New organs for life
Discover apheresis technology for your patients

- Decades of experience in extracorporeal therapies
- Comprehensive selection of products and therapy options
- Providing patients worldwide with solutions and care
Program at a Glance

11th Tuesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00 - 12:00</td>
<td>Room A</td>
<td>Registration</td>
</tr>
<tr>
<td>12:00 - 12:30</td>
<td>Room A</td>
<td>Workshop part A: Lights, camera, ACTION</td>
</tr>
<tr>
<td>12:30 - 13:00</td>
<td>Room A</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:30 - 15:00</td>
<td>Room A</td>
<td>Workshop part A: Lights, camera, ACTION</td>
</tr>
<tr>
<td>15:00 - 16:30</td>
<td>Room A</td>
<td>Session I: Computational modelling</td>
</tr>
<tr>
<td>16:30 - 17:00</td>
<td>Room A</td>
<td>Coffee break</td>
</tr>
<tr>
<td>17:00 - 17:30</td>
<td>Room A</td>
<td>CORIFY - Medical device startup solving cardiac arrhythmias</td>
</tr>
<tr>
<td>17:30 - 18:45</td>
<td>Room A</td>
<td>CORIFY lab and experimental surgical unit tour</td>
</tr>
<tr>
<td>19:30 - 21:30</td>
<td>Room A</td>
<td>Madrid city tour</td>
</tr>
<tr>
<td>21:30</td>
<td>Room A</td>
<td>Dinner</td>
</tr>
</tbody>
</table>

12th Wednesday

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:45 - 12:00</td>
<td>Room A</td>
<td>Workshop part B: Lights, camera, ACTION</td>
</tr>
<tr>
<td>12:00 - 12:30</td>
<td>Room A</td>
<td>yESAO Projects</td>
</tr>
<tr>
<td>12:30 - 13:00</td>
<td>Room A</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:30 - 15:00</td>
<td>Room A</td>
<td>Session II: Experimental data</td>
</tr>
<tr>
<td>15:00 - 16:30</td>
<td>Room A</td>
<td>Session III: Bio-interaction, in vivo data</td>
</tr>
<tr>
<td>16:30 - 17:00</td>
<td>Room A</td>
<td>yESAO Closing Session</td>
</tr>
<tr>
<td>15:00 - 18:00</td>
<td>Room A</td>
<td>Registration at Congress Venue</td>
</tr>
<tr>
<td>18:00 - 19:30</td>
<td>Room A</td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td>19:30</td>
<td>Room A</td>
<td>Welcome Reception</td>
</tr>
</tbody>
</table>

13th Thursday

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Room A</td>
<td>TA1 Hemorheology &amp; more: in Memoriam Prof. Holger Schmid-Schülein</td>
</tr>
<tr>
<td></td>
<td>Room B</td>
<td>TB1 Working Group Apheresis and Adsorption</td>
</tr>
<tr>
<td></td>
<td>Room C</td>
<td>TC1 Biocompatibility Tissue-Interaction</td>
</tr>
<tr>
<td></td>
<td>Room D</td>
<td>TD1 Solid Organ Engineering</td>
</tr>
<tr>
<td>10:00</td>
<td>Room A</td>
<td>Opening Lecture Horst Klinkmann “Blood Purification- a Revolution in Medical History”</td>
</tr>
<tr>
<td>10:45</td>
<td>Room A</td>
<td>Plenary Lecture Klaus Affeld</td>
</tr>
<tr>
<td></td>
<td>Room A</td>
<td>“VAD - quo vadis? How will ventricular assist pumps develop – to rotate or to displace?”</td>
</tr>
<tr>
<td>11:15</td>
<td>Room A</td>
<td>FA1 Numerical Simulations: VADs and Hearts I</td>
</tr>
<tr>
<td>11:15</td>
<td>Room B</td>
<td>FB1 Symposium: Tissue Engineered Vascular Grafts (TEVG)</td>
</tr>
<tr>
<td>11:15</td>
<td>Room C</td>
<td>FC1 Symposium: Wearable biocompatible devices / organs</td>
</tr>
<tr>
<td>11:15</td>
<td>Room D</td>
<td>FD1 IFAO Symposium</td>
</tr>
<tr>
<td>12:45</td>
<td>Room A</td>
<td>Lunch</td>
</tr>
<tr>
<td>13:00</td>
<td>Room A</td>
<td>Round table. Unmet clinical needs: Petting issues regarding Vascular Access for Artificial Organs: Cécile Legallais (France)</td>
</tr>
<tr>
<td>14:00</td>
<td>Room A</td>
<td>FA2 Vascular Tissue Engineering</td>
</tr>
<tr>
<td>14:00</td>
<td>Room B</td>
<td>FA3 Artificial Lung Support</td>
</tr>
<tr>
<td>14:00</td>
<td>Room C</td>
<td>FA4 Symposium: Artificial Lung Support</td>
</tr>
<tr>
<td>14:00</td>
<td>Room D</td>
<td>FA4 Symposium: Artificial Lung Support</td>
</tr>
<tr>
<td>15:30</td>
<td>Room A</td>
<td>Coffee Break and Posters Session II</td>
</tr>
<tr>
<td>17:00</td>
<td>Room A</td>
<td>FA4 Symposium on acute kidney injury: Technological and basic science clues in the critically patients with AKI</td>
</tr>
<tr>
<td>21:00</td>
<td>Room A</td>
<td>Gala Dinner</td>
</tr>
</tbody>
</table>

14th Friday

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Room A</td>
<td>FA1 Numerical Simulations: VADs and Hearts II</td>
</tr>
<tr>
<td>10:00</td>
<td>Room A</td>
<td>Plenary Lecture</td>
</tr>
<tr>
<td>10:45</td>
<td>Room A</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:15</td>
<td>Room B</td>
<td>FA2 Vascular Tissue Engineering</td>
</tr>
<tr>
<td>11:15</td>
<td>Room C</td>
<td>FA3 Artificial Lung Support</td>
</tr>
<tr>
<td>11:15</td>
<td>Room D</td>
<td>FA4 Symposium: Artificial Lung Support</td>
</tr>
<tr>
<td>11:15</td>
<td>Room A</td>
<td>Coffee Break and Posters Session II</td>
</tr>
<tr>
<td>14:00</td>
<td>Room A</td>
<td>FA3 Artificial Lung Support</td>
</tr>
<tr>
<td>14:00</td>
<td>Room B</td>
<td>FB2 Modifications and optimisation of well-stabilised treatments in Renal Failure</td>
</tr>
<tr>
<td>14:00</td>
<td>Room C</td>
<td>FO2 Symposium: The VAD Coordinator Mosaic: Current Picture of the VAD Coordinator’s World</td>
</tr>
<tr>
<td>14:00</td>
<td>Room D</td>
<td>FD2 Biomaterials / Tissue Interface &amp; Surface Modification</td>
</tr>
<tr>
<td>15:30</td>
<td>Room A</td>
<td>Coffee Break and Posters Session II</td>
</tr>
<tr>
<td>17:00</td>
<td>Room A</td>
<td>FA4 Symposium on acute kidney injury: Technological and basic science clues in the critically patients with AKI</td>
</tr>
<tr>
<td>18:30</td>
<td>Room A</td>
<td>ESAO General Assembly</td>
</tr>
<tr>
<td>21:00</td>
<td>Room A</td>
<td>Gala Dinner</td>
</tr>
</tbody>
</table>

15th Saturday

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Room A</td>
<td>SA1 Working Group Heart: Debate session</td>
</tr>
<tr>
<td>10:00</td>
<td>Room A</td>
<td>Plenary Session</td>
</tr>
<tr>
<td>10:45</td>
<td>Room A</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:15</td>
<td>Room A</td>
<td>SA1 Working Group Heart: Debate session</td>
</tr>
<tr>
<td>11:15</td>
<td>Room B</td>
<td>SB1 Bone Regeneration</td>
</tr>
<tr>
<td>11:15</td>
<td>Room C</td>
<td>SC1 Working Group Bioartificial Organs</td>
</tr>
<tr>
<td>11:15</td>
<td>Room D</td>
<td>SD1 Miscellaneous</td>
</tr>
<tr>
<td>12:45</td>
<td>Room A</td>
<td>Closing Ceremony, Poster Awards &amp; Cocktail Lunch</td>
</tr>
</tbody>
</table>

16th Sunday

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Room A</td>
<td>SA1 Working Group Heart: Debate session</td>
</tr>
<tr>
<td>10:00</td>
<td>Room A</td>
<td>Plenary Session</td>
</tr>
<tr>
<td>10:45</td>
<td>Room A</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:15</td>
<td>Room A</td>
<td>SA1 Working Group Heart: Debate session</td>
</tr>
<tr>
<td>11:15</td>
<td>Room B</td>
<td>SB1 Bone Regeneration</td>
</tr>
<tr>
<td>11:15</td>
<td>Room C</td>
<td>SC1 Working Group Bioartificial Organs</td>
</tr>
<tr>
<td>11:15</td>
<td>Room D</td>
<td>SD1 Miscellaneous</td>
</tr>
<tr>
<td>12:45</td>
<td>Room A</td>
<td>Closing Ceremony, Poster Awards &amp; Cocktail Lunch</td>
</tr>
</tbody>
</table>
Welcome

Prof. Juan F. del Cañizo
Congress President

I would like to express our warm will to invite you in Madrid, Spain, for the XLV ESAO 2018 Congress.

Both, the Local Organizing Committee and Madrid Visitors & Convention Bureau will do everything possible to make a success out of this International Congress and to make it an unforgettable experience for all of you. During our meeting in Madrid we hope to share with colleagues from all over the world the progress made in the field of artificial organs and allied spheres. Also, as stated in our aims, we want to promote exchanges and establish ties with associations having similar aims. “We want to make a special call to all the young scientists and invite them to join us during the congress and to enjoy all the especially created events for them at ESAO Day!”

We sincerely like to welcome all participants to come to Spain and to Madrid to enjoy an incomparable frame. Looking forward to meeting you in Madrid!

Cécile Legallais
President of the European Society for Artificial Organs

On behalf of the European Society for Artificial Organs (ESAO), it is my great pleasure to invite you to participate in the 45th Annual ESAO Congress that will be held in Madrid on September 12-15, 2018.

The motto of the congress organized by Prof. Juan F. del Cañizo and his team is “New organs for life”. Although organ transplantation and “classical” artificial organs such as hemodialysis are routinely employed, the question regarding ways to supply deficient organs remains fully open. Indeed, transplantations cannot fill all the needs because of donor organ shortage and the increasing demand, partially due to the improvement of longevity. In parallel, new technologies and solutions emerge: fully integrated/implanted artificial organs (heart, pancreas …), cell therapy dealing more with organ regeneration, and tissue engineering aiming at organ repair. These different approaches progress in parallel, and have to face new challenges, such as the evolution of regulations, as medical devices or advanced therapy medicinal products, or the questions of the society regarding the “augmented” human beings.

The ESAO congress is the place where clinicians, scientists and companies can meet to show their last progress but also discuss these issues.

Therefore, I look forward to meeting you in Madrid, for scientific exchanges, of course, but also for sharing nice moments during the social events.
Committees

Local Organising Committee

Prof. Juan F. Del Cañizo
Congress President
Hospital General Universitario Gregorio Marañón

Prof. Pedro Baptista
Instituto de Investigación Sanitaria de Aragón (IIS Aragón)

Prof. Gloria Gallego-Ferrer
Universitat Politècnica de València

Prof. Alberto Tejedor
Hospital General Universitario Gregorio Marañón

Prof. Rafael Bañares
Hospital General Universitario Gregorio Marañón

Prof. Francisco Fernández-Avilés
Hospital General Universitario Gregorio Marañón

Prof. Ángel González-Pinto
Hospital General Universitario Gregorio Marañón

Prof. Manuel Ruiz-Fernández
Hospital General Universitario Gregorio Marañón

Dr. Judit Gutiérrez
Hospital Universitario 12 de Octubre

M. Sc. Lucía Gullón
Hospital General Universitario Gregorio Marañón

Dr. Robert Torres
Hospital Universitario de Guadalajara

Dr. Andrés Rivera
Hospital General Universitario Gregorio Marañón

Dr. Ignacio Fernández
Hospital General Universitario Gregorio Marañón

Scientific Committee

ESAO President
Cécile Legallais (France)

Klaus Affeld (Germany)
Angel Argiles (France)
Stephen Ash (USA)
Rafael Bañares (Spain)
Pedro Baptista (Italy)
Andrea Buscaroli (Italy)
Gerardo Catapano (Italy)
Marek Darowski (Poland)
Charlotte Debbaut (Belgium)
Arianna Di Molfetta (Italy)
Sunny Elloit (Belgium)
Elisabeth Engel (Spain)
Giuseppe Faggian (Italy)
Ignacio Fernández (Spain)
Francisco Fernández-Avilés (Spain)
Gianfranco Ferrari (Italy)
Gloria Gallego-Ferrer (Spain)
Birgit Glasmacher (Germany)
José Luis Gómez-Ribelles (Spain)
Ángel González-Pinto (Spain)
Thomas Groth (Germany)
Lucía Guillén (Spain)
Judit Gutiérrez (Spain)
Steven Jacobs (Belgium)
Joachim Jankowski (Germany)
Tim Kaufmann (Germany)
Ulrich Kertscher (Germany)
Petar Kes (Croatia)
Ashraf W Khir (United Kingdom)
Suha Küçükaksu (Turkey)
Piotr Ladyzynski (Poland)
Bengt Lindholm (Sweden)
Roos Masereeuw (The Netherlands)
Bart Meyns (Belgium)
Alessandra Molteni (United Kingdom)
Juan Carlos Montejo-González (Spain)
Francesco Moscati (Austria)
Khosrow Mottaghay (Germany)
Marc Mueller (Germany)
Nuno Neves (Portugal)
Angel Raya (Spain)
Rui Reis (Portugal)
Andrea Remuzi (Italy)
Andrés Rivera (Spain)
Jacek Rozga (Poland)
Manuel Ruiz-Fernández (Spain)
Manuel Salmerón-Sánchez (United Kingdom)

ESAO Honorary President
Horst Klinkmann (Germany)

Josep Samitier (Spain)
Heinrich Schima (Austria)
Serhy Selishchev (Russian Federation)
Aleksander Skole (R. Macedonia)
Simon Sonntag (Germany)
Dimitrios Stamatiou (The Netherlands)
Ulrich Steinseller (Germany)
Yoshitsuki Taenaka (Japan)
Alberto Tejedor (Spain)
Dmitry Telyshev (Russia)
Robert Torres (Spain)
Maria Trivella (Italy)
Tom Verbelen (Belgium)
Jörg Vienken (Germany)
Beat H. Walporh (Switzerland)
Viktoria Weber (Austria)
Invited Speakers

Klaus Affeld
Prof. Dr.-Ing.

