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**Legend:**
- HMT, Congress Venue
- CH, City Hall of Rostock
- MS, Main Railway Station
Dear ESAO members, dear congress participants!

as President of the European Society of Artificial Organs I heartily want to welcome you to our 39th annual meeting in Rostock, Germany. Rostock has a long tradition in dialysis, artificial heart and cardiovascular implants. Prof. Steinhoff has together with Prof. Mitzner and Dr. Ramlow and their teams prepared an excellent meeting. One focus of this meeting will be on the clinical application particularly for heart, liver and kidney, visible in three focus days. Moreover our congress has always been an interdisciplinary discussion platform for researchers, developers, clinical applicants and industry, with increasing focus also on bioartificial organs and tissue engineering. This is reflected in a broad spectrum of symposia, keynote lectures, oral and poster presentations, in 4 parallel threads. Particular emphasis has been laid in recent years in the specific interests in young researchers, with an own precongress day. An attractive social program with several evening events has also been prepared.

The Board of ESAO and myself wish you a stimulating and creative meeting!

With best regards

Prof. Heinrich Schima PhD
President of ESAO

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With best regards

Prof. Heinrich Schima PhD
President of ESAO
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KANEKA

STADA

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**BOARDs AND COMMITTEES/INTERNATIONAL SCIENTIFIC COMMITTEE**

- Jens Altichter/Rostock, Germany
- Angel Argiles/Montpellier, France
- Michael Bauer/Jena, Germany
- Reinhard Brunkhorst/Hannover, Germany
- Andrea Buscaroli/Ravenna, Italy
- Gerardo Catapano/Cosenza, Italy
- Juan F. Del Canizo Lopez/Madrid, Spain
- Kurt Derfler/Vienna, Austria
- Frank Emmrich/Leipzig, Germany
- Giuseppe Faggian/Verona, Italy
- Dieter Falkenhagen/Krems, Austria
- Thomas Groth/Halle, Germany
- Axel Haverich/Hannover, Germany
- Saleh M. Ibrahim/Lübeck, Germany
- Ulrich Kertzscher/Berlin, Germany
- Ashraf Khir/London, UK
- Piotr Ladyzymski/Warsaw, Poland
- Peter J. Lansberg/Amsterdam, The Netherlands
- Ingrid Ledebo/Lund, Sweden
- Cécile Legallais/Compiègne, France
- Nuno Neves/Porto Salvo, Portugal
- Heinrich Prophet/Rostock, Germany
- Gerhardt Rakhorst/Groningen, The Netherlands
- Rui L. Reis/Guimarães, Portugal
- Claudio Ronco/Vicenza, Italy
- Peter Rutherford/Zurich, Switzerland
- Igor M. Sauer/Berlin, Germany
- Heinrich Schima/Vienna, Austria
- Aleksandar Sikole/Skopje, Republic of Macedonia
- Sergio Stefoni/Bologna, Italy
- Bernd Stegmayr/Umeå, Sweden
- Ulrich Steinseifer/Aachen, Germany
- Bodo Eckehard Strauer/Düsseldorf, Germany
- Raymond Vanholder/Ghent, Belgium
- Pascal Verdonck/Ghent, Belgium
- Jörg Vienken/Bad Homburg, Germany
- Hans-Dieter Volk/Berlin, Germany
- Brigitte Vollmar/Rostock, Germany
- Beat H. Walpoth/Genève, Switzerland
- Georg Wieselthaler/Vienna, Austria
- Roland E. Winkler/Rostock, Germany
- Jan M. Wojcicki/Warsaw, Poland

**BOARDs AND COMMITTEES/LOCAL ORGANISING COMMITTEE**

**Congress president:**
Prof. Dr. med. Gustav Steinhoff
Director of the Clinic for Cardiac Surgery, University of Rostock; Head of the Reference and Translation Center for Cardiac Stem Cell Therapy at University Medicine Rostock

**Vice Chair:**
Prof. Dr. med. Steffen Mitzner
Director of the Clinic for Nephrology, University Medicine Rostock

**Scientific assistance**
Dr. Hoang Tu-Rapp
Reference and Translation Center for Cardiac Stem Cell Therapy at University Medicine Rostock

**Dr. Heinrich Prophet**
Apherezentrum Rostock

**Local organising committee**
Katrin Höfer, Jana Gabriel
University Medicine Rostock
AWARDS/ THE ESAO-WICHTIG AWARD

is the most prestigious award of the ESAO. It is sponsored by Wichtig-Editore and the International Journal for Artificial Organs for the best paper in research, development or clinical introduction of artificial organ support or replacement. An international Jury has decides on the annual submissions. This year the award goes to Mrs. Sarra deValence from the University of Geneva for a paper on “Long-term-performance of polycaprolactone cascular grafts in a rat abdominal aorta replacement model”.

AWARDS/ THE ESAO-INNOVATIVE AWARD

is given by a Jury of ESAO-Board-Members to the presenter of the most innovative oral presentation, based on the best rated abstracts and the presentation at the meeting.

AWARDS/ THREE ESAO-POSTER AWARDS

are presented to the best posters. The decision is based on recommendations of the poster-session chairpersons for the best posters of their individual session and subsequently on the comparison of those by an international Jury.
Academy of music and theatre
Congress venue is the Academy of Music and Theatre, Rostock. The academy is located in the “Katherinenstift”, a formerly Franciscan monastery of the 13th century. Together with an additional new building (2001) the Katherinenstift offers a creative ambience with optimal work conditions. 450 Students from all over the world are educated here – we will have the opportunity to hear some of them during the social events.
SESSION LISTS

