

Aarhus, 24 – 27 April 2023

# Programme

## Monday April 24

9.00-12.15	<b>What you need to know about life in the arterial wall</b> Free course for pregraduates, PhDs and postdocs (up to 3 years after PhD):	
10.00-11.30	ESM Board Meeting	
10.00	Registration opens	
13.00-13.15	<b>Welcome and opening</b>	
Session 1.1 - Auditorium B		
13.15-13.55	<b>Plenary lecture</b> <b>The cerebral microcirculation: roles in oxygen transport and disease</b> Leif Østergaard, Aarhus Chair: Eszter Farkas	
Session 1.2 - Auditorium A		
Session 1.3 - Auditorium B		
14.00-15.30	<b>Inflammation</b> Chairs: Ralf Brandes, Ana Briones	<b>Ischemia of the heart</b> Joint session with the Microcirculatory Society Chairs: Henning Morawietz, Kim Dora
14.00-14.30	<b>Inflammatory mechanisms of vascular remodelling in hypertension</b> Thomasz Guzik, Glasgow	<b>Endothelial Pannexin modulates ischemic injuries</b> Miranda Good, Boston
14.30-15.00	<b>Contribution of oligodendrocyte precursor cells to cerebral small vessel disease</b> Sebastien Foulquier, Maastricht	<b>Coronary microvascular dysfunction in cardiac disease – an overview from the clinical perspective</b> Eva Prescott, Copenhagen

# Monday April 24

15.00-15.15	<p>Overexpression of dimethylarginine dimethylaminohydrolase 1 protects from angiotensin II-induced cardiac hypertrophy and vascular remodeling Natalia Jarzebska, Dresden</p>	<p>Asymmetric dimethylarginine augments myogenic tone and inhibits vasodilation in rat coronary arteries Hanson Ng, Oxford</p>
15.15-15.30	<p>Interferon stimulated gene (ISG)15 deletion protects against aldosterone-induced hypertension Raquel González Blázquez, Madrid</p>	<p>Oct-1 is a Key Mediator for Angiotensin II- and Oxidized LDL-Induced Upregulation of Angiotensin-II Type-1 Receptor: New Implications for the Development of Atherosclerosis Nada Al Arawe, Berlin</p>
15.30-16.30	<p>Poster session I Exhibition</p>	
<p>Session 1.4 - Auditorium B</p>		
16.30-17.10	<p><b>Plenary lecture</b> <b>Vascular-macrophage crosstalk in the muscle</b> Karrien De Bock, Zürich Chair: Karl Swärd</p>	
17.45-18.45	<p><b>Welcome reception Town Hall</b></p>	

# Tuesday April 25

08:00

Concert Hall opens

Session 2.1 - Auditorium B

8.30-9.10	<p><b>Plenary lecture</b>  <b>Exercise to reverse microvascular dysfunction induced by age and lifestyle</b>  <b>Ylva Hellsten, Copenhagen</b>                  Chair: Stuart Egginton</p>
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Session 2.2 - Auditorium A

Session 2.3 - Auditorium B

9.15-10.45	Cerebral circulation, Alzheimer	Obesity
	Chairs: Vladimir Matchkov, Søren Grubb	Chairs: Ed Eringa, Elena Osto
9.15-9.45	<p><b>Arterial smooth muscle cells and contractile pericytes are key target cells in cerebral Small Vessel Diseases!</b>                      Anne Joutel, Paris</p>	<p><b>Inflammation and resistance artery perivascular adipose tissue function in cardiovascular disease</b>                      Sophie Saxton, Manchester</p>
9.45-10.15	<p><b>Deciphering the vascular component of Alzheimer's disease</b>                      Marta Cortes-Canteli, Madrid</p>	<p><b>Endothelial cells at the spotlight of adipose tissue biology</b>                      Mariona Graupera, Barcelona</p>
10.15-10.30	<p><b>Preserved blood-brain barrier and neurovascular coupling in 5xFAD mouse model of Alzheimer's disease in vivo</b>                      Oleg Zhukov, Copenhagen</p>	<p><b>Obesity alters the angiocrine landscape in adipose tissue</b>                      Andreas Fischer, Göttingen</p>
10.30-10.45	<p><b>Medin, the most common human amyloid, promotes age-associated neurovascular dysfunction and A<math>\beta</math> deposition</b>                      Marleen Veit, Tübingen</p>	<p><b>Effects of obesity on skeletal muscle microvascular function in children</b>                      Rasmus Kopp Hansen, Aalborg</p>