After study and promotion in the field of aircraft design at the Technical University of Berlin he changed his research topic from airflow to blood flow. As head of engineering, he worked in the group of Professor Bücherl in Berlin and developed the first total artificial heart in Germany. Since the seventies of the last century, he has worked in this field and developed heart valves and new cardiac assist devices.

His work was not confined to artificial hearts but he invented new measurement techniques for blood pressure, an infection free percutaneous lead and different measurement techniques to investigate the flow through artificial implants. From 1974 he is adjunct Professor and external member of Hermann-Föttinger-Institut for Thermo- und Fluidodynamik at the TU Berlin. He has published more than 200 scientific papers.

Harald C. Ott
MD

January 2014, Dr. Harald Ott joined the staff as a thoracic surgeon at the Massachusetts General Hospital and is currently an Associate Professor in Surgery at the Harvard Medical School. In parallel to his training as a resident at MGH from 2006-2013, he built an innovative, productive, and well-integrated research group within the Center for Regenerative Medicine, and the Harvard Stem Cell Institute. His most important contribution to date has been his work in whole organ engineering, and regeneration.

Since his initial proof of concept in heart regeneration (Nat Med 2008), he successfully applied this technology to lung (Nat Med 2010, Nat Biotech 2015), kidney (Nat Med 2013), and small bowel (Nat Comm 2017). The approach of reseeding an organ scaffold with patient derived cells could eliminate donor organ shortage and the need for life-long immunosuppression in transplant patients, and thus lays the path for effective solutions for the millions of people in need of organ repair or replacement. Outside of Harald Ott's group, many researchers in the field of regenerative medicine have adopted this approach since its initial introduction. Aside of several society research awards including three times the Theodor Billooth Award, the Vanguard Prize, and the Benson Wilcox Award, Harald Ott has received the NIH Director's New Innovator Award in 2011 for his work in organ regeneration. In 2015, he was named an MGH Research Scholar. He is a passionate mentor, has independently supervised over 35 students and research fellows and helped them complete numerous highly innovative research projects. His active clinical practice and his broad background in transplantation, stem cell biology, and tissue engineering provide him with a unique toolset to develop innovate strategies to translate organ regeneration to alleviate end organ failure.

Horst Klinkmann
MD, Ph. D. Dr. h.c. (mult), F.R.C.P
Professor of Internal Medicine

Horst Klinkmann is Co-Founder and Honorary President of the European Society for Artificial Organs. During his professional career he worked together with the two inventors of the Artificial Kidney, Nils Alwall in Lund, Sweden and W.J. Kolff in Salt Lake City, USA.

1971 he became Professor and Chairman for Internal Medicine at the University of Rostock/ Germany and established one of the first interdisciplinary Research Centers for Artificial Organs worldwide.

He was elected and served as President of the International Society of Artificial Organs (ISAO), the European Society of Artificial Organs (ESAO), the European Dialysis and Transplant Society (EDTA) and the World Apheresis Association (WAA). From 1992 on he kept the position as Dean of the International Faculty for Artificial Organs (INFA) at the University of Bologna, Italy 14 Universities around the world awarded him an Honorary Doctorate or Professorship and 17 National and International Societies an Honorary Membership.

José Luis Jorcano
Professor

José Luis Jorcano, a PhD in Physics from the Complutense University of Madrid, is Head of the Division of Epithelial Biomedicine at CIEMAT (Madrid, since 1987) and Professor of Bioengineering at the University Carlos III (Madrid, since 2011). He was director of the Genome Spain Foundation (from its inception in 2002 until 2009). For 11 years he worked at prestigious biomedical research centers in Europe: Max Planck Institute of Molecular Genetics (Berlin), Max Planck Institute of Biology (Tubingen) and the German Cancer Research Center (Heidelberg). He is elected member of EMBO (European Molecular Biology Organization) and corresponding member of the Royal Academy of Sciences of Spain.

He is expert in skin tissue engineering and gene therapy. His laboratory has developed methods of treating skin defects (extensive burns, chronic, traumatic and surgical wounds, etc) and genetic skin diseases (epidermolysis bullosa), which are in clinical trials or already under hospital application or industrial exploitation. In the last years he became interested in the field of “Integrative Biomedicine”, applied mathematical, physical, and engineering methods to understand and modeling skin physiology and pathology. His group was the first reporting in 2017 the 3D bioprinting of functional human skin.
Venue Information

Congress Venue

The congress venue is located in the "Gregorio Marañón Hospital" Pabellón Docente, on floor -1, and floor 2 & 3

Hospital General Universitario Gregorio Marañón
C/ Dr. Esquerdo, 46
28007 Madrid
Spain

Pabellón Docente
C/ Ibiza, 45
28007 Madrid
Spain

How to reach the congress venue

Buses
C/ O’Donnell: 2-28-203-E3-N6-N27
C/ Doctor Esquerdo: 30-56-143-156-202
C/ Ibiza: 202-N8
C/ Sainz de Baranda: 15-215-202
C/ Narvaz: 26-61-63-C2

Underground
Line 6: O’Donnell-Sainz de Baranda
Line 9: Sainz de Baranda-Ibiza

Public Parking
C/ O’Donnell
C/ Menorca
C/ Ibiza

Floor Plan

2nd FLOOR

ROOM C
ROOM B

WC
WC

3rd FLOOR

ROOM D
POSTERS ROOM

WC
WC

12 13

European Society for Artificial Organs

XLV ESAO Congress Madrid 2018
Helpful Information

Registration and Information Desk
The registration and information desk is located in the congress venue on floor -1. The conference material, name badges and certificates of attendance can be picked up there.

Speaker Preparation Desk
The speaker preparation desk must be used to hand in power-point slides for the oral presentations latest 3 hours before start of the sessions. Private computer will not be allowed to connect to the beamers in the audience halls.

Ticket for the Social Program
The welcome reception and the visit of Parque del Retiro are included in the congress fee. Tickets for the gala dinner, if you have already bought via the registration formula, you can find your ticket in your badge.

Catering
Coffee breaks and lunches will be provided for the registers. Lunches will be offered in boxes.

Smoking
Smoking is prohibited in all hospital areas.

Madrid
Madrid, the capital of Spain, is a cosmopolitan city that combines the most modern infrastructures and the status as an economic, financial, administrative and service centre, with a large cultural and artistic heritage, a legacy of centuries of exciting history.

Strategically located in the geographic centre of the Iberian Peninsula at an altitude of 646 m above sea level, Madrid has one of the most important historic centres of all the great European cities. This heritage merges seamlessly with the city’s modern and convenient infrastructures, a wide-ranging offer of accommodation and services, and all the latest state-of-the-art technologies in audiovisual and communications media. These conditions, together with all the drive of a dynamic and open society— as well as high-spirited and friendly— have made this metropolis one of the great capitals of the Western world.

The capital has over 60 museums including the Prado Museum, a flagship art gallery with Goya, Velázquez, El Greco paintings, among others; the Thyssen-Bornemisza Museum, with paintings ranging from Flemish artists to the avant-garde movements; and the Reina Sofía National Art Centre, dedicated to contemporary art containing works by Picasso, Joan Miro, Salvador Dalí, etc.

But if there is one thing that sets Madrid apart, it must be its deep and infectious passion for life that finds its outlet in the friendly and open character of its inhabitants. You will have the opportunity to enjoy a wide range of the best Spanish and international gastronomy, to savour the charms of its tapas bars and taverns. The lively nightlife is another key attraction of Madrid, due to its variety and the exciting atmosphere to be found in its bars, clubs and flamenco halls.
General Information

Transportation
The city of Madrid has an excellent public transportation network.

The Madrid’s metro is one of the oldest in the world since 1919 and, at the same time, one of the most modern ones. It has 238 stations on 12 lines with 287 kilometres of network, enabling approximately 2 million of users to travel daily in a comfortable manner, fast and safely. Regarding the urban buses network, it consists of 203 lines covering a total length of 3,562 km and more than 10,172 bus stops, operating more than 1.5 million trips a day.

The Madrid transportation is an integrated public transport system that allows passengers to use the same tickets for metro and for buses. There is a variety of possibilities starting from single one-way ticket and finishing with different cards. The fares are relatively cheaper in comparison with other European capitals.

To/from the airport
It is very easy to reach Madrid by air. Its modern Madrid-Barajas international airport is the top-5 transportation hub in Europe. It has four passengers’ terminals T1, T2, T3 and T4 (and one Executive terminal) and receives more that 50 million passengers a year. There are about 200 direct destinations all over the world with most of the leading airlines.

The airport is located in the northeast of Madrid, only 12 kilometers from Madrid city center with easy metro, bus and taxi connections.

One-way metro ticket to/from the airport costs 4,5-5€ depending on the destination, one-way bus ticket (Airport Express) to downtown costs 5€ and taxi has a flat rate of 30€ from/to Madrid downtown.

Perfusion Measurement for Extracorporeal Circulation Systems

Monitor Efficiency and Success of your ECMO / HLM Therapy - reliable, fast and easy to use

Plug & Play: SonoTT™ Flow Measurement System
- Sensors and flow meters for non-invasive flow measurement on extracorporeal tubing systems
- Ready to use and easy to set up: Clamp on and get started.....
- PC connectivity via RS 232 / serial interface
- FDA and CE approved
- All commonly used medical tube sizes covered by our range of SonoTT™ Clamp-On Transducers
- Excellent accuracy - Made in Germany

World Market Leader of Customized Components & Customer-specific Solutions for Heart-Lung-Machines and ECMOs
- Highly precise and versatile boards
- Various configuration possibilities for integration in medical applications
- All commonly used medical tube sizes covered by our range of SonoTT™ Clamp-On Transducers
- CAN / serial interface available on board
Congress Dinner
Friday, September 14 at Pedro Larumbe (ABC Serrano)
Calle Serrano, 61

ABC building is one of the most emblematic buildings in Madrid with a privileged location with beautiful views to Paseo de la Castellana. In 1926, Teodoro Anasagasti was in charge of designing the Castellana building, whose façade is of neo-Mudejar style. The unevenness between both streets conditioned the distribution inside the building. It is at this level that he devoted himself to motors and rotary presses, using the Serrano building to house the editorial staff, the administration and the printing and printing workshops.

This was the case for 100 years, as the headquarters of the ABC newspaper, one of the largest circulation newspapers in Spain. It was not until 1995 that it was reconverted into a commercial center and unified as a single building, but retaining all its character and its imposing historical presence.

Pedro Larumbe was born in Lerín (Navarra) and started his professional career with the age of 16. In 1984 he received the Spanish National Gastronomy Award.

During 5 years he was president of the association Jeunes Restaurateurs d’Europe and in 1996 he opened the restaurant “Pedro Larumbe” in the beautiful former headquarters from the ABC newspaper.

La Redacción, one of the most emblematic rooms of the building and the most versatile room, thanks to the layout of the two floors around a large central atrium. It has an original decoration of 1929 and it was the Writing area of the Spanish ABC newspaper.

Retiro Park
Visit on Thursday, September 13
Meeting Point: Hall Auditorio A Floor -1, 18.30 hrs

Covering over 125 hectares and comprising more than 15,000 trees, El Retiro Park is a green oasis in the heart of the city. In it you’ll find all kinds of interesting monuments and gardens, including the Jardín de Vivaces, the Jardines de Cecilio Rodríguez (Andalusian-inspired classicistic gardens), the Jardines del Arquitecto Herrero Palacios, the Rosaleda rose garden and the Parterre Francés, which holds a Mexican cypress that is nearly 400 years old and is believed to be Madrid’s oldest tree.

In addition to its role as one of the city’s green lungs, it is also a popular spot among Madrileños who gather there for a stroll, to do some sport, visit an exhibition or take the kids for a puppet show. The park is home to a large artificial lake, where you can rent a rowing boat, and to the Velázquez Palace and Glass Palace which are both currently used as exhibition halls by the Reina Sofía Museum. The latter is a beautiful glass pavilion built in 1887 to house exotic plants for an exhibition on the Philippines. It is one of the finest examples of cast-iron architecture in Spain.