LIST OF ORAL SESSIONS

Modelling for cardiovascular devices: Session W.1
Advances in Biomaterials: Session W.3
Cardiovascular Tissue Engineering: Session T.2
Cardiovascular Stem Cells: Session T.3
Cardiovascular Biomaterials and Perfusion: Session T.4
Apheresis in Cardiovascular Diseases II: Session T.6
Experimental Apheresis: Session T.7
Immune Apheresis: Session T.8
Cell Biomaterial Interaction: Session T.9
Assessment of Biomaterial Properties: Session T.10
Design and Synthesis of Biomaterials: Session T.11
Biomaterials and Tissue Engineering: Session T.12
Minimal invasive monitoring in kidney dialysis: Session T.13
Liver Support- whom to treat: Session F.2
Liver Support- Medical devices: Session F.3
Bioartificial Liver Support: Session F.4
Cardiovascular In vivo experiments: Session F.6
IABP and Alternative Concepts: Session F.8
Clinical Dialysis 1: Session F.9
Clinical Dialysis 2: Session F.10
Renal Biomaterials and Device Technology: Session F.11
Tissue and Organ Engineering: Session F.12
Biochemical Evaluations: Session F.13
Albumin in CRD: Session S.1
Apheresis and Intensive Care: Session S.3
Cytapheresis in Inflammatory Bowel Disease: Session S.4
Cardiac Devices - Technical: Session S.5

LIST OF POSTER SESSIONS

Cardiovascular: Poster Session 1
Apheresis: Poster Session 1
Liver: Poster Session 2
Clinical VAD studies and experiment: Poster Session 2
Valves: Poster Session 2
Dialysis: Poster Session 2
Cell biology for tissue engineering: Poster Session 2
Miscellaneous : Poster Session 2
Organ Repair and tissue engineering: Poster Session 2
SEPT. 24TH MONDAY
20:00 Meet together in Rostock: Bar "Hemmingway" (presumably)

SEPT. 25TH TUESDAY  Academy of music and theatre

08:30-13:00 Focus on major organs, their support/replacement and their mutual interaction and interdependency
08:30-09:00 “Heart: From basic physiology to failure treatment with mechanical ventricular support”
S. Jacobs & T. Verbelen (Leuven, Belgium)
09:00-09:30 “Lung: Understanding organ function and treatment options for dysfunction”
R. Borchardt (Aachen, Germany)
09:30-10:00 Coffee break & discussion
10:00-10:30 “Kidney: Apheresis - a renal replacement spin off and its application”
H. Prophet (Rostock, Germany)
10:30-11:00 “Liver: Current regenerative strategies and future solutions for the liver”
N. Raschzok (Berlin, Germany)
11:00-11:30 Coffee break & discussion
11:30-12:00 “Blood as an organ: Composition, functions and interaction with [artificial]organs”
B. Kroitzki & M. Müller (Hannover, Germany)
12:00-13:00 Moderated panel discussion: „Searching for the links among the organs”
F. Moscato (Vienna, Austria)
13:00-14:00 Lunch

SEPT. 26TH FRIDAY  Academy of music and theatre
14:00-16:30 Our scientific career in Europe
14:00-15:30 Stories from PhD and Post-doc careers:
Italy–A. Di Molfetta, Poland–K. Zieliński; Scotland–L. Shedden; Spain–C. Amoros;
15:30-16:00 “University research: known opportunities & obstacles”
Prof. B. Vollmar (University of Rostock, Rostock, Germany)
16:00-16:30 “Research in Industry? Tips & tricks from an insider”
Dr. F. Rutherford (Baxter Healthcare SA. Zurich, Switzerland)
16:30-17:00 YESAO next steps

Friday, 28th of September 2012
14:00-16:30 Our scientific career in Europe
14:00-15:30 Stories from PhD and Post-doc careers:
Austria–M. Granegger; Belgium–S. Jacobs; England–G. Bruti; Germany–T. Kaufmann;
15:30-16:00 “University research: known opportunities & obstacles”
Prof. B. Vollmar (University of Rostock, Rostock, Germany)
16:00-16:30 “Research in Industry? Tips & tricks from an insider”
Dr. F. Rutherford (Baxter Healthcare SA. Zurich, Switzerland)
16:30-17:00 YESAO next steps

YESAO social evening: sailing school “Käpt’n Piet”

The members of Young ESAO can have a relaxed evening at a special location for their own. „Käpt’n Piet“ is a boat at the Port of Rostock. You find a lounge atmosphere at the water and can talk about your own topics.
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<th>Date</th>
<th>Session Details</th>
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<td>Opening Session Welcome address, Wichtig Award, Bücherl Award</td>
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<td>Session W. 1 Modelling for Cardiovascular devices</td>
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<td>Session W. 2 Apheresis Treatment - Geographical Particularities</td>
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<td>Session W. 3 Advances in Biomaterial</td>
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<td>Thu. 09/27</td>
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<td>Session T. 3 Stem cells</td>
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<td>Session T. 4 CV Biomeral &amp; Perfusion</td>
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<td>Session T. 5 Apheresis in Cardiovascular Diseases I</td>
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<td>Session T. 12 Biomaterials and Tissue Engineering</td>
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<td>Session F. 4 Bioartificial Liver Support</td>
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<td>Session F. 7 Industry Symposium &quot;Heartware&quot;, Long term UHK - Therapy: Pushing the limits</td>
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<td>Session F. 8 Apheresis Support - Status quo</td>
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<td>Session F. 9 Clinical Dialysis 1</td>
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<td>Session F. 10 Advances in cardiac regeneration</td>
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<td>Session F. 11 Renal Biomaterials and Device Technology</td>
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### Opening Session

- Welcome address
  - Chair: G. Steinhoff, Germany
  - E. Reisinger, Dean, University Medicine Rostock
  - H. Schima, President ESAO

- Bücherl Award
  - Keynote Lecture: Y. Kontinen, Helsinki, Finland: Cell interaction and cell communication

- Congress opening ceremony: G. Steinhoff

### Modelling for cardiovascular devices (Session W.1)

- Chair 1: A. Di Molfetta, Italy
- Chair 2: K. Affeld, Germany

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<th>Time</th>
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<tr>
<td>02.30 - 02.45</td>
<td>A computational model of cardiovascular system response to physical exercise</td>
<td>L. Fresiello, Pisa, Italy</td>
<td>ROOM B/KMS - Chambermusichall</td>
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### Apheresis Treatment - Geographical Particularities (Session W.2)

- Chair 1: U. Julius, Germany
- Chair 2: B. Jaeger, Germany

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<td>02.45 - 03.00</td>
<td>What causes the pump flow changes observed in patients with rotary blood pumps driven at a constant speed?</td>
<td>F. Moscati, Vienna, Austria</td>
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### Advances in Biomaterials (Session W.3)

