 min
Xenogenic free culture media for MSC expansion

O-076   Michael Ott (Hannover, Germany)  15+5 min
Cell therapies for liver disease - which cells for what?

O-077   Matthias Becker (Würzburg, Germany)  15+5 min
Function of chromatin regulators in MSC ageing and differentiation
Session 10: Healthy Aging - Regeneration in Old Age and Multimorbidity

Auvera - Bossi - Wagner Hall

Chairs: Franz Jakob (Würzburg, Germany)  
Günter Lepperdinger (Innsbruck, Austria)

Keynote Lectures

O-078  Günter Lepperdinger (Innsbruck, Austria)  25+5 min  
Stem cell aging: agelessness of mesenchymal stem cells?

O-079  Johannes Grillari (Wien, Austria)  25+5 min  
Title to be announced

O-080  Denitsa Docheva (Munich, Germany)  20+4 min  
Stem Cells for Tendon Tissue Engineering

Oral Presentations

O-081  Robert G. Stigler (Innsbruck, Austria)  9+3 min  
The aging bone - a comparison of murine mandibles and femora

O-082  Sebastian A. Müller (Basel, Switzerland)  9+3 min  
Tendon healing: treatment options following natural growth factor expression

O-083  Patrick Prager (Würzburg, Germany)  9+3 min  
Similar regenerative characteristics of human anterior cruciate ligament fibroblasts from old and young donors
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Thursday May 24th, 2012

ADIPOA
Lunch Symposium (EU FP-7)

Balthasar Neumann Hall

Chairs:  
Danièle Noël (Montpellier, France)
Andrea Facchini (Bologna, Italy)

Keynote Lectures

O-084  
Danièle Noël (Montpellier, France)  
15+5 min
Anti-fibrotic effect of adipose stromal cells on chondrocytes from osteoarthritic patients

O-085  
Andrea Facchini (Bologna, Italia)  
15+5 min
Effect of intra-articular injection of adipose stem cells on different animal models of osteoarthritis

Oral Presentations

O-086  
Giovanna Desando (Bologna, Italy)  
8+2 min
Effect of adipose stem cells for the treatment of osteoarthritis in a rabbit model

O-087  
Simona Neri (Bologna, Italy)  
8+2 min
Replicative senescence and genetic stability of cultured human adipose stem cells (ASC) for the regeneration of injured cartilage

O-088  
Karine Toupet (Montpellier, France)  
8+2 min
Long-term detection of human adipose tissue-derived mesenchymal stem cells after intra-articular injection

Keynote Lecture

O-089  
Louis Casteilla (Toulouse, France)  
15+5 min
Adipose-derived stromal cells: their identity and uses in clinical trials
Thursday May 24th, 2012

Session 11: Musculoskeletal Tissue Engineering II 14:00 - 16:00

Franconia Hall

Chairs: Maximilian Rudert (Würzburg, Germany)
Frank Barry (Galway, Ireland)

Keynote Lectures

O-090 Dietmar Hutmacher (Brisbane, Australia) 25+5 min
Regenerative potential of osteoblasts versus bone marrow derived mesenchymal progenitor cells in the reconstruction of critical sized segmental tibial bone defects in a large animal model

O-091 Frank Barry (Galway, Ireland) 25+5 min
Mesenchymal stem cells: host response and mechanism of action

Oral Presentations

O-092 Tzu-Miao Lin (Hsin-Chu, Taiwan) 9+3 min
Cartilage hydrolysate-derived biomaterials for chondrogenesis

O-093 Solvig Diederichs (Heidelberg, Germany) 9+3 min
Interplay of local TGF-β with fibrin hydrogel and collagen-type I/III scaffolds: role of cells and impact on human mesenchymal stem cell chondrogenesis

O-094 Marie Morille (Montpellier, France) 9+3 min
New pharmacologically active microsphere (PAM) formulation enhances protein release and promotes cell survival: illustration in hMSC chondrogenesis

O-095 Claudia Eder (Vienna, Austria) 9+3 min
Spinal defomities & tissue engineering: Intervertebral disc regeneration in the scoliotic spine