El Retiro is also filled with interesting sculptures and fountains such as the magnificent Monument to Alfonso XII, which watches over the lake and in spring of 2018 opened to the public an observation deck offering wonderful views. Near the Rose Garden, you’ll come across the statue of the Fallen Angel, the only sculpture in the world dedicated to the devil which curiously enough sits 666 m above sea level. Other spots worth visiting are the Galápagos Fountain, which was built in honour of the then princess Isabella II, the Teatro de Títeres, which is the only theatre in Europe that stages puppet shows every weekend, and the large area known as Reservado de Fernando VII, which King Ferdinand VII decided to keep for himself and his family while the rest of the park remained open to the public. In this section of El Retiro, between Calle O’Donnell and Calle Menéndez Pelayo, you’ll find some of the king’s “whims”, small buildings or monuments designed as little retreats for the monarchs to rest and relax: Casa del Pescador, the Montaña Artificial and the Casa del Contrabandista which accommodates Florida Retiro, a modern venue with a restaurant that hosts all kinds of events.
Tuesday 11 September

11:00 - 12:00: Registration
12:00 - 12:30: Welcome by the yESAO Organisation A. Molteni, M. Mueller, L. Gullón, J. Gutiérrez, R. T. Sánchez del Arco
12:30 - 13:00: Lunch
13:30 - 15:00: Workshop part A: Lights, camera, ACTION! M. Bozzetto, S. Liao, A. Wisniewski, E. Wu
15:00 - 16:30: Session I: Computational Modelling M. Boles, B. Thamsen
Keynote lecture:
The Open Heart Project
Dr. J. Pauls, University of Queensland, Australia
Oral presentations:
Innovative ventricular assist device – concept, design and prototyping
A. Plosianu, University of Medicine and Pharmacy "Gr. T. Popa", Iași, Romania
Blood Pumps, Computational Fluid Dynamics, LES, URANS, Ventricular Assist Device, Viscous Shear Stress
B. Torner, University of Rostock, Germany
The problem with the physiological interpretation of model parameters: an example
M. Pietribiasi, Institute of Biocybernetics and Biomedical Engineering, Warsaw, Poland
Does the plasma refilling coefficient change during hemodialysis sessions?
M. Pietribiasi, Institute of Biocybernetics and Biomedical Engineering, Warsaw, Poland

16:30 - 17:00: Coffee break
17:00 - 17:30: CORIFY - Medical device startup solving cardiac arrhythmias
Dr. A. M. Climent, Hospital General Universitario Gregorio Marañón & Universidad Politécnica de Valencia, Spain
17:30 - 18:45: CORIFY lab and experimental surgical unit tour L. Gullón, J. Gutiérrez, R. T. Sánchez del Arco
19:30 - 21:30: Madrid city tour Starting point: Plaza Mayor, Madrid
21:30: Dinner Museo del Jamón, Calle Gran Via, 72, Madrid

Wednesday 12 September

09:45 - 12:00: Workshop part B: Lights, camera, ACTION! M. Bozzetto, S. Liao, A. Wisniewski, E. Wu
12:00 - 12:30: yESAO projects A. Stecka, T. Vollmer
yESAO Exchange Awards:
Immobilization strategies with glycosaminoglycans- polymeric drug conjugate on biomaterials for anti-inflammatory purposes
H. Al-Khoury, Biomedical Materials Group, Halle, Germany
E. Espinosa-Cano, Biomaterial group, Madrid, Spain

15:00 - 16:30: Session III: Bio-interaction, in vivo data P. Aigner, L. Wiegmann
Keynote lecture:
Development and implementation of medical technology. Are we lost in translation?
Dr. J. Barea Mendaza, Hospital Universitario 12 de Octubre, Madrid, Spain
Oral presentations:
Biochemical changes in an ex vivo homoperfused porcine heart model
B. Kappler, LifeTec group, Netherlands
Development of an automated liver perfusion system. The benefit of a homofilter
L. Gullón, Hospital General Universitario Gregorio Marañón, Madrid, Spain
Towards longitudinal studies of hemodynamically induced vessel wall remodelling
M. Bozzetto, Istituto di Ricerche Farmacologiche Mario Negri Bergamo, Italy
In-vitro-study for the evaluation of transluminal aspiration as a novel treatment option for thrombosis in ventricular assist devices
T. Gaerdner, Medical School Hannover, Germany

16:30 - 17:00: yESAO Closing Session A. Molteni, M. Mueller, L. Gullón, J. Gutiérrez, R. T. Sánchez del Arco

Registration Information:
yESAO meeting free to attend for ESAO congress attendees or 20€ meeting registration fees including yESAO membership registration on site from Tuesday 11th at 11 am

Fee includes:
- Admission to all yESAO scientific sessions and workshop which will be held in the Auditorium of Hospital General Universitario Gregorio Marañón
- Coffee on Tuesday 11th;
- Lunch only offered to yESAO attendees who are also ESAO members

yESAO coordinators:
Alessandra Molteni and Marc Mueller
yESAO local organising committee for the ESAO - Congress 2018:
Lucía Gullón, Robert Torres and Judit Gutiérrez
yESAO

Madrid

It is our great pleasure to announce the annual meeting of the young European Society for Artificial Organs to be held in Madrid on September 11-12/2018. It is held on the days preceding the main ESAO event, September 12-15/2018.

The yESAO brings together young researchers in the field of Artificial Organs. Our next meeting in Madrid will offer forefront discussions, inspiring talks held by the participants and by invited speakers, and stimulating workshop to shape new ideas. The programme offers a wide spectrum of topics, from technical challenges to various methodologies and jointly partnership with other institutions and industries. Networking events will be organised throughout the days. As this congress is an intercontinental event, we also cordially welcome our young guests from other continents!

We welcome all of you to join our society yESAO and our next meeting in Madrid for memorable days together.

We are looking forward to seeing you in Madrid!

yESAO coordinators: Alessandra Molteni and Marc Mueller
yESAO local organising committee for the ESAO-Congress 2018: Lucía Gullón, Robert Torres, Judit Guínérez

http://www.esao.org/yesao/
info@yesao.org

Social Program and Side Events

Registration at Congress Venue from 15.00 hrs. Hall Room A, FLOOR -1

Wednesday 12th

Wednesday 18:00 - 19:30 Room A
OPENING CEREMONY

Welcome Addresses
Horst Klinmann
Honorary ESAO president
Juan del Cañizo
Congress President
Cecile Legallais
ESAO President
Sonia Garcia de San José
Subgerente de Hospital Gregorio Marañón
Manel Giner
Facultad de Medicina UCM

Award Ceremony
Emil Bucherl Award
ESAO-SAGE Research Award
ESAO PhD Awards

Opening Lecture
Chair Cécile Legallais (France)
“Blood Purification- a Revolution in Medical History”
Horst Kinkmann (Germany)

Musical Performance
Flamenco

Spanish Wine

Thursday 13th

Thursday 8:30 - 10:00 Room A
TA1 Symposium: Hemorheology & more: in Memoriam Prof. Holger Schmid-Schönbein (1937-2017)
Chair1 Khosrow Mottaghy (Germany)
Chair1 Joerg Vianken (Germany)
Detailed Program

O5(IL) FLUID DROPLETS AND RED BLOOD CELLS
Khosrow Mottaghy (Germany)

O1(IL) PLATELETS AND THEIR RHEOLOGICAL BEHAVIOUR
Peter D. Richardson (USA)

O0(IL) HEMODIALYSIS AND RHEOLOGICAL EFFECTS
Joerg Vienken (Germany)

O2(IL) COMPUTATIONAL PREDICTION OF BLOOD DAMAGE
Mark Behr (Germany)

O3(IL) SYNERGETIC PHYSIOLOGY - PHYSIOLOGICAL SYNERGETICS
Hasan B. Cotuk (Turkey)

O4(IL) TEACHING AND MEASURING PAIN: A CHALLENGE TO A PHYSIOLOGIST?
Volker Perlitz (Germany)

Thursday 8:30 - 10:00 Room B
TB1 Working Group Apheresis and Adsorption: Emerging Applications in Apheresis and Extracorporeal Therapies
Chair1 Viktoria Weber (Austria)
Chair2 Volker Witt (Austria)
Chair3 Jens Hartmann (Austria)

O20(KL) PAEDIATRIC DATA FROM THE WAA REGISTER – UP DATE
Volker Witt (Austria)

O21(IL) IMPACT OF C-REACTIVE PROTEIN ADSORPTION ON FREE CRP AND ON CRP-CARRYING EXTRACELLULAR VESICLES
Birgit Fendl (Austria)

O18(IL) SELECTIVE CRP APHERESIS AS A NEW TREATMENT OPTION IN ACUTE MYOCARDIAL INFARCTION: FIRST RESULTS OF THE CAMI STUDY
Ahmed Sheriff (Germany)

O197(IL) PERLIFE: PURIFICATION STRATEGIES IN ORGAN RECONDITIONING FOR TRANSPLANTATION
Mauro Atti (Italy)

Thursday 8:30 - 10:00 Room C
TC1 Biomaterials & Tissue Interaction
Chair1 Thomas Groth (Germany)
Chair2 Anamaria Rognina (Croatia)

O38 PLATELET DEPOSITION ON COLLAGEN AND OTHER SURFACE COATINGS AT SHEAR RATES OVER 5000 1/s
Felix Hohven (Germany)

O39 GRAPHENE OXIDE MEDIATES BIOCOMPATIBLE AND PRO-REGENERATIVE RESPONSES IN NEURAL CELLS AND TISSUES
Ana Dominguez-Bayo (Spain)

O40 THE STUDY OF NANOSCALE INTERACTIONS BETWEEN CARDIAC CELLS AND NANOFIBROUS SCAFFOLDS
Victor Balashov (Russian Federation)

O41 GLUCOSE MODIFIED GOLD NANORODS INTERACTION WITH HUMAN DERMAL FIBROBLASTS
Monika Drabik (Poland)

O42 SURFACE CHARACTERIZATION AND CELL ADHESION BEHAVIOR ON OLIGO-PROLINE IMMOBILIZED SUBSTRATE
Sachiro Kakinoki (Japan)

O43 FABRICATION OF HYDROGELS WITH STIFFNESS GRADIENTS FOR STUDYING CELL RESPONSE TO MECHANICAL STIMULATION
Ana Encarnado Flores (Spain)

Thursday 8:30 - 10:00 Room D
TD1 Solid Organ Engineering
Chair1 Charlotte Debbaut (Belgium)
Chair2 Roos Masureeuw (The Netherlands)

O52 BIOENGINEERED HUMAN FETAL LIVERS: A NEW TOOL FOR THE PRODUCTION OF HEMATOPOIETIC PROGENITOR CELLS
Pilar Saez-Amal (Spain)

O53 REVASCULARIZATION OF LIVER SCAFFOLDS USING VASCULAR INDUCTION AND MATURATION CYCLES
Ina Pia-Palacin (Spain)

O54 INVESTIGATION OF DECELLULARIZED LIVER TISSUE STRUCTURE BY NOVEL METHOD SCANNING PROBE NANOTOMOGRAPHY
Maria Bobrova (Russian Federation)

O55 TOWARDS A BIOHYBRID LUNG – LONG-TERM DYNAMIC CULTIVATION OF ENDOTHELIAL CELLS ON RGDO-COATED PDMS MEMBRANES AND ITS GAS EXCHANGE PERFORMANCE IN BLOOD
Sarah Klein (Germany)

O56 PORTAL-CAVA-JUGULAR VENOVENOUS BYPASS: EXTRACORPOREAL CIRCULATION MODEL DURING ORTHOTOPIC LIVER PIG TRANSPLANTATION
Ignacio Fernández-López (Spain)

O57 RECENT PROGRESS IN STEM CELL-BASED METHODOLOGIES AND TISSUE ENGINEERING APPROACHES HAVE LED TO THE DEFINITION OF NOVEL REGENERATIVE MEDICINE STRATEGIES FOR THE TREATMENT OF KIDNEY DISEASE
Nuria Montserrat (Spain)

Thursday 10:00 - 11:00 Room A
Plenary Session
Chair Ulrich Ketzcher
Speaker Klaus Affeld (Germany)

"VAD - quo vadis? How will ventricular assist pumps develop – to rotate or to displace?"
Thursday 11:15 - 12:45 Room A
TA2 ESAO and CIBERCV Joint Symposium. Mechanical Ventricular Assistance in perspective
Chair1: Francisco Fernández-Avilés (Spain)
Chair2: Ángel González-Pinto (Spain)
(I) PERCUTANEOUS CIRCULATORY ASSISTANCE: PRESENT AND FUTURE
Jaime Elízaga (Spain)
(I) CHALLENGES IN MECHANICAL CIRCULATORY SUPPORT
Eduardo Zataraín (Spain)
(I) MECHANICAL CIRCULATORY ASSISTANCE IN THE INTENSIVE CARE UNIT
José M. Barrio (Spain)
(I) MEDIUM AND LONG TERM MECHANICAL CIRCULATORY ASSISTANCE
Álvaro Pedraz (Spain)
(I) DESTINATION THERAPY
Gregorio Cuerpo (Spain)

Thursday 11:15 - 12:45 Room B
TB2 Kidney Failure: Beyond the classical treatment options
Chair1: Joachim Jankowski (Germany)
Chair2: Marieke Sternkopf (Germany)
O22 ADSORPTION OF HYDROPHOBIC UREMIC TOXINS BY EXTRACORPOREAL ADSORBER PARTICLES
Marieke Sternkopf (Germany)
O23 LOCAL VASCULAR REMODELING AND HEMODYNAMIC CHANGES IN PATIENT - SPECIFIC ARTERIOVENOUS FISTULAE FOR HEMODIALYSIS
Michela Bozzetto (Italy)
O24 TOWARDS OPTIMISED DIALYSIS REMOVAL OF PROTEIN-BOUND URAEMIC TOXINS
Suney Eloit (Belgium)
O25 HAEMODYNAMIC IMPACT OF THE CONNECTION TO CONTINUOUS RENAL REPLACEMENT THERAPY IN CRITICALLY ILL CHILDREN
Sarah N. Fernández Lafever (Spain)
O26 EFFECTS ON MESOTHELIAL CELLS FROM A DIRECT OXIDATION OF PERITONEAL DIALYSATE: ARE GDPs THE REAL CULPRITS?
Gianni Cappelli (Italy)
O27 EVALUATION OF DIFFERENT HAEMODIALYSIS STRATEGIES IN PATIENTS WITH BLEEDING DISORDERS
Flora Ommelaaghe (Belgium)

Thursday 11:15 - 12:45 Room C
TC2 Liver Failure
Chair1: Rafael Baharou (Spain)
Chair2: Cécile Legallas (France)
O44 COMPUTATIONAL MODEL OF THE DRUG PARTICLE TRANSPORT DURING TRANSARTERIAL THERAPY FOR TARGETED DRUG DELIVERY TO LIVER TUMORS
Charlotte Debbaut (Belgium)
O45 ALBUMIN DIALYSIS IN THE MANAGEMENT OF ACUTE ON CHRONIC LIVER FAILURE: A META-ANALYSIS OF POOLED INDIVIDUAL-PATIENT DATA
Luis Bañez-Samaniego (Spain)
O46 EFFECTIVENESS OF NEW CELL SOURCES FOR THE TREATMENT OF ACUTE LIVER FAILURE
Laia Tolosa (Spain)
O47 ROLE OF HEMOFILTRATION TECHNIQUE IN THE PERFUSION OF EX VIVO ISOLATED LIVER
Andrés Rivera (Spain)
O48 HEPATIC CELL MICROENCAPSULATION FOR BIOARTIFICIAL LIVER: METABOLIC ACTIVITY IN STATIC CULTURE VERSUS PERFUSED CULTURE IN FLUIDIZED BED BIOREACTOR
Matteo Pasqua (France)
O49 CRITICAL EVALUATION OF FACTORS AFFECTING MARS (MOLECULAR ADSORBENT RECIRCULATING SYSTEM) EFFICIENCY IN THE TREATMENT OF ACUTE-ON-CHRONIC LIVER FAILURE
Roberto Marangoni (Italy)