- Chair 1: K. Sterberg, Germany
- Chair 2: C. Legalais, France

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<tbody>
<tr>
<td>03.00 - 03.15</td>
<td>The artero-ventricular coupling in patients undergoing cardiac resynchronization therapy (CRT)</td>
<td>A. Di Molfetta, Pisa, Italy</td>
<td>ROOM B/KMS - Chambermusichall</td>
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### Modelling for cardiovascular devices (Session W.1)

- Chair 1: A. Di Molfetta, Italy
- Chair 2: K. Affeld, Germany

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- Chair 1: K. Sterberg, Germany
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### Corporate Member Symposium

**From bench to bedside – developments to improve patient outcomes**

Chairman 1: Peter Rutherford, Baxter Healthcare SA

Chairman 2: Gustav Steinhoff, Rostock, Germany

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<td>4.00 - 4.30</td>
<td>Introduction</td>
<td>Ingrid Luder (Honoured Corporate Guest speaker)</td>
<td>ROOM A/KTS - Katharinenhall</td>
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<td>4.30 - 4.50</td>
<td>Is the obvious need for artificial organs a peril or a promise?</td>
<td>Jong Verkerk, Financare Medical Care</td>
<td>ROOM A/KTS - Katharinenhall</td>
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<tr>
<td>4.50 - 5.20</td>
<td>Ventricular Assist Devices (VADs) as a mass therapy: Can we learn from the development of hemodialysis?</td>
<td>Ed Leonhard, Columbia University</td>
<td>ROOM A/KTS - Katharinenhall</td>
</tr>
<tr>
<td>5.20 - 5.40</td>
<td>Citrate in dialysis fluids</td>
<td>Gunilla Grothström, Gambro Lundia AB</td>
<td>ROOM A/KTS - Katharinenhall</td>
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<tr>
<td>5.40 - 6.00</td>
<td>Meeting patient needs – scientists and doctors working together</td>
<td>Peter Rutherford, Baxter Healthcare SA</td>
<td>ROOM A/KTS - Katharinenhall</td>
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<tr>
<td>Time</td>
<td>CV Tissue Engineering II (Session T.1)</td>
<td>Apheresis in Cardiovascular Diseases II (Session T.6)</td>
<td>Assessment of Biomaterial Properties II (Session T.10)</td>
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<tr>
<td>10.30 - 10.45</td>
<td>Chair 1: A. Haverich, Germany Chair 2: G. Faggion, Italy</td>
<td>Chair 1: A. Vogt, Germany Chair 2: V. Schettler, Germany</td>
<td>Chair 1: T. Groth, Germany Chair 2: A.T. Netke, Germany</td>
</tr>
<tr>
<td>10.45 - 11.00</td>
<td>Chair 1: B. Velcich, Genova, Switzerland Chair 2: S. de Vaalke, Switzerland</td>
<td>Chair 1: B. Iorgot, Muhlheim, Germany</td>
<td>Chair 1: D. Pfeiffer, Austria Chair 2: F. Evertz, Germany</td>
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<td>11.00 - 11.15</td>
<td>Chair 1: J.C. Briceno, Bogota, Colombia</td>
<td>Chair 1: J. Herda, Greifswald, Germany</td>
<td>Chair 1: J. Altrichter, Rostock, Germany Chair 2: D.W. Grijpma, Enschede, NL</td>
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<td>11.15 - 11.30</td>
<td>Chair 1: H. Haverich, Hannover, Germany</td>
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<td>Chair 2: G. Faggian, Italy</td>
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<td>11.30 - 11.45</td>
<td>Chair 1: T. Schloeglhofer, Vienna, Austria</td>
<td>Chair 1: J. Herda, Greifswald, Germany</td>
<td>Chair 1: H. Kholer, Giessen, Germany</td>
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<td>11.45 - 12.00</td>
<td>Chair 1: R. Iwai, Osaka, Japan</td>
<td>Chair 1: J. Herda, Greifswald, Germany</td>
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<td>Chair 1: Y. Abe, Osaka, Japan</td>
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<td>Chair 1: J. Herda, Greifswald, Germany</td>
<td>Chair 1: D. Pfeiffer, Austria</td>
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**Coffee Break (30 min)**
ESA O XXXIX/September/Thursday 27th/2012
2nd DAY – FOCUS HEART

ROOM A/XX - Katharinenhall
Cardiovascular

CV Stem Cells
(Session T.3)
Chair 1: W. Sherman, USA
Chair 2: D. Kong, China

02.00 - 02.15
019 A new strategy to trans form bone marrow stem-cells into various endothelial cells
F. Schlegl, Leipzig, Germany

02.15 - 02.30
020 Into-Mycocellular Homing of Adult Stem Cells in a Go At Model: Glundal vs. Mesenchymal Stem Cells
N.W. Budnitz, Lubbeck, Germany

02.30 - 02.45
021 Transplantation of parthenogenetic embryonic stem cells for treatment of myocardial infarction
Y. Liu, Tianjin, China

02.45 - 03.00
022 Identification of cardioprotective CD4+AT2R+ T cell subpopulation in response to ischemic heart injury
A. Sikole, Skopje, Macedonia

03.00 - 03.15
023 Influence of the stimulation of AT2R via its agonist Compound 21 on the characteristics of murine CD117+ bone marrow stem cells
M. Ludwig, Rostock, Germany

03.15 - 03.30
024 Therapeutically relevant characteristics of a ResQ 60 BMC-prepared cell product from human sternal bone marrow cells on stem cell content in vitro and in vivo
C.A. Lux, Rostock, Germany

coffee break (30min)

ROOM B/KMS - Chambermusichall
Cardiovascular

Experimental Apheresis
(Session T.7)
Chair 1: B. Stegmayr, Sweden
Chair 2: A. Skole, Macedonia

035 Mediator modulation from whole blood or mononuclear cells stimulated with lipopolysaccharide reduces endothelial activation
V. Weber, Krems, Austria

ROOM C/O - Organhall
Biomaterials

Design and Synthesis of Biomaterials
(Session T.11)
Chair 1: T. Groth, Germany
Chair 2: O. Falkenhagen, Austria

K20 How to design polymers for bio-applications? On the road to 3D organ construction
Keynote: G. Tovar, Stuttgart, Germany