O-096 Alexandra Schmiermund (Giessen, Germany) 9+3 min
The need of an appropriate matrix composition for the differentiation of human mesenchymal stem cells to disc cells
Thursday May 24th, 2012

Session 12: Skin & Regulatory Affairs 14:00 - 16:00

Balthasar Neumann Hall

Chairs: Heike Walles (Würzburg, Germany)  Oliver Pullig (Würzburg, Germany)

Keynote Lecture

O-097 Heike Walles (Würzburg, Germany)  20+4 min
Automated production of an engineered skin equivalent

Oral Presentations

O-098 Sivan Unnikrishnan (Trivandrum, India)  9+3 min
Differentiation of adipose derived mesenchymal stem cells to keratinocytes using matrix directed approach

O-099 Florian Groeber (Würzburg, Germany)  9+3 min
Development of a vascularised skin equivalent with a physiological perfused vascular network

O-100 Ulrike Kriegebaum (Würzburg, Germany)  9+3 min
Tissue engineering of oral mucosa - in vitro comparison of different scaffolds and cell culture methods

O-101 Mohd Hilmi Abu Bakar (Kedah, Malaysia)  9+3 min
In vitro characterization of chitosan skin regenerating template as a porous scaffold for three dimensional cultivation

O-102 Renjith P. Nair (Trivandrum, India)  9+3 min
In vitro construction of dermal and epidermal substitutes for healing chronic wounds on biodegradable hybrid scaffold

O-103 Sarah Küchler (Berlin, Germany)  9+3 min
Filaggrin knock-down skin models - a new approach in dermatological research
O-104  **Moritz Goeldner** (Hamm-Lippstadt, Germany)  9+3 min
In search of finding a suitable business model for regenerative medicine - A reason why cell-based therapies are still not commercially successful

O-105  **Sabine Kloth** (Munich, Germany)  9+3 min
ISO 13022 - A new international standard for the management of risk and requirements for processing practices for medical products containing viable human cells
Thursday May 24th, 2012

Session 13: Nervous System 14:00 - 16:00

Auvera - Bossi - Wagner Hall

Chairs: Burkhard Schlosshauer (Reutlingen, Germany) Guido Nikkah (Freiburg, Germany)

Keynote Lectures
O-106 Burkhard Schlosshauer (Reutlingen, Germany) 20+4 min
Biohybrid concepts for neuro tissue engineering

O-107 Guido Nikkah (Freiburg, Germany) 20+4 min
Stem cell-based restorative approaches in neurodegenerative diseases: challenges and limits

O-108 Garry Brook (Aachen, Germany) 20+4 min
The development of an orientated nanofibre-based strategy for the repair of the injured peripheral nervous system

Oral Presentations
O-109 Winfried Neuhaus (Vienna, Austria) 9+3 min
The role of astrocytes in a mouse blood-brain barrier in vitro model of oxygen/glucose deprivation

O-110 Frank Edenhofer (Bonn, Germany) 9+3 min
Direct conversion of fibroblast cells into tripotent neural stem cells

O-111 Marco Metzger (Würzburg, Germany) 9+3 min
Evaluation of the in vitro and in vivo potential of neural stem cells derived from human postnatal gut

O-112 Marcel Dihné (Tübingen, Germany) 9+3 min
Functional neuronal networks generated from human induced pluripotent stem cells
Coffee Break 16:00 - 16:30
Foyer
### Session 14: Drug Delivery  
**16:30 - 18:30**

**Franconia Hall**

**Keynote Lectures**

O-113  **Markus Textor** (Zürich, Switzerland)  25+5 min  
Biomimetic Nanoparticle Functionalization and Smart Membrane Assembly of Core-Shell Nanoparticles for Triggered Release Application

O-114  **Wim Henning** (Utrecht, Netherlands)  25+5 min  
Thermosensitive and Biodegradable Hydrogels for Protein Delivery

**Oral Presentations**

O-115  **Jens Möller** (Würzburg, Germany)  12+3 min  
Catch bonds mediate the uptake of surface bound bacteria by macrophages

O-116  **Martin Ehrbar** (Zürich, Switzerland)  12+3 min  
Cell-instructive matrices for the recruitment and differentiation of mesenchymal stromal cells during bone healing