Thursday 11:15 - 12:45 Room D
TD2 Soft Tissue and Sensory Organs Engineering
Chair1: Gerardo Catapano (Italy)
Chair2: Birgit Glaeseracher (Germany)
O58 A HISTOLOGICAL QUALITY CONTROL OF HUMAN ARTIFICIAL CORNEAS GENERATED AS A MEDICINAL PRODUCT
Miguel Alaminos (Spain)
O59 FIBRIN AGAROSE HYDROGEL: A VERSATILE NATURAL BIOMATERIAL IN PERIPHERAL NERVE REPAIR
Victor Cariel (Spain)
O60 HISTOLOGICAL ANALYSIS OF SCLERAL REPAIR AND REGENERATION BY USING NANOSTRUCTURED FIBRIN-AGAROSE BIOMATERIALS
Fernando Campos (Spain)
O61 CHEMICALLY DECELLULARIZED PERIPHERAL NERVE ALLOGRAFTS SUPPORT PERIPHERAL NERVE REGENERATION AND FUNCTIONAL RECOVERY IN RATS
Jesús Chato-Astrain (Spain)
O63 EXTRACELLULAR MATRIX CHARACTERIZATION AND OPTIMIZATION IN ORGANOYOTIC SKIN CULTURES
Cristina Quilez (Spain)

Thursday 13:00 - 14:00 Room A
Lunch with Corporate Members
Symposium: New Hopes for Patients? - The Industry Up-Date 2018
Chair1: Ares Menon (Germany)
O5 NEW DRUGS v. OLD DEVICES-PROMISES vs. REALITY
Peter Mandry (B.Braun)
Detailed Program

**Thursday 14:00 - 15:30 Room A**

**TA3 Blood Trauma**

Chair 1: Ulrich Kertzscher (Germany)
Chair 2: Bente Thamsen (Switzerland)

**O6 EFFECT OF SUPRAPHYSIOLOGICAL SHEAR STRESS ON BLOOD: INSIGHTS FROM HAEMORHEOLOGY**
Michael Simmonds (Australia)

**O7 DOES THE SUBHAEMOLYTIC THRESHOLD ACCURATELY PREDICT WHETHER ERYTHROCYTES ARE SUBLETHALLY DAMAGED FOLLOWING SHEAR EXPOSURE?**
Michael Simmonds (Australia)

**O8 VISUALISATION OF THE ERYTHROCYTE DAMAGE PROCESS INDUCED BY SUBLETHAL SHEAR STRESS**
Masaya Hakozaki (Japan)

**O9 SPATIALLY-RESOLVED HEMOLYSIS EVALUATION WITH GHOST CELLS AS A NOVEL BLOOD SUBSTITUTE**
Malte Schöps (Germany)

**O10 A MOCK CIRCULATION LOOP WITH A SMALL BLOOD VOLUME TO ASSESS CRITICAL REGIONS OF ROTARY BLOOD PUMPS**
Michael Lommel (Germany)

**O11 ARTIFICIAL THROMBUS: A MODEL FOR IN VITRO VAD EVALUATION**
Christina Feldmann (Germany)

**Thursday 14:00 - 15:30 Room B**

**TB3 Working Group in Tissue Engineering**

Chair 1: Nuno Neves (Portugal)
Chair 2: Gloria Gallego-Ferrer (Spain)

**O30(KL) EVALUATION OF A FIBRIN-AGAROSE HUMAN ARTIFICIAL SKIN MODEL GENERATED AS A MEDICINAL PRODUCT**
Antonio Campos (Spain)

**O31(KL) BIODEGRADABLE SCAFFOLDS FOR BONE AND CARTILAGE TISSUE ENGINEERING**
Nuno Neves (Portugal)

**O32(KL) THE IN SITU HYDROXYAPATITE TUNE THE OSTEGENIC EFFICACY OF POROUS CHITOSAN STRUCTURE**
Anamarija Rogina (Croatia)

**O28 VASCULAR INTERVENTIONS INDUCE ISOLATION OF ENDOTHELIAL COLONY-FORMING CELLS IN PATIENTS WITH CORONARY ARTERY DISEASE**
Vera Matveeva (Russian Federation)

**Thursday 14:00 - 15:30 Room C**

**TC3 Symposium: Rationale and evidence for extracorporeal liver support in ACLF**

Chair 1: Rafael Bañares (Spain)
Chair 2: Pedro M. Baptista (Spain)

**O6 TO BE DEFINED**
To be defined

**O7 CLINICAL DEFINITION AND RISK STRATIFICATION IN ACLF**
Luis Bañez (Spain)

**O8 INFLAMMATION AND IMMUNITY IN CIRRHOSIS AND IN ACLF: A RATIONALE FOR ALS**
Agustin Albillos (Spain)

**O9 ALS IN ACLF**
Rafael Bañares (Spain)

**Thursday 14:00 - 15:30 Room D**

**TD3 Experimental Modelling Hemodynamics**

Chair 1: Marek Darowski (Poland)
Chair 2: Klauss Affeld (Germany)

**O64 PREDICTION OF POST-STORAGE CARDIAC FUNCTION**
Benjamin Kappler (The Netherlands)

**O65 PASSIVE BEATING RIGHT HEART PLATFORM FOR TRAINING, TEACHING AND TESTING OF CATHETERBASED THERAPIES**
Matthias Felix Menne (Germany)

**O66 DEVELOPMENT OF A NONINVASIVE METHOD FOR BLOOD PRESSURE MEASUREMENTS USING THE FACIAL ARTERY**
Paul Geus (Germany)

**O67 EVALUATION OF VENTRICULAR FLOW FIELD IN THE ASSISTED ISOLATED BEATING HEART USING ULTRASOUND PARTICLE IMAGE VELOCIMETRY**
Marcus Granegger (Austria)

**O68 CAN WE IMPROVE THE FLOW OF ORGANS DURING THE INSERTION OF VENTRICULAR ASSISTANCE DEVICES? AN EXPERIMENTAL STUDY IN A PORCINE MODEL**
Ignacio Fernández-López (Spain)

**Thursday 15:30 - 17:00 Room P**

**PT01 Kidney & Liver**

Chair 1: Sunny Eloot (Belgium)
Chair 2: Rafael Bañares (Spain)

**P1 THE EFFICACY OF PLASMA EXCHANGE FOR THE BILIRUBIN REMOVAL IN PATIENTS WITH HYPERBILIRUBINEMIA**
Takeo Moriguchi (Japan)
P2 IN VITRO ASSESSMENT OF DIFFERENT MATERIAL HAEMODIALYZER CLEARANCE IN HIGH-FLUX HAEMODIALYSIS AND ON-LINE HAEMODIFILTRATION
Miquel Gomez (Spain)

P3 THREE DIFFERENT TYPES OF NATIVE ARTERIOVENOUS FISTULA: TIMING OF CREATION AS AN INDEPENDENT PREDICTOR OF THE SUCCESSFUL MATURATION
Nikola Gjorgjievski (Macedonia)

P4 COMPARISON OF PLATELET ACTIVATION OF ELECTRON-BEAM AND STEAM STERILIZED MEMBRANES
Michael Hulko (Germany)

P5 EVALUATION OF PRE- AND POST-DILUTION CONTINUOUS VENO-VENOUS HEMOFILTRATION ON BIOCOMPATIBILITY
Shinya Chihara (Japan)

P6 IMPROVEMENT OF VASCULAR ACCESS CREATION FOR HEMODIALYSIS IN REPUBLIC OF MACEDONIA
Petar Dajanov (Macedonia)

P7 HEMOGLOBIN VARIABILITY AND ALL-CAUSE MORTALITY IN HEMODIALYSIS PATIENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS
Linfei Zhao (China)

P8 OCCULT HEPATITIS C AND ASSAY SENSITIVITY IN PATIENTS WITH TREATMENT-INDUCED VIRAL CLEARANCE
Pavlina Dzekova-Vidimliski (Macedonia)

P9 COMPARISON OF INTERNAL FILTRATION AMONG IN-HOUSE DIALYZERS BASED ON A TWO-DIMENSIONAL MOMENTUM TRANSPORT MODEL
Danilo Donato (Germany)

P10 INTRADIALYTIC BLOOD PRESSURE PATTERN RECOGNITION BASED ON DENSITY PEAK CLUSTERING
Jingyi Zhou (China)

P11 PATIENT-SPECIFIC PULSE WAVE PROPAGATION MODEL IDENTIFIES CARDIOVASCULAR RISK CHARACTERISTICS IN HEMODIALYSIS PATIENTS
Jacek Waniewski (Poland)

P12 CHANGES OF HAEMATOCRIT, HAEMOGLOBIN AND TOTAL PLASMA PROTEIN DURING HAEMODIALYSIS
Jacek Waniewski (Poland)

Thursday 15:30 - 17:00 Room P

PT02 VADs: New Methods
Chair1 Ulrich Steinseifer (Germany)
Chair2 Nobuo Watanabe (Japan)

P13 MICRO BEARING DEVELOPMENT FOR IMPLANTABLE VENTRICULAR ASSIST DEVICES
Rodrigo Lima Stoeterau (Brazil)

P14 OPENHEART PROJECT – IMPROVING INTERNATIONAL COLLABORATION IN THE FIELD OF MECHANICAL CIRCULATORY SUPPORT THROUGH AN OPEN-SOURCE RESEARCH COMMUNITY
Jo P Pauls (Australia)

P15 A NEW METHOD TO GENERATE A PULSED FLOW IN ROTARY BLOOD PUMPS
George Atan (Russian Federation)

P16 SYNCHRONIZED VENTRICULAR ASSIST DEVICES BASED ON ULTRASONIC MOTORS
Ming Yang (China)

Thursday 15:30 - 17:00 Room P

PT03 VADs Miscellaneous & Other
Chair1 Dmitry Telyshev (Russian Federation)
Chair2 Alessandra Molteni (United Kingdom)

P17 NECESSITY OF INTERNAL FLUID VOLUME MONITORING IN THE LEFT VENTRICULAR ASSIST DEVICE PATIENT
Sarah Schroeder (USA)

P18 INDUCTIVE ENERGY TRANSFER UNIT BASED ON CLASS-E AMPLIFIER WITH LOWERED MISALIGNMENT SENSITIVITY
Arseny Danilov (Russian Federation)

P19 A COMPACT MOCK CIRCULATORY LOOP FOR LONG-TERM DURABILITY TESTING OF A PULSATILE TOTAL ARTIFICIAL HEART
Moritz Lommel (Germany)

P20 TWO PHASE BLOOD MODEL FOR UPScaled MODELS USING ALGINATE BEADS
Vera Froese (Germany)

P21 EFFECTS OF IMBALANCED INFLOW AND OUTFLOW DISTRIBUTIONS ON DOUBLE - FLOW FONTAN PUMPS
Young Choi (Switzerland)

Thursday 15:30 - 17:00 Room P

PT04 VADs: Other

P22 DIAGNOSIS OF THE PERISTALTIC MOTION FOR THE DEVELOPMENT OF THE ARTIFICIAL ESOPHAGUS
Tomoyuki Yambe (Japan)

P23 CONSTRUCTION CONCEPT OF A PORTABLE DEVICE FOR ADAPTIVE INSULIN THERAPY BASED ON NONINVASIVE GLUCOSE CONTROL
Evgenia Ulitkina (Russian Federation)

P24 CURRENT SITUATION ANALYSIS OF THE REIMBURSEMENT PRICE OF NEW MEDICAL DEVICES IN JAPANESE INSURANCE SYSTEM DURING 2015-2017
Eiki Akagawa (Japan)

P25 AN ALTERNATIVE APPROACH TO INVESTIGATE BIOFILM IN MEDICAL DEVICES
Elisa Resca (Italy)

P26 EFFECT OF THE ELECTRIC FIELD ON EPITHELIAL CELLS IN THE INVESTIGATION OF TRANSCUTANEOUS ENERGY TRANSMISSION
Evandro Drigo (Brazil)

P27 IN VITRO INVESTIGATION ON CEREBRAL HEMODYNAMICS IN A PATIENT-SPECIFIC CEREBRAL ARTERY MODEL USING PIV DURING ASPIRATION TROMBECTOMY
Martin Buasen (Germany)

P28 ARTIFICIAL ORGAN AND ITS ROLE AGAINST MEGA-DISASTER
Yoshihara Haraguchi (Japan)

P29 ANALYSIS OF EXTENDED BOLUSES IN PATIENTS WITH TYPE 1 DIABETES USING THE VOICEDIAB SYSTEM
Piotr Foltynski (Poland)

P30 MINIMALLY INVASIVE TREATMENT OF HEARTMATE III–LVAD DRIVELINE INFECTION BY INFECTION SITE TARGETED VACUUM ASSISTED CLOSURE
Kamran Ahmadv (Switzerland)
Thursday 15:30 - 17:00 Room P
PT04 Blood Trauma
Chair1 Ulrich Kertzscher (Germany)
Chair2 Joerg Vienken (Germany)

P31 NUMERICAL AND EXPERIMENTAL ANALYSIS OF HEMOLYSIS IN A SELF-DESIGNED BLOOD PUMP
Donghai Li (China)

P32 A NOVEL LABORATORY DEVICE FOR THE SIMULTANEOUS INVESTIGATION OF MULTIPLE FACTORS REGARDING BLOOD TRAUMATIZATION
Niklas Steuer (Germany)

P33 BLOOD OBTAINED FROM HAEMOCHROMATOSIS PATIENTS IS MORE SUSCEPTIBLE TO MECHANICAL SUBLETHAL DAMAGE THAN HEALTHY DONORS
Antony McNamara (Australia)

P34 SUBLETHAL DAMAGE TO ERYTHROCYTES ALTERS LOW-SHEAR BLOOD FLOW
Antony McNamara (Australia)

