All lectures last 15 minutes + 5 minutes dedicated to Q&A
Speakers labelled by an (*) will be connected remotely

**Tuesday, August 29th, 2023**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:15</td>
<td>Venue opening</td>
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<tr>
<td>08:50</td>
<td>Welcome speech and presentation of the meeting</td>
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<td>Antoine Herpain (Brussels, Belgium)</td>
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</tbody>
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**Session 1: Acute myocardial injuries and coronary circulation disorders**

*Chairpersons:* Hanne Berg Ravn (Odense, Denmark) and Daphne Merkus (Rotterdam, Netherlands)

09:00 | **Ischemia/reperfusion injuries after acute myocardial infarction: full pressure revascularization vs. persistent coronary artery stenosis**
       | Piet Claus (Leuven, Belgium)                          |
09:20 | **Coronary microvascular dysfunction after acute myocardial infarction**
       | Dirk Duncker (Rotterdam, Netherlands)                 |
09:40 | **Alterations of coronary blood flow autoregulation in sepsis**
       | Céline Boudart (Brussels, Belgium)                    |
10:00 | **Systemic inflammatory reaction triggered by acute myocardial infarction**
       | Jerome Lugrin* (Lausanne, Switzerland)                |
10:20 | *Break*                                              |
## Session 2: Right ventricular failure

**Chairpersons:** Dirk Duncker (Rotterdam, Netherlands) and Dirk Donker (Utrecht, Netherlands)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>10:45</td>
<td>Importance of keeping a closed chest animal model</td>
<td>Mads Lyhne (Aarhus, Denmark)</td>
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<tr>
<td>11:05</td>
<td>Right ventricle pressure-volume loops and remodeling in pressure vs. volume overload: short vs. long term consequences</td>
<td>Rahi Symakani (Rotterdam, Netherlands) &amp; Daphne Merkus (Rotterdam, Netherlands)</td>
</tr>
<tr>
<td>11:30</td>
<td>Right ventricle reversed remodeling with low-flow mechanical support</td>
<td>Piet Claus (Leuven, Belgium)</td>
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## Session 3: Novelties in percutaneous ventricular assist devices

**Chairpersons:** Alexandre Ouattara (Bordeaux, France) & Mikulas Mlcek (Prague, Czech Republic)

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>11:55</td>
<td>Managing bleeding and hemolysis during percutaneous ventricular assist device support</td>
<td>Christophe Vandenbriele, (Leuven, Belgium)</td>
</tr>
<tr>
<td>12:15</td>
<td>Abiomed: new developments in the Impella® devices</td>
<td>Christoph Nix (Aachen, Germany)</td>
</tr>
<tr>
<td>12:35</td>
<td>Lunch</td>
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</tbody>
</table>
Session 4: Left ventricular unloading in cardiogenic shock
Chairpersons: Petr Ostadal (Prague, Czech Republic) and Guillaume Lebreton (Paris, France)

13:30 | Mechanosensation in chronic vs. acute heart failure
Sophie van Linthout (Berlin, Germany)

13:50 | Reduction in myocardial oxygen consumption with different support combinations: in silico evidence
Daniel Burkhoff* (New York, USA)

14:10 | Reduction in myocardial oxygen consumption with different support combinations: in vivo evidence
Konstantin Yastrebov (Sydney, Australia)

14:30 | VA-ECMO with or without intra-aortic balloon pump
Alexandre Ouattara (Bordeaux, France)

14:50 | Impella-CP®
Alexander Moiroux (Brussels, Belgium)

15:10 | PulseCath®
Clement Delmas* (Toulouse, France)

15:30 | Atrial septostomy
Mikulas Mlcek (Prague, Czech Republic)

15:50 | Break

Session 5: Extending the scope of cardiogenic shock models
Chairpersons: Antoine Herpain (Brussels, Belgium) and Konstantin Yastrebov (Sydney, Australia)

16:15 | Ex vivo kidney perfusion to investigate renoprotection during mechanical circulatory support
Sebastien Rasmussen (Odense, Denmark)

16:35 | Alcohol instead of microsphere myocardial embolization
Alexandre Ouattara (Bordeaux, France)

16:55 | Association between speckle tracking echocardiography and pressure-volume loops during cardiogenic shock development
Peter Frederiksen (Odense, Denmark)

17:15 | Cardiogenic shock with global myocardial hypoxia and mechanical complications of acute myocardial infarction
Petr Ostadal (Prague, Czech Republic)

With the support of:
4 Teen 4, Abiomed,
Therabel & Transonics
Consensus roundtable
Chairpersons: Alexandre Mebazaa (Paris, France) and Bart Meyns (Leuven, Belgium)