10.45-11.15

Break - Exhibition

# Tuesday April 25

Session 2.4 - Auditorium A

Session 2.5 - Auditorium B

	<b>Diabetes and the eye</b>	<b>Ion channels</b>
11.15-12.45	Chairs: Jo DeMey, Henner Hanssen	Chairs: William Jackson, Akos Koller
11.15-11.45	<b>Retinal microvascular function and type 2 Diabetes: a vicious cycle</b> Boy Houben, Maastricht	<b>Targeting Kv channels in pulmonary arterial hypertension</b> Angel Cogolludo, Madrid
11.45-12.15	<b>Regional variations in vascular lesions in diabetic retinopathy. Problem or advantage?</b> Toke Bek, Aarhus	<b>Rescuing Kv7 channel function in hypertension by targeting the microtubule network</b> Tom Jepps, Copenhagen
12.15-12.30	<b>Is the microvascular responsiveness to the locally delivered glucagon-like peptide-1 analogue, liraglutide, impaired in individuals with type 2 diabetes and retinopathy?</b> Kim Gooding, Exeter	<b>Functional remodeling of arterial tone regulation in postnatal development: switch of the leading potassium channels from less to more calcium-dependent channel types</b> Rudolf Schubert, Augsburg
12.30-12.45	<b>Induction of VEGF-A165a by high glucose in human retinal and endothelial cells and VEGF concentration in vitreous fluid of diabetic patients</b> Henning Morawietz, Dresden	<b>Channel-independent function of Golgi-localized endothelial Pannexin</b> Abigail Wolpe, Virginia
12.45-13.15	<b>Lunch</b>	
13.15-14.30	<b>Posters session II Exhibition</b>	

# Tuesday April 25

Session 2.6 - Auditorium A

Session 2.7 - Auditorium B

14.30-16.00	<b>Lymphatics</b> Chairs: Donna B. Bødtkjer, Helge Wiig	<b>Imaging and artificial intelligence</b> Chairs: Gerry Meninger, Stefan Chlopicki
14.30-15.00	Lymphatic endothelial heterogeneity in development and disease Taina Mäkinen, Uppsala	Imaging microvascular stiffness of the brain Dmitry Postnov, Aarhus
15.00-15.30	15-Lipoxygenase drives inflammation resolution and Treg trafficking in lymphedema Barbara Garmy-Susini, Toulouse	Application of AI on medical images for prediction of cardiovascular risk Alexios Antonopoulos, Oxford
15.30-15.45	Exploring co-ordinated regulatory mechanisms driving regenerative responses of vascular and lymphatic networks in the heart after myocardial infarction Bronwyn Berkeley, Edinburgh	'AI' Deep learning detection of vascular disease from photoplethysmography waveforms - new opportunities in vascular optics and analytics for studying the peripheral circulation John Allen, Coventry
15.45-16.00	Inhibitors of hyperpolarisation-activated cyclic nucleotide-gated channels induce positive chronotropy in isolated human collecting lymphatic vessels Donna Marie Briggs Bødtkjer, Aarhus	Spatial uncoupling of Ca <sup>2+</sup> sparks from BK channels in cerebral vascular smooth muscle cells underlies cerebral hypoperfusion in hypertension induced vascular dementia Harry Pritchard, Manchester
16.00-16.30 <b>Break - Exhibition</b>		
Session 2.8 - Auditorium B		
16.30-17.10	<b>Plenary lecture</b> <b>Macro and microcirculation interaction</b> Stephane Laurent, Paris Chair: Ingrid Fleming	
17.10-18.30 <b>Drinks and networking</b>		
17.30-18.30 <b>General Assembly</b>		