O-117  **Martin Behe** (Villingen, Switzerland)  12+3 min  
Delivery of radioisotopes for diagnostic and therapeutic application

O-118  **Subhas C. Kundu** (Kharagpur, India)  12+3 min  
Non-mulberry silk biomaterial for regenerative medicine
### Session 15: Regulatory Affairs and Clinical Studies

16:30 - 18:30

**Balthasar Neumann Hall**

**Chairs:** Hans-Georg Eckert (Mannheim, Germany)  
Oliver Pullig (Würzburg, Germany)

#### Keynote Lectures

**O-119 Ralf Sanzenbacher** (Langen, Germany)  
Advanced Therapy Medicinal Products: A Regulatory Requirements Roadmap for Europe and Germany  
- 25+5 min

**O-120 Heiko von der Leyen** (Hannover, Germany)  
Design and realization of clinical trials–from bench to bedside  
- 25+5 min

#### Oral Presentations

**O-121 Oliver Pullig** (Würzburg, Germany)  
Application for cell based medical therapies: A long distance run in the academic environment  
- 10+5 min

**O-122 Christine Günther** (Munich, Germany)  
Cells as a drug: development of pharma-grade cell-based therapies for clinical application  
- 10+5 min

**O-123 Klaus Kühlcke** (Idar-Oberstein, Germany)  
Manufacturing of vectors and gene modified cells for early phase clinical trials on ex-vivo gene therapy in Europe  
- 10+5 min

**O-124 Albrecht Meichle** (Weinheim, Germany)  
Human Heterologous Liver Cells for Treatment of Urea Cycle Disorders - a Regulatory Challenge  
- 10+5 min
Gala Dinner at the Würzburg Residence

The Gala Dinner at 19:00 starts with a reception at the main entrance of the Würzburg Residence.

Please check the Würzburg map at the end of this program book to find your way to the Würzburg Residence.

Additional tickets for the Gala Dinner are available at the conference office in the Foyer of the Congress Center.
Session 16: Strategies for Tissue Vascularization  

**Franconia Hall**

**Chairs:**  
Anthony Weiss (Sydney, Australia)  
Vladimir Mironov (Chaleston, USA)

**Keynote Lectures**

O-125  
Vladimir Mironov (Chaleston, USA)  
Title to be announced  
25+5 min

O-126  
Felipe Prosper (Pamplona, Spain)  
Cardiovascular regeneration and strategies for neovascularization  
25+5 min

**Oral Presentations**

O-127  
Achim Feucht (Munich, Germany)  
Prefabrication of tissue engineered constructs – a viable strategy for neovascularisation – a model tested on rabbits  
9+3 min

O-128  
Stefan Zorn (Wisconsin-Madison, USA)  
Specific and reversible growth factor sequestering and release from PEG based hydrogels  
9+3 min

O-129  
Andreas Arkudas (Erlangen, Germany)  
Generation of axially vascularized bone substitute in the AV loop rat model using mesenchymal stem cells and BMP2  
9+3 min

O-130  
Caroline Seebach (Frankfurt, Germany)  
Endothelial progenitor cells improve directly and indirectly early vascularization of mesenchymal stem cells-driven bone regeneration in a critical bone defect in rats  
9+3 min

O-131  
Christian Muhr (Würzburg, Germany)  
3D coculture spheroids of adipose-derived stem cells and microvascular endothelial cells - local inhibition of adipogenesis  
9+3 min
Friday May 25\textsuperscript{th}, 2012

Session 17: Musculoskeletal Tissue Engineering III

8:00 - 10:00

Balthasar Neumann Hall

Chairs: Mehdi Shakibaei (Munich, Germany)
Johannes Reichert (Würzburg, Germany)

Keynote Lecture

O-132 Franz Jakob (Würzburg, Germany)
Stem cell targeted strategies for bone regeneration

Oral Presentations

O-133 Elisabeth Seebach (Heidelberg, Germany)
Enhanced in vivo attraction of host cells into mesenchymal stem cell - seeded fibrin hydrogels transplanted in a rat femur bone defect