P35 ESTIMATION OF HEMOLYSIS LEVEL AND THROMBUS RISK FORMATION OF THE PEDIATRIC PULSATILE CIRCULATORY SUPPORT SYSTEMS BASED ON CFD MODELING
Aleksey Zhdanov (Russian Federation)

P36 HEMOLYSIS OF MAHIDOL UNIVERSITY CENTRIFUGAL BLOOD PUMP DURING PULSATILE MODE AND NON-PULSATILE MODE
Phornphop Naiyanatr (Thailand)

P37 IN-VITRO INVESTIGATION OF SHEAR-INDUCED PLATELET ACTIVATION USING FLOW CYTOMETRY
Grischa Gabel (Germany)

Thursday 15:30 - 17:00 Room P
PT05 Biomechanical & Lung
Chair1 Natalia Sanchez-Romero (Spain)
Chair2 Khoosrow Mottaghy (Germany)

P38 ASSISTIVE TECHNOLOGY ORIENTED TO THE DEVELOPMENT OF PROSTHESIS FOR PEOPLE WITH UPPER LIMB AGENESIS
Osiris Canciglieri Junior (Brazil)

P39 CUSTOM PARAMETERIZATION OF PROSTHETIC SUPPORT DEVICE PROTOTYPE FOR IRREGULAR UPPER LIMB AGENESIS
Osiris Canciglieri Junior (Brazil)

P40 THE LAYERS OF COMPOSITE NANOMATERIALS AS ELECTRODES IN AN ARTIFICIAL MUSCLE
Levan Ichkitidze (Russian Federation)

P41 NANOCOMPOSITE LAYERS AS PROTOTYPE OF A TENSORESISTOR SENSOR
Levan Ichkitidze (Russian Federation)

P42 ADAPTIVE, VARIABLE LUNG VENTILATION – SIMULATION STUDIES
Marek Darowski (Poland)

P43 EXPERIMENTAL INVESTIGATIONS OF THE BONE CEMENT INJECTION AND ITS DISTRIBUTION INSIDE A VERTEBRAE MODEL
Damian Obidowski (Poland)

P44 DEVELOPMENT OF MULTI-FUNCTIONAL DETOXIFYING FILTER TO SUPPORT IMPAIRED FUNCTIONS OF KIDNEY AND LUNG
Jake K. Lee (USA)

P45 O₂ AND CO₂ MASS TRANSFER IN BLOOD OXYGENATORS AND ARTIFICIAL LUNG DEVICES
Michael Harasek (Austria)

P46 CFD SIMULATION OF BLOOD GAS TRANSPORT IN A HOLLOW FIBER MEMBRANE PACKING FOR DESIGN OPTIMIZATION OF AN INTRACORPOREAL MEMBRANE OXYGENATOR
Benjamin Lukutsch (Austria)

Thursday 15:30 - 17:00 Room P
PT06 VADs & Other Numerical Simulations
Chair1 Simon Sonntag (Germany)
Chair2 Gianfranco Ferrari (Italy)

P47 SINGLE VENTRICLE SYNCARDIA SUPPORT IN FAILING FONTAN - A HEMODYNAMIC INVESTIGATION
Stephan Hidebrand (Germany)

P48 NUMERICAL ANALYSIS OF CANNULA TIP DESIGN INFLUENCE ON STAGNATION AND REcirculation ZONES IN LEFT VENTRICULAR MIkhail Nosov (Russian Federation)

P49 ASSESSMENT OF CENTRIFUGAL BLOOD PUMP AS VENTRICULAR ASSIST DEVICE IN THE HYBRID CARDIOVASCULAR SIMULATOR
Jeferson Fonseca (Brazil)

P50 ANATOMICAL FITTING DESIGN OF AN INTRAVENTRICULAR BALLOON PUMP
Alice Boone (Australia)

P51 CFD MODEL DEVELOPMENT FOR THE FDA CENTRIFUGAL ROTARY BLOOD PUMP
Clayton Semenzin (Australia)

P52 ARTIFICIAL INTELLIGENCE FOR DATA PROCESSING FROM A VENTRICULAR ASSIST DEVICES TEST BENCH FOR PREDICTING FAULTS
Jeferson Dias (Brazil)

P53 FLUID-STRUCTURE INTERACTION SIMULATIONS OF FLEXIBLE MEMBRANE - BASED LVAD
Marco Martinoli (Italy)

P54 REPLACEMENT OF THE VAD - NATIVE VENTRICLE PUMPING SYSTEM WITH AN EQUIVALENT VENTRICLE: A COMPUTATIONAL MODEL STUDY
Gianfranco Ferrari (Italy)

P55 INTRA-AORTIC BALLOON PUMP INVESTIGATION ON A HYBRID (HYDRO-NUMERICAL) CARDIOVASCULAR MODEL
Marek Darowski (Poland)

Thursday 15:30 - 17:00 Room P
PT07 VADs: Experimental Modelling
Chair1 Adrian Winerwski (Germany)
Chair2 Arianna Di Molfetta (Italy)
Detailed Program

P56 COMPARISON OF TUG FORCE, LEAKAGE AND RESHEATING BEHAVIOUR OF TWO LAA OCCLUSION SYSTEMS: AN IN-VITRO STUDY
Matthias Felix Menne (Germany)

P57 FLOW-INDUCED VESSEL-WALL VIBRATION AT LAMINAR FLOW RATES – AN EXPERIMENTAL INVESTIGATION
Ulf Krueger (Germany)

P58 DEVELOPMENT AND PRECLINICAL VALIDATION STUDY OF ACCURATE QUANTIFICATION METHOD OF AORTIC INSUFFICIENCY DURING LEFT VENTRICULAR ASSIST DEVICE SUPPORT BY THERMOILUTION ANALYSIS
Daichi Akiyama (Japan)

P59 INFLUENCE OF PARAVALVULAR LEAKAGE AFTER TAVR ON LEFT VENTRICULAR WORK AND CORONARY FLOW: AN IN-VITRO STUDY
Matthias Felix Menne (Germany)

P60 OVERCOMING FLOW VARIATIONS OF SYRINGE INFUSION PUMPS WITH REAL-TIME FLOW MEASUREMENT FOR CARDIOVASCULAR SUPPORT
Martin Batinar (Switzerland)

P61 PEGLYLATED CARBOXYHEMOGLOBIN BOVINE AMELIORATES MYOCARDIAL INFARCTION IN A RAT MODEL
Akira Kawaguchi (Japan)

P62 4D FEM STUDY OF DISTURBANCES ON THE CONDUCTANCE CATHETER METHOD
Leomia Kam (Germany)

P63 OFFLINE DOPPLER SIGNALS ANALYSIS AS THE INITIAL STUDY OF NON-INVASIVE BLOOD PRESSURE MEASUREMENT FOR PATIENTS WITH CONTINUOUS FLOW HEART SUPPORT
Paweł Karłowicz (Poland)

P64 CONTINUOUS FLOW HEART SUPPORT REMOTE MONITORING
Maciej Gawlikowski (Poland)

Thursday 17:00 - 18:30 Room A
T4A Numerical Simulations: VADs & Hearts I
Chair1 Leonid Goubergrits (Germany)
Chair2 Alessandra Molteni (United Kingdom)

O12 LEFT VENTRICULAR UNLOADING DURING ECMO: ATRIAL SEPTAL DEFECT VS IMPELLA. A SIMULATION STUDY
Arianna Di Molfetta (Italy)

O13 ASSESSMENT OF VAD HYDRAULIC AND BLOOD DAMAGE PERFORMANCES BY MEANS OF DYNAMIC PRESSURE SIMULATIONS
Alessandra Molteni (United Kingdom)

O14 GENERATING CFD BOUNDARY CONDITIONS FOR LVAD CALCULATIONS ON THE BASIS OF INCOR FIELD DATA
Adrian Wisniewski (Germany)

O15 CFD MODELING OF AORTA COARCTATION FOR A SPECIFIC PATIENT: A PREOPERATIVE AND HEMODYNAMIC STUDY
Gionata Fragnoni (Italy)

O16 THEORETICAL AND NUMERICAL MODEL EXPERIMENTALLY VALIDATED TO OPTIMIZE THE HYDRAULIC PERFORMANCES OF CORWAVE UNDULATING MEMBRANE BASED LVAD
Luc Polverelli (France)

O17 HEARTMATE 3 HEMODYNAMICS UNDER DYNAMIC OPERATING CONDITIONS – EFFECT OF CARDIAC PULSATILITY AND ARTIFICIAL PULSE FEATURE
Diane de Zélicourt (Switzerland)

Thursday 17:00 - 18:30 Room B
T84 Scaffolds & Biomaterials
Chair1 Ana Vallés-Lluch (Spain)
Chair2 Daniel Arenas (Spain)

O32 INFLUENCE OF FIBER COMPOSITION AND FIBER DIAMETER ON DEGRADATION KINETICS OF ELECTROSPUN VASCULAR SCAFFOLDS
Marc Mueller (Germany)

O33 DEVELOPMENT OF A NON-FOULING AND BIOCOMPATIBLE SURFACE ALGINATE AND RGD IN HEMA-BASED MACROPOROUS CRYOGELS FOR BIOARTIFICIAL LIVER APPLICATION
Flavia Bonalumi (United Kingdom)

O34 HISTOLOGICAL PROCESSING OF UN-/CELLULARIZED THermo-SENSITIVE ELECTROSPUN SCAFFOLDS
Julia Fuchs (Australia)

O35 IMPACT OF HETEROGENOUS MICROSTRUCTURE OF PCL/GELATIN ELECTROSPUN SCAFFOLDS ON THE INFILTRATION OF FIBROBLASTS
Sinduja Suresh (Germany)

O36 MICROFLUIDICS
Jose Manuel Ray (United Kingdom)

O37 STRUCTURAL AND MECHANICAL PROPERTIES OF CROSSLINKED AND STERILIZED NANOCELLULOSE-BASED HYDROGELS: AN "UNCONVENTIONAL" SCAFFOLD FOR CARTILAGE TISSUE ENGINEERING
Inna Neves Simoes (United Kingdom)

Thursday 17:00 - 18:30 Room C
TC4 Symposium: Whole-Organ Bioengineering: From the drawing board to patients
Chair1 Natalia Sánchez-Romero (Spain)
Chair2 Pedro M. Baptista (Spain)

O194(KL) REGENERATION AND REPAIR: MOVING TOWARDS PATIENTS
Paolo De Coppi (United Kingdom)

O195(IL) ADVANCES IN REGENERATIVE MEDICINE IN CUTANEOUS RARE DISEASES
Marcela Del Rio (Spain)

O50(IL) KIDNEY BIOENGINEERING: CAN WE SUFFICIENTLY REPLACE ITS FUNCTION?
Roos Masureau (The Netherlands)

O51(IL) BIOENGINEERING HUMAN LIVERS FOR TRANSPLANTATION: WHERE ARE WE NOW?
Pedro M. Baptista (Spain)

Thursday 17:00 - 18:30 Room D
TD4 Experimental Modelling VADs
Chair1 Hannich Schma (Australia)
Chair2 Tom Verbelen (Belgium)
O70 THE EFFECT OF LVAD PRESSURE SENSITIVITY ON LEFT VENTRICULAR UNLOADING
Roland Graefe (Germany)

O71 INDEPENDENT CONTROL OF LEFT AND RIGHT SIDE OF TAH FOR SIMPLE ADJUSTMENT OF FLOW RATES FROM EACH SIDE TO ALLOW FOR BRONCHIAL CIRCULATION
Fredrik Pahlm (Sweden)

O72 HEMODYNAMIC PERFORMANCE OF A PEDIATRIC PULSATILE VAD
Idagene Cestari (Brazil)

O73 WIRELESS POWERING OF VAD: HISTORY, CURRENT STATUS AND FUTURE PROSPECTS
Arseny Danilov (Russian Federation)

O74 EXPERIMENTAL INVESTIGATION OF THREE-DIMENSIONAL FLOW VELOCITY AND TURBULENCE IN THE HEARTMATE 3 ROTARY BLOOD PUMP
Bente Thamsen (Switzerland)

O75 IDENTIFICATION OF HYDRAULIC CHARACTERISTICS OF ROTARY BLOOD PUMPS AND THE INFLUENCE OF THE EXPERIMENTAL SETUP
Stefan Boës (Switzerland)

Friday 14th

Friday 8:30 - 10:00 Room A
FA1 Numerical Simulations: VADs and Hearts II
Chair 1: Michael Simmonds (Australia)
Chair 2: Simon Sonntag (Germany)

O76 THE INFLUENCE OF LVAD CANNULATION ANGLES ON THE RISK OF INTRAVENTRICULAR THROMBOSIS IN A MULTISCALE NUMERICAL MODEL
Sam Liao (Australia)

O77 VISUALIZATION OF BLOOD FLOW THROUGH THE FUSIFORM ANEURYSM EQUIPPED WITH THE FLOW DIVERTER STENT- COMPUTATIONAL FLUID DYNAMICS (CFD) INVESTIGATIONS
Piotr Recorowicz (Poland)

O78 BUILDING NON-HOMOGENEOUS HAEATOMACRIT DISTRIBUTION INTO VAD MODELLING PRACTICE
Sajal Gurung (United Kingdom)

O79 LES IN A ROTARY BLOOD PUMP: VISCOUS SHEAR STRESS COMPUTATION AND COMPARISON WITH URANS
Benjamin Toller (Germany)

O80 METHOD FOR FEASIBILITY ASSESSMENT AND OPTIMIZATION OF ROTARY BLOOD PUMPS
Emanuel Hubmann (Switzerland)

Friday 8:30 - 10:00 Room B
FB1 Symposium: Tissue Engineered Vascular Grafts (TEVG)
Chair 1: Giuseppe Faggian (Italy)
Chair 2: Nuno Neves (Portugal)

O95(KL) TISSUE ENGINEERED VASCULAR GRAFTS (TEVG)
Beat H. Walpoth (Switzerland)

O96(IL) AN ENGINEER’S CONTRIBUTION TO EFFICIENT VASCULAR REPLACEMENT GRAFTS
Birgit Glasmacher (Germany)

O94(IL) MECHANICAL TESTING OF VASCULAR GRAFTS - A REVIEW AND OVERVIEW
Martin Stobier (Austria)

O93(IL) VASCULARIZATION OF TISSUE ENGINEERED CONSTRUCTS
Birgit Andrée (Germany)