Pediatric extracorporeal perfusion and assist device
(Session T.19)
Chair 1: A. Haverich, Germany
Chair 2: E. Sandica, Germany

K27 Mechanical circulatory support in pediatric population - Bad Oeynhausen Experience
Keynote: E. Sandica, Bad Oeynhausen, Germany

ROOM D/WS 1 - Seminare room
Others

O19 A new strategy to transform bone marrow stem-cells into various endothelial cells
F. Schlegl, Leipzig, Germany

O20 Into-Mycocellular Homing of Adult Stem Cells in a Go At Model: Glundal vs. Mesenchymal Stem Cells
N.W. Budnitz, Lubbeck, Germany

O21 Transplantation of parthenogenetic embryonic stem cells for treatment of myocardial infarction
Y. Liu, Tianjin, China

O22 Identification of cardioprotective CD4+AT2R+ T cell subpopulation in response to ischemic heart injury
A. Sikole, Skopje, Macedonia

O23 Influence of the stimulation of AT2R via its agonist Compound 21 on the characteristics of murine CD117+ bone marrow stem cells
M. Ludwig, Rostock, Germany

O24 Therapeutically relevant characteristics of a ResQ 60 BMC-prepared cell product from human sternal bone marrow cells on stem cell content in vitro and in vivo
C.A. Lux, Rostock, Germany

O25 Gene targeting with adenoviral vectors conjugated magnetic nanobeads for cardiac regeneration
Y. Zhang, Rostock, Germany

O26 Development of Microporous Covered Stents for Treating Cerebral Aneurysms
T. Akiyama, Osaka, Japan

O27 Clinical study of a novel ultrafiltration circuit for cell salvage in high-risk CABG patients
T. Goufay, Glasgow, UK

O28 Development of a vascular model with non-linear mechanical properties
G. Gabel, Berlin, Germany

O30 New method for continuous blood pressure measurement
S. Weber, Berlin, Germany

O31 Numerical simulations of jet flow in the aorta
W. Li, Barlin, Germany

O32 Development of hybrid inflow cannula for assist devices
I. Yatsu, Tokyo, Japan

O41 Plasma exchang with glucocorticosteroid-unresponsive patient b with clinically isolated syndrome
J. Eber, Rostock, Germany

O42 A woman with a chylomiconoroma syndrome complicated by acute pancreatitis treated with CFPP (W. Ries)
W. Ries, Halle, Germany

O43 Plasma exchang with glucocorticosteroid-unresponsive patient b with clinically isolated syndrome
J. Eber, Rostock, Germany

O44 Intramedullary introduction of the material Ular stimulates posttumoral cell regeneration
S. D. Ushiro, Samara, Russia

O45 REGENERA TION OF C ANINE INFERIER A C ID-C OLLA G EN TU B E
W. Ries, Flensburg, Germany

O46 Hemotech: novel blood substitute with pharmacological features
J. Simoni, Lubbcob, USA

O53 Control of mechanical properties in biopolymer-based biomaterials
A.T. Nefis, Tashov, Germany

O54 Supramolecular Nano-Composite; A new Approach to Materials with Tunable Mechanical Properties
M. Mehrmendchi, Teheran, Iran

O55 Human bioartificial epidermal substitutes using biodegradable membranes
S. Salerno, Rende, Italy

O56 HemoTech: novel blood substitute with pharmacological features
J. Simoni, Lubbcob, USA

O57 Endothelialization and biocompatibility of Polymer-based Nano-composites
A. Haverich, Hannover, Germany

O58 Inhibition of calcification of bovine pericardium after treatment with biopolymers, e-beam irradiation and in vitro endothelialization
R. Polak, Sao Paulo, Brazil

O59 Novel Autologous Heart Valve (Biovalve Stent) for Transcatheter Aortic Valve Implantation
Y. Sillan, Kyoto, Japan

O60 Novel matrices for intervertebral disc regeneration using human mesenchymal stem cells
A. Schmermund, Giesen, Germany

O61 Intramedullary introduction of the material Ular stimulates posttumoral cell regeneration
S. D. Ushiro, Samara, Russia

O62 REGENERATION OF CANINE INFERIER A C ID-C OLLA G EN TU B E
W. Ries, Halle, Germany

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O64 Plasma exchang with glucocorticosteroid-unresponsive patient b with clinically isolated syndrome
J. Eber, Rostock, Germany

O65 REGENERA TION OF C ANINE INFERIER A C ID-C OLLA G EN TU B E
W. Ries, Halle, Germany

O66 Plasma exchang with glucocorticosteroid-unresponsive patient b with clinically isolated syndrome
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O70 Novel matrices for intervertebral disc regeneration using human mesenchymal stem cells
A. Schmermund, Giesen, Germany

O71 Polyester scaffolds with nano- and microparticle fillers with interfacial properties adaptable to environment
Keynote: S. Slomkowski, Lodz, Poland

