

Emerging Technologies for Failing Hearts

19. February 2024, 14:15 – 17:45 at Felix-Frey-Auditorium, Sitem-Insel, Freiburgstrasse 3, 3010 Bern



UNIVERSITY OF BERN

ARTORG CENTER
BIOMEDICAL ENGINEERING RESEARCH

Surgical treatment of heart failure has driven technological innovation for many decades. There is a well-established range of ventricular assist devices and pumps for acute and chronic settings, and heart transplantation profits from sophisticated supporting technology. Nevertheless, there still exist unmet clinical needs with respect to biocompatibility, usability and durability.

In this symposium, invited experts present emerging technology for failing hearts featuring novel actuation concepts, materials, heart graft support systems and the total implantable artificial heart CARMAT.

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| 14:15 | <i>Dominik Obrist</i> Opening and Welcome Address |
| 14:30 | <i>Matthias Siepe</i> New surgical options to treat end-stage heart failure |
| 15:00 | <i>Yves Perriard</i> Soft robotics cardiovascular implant |
| 15:30 | Coffee break |
| 16:00 | <i>Patrick Jenny</i> Investigations of an External Ventricular Assist Device Concept |
| 16:30 | <i>Francesco Arecchi:</i> Aeson® - CARMAT Physiologic Heart Replacement Therapy |
| 17:10 | Closing and Apéro |

Speakers



Francesco Arecchi *CARMAT, Paris*

Prior to joining Carmat in 2007, Francesco Arecchi spent most of his career in Life Sciences companies such as Johnson & Johnson and Abbott, where he held a number of positions from sales to marketing for breakthrough technology products such as Cypher and MitraClip. Francesco Arecchi is a biomedical engineer (Politecnico di Milano) with an MBA from Rotterdam School of Management.



Matthias Siepe *Cardiac Surgery, Inselspital Bern*

Matthias Siepe has been trained for cardiovascular and congenital cardiac surgery in Freiburg, Germany. Since 2022, he is Chairman of the Cardiac Surgery Department in the Inselspital. His main areas of interest are end-stage heart failure, aortic surgery and congenital cardiac surgery.



Yves Perriard *Center for Artificial Muscles, EPF Lausanne*

Yves Perriard obtained his Master from EPFL in 1989 and his PhD in 1992. In 1999, he joined EPFL as Senior Lecturer and in 2003 he was appointed Titular Professor and leader of the Integrated Actuators Laboratory. In 2018 he opens the Center for Artificial Muscles.



Patrick Jenny *Institute of Fluid Dynamics, ETH Zurich*

Since 2012 Patrick Jenny is full professor at the Department of Mechanical and Process Engineering of ETH Zürich. His group's research areas include theory and modeling of turbulent flows, rarefied gas dynamics, transport and mechanics in fractured porous media, and various biomedical topics.



Dominik Obrist *ARTORG Center, University of Bern*

Dominik Obrist is Professor for Cardiovascular Engineering at the ARTORG Center of the University of Bern. He studied Mechanical Engineering at ETHZ and obtained a PhD in Applied Mathematics from the University of Washington. His main research interests include artificial heart valves, blood flow in large vessels, and microvascular diseases.

Attendance is free!

Please use the QR-code to register