O92(IL) ANIMAL MODELS FOR PRECLINICAL SAFETY AND PERFORMANCE EVALUATION OF VASCULAR GRAFTS
Helga Bergmeister (Austria)

Friday 8:30 - 10:00 Room C
FC1 Symposium: Wearable biocompatible devices / organs
Chair 1: Sergey Salischev (Russian Federation)
Chair 2: Denis Butnaru (Russian Federation)

O196(KL) TISSUE ENGINEERED URETHRAL SUBSTITUTION: RECENT TRENDS AND OUR RESULTS
Denis Butnaru (Russian Federation)

O115(IL) NOVEL PAEDIATRIC ROTARY BLOOD PUMP SPUTNIK
Dmitry Teltyhev (Russian Federation)

O117(IL) BIOMIMETIC BIODEGRADABLE SCAFFOLDS PROMOTING VASCULARIZATION FOR DE-NOVO TISSUE FORMATION AND IN VIVO RECOVERY OF ITS MORPHOFUNCTIONAL CHARACTERISTICS
Peter Timashev (Russian Federation)

O116(IL) LASER CROSS-LINKING MECHANISM OF CARBON NANOPIRLES IN A PROTEIN MATRIX FOR THE CREATION OF CELLULAR SCAFFOLDS
Alexander Gorasimenko (Russian Federation)

O114(IL) BIOMEDICAL TRIALS OF WEARABLE ARTIFICIAL KIDNEY
Nikolay Bazaev (Russian Federation)

Friday 8:30 - 10:00 Room D
FD1 IFAO Symposium
Chair 1: Toru Masuzawa (Japan)
Chair 2: Bart Meina (Belgium)
Chair 3: Mark Slaughter

O132(KL) ESAO-IFAO SESSION: BRIDGE TO RECOVERY STRATEGIES FOR FAILING HEART WITH VAD OR/AND REGENERATIVE THERAPY
Koichi Toda (Japan)

O133(IL) MYOCARDIAL RECOVERY DURING MECHANICAL SUPPORT; DOES THE HEART RECOVER BY MECHANICAL UNLOADING OR BY HORMONAL NORMALIZATION?
Steven Jacobs (Belgium)

O133(IL) DEVICES UTILIZED FOR MYOCARDIAL RECOVERY
Pamela Combs (USA)
Friday 10:00 - 11:00 Room A
Plenary Session
Chair: Pedro Baptista (Spain)
Speaker: Harald C. Ott (USA)
"Organs on Demand - From Biofabrication to Transplantation"

Friday 11:15 - 12:45 Room A
FA2 Vascular Tissue Engineering
Chair1: Piotr Ladyzynski (Poland)
Chair2: Thomas Groth (Germany)

O81 IMPROVEMENT OF THE DURABILITY AND RELIABILITY OF IN VIVO TISSUE ENGINEERED VASCULAR TISSUES BY CHEMICAL MODIFICATION
Tomoya Itoue (Japan)

O82 TOWARDS THE GENERATION OF FULLY AUTOLOGOUS TISSUE ENGINEERED THREE-LAYERED VASCULAR GRAFTS
Skadi Lau (Germany)

O83 COMBINATION OF PRO-ANGIOGENIC FACTORS TO PROMOTE ENDOTHELIALIZATION OF TISSUE-ENGINEERED VASCULAR GRAFTS IN SITU
Victoria Sevostyanova (Russian Federation)

O84 DO TISSUE-ENGINEERED HEART VALVES NEED STEM CELLS?
Yoshiaki Takeawa (Japan)

O85 DEVELOPMENT OF BIOCOMPATIBLE ARTIFICIAL VASCULAR GRAFTS WITH AUTOLOGOUS VASCULAR CELLS
Kazuyuki Ishibashi (Japan)

O86 A MODEL OF A HUMAN BLOOD VESEEL FOR IN VITRO STUDIES BASED ON THE BIOREACTOR WITH ENDOTHelial AND SMOOTH MUSCLE CELLS
Anna Ciechanowska (Poland)

Friday 11:15 - 12:45 Room B
FB2 Modifications and optimisation of well-stabilised treatment options in Renal Failure
Chair1: Andrea Remuzzi (Italy)
Chair2: Michela Bozzeto (Italy)

O97 THE ANALYSIS OF THE DIALYSATE COMPOSITION AFTER FERMENTATION AND ELECTROCHEMICALLY MEDIATED SOBBENT REGENERATION
Nikita Zhilo (Russian Federation)

O98 HIGH FLUX MIXED MATRIX HOLLOW FIBER MEMBRANES FOR BLOOD PURIFICATION
DooIi Kim (The Netherlands)

O99 LOW FOULING MEMBRANES FOR LONG TERM DIALYSIS THERAPY
Odyler Beek (The Netherlands)

O100 CONDITIONALLY IMMORTALIZED PROXIMAL TUBE EPITHELIAL CELLS DO NOT POSSESS TUMORIGENIC POTENTIAL SUGGESTING A SAFE USE IN RENAL REPLACEMENT THERAPY
Milos Mihajlovic (The Netherlands)

Friday 11:15 - 12:45 Room C
FC2 Symposium: The VAD Coordinator Mosaic: Current Picture of the VAD Coordinator’s World
Chair1: Heinrich Schima (Austria)
Chair2: Pamela Combs (USA)

O195(IL) AMBULATORY COUNTERPULSATION AT HOME: BALLOON PUMPS OUTSIDE OF THE INTENSIVE CARE UNIT
Colleen Juricek (USA)

O118(IL) FORMAL PREOPERATIVE EVALUATION OF VAD CANDIDATE DEXTERITY
Tonya Elliott (USA)

O121(IL) OUTCOMES OF MECHANICAL CIRCULATORY SUPPORT IN WOMEN IN A SINGLE CENTER
Karen Meehan (USA)

O120(IL) FRAILTY IN LVAD PATIENTS DIFFERENT ASPECTS
Nelkene Huistain (The Netherlands)

O119(IL) IMPROVING LVAD APICAL INFLOW CANNULA INGROWTH BY SINTERING
Friedrich Kaufmann (Germany)

O122(IL) NEW PERSPECTIVES IN THE CARE OF THE DRIVELINE
Ana M. Corea Fernández (Spain)

Friday 11:15 - 12:45 Room D
FD2 Biomaterials: Tissue Interface & Surface Modification
Chair1: Joerg Vienken (Germany)
Chair2: Miguel Ángel Pacha Olivera (Spain)

O134 BIOMIMETIC FUNCTIONALISATION OF PLLA WITH ACRYLATE BRUSHES
Mark Robert Sprott (United Kingdom)

O135 RIBOFLAVIN MEDIATED UV-CROSSLINKING OF EXTRACELLULAR MATRIX CONDUITS TO IMPROVE VASCULAR GRAFT CHARACTERISTICS
Karl H Schneider (Austria)

O136 SURFACE STRUCTURING AND SURFACE MODIFICATION OF DRUG ELUTING BALLOON CATHETERS
Andreas Holmén (Germany)

O137 MODIFICATION OF ELECTROSPUN FIBROUS POLYVINYLIDENE FLUORIDE MATS WITH POLYANILINE TO IMPROVE PIEZOELECTRIC CONDUCTIVITY
Antonia Isabel Kuhn (Germany)

O138 HOW THE OXIDE LAYER FORMATION OF MAGNESIUM STENTS IS INFLUENCED BY BLOOD SERUM
Sara Rosana Knigge (Germany)
Friday 13:00 - 14:00 Room A
XXX Round table. Unmet clinical needs: Pending Issues regarding Vascular Access for Artificial Organs
Chair: Cécile Legallais (France)

Friday 14:00 - 15:30 Room A
FA3 Symposium: Artificial Lung Support
Chair1: Khashro Mottaghy (Germany)
Chair2: Carlos Simon (Spain)
O193(IL) ECMO – CARDIAC INDICATIONS
Jan Spillner (Germany)
O191(IL) ISOLATED LUNG PERFUSION IN LUNG TRANSPLANTATION
Carlos Simon (Spain)
O88 THE MINIMALLY INVASIVE LIQUID LUNG CATHETER: IN-VITRO RESULTS IN A MODEL ENVIRONMENT
Christoph Janaczeck (Austria)
O90 NOVEL DESIGN FEATURES FOR THE OPTIMIZATION OF EXTRACORPOREAL GAS EXCHANGE SYSTEMS
Foivos Mouzakis (Germany)
O89 A NOVEL NUMERICAL MODEL OF OXYGEN TRANSPORT AND AUTOREGULATION WITHIN THE CARDIOVASCULAR SYSTEM
Kristin Hugenroth (Germany)
O87 RECAPITULATION OF PULMONARY DEVELOPMENT IN 3D ORGANOIDS GENERATED WITH LUNG DECELLULARIZED ECM AND EXPANDED PROGENITOR CELLS
Natalia Sanchez-Romero (Spain)

Friday 14:00 - 15:30 Room B
FB3 Kidney Artificial replacement and Apheresis: Were we are
Chair: Giustino Casagrande (Italy)
Chair2: Bernd Stegmayr (Sweden)
O103 DATA FROM THE WAA REGISTER – UP DATE OF PATIENTS 21 YEARS AND OLDER
Bernd Stegmayr (Sweden)
O104 PATIENTS WITH WORSE CARDIAC CONDITION RESPOND MORE TO THE HEMODIALYSIS PROCEDURE
Junko Goto (Sweden)
O105 THE EX-VIVO EXPERIMENT OF EXTRACORPOREAL LUNG AND RENAL ASSIST DEVICE
Nozomi Takahashi (Japan)
O106 COMPARISON OF PERITONEAL TRANSPORT SYSTEM BETWEEN HEALTHY AND PERITONEAL DIALYSIS TISSUES: CONCLUSIONS FROM SPATIALLY DISTRIBUTED MODEL
Jacek Wawrinski (Poland)
O107 EVALUATION OF THE DISTRIBUTION OF HEALTH AND EXPERIENCE IN QUALITY OF LIFE IN APHERESIS -DATA FROM THE WAA REGISTER
Junko Goto (Sweden)
O108 DIALYZER CLEARANCE IN TWO-PHASE BLOOD: DEPENDENCE ON SOLUTE CELL MEMBRANE PERMEABILITY
Mauro Pietribiasi (Poland)

Friday 14:00 - 15:30 Room C
FC3 VADs: New Methods
Chair: Francesco Moscato (Austria)
Chair2: Marcus Granegger (Switzerland)
O123 ELECTROCARDIOGRAM-SYNCHRONIZED ROTATIONAL SPEED MODULATION SYSTEM CAN REDUCE THE RECIRCULATION DUE TO AORTIC INSUFFICIENCY IN LEFT VENTRICULAR ASSIST DEVICE SUPPORT
Kei Iizuka (Japan)
O124 EXPERIMENTAL INVESTIGATION OF RIGHT-LEFT FLOW BALANCE CONCEPTS FOR A TOTAL ARTIFICIAL HEART
Mario Diedrich (Germany)
O125 EFFECT OF IMPPELLER VIBRATIONAL EXCITATION ON ENHANCING ANTIITHROMBOGENIC PROPERTIES OF A CENTRIFUGAL BLOOD PUMP WITH A MAGNETIC BEARING
Tomotaka Murashige (Japan)
O126 AN ADAPTIVE STARLING-LIKE PHYSIOLOGICAL CONTROLLER FOR ROTARY VENTRICULAR ASSIST DEVICES
Andrew Stephens (Australia)
O127 ULTRASONIC SENSOR CONCEPT TO FIT A VENTRICULAR ASSIST DEVICE CANNULA
Serana Anne Dual (Switzerland)
O128 DEVELOPMENT OF A MINIATURIZED FLOW METER USING A STRAIGHT CANNULA OF A BLOOD PUMP
Ryo Koaska (Japan)

Friday 14:00 - 15:30 Room D
FD3 VADs: Clinical I
Chair: Bart Mayra (Belgium)
Chair2 Angel Gonzalez-Pinto (Spain)
O139 A NEW 2D ECHOCARDIOGRAPHIC APPROACH TO EVALUATE THE MEMBRANE AND VALVE MOVEMENT OF THE BERLIN HEART EXCOR VAD CHAMBER IN PEDIATRIC VAD PATIENTS
Annamaria Di Molfetta (Italy)
O140 EARLY DIAGNOSIS OF PUMP THROMBOSIS BASED ON TIME-FREQUENCY ANALYSIS OF LOG-FILES OF THE HEARTWARE HVAD VENTRICULAR ASSIST DEVICE
Filippo Consolo (Italy)
O141 STANDARDIZED MECHANICAL CIRCUITARY SUPPORT GUIDELINES: THE COORDINATORS PERSPECTIVE
Andrew Lundstrom (USA)
O142 BERLIN HEART EXCOR AND HEART TRANSPLANT: A SUCCESSFUL ASSOCIATION
Alvaro Pedraz Prieto (Spain)
O143 RELATIONAL CHARACTERISTICS BETWEEN INTERVAL VENTRICULAR ASSIST DEVICE SPEEDS AND ADVERSE EVENTS, LENGTH OF STAY AND 30-DAY READMISSIONS: A DUAL CENTER EXPERIENCE
Sarah Schroeder (USA)
O144 PUMP THROMBOSIS AND INTRAVENTRICULAR LVAD CANNULA POSITIONING
Philipp Aigner (Austria)
Friday 15:30 - 17:00 Room P
PF01 Soft Tissue & Sensory Organs Engineering
Chair1: José Antonio Gómez-Tejedor (Spain)
Chair2: Andrea Remuzzi (Italy)

P65 THE COMPARATIVE ANALYSIS OF ELECTROSPUN AND CASTING SILK FIBROIN SCAFFOLD PROPERTIES
Liubov Safonova (Russian Federation)

P66 DERMATOPIDERMAL ORGANOTYPIC CULTURES FOR THE ASSESSMENT OF IRRITATION AND CORROSION
Catalina Gaviria (Colombia)

P67 CHICKEN CHORIOALLANTOIC MEMBRANE AS A MODEL FOR IN VIVO EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF MODIFIED SKIN SUBSTITUTES AGAINST INFECTION BY STAPHYLOCOCCUS AUREUS AND PSEUDOMONAS AERUGINOSA
Maria Isabel Patiño (Colombia)