Horizon 2020: Future of biomedical engineering: EU funding
Round table discussion
Chair 1: B. Grammacher
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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>08:30-09:00</td>
<td>Clinical Dialysis 1</td>
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</table>
| 09:15-09:30 | O1 Phases of hypertensive in monitoring  
O15 Microvascular perfusion during minimal perfusion in CABG  
O17 Resuscitation of the Accudia model with high flux dialyzer  |
| 09:45-10:00 | O18 Investigating the role of renal function in CIRF  
O19 Microvascular perfusion during minimal perfusion in CABG  |
| 10:00-10:15 | Coffee break (Dinner)                                                    |
| 10:20-10:45 | O21 Isolated heart setup to investigate myocardial protection during cardioplegic cardiac arrest  
O22 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  
O23 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  |
| 10:30-10:45 | O23 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  
O24 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  |
| 10:45-11:00 | O25 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  
O26 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  |
| 11:00-11:15 | O27 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  
O28 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  |
| 11:15-11:30 | O29 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  
O30 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  |
| 11:30-11:45 | O31 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  
O32 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  |
| 12:00-12:15 | O33 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  
O34 Pharmacological role of hypothermia and reoxygenation on myocardial protection during cardioplegic cardiac arrest  |
| 12:15-12:30 | Morning coffee and Poster session II (more on page 30 and 31)  
Lunch break and Poster session II (more on page 30 and 31)  |
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<td>02.00 - 02.30</td>
<td>K35 Liver New Development - Medical Devices</td>
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<tr>
<td></td>
<td>Chair: B. Keyermann, Rostock, Germany</td>
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<td></td>
<td>Keynote: J. Stange, Rostock, Germany</td>
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<tr>
<td>02.30 - 02.45</td>
<td>O70 Impaired albumin binding capacity in advanced liver disease: relation to liver dysfunction and oxidative albumin damage</td>
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<td>R.E. Staub, Graz, Austria</td>
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<td>02.45 - 03.00</td>
<td>O71 Human non-mercaptopurine-2 (HNA2) is a better predictor of short-term mortality than MELD in chronic liver failure</td>
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<td>R.E. Staub, Graz, Austria</td>
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<td>03.00 - 03.15</td>
<td>K36 A new albumin dialysis device for liver support</td>
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<td>Chair: B. Keyermann, Munich, Germany</td>
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<tr>
<td></td>
<td>Guiding and managing large numbers of long term ambulatory VAD-patients</td>
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<td>D. Reif, Bad Oeynhausen, Germany</td>
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<td>04.00 - 04.15</td>
<td>O89 Chronic intermittent mechanical support in vitro report</td>
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<td>A.Z. Khudzari, Kuala Lumpur, Malaysia</td>
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<td>04.15 - 04.30</td>
<td>O90 Validation of a computational model for studying the combined effect of upstream and downstream mechanical properties on the performance of the intra-aortic balloon (BAB) (G. Bruti)</td>
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<td>B. Bruti, Uxbridge, UK</td>
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<td>04.30 - 04.45</td>
<td>O91 Development of a new extra aortic counter pulsation device using shape memory alloy fibers</td>
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<td>M. Hashem, Sendai, Japan</td>
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<td>04.45 - 05.00</td>
<td>O92 Cardiac supporting device using artificial rubber muscle</td>
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<td>Y. Sato, Hiroaki, Japan</td>
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<td>05.00 - 05.15</td>
<td>O93 A new method to evaluate the high variability in ballistography for contactless recording</td>
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<td>S. Herrmann, Dublin, Ireland</td>
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<td>05.15 - 05.30</td>
<td>O94 Heparin infusion affects RANKL / OPG system in hemodialysis patients: unfractonated heparin vs LMWH (S. Herrmann, Dublin, Ireland)</td>
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<td>F. Pignoli, Rovigo, Italy</td>
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<td>05.30 - 06.00</td>
<td>O95 Micromolecules derived from endovascular prosthesis protect kidneys and pancreatic islets from ischemia-reperfusion injury</td>
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<td>F. Pignoli, Rovigo, Italy</td>
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<td>O96 Regional citrate anticoagulation limits sepsis-associated microvascular injury through the inhibition of release of microvesicles from activated leukocytes and platelets (V. Carluccio, Torino, Italy)</td>
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<td>M. Cappucci, Bologna, Italy</td>
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<td>O73 Towards a clinical bioartificial liver machine based on human liver cells (C. Selten, London, UK)</td>
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<td>O74 Micro RNAs in liver regeneration: the mysterious MIR-352</td>
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<td>L. Ilobo, Berlin, Germany</td>
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<td>04.45 - 05.00</td>
<td>O75 Micron-sized iron oxide particles for detection and co-regional stimulation of transplanted liver cells (A. Ledet, Berlin, Germany)</td>
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<td>O77 Critical outlook on a new generation of liver support systems - do we still need cells? (M. Morshuis, Bad Oeynhausen, Germany)</td>
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<td>Keynote: J. Roos, Warsaw, Poland</td>
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<td>O78 Liquid artificial kidney concept: mixed matrix membranes combining diffusion and adsorption in 1 step (M. Tijink, Enschede, NL)</td>
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<td>O72 Neohep hybrid liver graft - a novel concept of in vivo tissue-engineering (S. Rohr, Berlin, Germany)</td>
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<td>08.30</td>
<td>Coffee break (Direkt)</td>
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Poster Session 2 (P17-P20)

Poster Session 3 (P21-P29)

Poster Session 4 (P30-P35)

Poster Session 5 (P36-P40)

Poster Session 6 (P41-P45)

Poster Session 7 (P46-P50)

Poster Session 8 (P51-P55)

Poster Session 9 (P56-P60)

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Poster Session 11 (P66-P70)

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Poster Session 119 (P606-P610)

Poster Session 120 (P611-P615)

No data available.
SOCIAL EVENTS/GET TOGETHER
Wednesday, 26th of September 2012

The Get Together of ESAO 2012 will be at the port with an awesome view over the rooftops of Rostock. You can watch boats and sailors passing and enjoy your stay. The Restaurant and Bar „Silo 4“ presents you a special buffet and drinks.

SOCIAL EVENTS/PRESIDENTIAL RECEPTION
Friday, 28th of September 2012

At 7.30 pm start busses to bring you to a very new event-location at the Rostock Zoo. The „Darwineum“ shows the evolution in a very impressive kind. You can have fascinating insights in the world of Gorillas and Orang utans. We will combine this special atmosphere for you with a dinner. From 10.30 pm all 20 minutes the busses bring you back into the city.

The tickets for the evening costs for industrial members 70,- € and for congress participants 30,- €. Keynotespeakers are free.

Shuttleservice:
from congress venue entrance
19:20 Uhr | 19.50 Uhr | 20.10 Uhr | 20.30 Uhr | 20.50 Uhr | 21.10 Uhr;

from Darwineum
22.30 | 22.50 | 23.10 | 23.30 | 23.50 | 0.10 Uhr

SOCIAL EVENTS/CONGRESS DINNER
Thursday, 27th of September 2012

On Thursday evening you’ll stay at the University of Music and Drama. The Portrestaurant „Carlo 615“ will create a dinner for you. The congress area is a wonderful accommodation for having a surprising evening with artists and musicians around.

Prof. Dr. Steinhoff and his Jazzband „Jazz at Heart“ will give a concert at this very special stage, starting 9 pm. Some more surprises are waiting for you. Stay curious about it.
A medieval city centre, a river flowing into the Baltic Sea, a tranquil fishing village, for picturesque seaside resorts, several shipyards and harbours, one of the best sailing patches in the world, Northern Europe’s oldest university and Germany’s largest city forest- all this is Rostock.