O-134 Johannes Reichert (Würzburg, Germany)
A Tissue Engineering Solution for Segmental Defect Regeneration in Long Bones

O-135 Peter Brett (London, UK)
Osteogenic events in hMSCs on Ti implant surfaces are modified by tyrosine kinase AXL

O-136 Alexander Kahlig (Stuttgart, Germany)
Evaluation of the optimal culture conditions to develop in vitro bone tissue through various methods of in silico modeling

O-137 Pia Voltz (Heidelberg, Germany)
Ectopic Bone Formation by Human MSC on Synthetic versus Biological Bone Substitutes

O-138 Mehdi Shakibaei (Munich, Germany)
Three-Dimensional High-Density Co-Culture with Primary osteoblasts promotes osteogenic differentiation in MSCs in vitro
O-139  **Falk Milan** (Dresden, Germany)  
Dynamic seeding of large cancellous bone scaffolds with mesenchymal stromal cells: spatial cell distribution using perfusion, rotation and static seeding techniques

O-140  **Sabine Stöckl** (Regensburg, Germany)  
In vitro knockdown of Sox9 affects cell survival via p21 and Cyclin D1 and favors osteogenic differentiation of mesenchymal stem cells
Friday May 25th, 2012

Session 18: Liver, Pancreas and Abdomen  8:00 - 10:00

Auvera - Bossi - Wagner Hall

Chairs:  Marco Metzger (Würzburg, Germany)
        Insa Schröder (Halle, Germany)

Keynote Lectures

O-141  Insa Schröder (Halle, Germany)  25+5 min
In vitro pancreas - hopes and hypes

O-142  Günter Paeth (Freiburg, Germany)  25+5 min
Cellular crosstalk between bone-marrow-derived mesenchymal stromal cells (MSC) and β-cells

Oral Presentations

O-143  Christiani Amorin (Louvain, Belgium)  9+3 min
Transplantation of alginate-matrigel hydrogel containing isolated ovarian stromal cells: first step to develop an artificial ovary

O-144  Tigran Poghosyan (Paris, France)  9+3 min
Esophageal tissue engineering using a hybrid approach. In vitro analysis of cell seeding conditions

O-145  Iris Dally (Stuttgart, Germany)  9+3 min
From R&D to GMP - Development of tracheal patch

O-146  Karl-Heinz Heffels (Würzburg, Germany)  9+3 min
Hernia meshes enhanced with nanofibres for treatment of diaphragm defects

O-147  Miroslawa El Fray (Szczecin, Poland)  9+3 min
Enzymatic degradation of injectable polymeric materials for hernia repair
Coffee Break 10:00 - 10:30
Foyer

10:30 - 12:30

Franconia Hall

Chairs: Peter Jakob (Würzburg, Germany)
        Thorsten Walles (Würzburg, Germany)

Keynote Lectures

O-148 Peter Jakob (Würzburg, Germany) 25+5 min
New tools for cell and tissue imaging: MRI and MPI

O-149 Karin Schütze (Tutzing, Germany) 25+5 min
Photonic fingerprinting - Raman spectroscopy for marker-free and nondestructive cell and tissue analyses

Oral Presentations

O-150 Jan Hansmann (Stuttgart, Würzburg) 9+3 min
Impedance spectroscopy - a tool for the characterization of skin equivalents

O-151 Ben Fabry (Erlangen-Nuremberg, Germany) 9+3 min
Physical principles of cell migration in 3 dimensions

O-152 Carmen Pettersson (Berlin, Germany) 9+3 min
Quantifying of adhesion and mechanics of single cells on biomaterials

O-153 Marianne E. Mertens (Aachen, Germany) 9+3 min
Magnetic Resonance Imaging of Tissue-Engineered Implants

O-154 Joachim Schrauth (Würzburg, Germany) 9+3 min
Comparison of different MRI sequences for the characterization of cartilage in an Osteoarthritis model in goats
Friday May 25th, 2012

Session 20: Adipose Tissue Engineering  10:30 - 12:30

Balthasar Neumann Hall

Chairs:  Lauren Flynn (Kingston, Canada)
Torsten Blunk (Würzburg, Germany)