P68 GENERATION OF TUNABLE CROSSLINKED FIBRIN-AGAROSE TISSUE-LIKE MODELS FOR TISSUE ENGINEERING APPLICATIONS
Fernando Campos (Spain)

P69 QUALITY CONTROL OF MAGNETIC TISSUE-LIKE SUBSTITUTES ELABORATED BY TISSUE ENGINEERING. AN IN VIVO STUDY IN WISTAR RATS
Víctor Cariel (Spain)

Friday 15:30 - 17:00 Room P
PF02 Anti-Infective Biomaterials & Drug Delivery Systems
Chair1: Mike Barbeck (Germany)
Chair2: Miguel Ángel Pacha Olivenza (Spain)

P70 INFLUENCE OF SURFACTANT CONCENTRATION IN GELLING LIQUID ON SIZE AND SHAPE OF POLYETHERSULFONE MICROCAPSULES PRODUCED FROM POLYMERC SOLUTIONS OF DIFFERENT VISCOSITY
Piotr Ładyzynski (Poland)

P71 ANTIBIOTIC-LOADED BONE ALLOGRAFTS FOR PROPHYLAXIS AND TREATMENT OF BONE INFECTIONS
Reinhard Schnettler (Germany)

P72 DIFFERENTIATION AND HETEROGENEITY OF BIOMATERIAL-INDUCED MULTINUCLEATED GIANT CELLS: CONNECTION BETWEEN INFLAMMATION AND TISSUE REGENERATION
Mike Barbeck (Germany)

P119 BACTERIAL ADHESION IN VITRO ON SURFACE OF TANTALUM AND TITANIUM TREATED WITH LASER SHOCK PROCESSING (LSP)
Miguel Ángel Pacha Olivenza (Spain)

P73 BACTERIAL ADHESION IN VITRO ON SURFACE PLA/Mg COMPOSITES TREATED WITH LSP
Miguel Ángel Pacha Olivenza (Spain)

P74 THIN ELECTROSPUN PVDF-TRFE FIBER MEMBRANE WITH PIEZOELECTRIC EFFECT TO CONTROL DIFFUSION
Antonia Isabel Kuhn (Germany)

P75 CHARACTERIZATION OF ELECTROSPUN MEMBRANES OF PLA/CL-GA AND PCL-CO-GA
Ana Vallés-Lluch (Spain)

P76 USE OF CATIONIC LIPOSOMES EMBEDDED INTO POLYEOLECTROLYTE MULTILAYER SYSTEM FOR CONTROLLED RELEASE
Yazmin Angelina Brito Barrera (Spain)

P77 DEVELOPMENT OF ANTI-INFLAMMATORY SURFACES USING MICROTOPOGRAPHIES
Hala Al-Khoyoury (Germany)

P78 GELATIN MODIFIED POLYVINYLIDENE FLUORIDE MEMBRANES AS A DUAL SYSTEM FOR ELECTROSTIMULATION OF CELLS AND CONTROLLED DRUG DELIVERY
Rosa María Morales-Román (Spain)

P79 ION-IMPLANTED TROJAN HORSE SURFACES WITH ANTIMICROBIAL ACTIVITY AND ANTI-INFLAMMATORY POTENTIAL
Kamini Divalkaria (Australia)

Friday 15:30 - 17:00 Room P
PF03 Scaffolds & Biomaterials
Chair1: Beat H. Walpoth (Switzerland)
Chair2: Birgit Glasmacher (Germany)

P80 DEVELOPMENT OF STRUCTURAL AND CHEMICAL ENFORCEMENT OF NEOTINALGICAL GROWTH AS THE BLOOD CONTACTING SURFACE FOR THE VASCULAR PROSTHESIS
Kazumitsu Sekine (Japan)

P81 INFLUENCE OF LASER RADIATION ON CONDUCTIVITY OF A NANOCOMPOSITE BASED ON CARBON NANOTUBES AS A MATERIAL FOR CARDIAC PATCHES
Aleksandr Polokhin (Russian Federation)

P82 FORMATION TISSUE-ENGINEERED CONSTRUCTIONS USING OF NANOSECOND LASER PULSES
Mikhail Savelev (Russian Federation)

P83 INFLUENCE OF FIBRE DIAMETER AND CHEMICAL COMPOSITION ON THE BIOLOGICAL BEHAVIOUR OF ELECTROSPUN POLYESTERS (PLA, PCL AND THEIR BLEND) INTENDED AS CELL SUPPORTS
Ana Vallés-Lluch (Spain)

P84 STUDY OF CHARACTERISTICS OF CELULAR AND TISSUE ENGINEERING CONSTRUCTIONS FOR TISSUE REPAIR IN CARDIOVASCULAR SYSTEM
Ulyana Kurlova (Russian Federation)

P85 DEVELOPMENT OF A THREE-DIMENSIONAL POLY (GLYCEROL SEBACATE) SCAFFOLD FOR AN IN VITRO MODEL OF LYMPH NODE
Jose Antonio Gómez-Tejedor (Spain)

P86 BIOMECHANICAL EVALUATION OF ACELLULAR MATRICES DERIVED FROM PORCINE ESOPHAGEAL MUCOSA, PORCINE SMALL INTESTINE, AND BOVINE PERICARDIUM
José Luis Gómez Ribelles (Spain)

P87 MATERIAL SELECTION FOR THE NEW POLYURETHANE VALVES DESIGNED FOR POLISH HEART PROSTHESES
Przemyslaw Kuryla (Poland)

P88 CAN THE DIFFERENCE IN STRUCTURE OF FIBRIN GELS IMPROVE CELL ENCAPSULATION?
Anastasia Shpichka (Russian Federation)

P89 CELL-FREE MEDIATED CONTRACTION OF PLASMA- DERIVED FIBRIN AND COLLAGEN TYPE I HYDROGELS
Andrés Montero (Spain)
P90 PREPARATION OF HIGHLY POROUS MAGNESIUM-DOPED HYDROXYAPATITE FROM CUTTLEBONE AS BIOACTIVE MATERIAL
Leonard Bauer (Croatia)

Friday 15:30 - 17:00 Room P
P90 Bone & Cartilage Tissue Engineering
Chair1 María Sancho-Tello (Spain)
Chair2 Reema Anouz (Germany)

P91 IN VITRO UND IN VIVO BIOCOMPATIBILITY ANALYSIS OF A NOVEL BONE BLOCK CONSISTING OF PORCINE COLLAGEN AND A SYNTHETIC BIPHASIC BONE SUBSTITUTE AS AN ALTERNATIVE CONCEPT TO ALLOGENEIC MATERIALS
Mike Barbeck (Germany)

P92 ALGINATE-AGAROSE HYDROGELS IMPROVE CHONDROGENIC PROPERTIES OF 3D POROUS POLYCAPROLACTONE SCAFFOLDS IN VITRO
Lara Milán (Spain)

P93 MORPHOMETRIC CHANGES IN ARTICULAR CARTILAGE REGENERATION WITH MICROSPHERIC SCAFFOLDS IMPLANTATION IN RABBITS
María Sancho-Tello (Spain)

P94 MAGNETIC FIELD EXPOSURE OF PELLET-CULTURED HUMAN DENTAL PULP STEM CELLS
Rubén Salvador-Clavell (Spain)

P95 GENERATION AND CHARACTERIZATION OF HUMAN HYALINE CARTILAGE MICROSPHEROIDAL AGGREGATES FOR TISSUE ENGINEERING APPLICATIONS
Victor Carriel (Spain)

P96 PRECONDITIONING WITH MELATONIN WILL ENHANCE THE PROLIFERATION AND DIFFERENTIATION ABILITIES OF SENESCENT MESENCHYMAL STEM CELLS
Chenxia Hu (China)

P97 CYTOSKELETAL STRUCTURES AND ELASTICITY MEASURES IN HUMAN MSC CULTURED IN ADHERENCE TO PLASTIC SURFACES OR IN SPHEROID BODIES
Markus Pasztorek (Austria)

P98 ACTIN FILAMENTS AND MITOCHONDRIAL DYNAMICS IN RESPONSE TO PLATELET LYSATE CULTIVATION OF MESENCHYMAL STEM CELLS
Eva Rossmarth (Austria)

P99 MICROSTRUCTURED ELECTROACTIVE PLATFORMS FOR BONE AND MUSCLE TISSUE ENGINEERING
Clarisse Ribeiro (Portugal)

P100 PIEZO- AND MAGNETOELECTRIC BIOMATERIALS FOR TISSUE ENGINEERING APPLICATIONS
Clarisse Ribeiro (Portugal)

Friday 15:30 - 17:00 Room P
P100 Vascular Tissue & Solid Organ Engineering
Chair1 Piotr Ladyzynski (Poland)
Chair2 Pedro M. Baptista (Spain)

P101 USAGE OF TISSUE ENGINEERING FOR THE TREATMENT OF LIVER FAILURE
Murat Shagidulin (Russian Federation)

P102 APPLICATION OF TISSUE ENGINEERED DECELLULARIZED CONNECTIVE TISSUE MEMBRANE FOR ALLOGENEIC ARTERIAL PATCH IMPLANTATION
Masashi Yamanami (Japan)

P103 GENETICALLY MODIFIED HUMAN SKIN FIBROBLASTS AS A FEEDER LAYER FOR BIOARTIFICIAL LIVER DEVICES AND CYTOTOXICITY TESTS
Agnieszka Wencel (Poland)

P104 BIOSFABRICATION OF KIDNEY TUBULES USING TUBULAR ELECTROSPUN POLYCAPROLACTONE SCAFFOLDS
Katja Jansen (The Netherlands)

P105 OPTIMIZATION OF ELECTROSPINNING PROCEDURE FOR GENERATING THE SCAFFOLD FOR PRODUCTION OF ARTIFICIAL BLOOD VESSEL
Marko Zivanovic (Serbia)

Friday 15:30 - 17:00 Room P
P106 Biomaterials: Tissue Interface & Surface Modification
Chair1 Thomas Groth (Germany)
Chair2 Ana Vallés Lluch (Spain)

P107 EPIC LABEL FREE APPROACH FOR TOXICOLOGY SCREENING
Maria Serena Piccinno (Italy)

P108 ASSESSMENT OF EARLY AND STATIONARY SERUM PROTEIN ADSORPTION ON PHEMA:PCL AMPHIPATHIC SUBSTRATES
Jose Antonio Gómez Tejedor (Spain)

P109 3D CULTURE OF MULTIPLE MYELOMA CELLS ON PROTEIN FUNCTIONALIZED MICROGEL
Juan Carlos Marin Payá (Spain)

P111 Ti6Al7Nb ALLOY MODIFIED WITH ATHROMBOGENIC TiN TRYBOLOGICAL BEHAVIOR IN CONTACT WITH ZrO2-Y2O3 IN THE ASPECT OF UTILIZATION IN ROTARY BLOOD PUMP
Malgorzata Gonis (Poland)

Friday 15:30 - 17:00 Room P
P112 Biomaterials for Bone & Cartilage
Chair1 José Luis Gómez Ribelles (Spain)
Chair2 Anamarja Rogina (Croatia)

P113 INTERACTION OF OSTEOBLASTS AND PROTEIN-COATED SUBSTRATES: INTEGRIN-MEDIATED ADHESION STUDIED BY ATOMIC FORCE MICROSCOPY
Roser Sabater i Serra (Spain)

P113 PURIFICATION PROCESSES OF XENOGENEIC BONE SUBSTITUTES AND THEIR IMPACT ON ISSUE REACTIONS AND REGENERATION
Mike Barbeck (Germany)
P114 TREATMENT OF SEVERELY RESORBED MAXILLA DUE TO PERI-IMPLANTITIS BY GUIDED BONE REGENERATION USING A CUSTOMIZED ALLOGENIC BONE BLOCK: A CASE REPORT
Mike Barbeck (Germany)

P115 BIOCOMPATIBLE 3-D NANOSCAFFOLDS FOR BONE AND CARTILAGE RESTORATION
Natalia Zhurbina (Russian Federation)

P116 THE CHONDROGENIC POTENTIAL OF NANOCELLULOSE-ALGINATE IN COMBINATION WITH NASOSEPTAL CHONDROCYTES FOR TISSUE ENGINEERING PURPOSES
Ayseha Alsabah (United Kingdom)

P117 MECHANICALLY CONDITIONED BONE LIGAMENT BONE CONSTRUCTS
Kaya Keit (United Kingdom)

P118 BONE TISSUE SUBSTITUTES WITH TAILOR-MADE OSTEOINDUCING PROPERTIES AND MULTI-LAYERED CELLULAR INTERFACE
Ekaterina Grebenik (Russian Federation)

Friday 17:00 - 18:30 Room A
FF4 Symposium on acute kidney injury: Technological and basic science clues in the critically patients with AKI
Chair1 Alberto Tejedor (Spain)
Chair2 Fernando Liaño (Spain)

O190(IL) IMPLEMENTING BEST CLINICAL PRACTICES WITH MULTIORGAN SUPPORT
Joan Sabater-Riera (Spain)

O191(IL) INITIATION AND TERMINATION OF RENAL REPLACEMENT THERAPY IN THE CRITICALLY ILL PATIENT WITH AKI
Esteban Poch (Spain)

O192(IL) NEW TARGET IN AKI: CHOLESTEROL RAFTS BLOCKADE
Alberto Tejedor (Spain)

O193(IL) TARGETING NECRO-INFLAMMATION IN AKI
Alberto Ortiz & Ana B. Sanz (Spain)

Friday 17:00 - 18:30 Room B
FB4 Symposium: Fibronectin, cell adhesion and tissue compatibility of biomaterials-Simposium honouring George Altankov
Chair1 Thomas Groth (Germany)
Chair2 Gloria Gallego-Ferrer (Spain)

O112(KL) ENGINEERING THE CELLULAR MICROENVIRONMENT WITH BIOMATERIALS, GROWTH FACTORS AND BEYOND
Manuel Salmerón Sánchez (United Kingdom)
O110(IL) CELL ADHESION AND THE BIOCOMPATIBILITY OF MATERIALS
Thomas Groth (Germany)
O109(IL) FIBRONECTIN CONFORMATION AND CELL CULTURE ON PIEZOELECTRIC SUPPORTS
José Luis Gómez Ribelles (Spain)