Rostock is almost 800 years old and one of the first Hanseatic Cities. Northern Gothic Brickwork decorates the historical center of the city and harmonizes with new elements. Ferries from Scandinavia and the Baltic States arrive here. Today Rostock unites tradition and modernism. One of many attractions is the New Market with the City Hall and the church St. Marien, the shopping mile „Köpflerstraße“ with gabled houses from different ages and the city harbor at the banks of the Warnow with old and modern sailing ships. Rostock does not only offer architecture but also theatre and cultural experience, summer theatre in a traditional shipyard and unique museums.

In Warnemünde, the charming seaside resort of Rostock it’s also possible to enjoy the extent of the Sea, the sun and the beach, the unique maritime world of experiences with fisher houses, lighthouse, pier and cruise ships.

How to reach Rostock...

... by Car
To reach Rostock from Berlin, head north or south out of the city to the A10. Follow it northwest to the A24, which leads straight into the A19 running directly north to Rostock (2.5 hours).

... by Train
There are frequent direct trains to Rostock from Berlin and hourly services from Hamburg. Find your connection here www.deutschebahn.com. Attention the rail between Berlin and Rostock is under construction be aware of long train rides between 2,5h up to 5h.

... by Boat
There are ferry services to Denmark, Sweden and Latvia, as well as to Estonia and Finland in summer. Fares are quite complicated depending on the season and the number of people travelling, so the following are provided as rough high-season guides only.

... by Air
Rostock’s airport, Rostock-Laage

Scandlines
www.scandlines.eu
travels to Gedser, Denmark, Trelleborg in Sweden and Ventspils, Latvia.

TT-Line
www.ttlife.com
sails to/from Trelleborg

Boats arrive and depart from the overseas seaport (Überseehafen), which is on the east side of the river Warnow. There is an S-Bahn from Seehafen to Rostock main station, but it’s a 20-minute walk from the station to the piers.
Today, Fresenius Medical Care is the world’s largest, integrated provider of products and services for individuals with chronic kidney failure, a condition that affects more than 2.1 million individuals worldwide. Through its network of 3,123 dialysis clinics in North America, Europe, Latin America, Asia-Pacific and Africa, Fresenius Medical Care provides dialysis treatment to 256,456 patients around the globe. Fresenius Medical Care is also the world’s largest provider of dialysis products, such as hemodialysis machines, dialyzers and related disposable products.

HeartWare, Inc. is a medical device company and leading innovator of miniaturized circulatory support technologies to treat patients suffering from advanced heart failure. Through a cadence of progressively smaller devices, implanted with progressively less invasive surgery, HeartWare is working toward treating an increasing proportion of heart failure patients and accessing patients at an earlier stage of their disease progression. HeartWare’s lead product, the HeartWare® Ventricular Assist System, features the HVAD® pump, a miniaturized implantable centrifugal pump capable of producing up to 10 liters per minute of blood flow. The pump is designed to be implanted above the diaphragm, directly adjacent to the heart, thereby avoiding the abdominal surgery generally required to implant competing devices.

In 2009, HeartWare received CE marking for the System and it is now commercially available in Europe. In March 2011, the Therapeutic Goods Administration (TGA) in Australia approved the HeartWare® Ventricular Assist System for listing on the Australian Register of Therapeutic Goods (ARTG). The device is currently the subject of United States clinical trials for two indications: Bridge-to-Transplant and Destination Therapy. To date, more than 1,800 advanced heart failure patients have received the HVAD Pump in more than 22 countries worldwide.

With 20 years of experiences around the world, Infomed has committed its leadership as a provider of extracorporeal blood purification devices offering complete solutions with many advanced medical treatments such as: Continuous hemofiltration and hemodialfiltration, plasma exchange, double filtration plasmapheresis (DFPP), cascade filtration, blood or plasmapheresis and CPFA (Coupled Plasma Filtration Adsorption). Infomed provides a complete range of machines and all associated disposables such as pre-assembled kits, filters and adsorption cartridges.

Tokyo-based Terumo Corporation is one of the world’s leading medical device manufacturers with $4 billion in sales and operations in more than 160 nations. Founded in 1921, the company develops, manufactures, and distributes world-class medical devices including products for use in cardiothoracic surgery, interventional procedures, and transfusion medicine; the company also manufactures a broad array of syringe and hypodermic needle products for hospital and physician office use.
MAQUET - GETINGE GROUP ................................................ booth 14

As a trusted partner for hospitals and clinicians since 1838, Maquet is a global leader in medical systems that advance surgical interventions, cardiovascular procedures and critical care. Maquet develops and designs innovative products and therapeutic applications for the operating room, hybrid OR/cathlab, intensive care unit, and patient transport within acute care hospitals, improving outcomes and quality of life for patients. MAQUET – The Gold Standard.

For more information please visit www.maquet.com and www.getingegroup.com.

MAQUET .................................................. booth 7

Maquet develops and designs innovative technologies in the areas of structural heart disease and critical care monitoring that enable them to save and enhance lives.

Our technologies are categorized into our four business units - heart valve therapy, critical care, cardiac surgery systems and vascular – each with a rich history and unique patient focus. We also lead the development of new investigative technologies designed for the non-surgical replacement of heart valves and minimal invasive cardiovascular techniques. We believe that these challenging new procedures hold great promise for patients considered high-risk for conventional valve replacement as this technology allows clinicians to deliver valves via a catheter, eliminating the need for traditional open-heart surgery.

HEPANET .................................................. booth 3

Since 2006 HepaNet is responsible in the field of liver dialysis business in Germany, representing the Albumin-Dialysis. Besides the classical sale of consumables HepaNet draws from our individual therapy service in case of emergency. We also offer since 2011 pocket ultrasonic devices from GE Healthcare.