Keynote Lectures

O-155   Lauren Flynn (Kingston, Canada)  25+5 min
Decellularized Adipose Tissue as an Adipo-inductive Substrate for Soft Tissue Engineering

O-156   Nestor Torio-Padron (Freiburg, Germany)  25+5 min
Adipose tissue engineering by transplantation of preadipocytes in fibrin

Oral Presentations

O-157   Lukas Prantl (Regensburg, Germany)  9+3 min
Different Methods to Collect Human Adipose Tissue-derived Adult Stem Cells

O-158   Katharina Storck (Munich, Germany)  9+3 min
In vivo vascularization of engineered adipose tissue using composite constructs made from biodegradable porous scaffolds and hydrogels

O-159   Jürgen H. Dolderer (Tuebingen, Germany)  9+3 min
Assessment of angiogenic factors in de-novo generated vascularized adipose tissue

O-160   Jan-Thorsten Schantz (Munich, Germany)  9+3 min
Development of 3D Breast Shape Scaffolds for Adipose Tissue Engineering

O-161   Timm P. Wolter (Aachen, Germany)  9+3 min
The effect of hyperbaric oxygenation on the expression of the growth factors VEGF, bFGF, IGF, PDGF-BB and MMP-9 in autologous fat transplantation
Friday May 25th, 2012

Session 21: Symposium 10:30 - 12:30
"Tissue Engineering Ear, Nose, Throat and Eye"

Auvera - Bossi - Wagner Hall

Chairs: Norbert Kleinsasser (Würzburg, Germany)
        Gerd Geerling (Düsseldorf, Germany)

Keynote Lectures

O-162  Norbert Kleinsasser (Würzburg, Germany)  15+5 min
Applications of Tissue Engineering in Otorhinolaryngology-Reconstructive Head and Neck Surgery

O-163  Rainer Staudenmaier (Munich, Germany)  15+5 min
Customized Tissue Engineering For Ear Reconstruction

O-164  Nicole Rotter (Ulm, Germany)  15+5 min
Cell based restoration of salivary gland function

Oral Presentations

O-165  Kristina Spaniol (Düsseldorf, Germany)  9+3 min
Strategies for Lacrimal Gland Replacement

O-166  Katrin Frölich (Würzburg, Germany)  9+3 min
Tissue Engineering in Laryngology

O-167  Thomas Fuchsluger (Düsseldorf, Germany)  9+3 min
Current Status of Ocular Surface Reconstruction with Tissue Constructs

O-168  Stefan Schrader (Düsseldorf, Germany)  9+3 min
Perspectives of Conjunctival Tissue Engineering

O-169  Gesa Maria Grobe (Braunschweig, Germany)  9+3 min
Stimulation of extracellular matrix synthesis in human corneal keratocytes for tissue engineering applications
Friday May 25th, 2012

Closing Remarks  12:30 - 13:00

Franconia Hall

Chair:  Maximilian Rudert (Würzburg, Germany)

Farewell

C-001  Ulrich Nöth (Würzburg, Germany)  30 min
Heike Walles (Würzburg, Germany)
Jürgen Groll (Würzburg, Germany)

Announcement of the poster prize winners and closing remarks
Poster Presentations P 1 - P 101

The posters are presented at the foyer in front of Franconia Hall and can be visited during the whole conference.

Poster set up is on Wednesday, May 23\textsuperscript{rd}, from 7:30 - 10:00. Suitable mounting material is available at the registration desk.

A special poster session with "Wine & Cheese" will be held on Wednesday evening (May 23\textsuperscript{rd}), starting at 19:00 at the Foyer of the Congress Center.

Please be available at your poster and ready to present it in the time from:

- 19:00 - 20:00 if you have an odd poster number
- 20:00 - 21:00 if you have an even poster number.

During this poster presentation, the poster-prize-jury will go through the posters and will nominate the best posters of the conference. The winners will be announced in the closing session on Friday, May 25\textsuperscript{th}.

Posters have to be removed on Friday, May 25\textsuperscript{th}, in the time from 13:00 - 14:00. Posters that have not been removed by 14:00 will be discarded.
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