Friday 17:00 - 18:30 Room C
FC4 Symposium: A Life for Science - In honor of Joerg Vienken’s 70th birthday
Chair1 Horst Kleinmann (Germany)
Chair2 Cécile Legallais (France)

O113(IL) ENGINEERING SUBSTRATES TO ENHANCE CELL-MATERIAL INTERACTIONS
Marta Pagueiroles (Spain)
O111(IL) INSIGHTS FROM CELL-BIOMATERIAL INTERACTION TO ADVANCED TISSUE ENGINEERING
George Altankov (Bulgaria)

Friday 17:00 - 18:30 Room D
FD4 VADs: Clinical II
Chair1 Ramón Pérez-Caballero (Spain)
Chair2 Gregorio Cuerpo (Spain)

O145 MCS/VAD TECHNOLOGY: ACUTE AND INTENSIVE CARE NURSE’S ATTITUDES AND KNOWLEDGE
Pamela Combs (USA)
O146 DESENSITIZATION PRIOR TO HEART TRANSPLANTATION IN PATIENTS ON VENTRICULAR ASSIST DEVICES
Usua Marghezi (Spain)
O147 AORTIC VALVE REPLACEMENT TECHNIQUES DURING SIMULTANEOUS LEFT VENTRICULAR ASSIST DEVICE IMPLANTATION: CONSIDERATION OF A NEW OPTION
Sarah Schroeder (USA)
O148 OUTFLOW GRAFT OBSTRUCTION IN CENTRIFUGAL CONTINUOUS FLOW VADS (CCFVAD) – DETECTION, TREATMENT AND POSSIBLE CAUSES
Friedrich Kallmann (Germany)
O149 WEANING IN CHILDREN WITH LEFT VENTRICULAR ASSIST DEVICE SUPPORT: A SINGLE CENTER EXPERIENCE
Roberta Jacobelli (Italy)
O150 INTRAOPERATIVE AUTOLOGOUS BLOOD PREDONATION BEFORE CPB FOR PREVENTION OF BLEEDING INDUCED BY CPB BLOOD INJURY IN CASES WITH PREOPERATIVE ANEMIA
Koichi Sato (Japan)
**Detailed Program**

**Saturday 15th**

**Saturday 8:30 - 10:00 Room A**
SA1 Working Group Heart: Debate session – VADs, the holy grail for heart failure treatment?
Chair 1: Simon Sonntag (Germany)
Chair 2: Tom Verbelen (Belgium)

O151(IL) SHOULD / WILL MECHANICAL SUPPORT RENDER HEART TRANSPLANT A TREATMENT OF THE PAST? CON
Gregorio Cuerpo (Spain)

O152(IL) SHOULD / WILL MECHANICAL SUPPORT RENDER HEART TRANSPLANT A TREATMENT OF THE PAST? PRO
Graham Foster (United Kingdom)

O153(IL) IMPROVING CLINICAL OUTCOMES FOR HEART FAILURE PATIENTS
Thomas Schlöghofer & Marcus Granegger (Austria)

**Saturday 8:30 - 10:00 Room B**
SB1 Bone Regeneration
Chair 1: José Luis Gómez Ribelles (Spain)
Chair 2: Viktoria Weber (Austria)

O160 INJECTABLE CHITOSAN-HYDROXYAPATITE HYDROGELS PROMOTE THE OSTEOGENIC DIFFERENTIATION OF MESENCHYMAL STEM CELLS
Antonia Ressler (Croatia)

O161 SCAFFOLDS FOR BONE REGENERATION
Daniel Arcos (Spain)

O162 AN INNOVATIVE BIOGLASS COMPOSITION-BM-MSCS INDUCTION TOWARD THE OSTEOGENIC LINEAGE
Stefania Valentina (Italy)

O163 LASER WELDING INVESTIGATION OF SUBCHONDRAL BONE AND HYALINE CARTILAGE WITH NANOCOMPOSITE SOLDE
Dmitrii Ryabkin (Russian Federation)

O164 DIELECTRIC PROPERTIES OF POLYCAPROLACTONE-HYDROXYAPATITE/BARIUM TITANATE NANOCOMPOSITE MEMBRANES
Georgios C. Paiparas (Greece)

O165 ANTI-BACTERIAL CAPABILITY OF 3D MESO-MACROPOROUS SCAFFOLDS ENRICHED WITH ZINC AND OSTEOSTATIN
Antonio J. Salinas (Spain)

**Saturday 8:30 - 10:00 Room C**
SC1 Working Group Bioartificial Organs
Chair 1: Dimitrios Stamatialis (The Netherlands)
Chair 2: Gerardo Catapano (Italy)

O173(KL) ON BIOREACTOR DESIGN FOR SUBSTITUTE AND REGENERATIVE MEDICINE
Gerardo Catapano (Italy)

O175(KL) ADVANCED NANOFIBROS SCAFFOLDS COMBINED WITH STEM CELLS FOR THE DEVELOPMENT OF EFFECTIVE DEVICES AND THERAPIES
Nuno Neves (Portugal)

O174(IL) BIOMIMETIC SURFACES WITH GLYCOSAMINOGLYCANS – FROM CONTROL OF CELL DIFFERENTIATION TO ANTI-INFLAMMATORY ACTIVITY
Thomas Groth (Germany)

O172(IL) MULTILAYERED FIBER MATS WITH ANISOTROPIC PROPERTIES FOR LOAD-BEARING TISSUES AND ORGAN REGENERATION
Michael Bode (Germany)

**Saturday 8:30 - 10:00 Room D**
SD1 Miscellaneous
Chair 1: Andrea Rivera (Spain)
Chair 2: Ignacio Fernández (Spain)

O179 HAND FLEXIONS IN THE PROTOTYPE OF A PROSTHETIC SUPPORT DEVICE FOR PEOPLE WITH AGENESIS OF THE UPPER LIMP
Osiris Canciglieri Junior (Brazil)

O180 MEMBRANE BASED MACROENCAPSULATION DEVICE FOR IMPROVED PANCREATIC ISLETS SURVIVAL AND FUNCTION
Katarzyna Skrypka (The Netherlands)

O181 VARIATIONS OF CIRCULATING MIRNA IN PEDIATRIC PATIENTS WITH HEART FAILURE SUPPORTED WITH VENTRICULAR ASSIST DEVICE
Rosetta Raguza (Italy)

O182 VISUALIZATION OF HEMODYNAMICS: SYNTHESIS OF ARTIFICIAL ERYTHROCYTES WITH ENCAPSULATED PIV-PARTICLES VIA MICROFLUIDIC SYSTEMS AND ELECTRO-SPRAYING
Birgit Glasmacher (Germany)

O183 ASSOCIATION STUDY OF MITOCHONDRIAL GENOME BY AMPLICON SEQUENCING IN SEPSIS
Xiabing Lang (China)

O184 CHARACTERIZATION OF POLY-SODIUMACRYLATE-CO-ACRYLAMIDE HYDROGELS FOR PIV BASED IN VITRO FLOW ANALYSIS
Tobias Rusiecki (Germany)

**Saturday 10:00 - 11:00 Room A**
Plenary Session
Chair: Juan F. del Cañizo (Spain)
Speaker: José Luis Joncano (Spain)
“Development, clinical use and 3D bioprinting of bioengineered skin”
Saturday 11:15 - 12:45 Room A
SA2 Numerical Simulation: VADs & Hearts - Special Problems
Chair1: Katarine Fraser (United Kingdom)
Chair2: Ulrich Kertzsch (Germany)

O154 CAN WE USE THE NEW INFANT JARVIK 2015 IN PATIENTS LESS THAN 8KG? A SIMULATION STUDY
Arianna Di Molfetta (Italy)

O155 THE RESPONSE OF DIFFERENT VAD PRESSURE SENSITIVITY TO EXERCISE PHYSIOLOGY: EVALUATION WITH A COMPUTATIONAL MODEL
Libera Fresiello & Roland Graefe (Belgium)

O156 CONGENITAL ANATOMICAL ANOMALIES AND THEIR INFLUENCE ON THE BLOOD FLOW HYDRODYNAMICS – COMPUTATIONAL FLUID DYNAMICS (CFD) INVESTIGATIONS
Zbigniew Tyfa (Poland)

O157 NON-INVASIVE CARDIAC STRESS TESTS: A 0D MODELLING APPROACH
Kay Brosian (Germany)

O158 INFLUENCE OF THE REMAINING HEART ACTIVITY ON THE FLOW WITHIN A VENTRICULAR ASSIST DEVICE: A COMPUTATIONAL STUDY
Lucas Konnik (Germany)

O159 PULSATILE FLOW IN VADS: CFD ANALYSIS OF VELOCITY FIELDS AROUND THE PRESSURE-FLOW LOOP
Katharine Fraser (United Kingdom)

Saturday 11:15 - 12:45 Room B
SB2 Bone and Cartilage Tissue Engineering
Chair1: Gloria Gallego-Ferrer (Spain)
Chair2: Brigit Glasmacher (Germany)

O166 EFFECT OF CAPACITIVELY COUPLED ELECTRICAL STIMULATION OVER GROWTH PLATES OF RAT CHONDROEPIPHYSIS EXPLANTS
Juan Vaca-González (Spain)

O167 NOVEL SURFACE COATINGS AS BIOCOMPATIBLE RESERVOIRS FOR BMP-2 FOR BONE REGENERATION
Reema Anouz (Germany)

O168 BORON INDUCES FATE DECISION OF mMSCS VERSUS OSTEOGENIC LINEAGE
Patricia Rico (Spain)

O169 PARALLEL BINDING OF AUTOLOGOUS BMP-2 AND VEGF ENVISIONING A VASCULARIZED BONE TISSUE ENGINEERING APPROACH
Marta R. Casanova (Portugal)

O170 BIODEGRADABLE MEDICAL DEVICES
Gloria Pinilla (Spain)

O171 MECHANICAL STIMULATION MONITORING TOWARDS OPTIMAL TENDON TISSUE RECONSTRUCTION
Alejandro García García (France)

Saturday 11:15 - 12:45 Room C
SC2 Working Group Uremic Toxins: The challenge of protein-bound toxins
Chair1: Roos Masereeuw (The Netherlands)
Chair2: Joachim Jankowski (Germany)

O178 (IL) PROTEIN-BOUND UREMIC TOXINS ORIGINATING FROM GUT MICROBIAL METABOLISM
Pieter Evenepoel (Belgium)

O177 (IL) TRANSPORTERS AS DETERMINANTS IN UREMIC TOXIN DISPOSITION
Roos Masereeuw (The Netherlands)

(II) DOES UREMIA CAUSE VASCULAR DYSFUNCTION?
Philippe Brunet (France)

O176 (IL) NEW CONCEPTS FOR REMOVAL OF PROTEIN BOUND UREMIC TOXINS
Dimitrios Stamatakis (The Netherlands)

Saturday 11:15 - 12:45 Room D
SD2 VADs: New Devices
Chair1: Ashraf W. Khir (United Kingdom)
Chair2: Nobuo Watanabe (Japan)

O185 DEVELOPMENT OF AN ULTRA COMPACT DURABLE ECMO SYSTEM WITH BUILT-IN MONITORS AND CONTINUOUS USE EVALUATION IN CHRONIC ANIMAL EXPERIMENTS UP TO 4 WEEKS
Nobumasa Katagiri (Japan)

O186 A MECHANICAL CIRCULATORY SUPPORT SYSTEM AS DESTINATION THERAPY FOR FONTAN PATIENTS
Marcus Granegger (Switzerland)

O187 A VALVELESS PULSATILE PUMP FOR THE TREATMENT OF HEART FAILURE WITH PRESERVED EJECTION FRACTION
Marcus Granegger (Switzerland)

O188 PULSATILE BEHAVIOR AND EFFICIENCY OF AN UNDULATING MEMBRANE BASED LVAD
Brian Burg & Par Paola Mornicone (France)

O189 DEVELOPMENT OF A NOVEL ENDOTHELIALIZED PULSATILE VENTRICULAR ASSIST DEVICE
Vita Marina (Switzerland)

CLOSING CEREMONY
Presentation of ESAO Posters Awards
HeartWare™ HVAD™ Pump
The only VAD approved for thoracotomy worldwide. Its unique design, small size advantage, and optimized surgical tools enable clinicians to best match the patient with the procedure.

Stop by our booth to learn more.

Autologs™ 1.1
On-demand data with every patient visit.
Autologs provides transparent data—an integral part of the HeartWare™ HVAD™ System.

Impressum

Responsible for the Content
Prof. Juan F. del Cañizo
Hospital General Universitario Gregorio Marañón

Organizing Institutions
Hospital General Universitario Gregorio Marañón
Universidad Complutense

Congress Agency
Mci Spain Event Services
C/ Santa Engracia 151, 1ª-1ª, 28003 Madrid
+34 911 420 580

Disclaimer
All the best endeavors will be made by Organizers to implement the program of the ESAO 2018 Congress as it is announced here. However, no warranty is given whatsoever that the presented program will be in full agreement with the printed one. The Organizers reserve the right to alter or cancel, without prior notice, any of the arrangements, timetables, plans or other items relating directly or indirectly to the Congress, for any reasons beyond their reasonable control.
EXCOR® Pedriatría

- Amplio rango de ventrículos
- Control perfecto hemodinámico en pediatría a espera de trasplante

Real Time Monitoring for Early Intervention in CPB
CDI® Blood Parameter Monitoring System 500 and SenSmart™ Model X-100 Universal Oximetry System

Visit our Terumo booth and learn more about the synergies of CDI 500 and SenSmart technology

Recommended by Clinical Practice Guidelines

Terumo Europe N.V. is the exclusive distributor of EonSmart™ and EQIAV® in the UK, Ireland, Germany, France, Netherlands, Belgium, Denmark, Czech Republic, Russia, Sweden, Spain, Portugal, Norway & Switzerland. Manufactured in Plymouth, MN, USA by Narian Medical, Inc. SenSmart™ is a trademark of Narian Medical, Inc.

©2019 Terumo Europe N.V.

Contact your local sales representative or call us for further information: Tel: +49(0)6196 80 23 500

www.terumo-europe.com