SYNCARDA .................................................. booth 16

The SynCardia temporary Total Artificial Heart (TAH-t) is the world’s only FDA, Health Canada and CE approved Total Artificial Heart. The TAH-t is currently approved as a bridge to transplant for patients dying from end-stage biventricular failure. The 13.5 lb Freedom™ portable driver has received CE approval in Europe and is undergoing an IDE clinical study in the U.S. The Freedom driver is designed to provide mobility for stable TAH-t patients both inside and outside the hospital. Visit our booth for updates on the clinical study, the 50cc TAH-t and destination therapy.

SYNCHRONY .................................................. booth 4

Synchrony Medical Corporation is a medical device company that develops, manufactures and markets innovative products and applications to improve surgical outcomes and patient care. Synchrony’s vascular products are designed specifically to address the needs of complex peripheral arterial and venous disease and to improve patient outcomes. Synchrony Medical leads with a focus on patient care and innovation. Synchrony is part of the Getinge Group.

EDWARDS LIFESCIENCES .................................................. booth 15

Edwards Lifesciences is the global leader in the science of heart valves and hemodynamic monitoring. Driven by a passion to help patients, the company partners with clinicians to develop innovative technologies in the areas of structural heart disease and critical care monitoring that enable them to save and enhance lives.

Our technologies are categorized into our four business units: heart valve therapy, critical care, cardiac surgery systems and vascular – each with a rich history and unique patient focus. We also lead the development of new investigative technologies designed for the non-surgical replacement of heart valves and minimal invasive cardiovascular techniques. We believe that these challenging new procedures hold great promise for patients considered high-risk for conventional valve replacement as this technology allows clinicians to deliver valves via a catheter, eliminating the need for traditional open-heart surgery.

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For more information please visit www.maquet.com and www.getingegroup.com.

Nikkiso .................................................. booth 10

The Nikkiso group has been providing extracorporeal technologies and products in order to meet demands of our customer and patients, the society and the times we live in for more than half a century. We are recognized as precision machinery company in the field of blood purification and hemodialysis. Beside our huge expertise in the development and production of technology and medical equipment our R&D team recently developed a new adsorptive device for the treatment of Ulcerative Colitis patients. Based in Hanover/Germany the Nikkiso Europe is responsible for the development, production and sales of Nikkiso products in the EMEA region.

MILTENYI BIOTECH .................................................. booth 11

Milenyi Biotec, founded in 1989, is a premier provider of advanced products and services in the fields of stem cells, immune and cellular therapies as well as tissue regeneration. With more than 1200 employees worldwide, we develop, manufacture and commercialize state-of-the-art technologies for research and clinical applications. Our products and services cover all areas of cell-based research and clinical development, from sample preparation, cell separation, cell culture, flow cytometric and molecular analysis, to clinical therapeutic applications and contract GMP manufacturing.

ALBUTEC .................................................. booth 7

A biotechnology company with a global reputation for developing and delivering human-grade products and services.

KANKEA  Pharma Europe N.V. is the major enterprise in developing and commercializing medical devices as vascular intervention and therapeutic apheresis products, functional food ingredients as Co-Q10 and pharmaceutical ingredients for mainly statins and ACE+ for the healthcare sector. This combination and our long experience in these fields make it possible, that Kaneka is the expert in successfully supporting the CVD management interventions. Since 1989 Kaneka is one of the pioneers for therapeutic apheresis products. Therefore we are celebrating the Liposorber® which is now on the market for 25 years. Liposorber® LA-15 apheresis columns for plasma treatment are available worldwide and in Europe there is on the top the Liposorber® D for whole blood treatment. The simpleness combined with high efficacy highlights this product. Innovative technology cooperates excellent with Kaneka’s top medical devices. Be informed about our products with high performance and our specific and individual service by contacting the Kaneka team in the US, EU and Japan to learn about the most recent scientific insights and treatment methods.

STADA .................................................. booth 12

STADA is one of the world’s largest pharmaceutical companies. We are committed to providing the best pharmaceutical products and services to our customers in the areas of cardiovascular, CNS, respiratory, and oncology. Our focus is on improving the quality of life for patients and our commitment to innovation is what makes us the leader in the industry.

HEPANET .................................................. booth 3

Since 2006 HepaNet is responsible in the field of liver dialysis business in Germany, representing the Albumin-Dialysis. Besides the classical sale of consumables HepaNet draws from our individual therapy service in case of emergency. We also offer since 2011 pocket ultrasonic devices from GE Healthcare.
Founded in 1419, the University of Rostock is one of the best loved higher education establishments in the East of Germany. As a comprehensive university rich in tradition it offers variety, a broad spectrum of subjects, clear profile building in research and good support for students. The University of Rostock is family-friendly and strives for complete accessibility. The oldest university in the Baltic Sea region and the third oldest in Germany works in various co-operations with the economy and is an important stimulus generator in the region. Our motto TRADITIO ET INNOVATIO reflects our almost 600 year history and our courage always to try something new. As the economic centre of the North-East and located in the midst of one of the most beautiful holiday regions in Germany, Rostock stands out with a high quality of life and the flair of a large city by the sea. The dynamically developing regional hub profits from its central location between the metropolises of Berlin, Hamburg and Copenhagen.

With its 200,000 inhabitants, Rostock is characterised scientifically, economically and culturally by 15,000 students and a work force of 5,000 in the university and university clinic. The regional economy has benefitted from the over 800 start-up companies launched from the university since 1991. Young people from the West of Germany and increasing numbers of foreign students are discovering Rostock as a study location. Students from 99 countries can be found meanwhile on the four campus locations in the city. Since 1991 over 500 million Euros has been invested in the infrastructure of the university.

As a comprehensive university, Rostock offers courses of study across nearly all areas: natural and technical sciences, cultural and social sciences, medicine, law, theology and teaching. With over 90 courses of study, 29 bachelor programmes, 38 masters programmes and 26 state exam courses (inc. teaching), the University of Rostock belongs to the higher education establishments in Germany with the broadest spectrum of subjects.

At the University Clinic, a hospital providing maximum care, treatment at the highest level of all areas of medicine is given annually to over 40,000 inpatients and 160,000 outpatients. Interdisciplinary treatment centres have been established for illnesses of the heart, circulation and musculoskeletal system as well as cancers, dementias and nervous diseases.

With a focus on “Regenerative Medicine - The Reconstruction of Biological Function”, university medicine is particularly committed to the profile lines “Life, Light and Matter” and “Successful Aging”.

