

## Posters

*The poster hall will be open at 9 am on Monday 10/30 for presenters to hang their poster and will need to be removed on Wednesday 11/01 no later than 6 pm. Poster presentation space will measure 48 inches in height by 46 inches in width. You will have the opportunity to present your poster any time there is a break in the program – please see the program for those times.*

### **A-001. Bivalirudin Vs Heparin in Extracorporeal Life Support – Systematic Review**

Jun Teruya, Vadim Kostousov, Amir Navaei.

*Texas Children’s Hospital, Baylor College of Medicine, Houston, Texas, United States*

### **A-002 Quality Of Life For Patients Using Ventricular Assist Devices: A Multimodality Study**

Ibrahim Ayoub, Bouchra kil.

*None*

### **A-005 The Clinical Outcomes Of Mechanical Circulatory Support By Venoaerterial-Arterial Extracorporeal Membrane Oxygenation Versus ECPELLA In Patient With Severe Heart Failure.**

Takeshi Goto (1), Junko Ogasawara (1), Naotaka Kato (1), Keigo Yamamoto (1), Yukiya Konno (1), Eiji Hashiba (2), Masahito Minakawa (1,3).

*Department of Clinical Engineering, Hirosaki University Hospital, Hirosaki, Aomori, Japan (1), Division of Intensive Care, Hirosaki University School of Medicine and Hospital, Hirosaki, Aomori, Japan (2), Department of Thoracic and Cardiovascular Surgery, Hirosaki University School of Medicine, Hirosaki, Aomori, Japan (3)*

### **A-008 Should Intra-Aortic Balloon Pump Counter-Pulsation Be Considered As A First-Line Temporary Mechanical Circulatory Support Treatment In Patients With Cardiogenic Shock?**

Joel Shoemaker, Ioana Dumitru.

*Tampa General Hospital*



### **A-009 Blood Pumps With Blade Design Obtained By Intuitive Versus Topology Optimization Method**

Simão Bacht (1), Luis F. Nogueira de Sá (2), Marcelo Mazzetto (1), Eraldo Sales (1), Oswaldo Horikawa (2) Emilio C. Nelli (2), José R. Cardoso (2), Idágene A Cestari (1)  
*1 Bioengineering Laboratory, Instituto do Coração do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (InCor-HC-FMUSP), São Paulo, SP, Brazil. 2 Department of Mechatronics and Mechanical Systems Engineering, Polytechnic School of the University of São Paulo, SP, Brazil*

### **A-013 Contribution Of Donor White Blood Cells To Lactate Levels During Ex Vivo Lung Perfusion**

Chan H.H.C. (1), Luo N. (1), Fullen C. (1), Jimenez S. (1), Peak P. (1), Tedesco V. (1), Kode S. (1), Kiang S. (1), Elsenousi A. (2), Matter A. (2), Fernandez R. (2), Kurita N. (2), Loor G. (2), Wang Y. (1)  
*(1) Innovative Device & Engineering Applications Lab, Texas Heart institute, Houston, TX, USA; (2) Baylor College of Medicine, Houston, TX, USA*

### **A-014 CFD Analysis And Validation Of An Intra-Aortic Axial Pump**

Oran, E. (1), Henry, M. (1, 2), Abo-Serie, E. (3), Jewkes, J. (3), Oran, B. (4)  
*(1) Coventry University Aerospace, Automotive and Mechanical Engineering Faculty, UK. (2) Oxford University Department of Engineering Science, UK. (3) Leicester University, School of Engineering, UK. (4) Medicana International Hospital, Izmir, Turkiye*

### **A-015 Pediatric Rotary Blood Pump For Short-Term Support–Hydrodynamic Performance Comparison Of Topology Optimization And Intuitive Design**

Marcelo Mazzetto (1), Luis F. Nogueira de Sá (2), Simão Bacht (1), Eraldo de Sales (1), Oswaldo Horikawa (2), Emilio C. Nelli (2), José R. Cardoso (2), Idágene A Cestari (1)  
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**A-016 Lupus Anticoagulant Creates Significant Challenges when Monitoring Bivalirudin Therapy for ECMO Anticoagulation with Partial Thromboplastin Time with Hepzyme and Rotational Thromboelastometry Clotting Times versus Diluted Thrombin Time**