17:40 | **Unmet needs in cardiogenic shock clinical practice and issues still to be addressed by pre-clinical research?**
Alexandre Ouattara (Bordeaux, France), Jan Belohlavek* (Prague, Czech Republic),
Daniel Burkhoff* (New York, USA), Dirk Donker (Utrecht, Netherlands), Navin
Kapur* (Boston, USA), Guillaume Lebreton (Paris, France), Jacob Moller*
(Odense, Denmark), Holger Thiele* (Leipzig, Germany) (*non-exhaustive list)

18:30 | **End of the day**
Wednesday, August 30th, 2023

Session 1: Cardiac arrest and brain injury
Chairpersons: Asger Granfeldt (Aarhus, Denmark) and Fabio S Taccone (Brussels, Belgium)

08:30 Hypertonic sodium lactate reduces brain injury after cardiac arrest
Filippo Annoni (Brussels, Belgium)

08:50 Microcirculatory blood flow during cardiac arrest and cardiopulmonary resuscitation
Jan Belohlavek* (Prague, Czech Republic)

09:10 Brain targeted therapy during extracorporeal life support
Anthony Moreau (Brussels, Belgium)

09:30 Intensive care unit animal models of acute brain injury
Thomas Kapapa (Ulm, Germany)

Session 2: Renin-angiotensin-aldosterone system disturbances in circulatory failure
Chairpersons: Raphaël Favory (Lille, France) and Filippo Annoni (Brussels, Belgium)

09:55 Renin-angiotensin-aldosterone system and angiotensin-II deficit in septic shock
Adrien Picod (Paris, France)

10:15 Angiotensin 1-7 administration in septic shock
Bruno Garcia* (San Francisco, USA)

10:35 Procizumab restores vascular tone in septic shock and reduces myocardial injury
Bruno Garcia* (San Francisco, USA) & Antoine Herpain (Brussels, Belgium)

10:55 Break
### Session 3: Pulse wave analysis and hemodynamic monitoring
**Chairpersons:** Manuela Ferrario (Milan, Italy) and Mikulas Mlcek (Prague, Czech Republic)

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<tr>
<td>11:20</td>
<td>Can it predict sepsis onset and future response to vasopressor therapy</td>
<td>Finneas Catling (London, UK)</td>
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<tr>
<td>11:40</td>
<td>Pressure-volume vs. pressure-strain loops: regional myocardial work and pre-stretch-strain relationship</td>
<td>Piet Claus (Leuven, Belgium)</td>
</tr>
<tr>
<td>12:00</td>
<td>Current and new methods to compute the reflection wave magnitude from arterial pressure signal only</td>
<td>Marta Carrara (Milan, Italy)</td>
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<tr>
<td>12:20</td>
<td>Dynamic arterial elastance to guide fluid resuscitation</td>
<td>Manuel M Garcia* (Jerez de la Frontera, Spain)</td>
</tr>
<tr>
<td>12:40</td>
<td>Mechanisms and investigation of diastolic dysfunction in sepsis</td>
<td>Francisco Vasques-Novoa (Porto, Portugal)</td>
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<tr>
<td>13:00</td>
<td>Lunch</td>
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### Session 4: New investigation techniques and paradigms in circulatory failure
**Chairpersons:** Sebastien Preau (Lille, France) and Marcin Osuchowski (Vienna, Austria)

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<tbody>
<tr>
<td>14:00</td>
<td>Stable isotope-based quantification of metabolic pathways</td>
<td>Peter Radermacher (Ulm, Germany)</td>
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<tr>
<td>14:20</td>
<td>Extracellular vesicles from mesenchymal stem cells in a hemorrhagic-traumatic rat model</td>
<td>Sergiu Dumitrescu (Vienna, Austria)</td>
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<tr>
<td>14:40</td>
<td>Circulating histone scavengers in septic shock</td>
<td>Fuhong Su (Brussels, Belgium)</td>
</tr>
<tr>
<td>15:00</td>
<td>Acetylcarnine in septic shock</td>
<td>Raphael Favory (Lille, France)</td>
</tr>
<tr>
<td>15:20</td>
<td>Heart rate control with ivabradine or esmolol in septic shock</td>
<td>Antoine Herpain (Brussels, Belgium)</td>
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With the support of:  
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Therabel & Transonics
Session 5: New perspectives in pre-clinical experimental design
Chairpersons: Antoine Herpain (Brussels, Belgium) and Peter Radermacher (Ulm, Germany)

15:45  3R ethical rule application in pre-clinical critical care research  
       Marcin Osuchowski (Vienna, Austria)

16:05  Insights in non-human primate research  
       Rabea Hinkel (Göttingen, Germany)

16:25  How reliable are cardiovascular mathematical models in critical illness  
       Dirk Donker (Utrecht, Netherlands)

16:45  Big data and the computational scientist’s perspective  
       Jerome Cartailler (Paris, France)

17:05  Closing remarks  
       Antoine Herpain (Brussels, Belgium) & Fabio S Taccone (Brussels, Belgium)

End of the meeting