350 research projects, sponsored by the EU, the Federal Government, local government, charities and industry have a financial volume of 50 million Euros. Key aspects are stem cell research, biomaterial and implant research as well as the study of movement disorders within degenerative illnesses. 250 young doctors, dentists and medical biotechnologists complete their studies each year.
GENERAL INFORMATION

Site 42

Conference Venue
Academy of Music and Theatre Rostock
Beim St.-Katharinenstift 8
18055 Rostock, Germany

Registration and Information Desk
All attendees must be registered for the conference. Admission to the conference and social events is only permitted to those wearing the official conference badge. If a name badge is misplaced, please contact the registration/information desk.

Certificate of Attendance is available to all registered participants in the conference bag. Just fill in your name.

Receipt for registration fees are available to all registered participants upon request on the registration/information desk.

Exhibitors Information
Exhibition stands will be located in the foyer of the first floor. Attendees will have the opportunity to visit the exhibition stands throughout the duration of the conference during coffee breaks, lunch times and poster sessions.

Internet lounge and Computer Facilities
Internet services and computer facilities will be available at the conference venue (first floor, …) where attendees may check their emails and keep in touch with home and office. Keynote and Oral Speakers have to give off their presentations at this room directly after the registration process.

Lunch
Lunch during the conference days is included in the registration fee.

Smoking Policy
It is forbidden to smoke in public places like cafes, bars and restaurants (excluding those with signalized smoking areas). Smoking is only allowed outside the conference building and at the inner courtyard.

Photography Policy
Recording and photographing Conference presentations will not be allowed.

GENERAL INFORMATION/ABSTRACTS

Conference Abstracts
A separate publication of The International Journal of Artificial Organs can be found in your conference pack that includes the abstracts.

GENERAL INFORMATION/MISC

Electricity Supply
220 V is the standard power supply throughout Germany. If you need a plug or a power adapter you may find in electronic specialty retailers.

Accommodation
The organizers of the congress have negotiated special rates with different Hotels in Rostock for the participants. The majority of the hotels are located in the city centre. Short descriptions of the hotels are available on the conference website. It is the responsibility of the participants to pay their own hotel accommodation.

Transportation
On Friday there will be bus shuttles from the academy of music and theatre to the Darwinium at the zoo of Rostock.

Weather
Please visit the worldwide known website www.weather.com

Currency
Germany uses the Euro (€). Travellers cheques can be exchanged for cash in banks.

Goods and Service Tax
All displayed prices for goods and services include tax.

SHOPPING

The best place for shopping in Rostock is the Kröpeliner Straße. It only takes you 5 minutes by feet from the academy of music and theatre. Shops in Rostock are generally open Monday – Saturday from 09.00 to 20.00.

Eating out
There are many restaurants and cafes nearby the academy of music and theatre. The restaurants offer varied menus, prices and decor. Local specialities such as seafood are worth sampling.

Tipping
Generally it is accepted practice in restaurants to leave a gratuity if good service is received. It is customary to tip hotel porters. Tips for taxis are optional.

Emergencies
Police: Dial 110
Ambulance and fire service: Dial 112

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### Course Overview:
Regenerative Medicine – update and future development | Stem cell science and technology | Tissue engineering technology | Clinical translation – regulatory framework (GMP) and clinical studies | Lung regeneration | Cardiac regeneration | Surgical techniques and animal models | Cell communication and paracrine factors | Basic science

### Learning Objectives:
- Theoretical skills: Basic stem cell and tissue engineering science; regulatory knowledge (GMP, GLP, GCP); clinical experience and new concepts in stem cell therapy, tissue engineering and cardiac regeneration.

### Course Format:
State-of-the-art lectures, best abstracts and poster presentations of young researchers, High level discussions with experts, industrial exhibition

### Venue:
Berlin-Brandenburgische Akademie, Berlin, Germany

### Target Audience:
Cardiac and Thoracic Surgeons, residents, basic and clinical researchers; industry researchers

### Industry Relations, Registration
R. Uhde, Berlin-Rostock
Email: robert Uhde@sphinxet.de
Phone: +49 381 - 128 93 92
Fax: +49 381 - 128 94 79

### Course Directors:
- G. Steinhoff, Rostock
- U. Martin, Hannover

### Organization Committee:
- R.A. Schmid, G. Karoubi, Berne
- H.J. Ankersmit, Vienna

### Conference Organization:
R. Uhde, Berlin-Rostock
The painting of Markus Lange goes back to the early pioneering years of dialysis in the beginning 60-ies of the last century when many more patients suffered from kidney failure than could be treated by available machines, the so-called artificial kidneys. In 1962 LIFE published an article under the head line "They Decide Who Lives, Who Dies" on this topic. Considering the limited access to the developing treatment of kidney failure, the Seattle’s King County Medical Society decided that the final judgement on who will be accepted by the Seattle Artificial Kidney Center should not be taken by the physicians themselves. Therefore a small group of “quite ordinary people” was appointed with no moral or ethical guidelines to the patients for dialysis only led by their own individual conscience. The committee did not have to take any medical decision, however, to decide, who from those, that had been already pre-screened along the best knowledge of medicine by a board of physicians, should be admitted to the treatment – in fact a Life or Death Committee as stated in the LIFE article.

The committee started its work in 1961. Markus Lange has taken up the challenge of decision taking in a situation in which moral and ethical values do not offer clear decision taking references and searching for justice does not offer detectable indications for benchmarked decisions. The wage of justice at the top of the Rod of Asclepius fails to be of value. The snake, symbol of medicine in the ancient times, is tying up all committee members thus reinforcing their burden of the decision taking process while increasing numbers of new candidates are asking for treatment. Even the almost unlimited availability of knowledge and cognition present in the endless amount of books of the library and the curtain of wisdom protecting the committee leave its members to their own individual consciences – nothing more, however also nothing less.

Time has changed and treatment of kidney failure has become common practice – at least in industrialized countries. However, the topic of decision making on life or death in special situations has not vanished. The present discussion on the decision making process in the context of organ transplantation involves similar aspects, although sufficient “objective” parameters seem to be available for the decision process – thus in case of need parameters are ever declared “objective” in order to escape or negate the demand of accepting the involved moral burden.