Teruya, J. (1, 2, 3, 4), Kostousov, V. (1, 2), Bruzdoski, K. (1), Navaei, A. (1, 2, 3), Hensch, L. (1, 2, 5)

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**B-001 Architecting a Novel Hemolysis Assessment Platform: Design and Dynamic Evaluation of a Magnetically Levitated Motor**

Nobuyuki Kurita (1, 2, 3), Victor Tedesco (4), Yaxin Wang (4), Iki Adachi (1, 2), O. H. Frazier (1, 4)

(1) Baylor College of Medicine, (2) Texas Children's Hospital, (3) Gunma University, (4) Texas Heart Institute

**B-006 Particle migration in narrow gaps with flow conditions like those in gaps of ventricular assist devices**

Finn Knueppel (1), Sun, A. (2), Hussong, J. (2), Hahne, M (1), Crone, V. (1), Wurm, F.-H. (1), Torner, B. (1)

(1) Institute of Turbomachinery, University of Rostock, Germany; (2) Institute for Fluid Mechanics and Aerodynamics, Technical University of Darmstadt, Germany

**B-010 Influence of Secondary Flow Structures on Blood Damage in Rotary Blood Pumps **\*\*WITHDRAWN\*\*****

Frank-Hendrik Wurm (1), Crone, V. (1), Wisniewski, A. (2), Knüppel, F. (1), Hahne, M. (1), Torner, B. (1)

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### **B-013 Impact of resistance clamps on the in-vitro hemolysis assessment of blood pumps**

Krishnaraj Narayanaswamy (1), He, X. (1), Escher, A. (1), Schmitt, L. (1), Bender, M. (1), Kertzsch, U. (2), Röhrich, M. (3), Stoiber, M. (4), Zimpfer, D. (1, 5), Granegger, M. (1, 2)  
*(1) Department of Cardiac Surgery, Medical University of Vienna, Vienna, Austria, (2) Deutsches Herzzentrum der Charité (DHZC), Institute of Computer-assisted Cardiovascular Medicine, Biofluid Mechanics Laboratory Berlin, the Berlin Institute of Health at Charité - Universitätsmedizin Berlin, BIH Innovation - Team SPARK, Berlin, Germany, (3) Division of Special Anesthesia and Pain Medicine, Department of Anesthesia, Intensive Care Medicine, and Pain Medicine, Medical University of Vienna, Vienna, Austria, (4) Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria, (5) Department of Cardiac Surgery, Medical University of Graz, Graz, Austria*

### **B-015 Erythrocyte Microparticle Production at a Flow Contraction**

Kylie Foster (1), Ahmed M. El Banayosy (2), Zheilla Azartash-Namin (3), Phillip Coghill (3), James W. Long (2, 3), Edgar O'Rear (1), Hendra Setiadi (2)  
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### **B-016 Elastance-Controlled Left Ventricle Simulator for Interventional Device and Pump Validation**

Preston Peak (1), Kode, S. (1), Nguyen, D. (1, 2), Tan, C. (1, 3), Wang, Y. (1)  
*(1) Innovative Device and Engineering Applications Laboratory at Texas Heart Institute, Houston, TX 77030, USA. (2) University of Houston, Houston, TX 77030, USA. (3) Texas A&M University, College Station, TX 77843, USA.*

### **C-001 An estimation method for the flow rate and afterload of an implantable rotary blood pump utilizing the balance of control currents in the magnetic bearing system**

Shuya Shida (1), Masuzawa, T. (2), Osa, M. (2), Suzuki, Y. (1)  
*(1) Faculty of Science and Engineering, Toyo University, Saitama, Japan, (2) Graduate School of Science and Engineering, Ibaraki University, Ibaraki, Japan*

**C-003 Team Bath Heart: increasing engineering talent in the field of medical devices**

Katharine Fraser (1, 3), Pigeon, M. (2, 3)

(1) Department of Mechanical Engineering, University of Bath, (2) Department of Electrical and Electronic Engineering, University of Bath, (3) Centre for Bioengineering and Biomedical Technologies, University of Bath

**C-004 Continuous hemodynamic monitoring system design for the VIGOR circulatory assist system**

Pong-Jeu Lu (1), Lin, B (1), Chan, MY (1,2), Shen, TT (1, 2), Yen, CW (2), Chang, JC (3, 4), Tsui, S (5)

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**C-005 22-Year Results of Implantable Miniaturized Left Ventricular Assist devices for the treatment of advanced heart failure from Türkiye**

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**C-006 Left Ventricular Assist Device (LVAD) Heartmate 3 Implantation in a Patient with Duchenne Muscular Dystrophy: The first case from Türkiye**

Deniz Suha Kucukaksu (1), Bakuy, V. (1), Mucuoglu, AC. (2), Kizilay, D (2), Yenidunya, O. (2), Kucukosmanoglu, O. (3).

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**C-007 Two years with a Biventricular Continuous flow Ventricular Assist Device : A case report from Türkiye.**

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**C-010 Left ventricular assist device implantation and right heart failure: insights into the significance of left ventricular size **\*\*WITHDRAWN\*\*****

Kohei Tonai (1), Tadokoro, N. (1), Suzuki, K. (1), Kawamoto, N. (1), Kainuma, S. (1), Fukushima, S. (1)

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**C-011 Heartbeat Synchronization Control in a MagLev Blood Pump by Self-sensing Technologies for Flow Rate and Blood Viscosity**

Daiki Toda (1), Tanaka, Y. (1), Fujiwara, T. (2), Sakurai, H. (2), Ohuchi, K. (3), Hijikata, W. (1)  
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**C-012 Bioprosthetic valve dysfunction (de novo aortic insufficiency) due to Impella 5.5 treatment requiring complete bioprosthetic valve closure during HeartMate 3 implantation**

Tomoki Ushijima, Sonoda H, Matsunaga S, Kimura S, Shiose A  
*Department of Cardiovascular Surgery, Kyushu University Hospital*

**C-014 Bridge to Candidacy Left Ventricular Assist Devices for Patients with End-stage Heart Failure and Active Substance Use**

Desiree Robson (1), Anderson, N. (1), Correas, M. (1), Iyer, A. (1), Watson, A. (1), Tremonti, C. (1), Jansz, P. (1), Hayward, C. (1, 2, 3), Muthiah, K. (1, 2, 3).  
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**C-015 "Great Potential, With No Place to Go." A Case Study in Discharging a Homeless VAD Patient**

Chrystine L. Black, Cuyler, Caroline, Losapio, Jenna  
*UR Medicine - Strong Memorial Hospital, University of Rochester Medical Center*

**C-016 NeoVAD Design Optimization for Accommodating Pediatric Patient Growth**

Shweta Karnik (1), Smith, P. (1), Nissim, L. (2), Frazier, O. H. (1), Fraser, K. (2), Wang, Y. (1)  
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**D-006 A short-term in vivo evaluation of the İstanbul Heart Left Ventricular Assist Devices (iHeart 1 & iHeart 2) in the animal studies**

Deniz Suha Kucukaksu (1), Lazoglu, I.(2), Bakuy, V (1), Rahman, HU.(2), Abdulhamid, F.(2), Mehmood, K.(2), Ozturk, C.(2), Aka, IB.(2), Arat, N.(3), Ugurel, E.(4), Yalcin, O. (4), Ruacan, S.(5).

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**D-010 Iterative Development of a Prototype Flexible Artificial Ventricle for use in a Total Artificial Heart Concept**

Marcell Kuba (1, 2), Myers, A\* (1, 2), Fraser, K. (1, 2)

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**D-014 Innovative Mechanical Circulatory Support Solutions for Minimally Invasive implantation**

Alexandru Plesoianu(1) Alberto Bacusca (2), Tinica G. (1, 2)

*(1) "Grigore T. Popa" University of Medicine and Pharmacy from Iasi, (2) "I. G. Georgescu" Institute for cardiovascular diseases from Iasi*

**D-015 Bearingless Continuous Flow Rotary Total Artificial Heart**

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