# Wednesday April 26

7.15

Concert Hall Opens

7.30-8.15

**Meet the editor: Brant Isakson, Editor-in-chief, Journal of Vascular Research**

Session 3.1 - Auditorium B

8.30-9.10

**Plenary lecture**  
**Metabolic cell-cell communication in vascular homeostasis**  
 Ingrid Fleming, Frankfurt  
 Chair: Brant Isakson

Session 3.2 - Auditorium A

Session 3.3 - Auditorium B

9.15-10.45

**Pulmonary microcirculation**

Chairs: Ulf Simonsen, Francisco Perez-Vizcaino

**Single cell mRNA analysis**

Chairs: Joanna Kalucka, Susanne Fleig

9.15-9.45

**Lung barrier regulation by endothelial ion channels in respiratory infections**  
 Wolfgang Kübler, Berlin/Toronto

**Awakening vascular smooth muscle cells from quiescence**  
 Helle Jørgensen, Cambridge

9.45-10.15

**Ion channels in the pulmonary circulation in health and disease**  
 Andrea Olschewski, Graz

**The cardiac microcirculation in health and disease: novel insights by single cell analysis**  
 Stephanie Dimmeler, Frankfurt

10.15-10.30

**Trained immunity in pulmonary microvascular endothelial cells promotes cancer cells adhesion**  
 Marta Stojak, Krakow

**Multi-omics approaches for novel therapy development to target the microvasculature of the heart**  
 Mairi Brittan, Edinburgh

10.30-10.45

**The novel KV7 channel activator URO-K10 exerts enhanced pulmonary vascular effects independent of the KCNE4 regulatory subunit**  
 Belèn Climent, Madrid

**Heterogeneity of the neurovascular unit in mouse models of neurodegenerative disease**  
 Michael Vanlandewijck, Uppsala

10.45-11.15

Break - Exhibition

# Wednesday April 26

Session 3.4 - Auditorium A

Session 3.5 - Auditorium B

11.15-12.45	<b>Renal microvasculature</b> Chairs: Ina Schissl, Charlotte Mehlin	<b>Young investigators</b> Chair: Christian Aalkjaer
11.15-11.45	<b>Avenues for glycocalyx repair in the glomerular microcirculation</b> Rebecca Foster, Bristol	<b>The impact of hyperglycaemia on the coronary microcirculation and the vasculoprotective effects of interleukin-36</b> Juma El-awaisi, Birmingham
11.45-12.15	<b>ADAMTS12 as an extracellular checkpoint in fibrosis that licenses perivascular Gli1+ cell activation and migration</b> Konrad Hoeft, Aachen	<b>Endothelial glycocalyx heparan sulphate contributes to microvascular permeability and can be therapeutically targeted in diabetes</b> Monica Gamez, Bristol
		<b>Resolvin D2 improves cardiovascular alterations induced by aldosterone in mice</b> Naoual Boukich El Jouhari, Madrid

# Wednesday April 26

12.15-12.30	<p><b>Investigating the microvascular pathology of diabetic kidney disease using Super Resolution Ultrasound Scanning</b></p> <p>Amy Mcdermott, Copenhagen</p>	<p><b>Endothelial cytochrome P450 reductase-derived cholesterol limits angiogenesis</b></p> <p>Pedro Malacarne, Frankfurt</p>
12.30-12.45	<p><b>The Effects of 7-Days High-Salt Diet on Microvascular Local Thermal Hyperemia and Nitric Oxide Synthases Serum Levels in Healthy Individuals</b></p> <p>Ana Stupin, Osijek</p>	<p><b>The impact of exercise training on microvascular endothelial metabolism in individuals with type 2 diabetes</b></p> <p>Sophie Møller, Copenhagen</p>
<p><b>12.45-13.15 Lunch</b></p>		
<p><b>Session 3.6 sponsored by Imedos Health GmbH - - Auditorium B</b></p>		
13.15-14.15	<p><b>Retinal microvascular analysis for cardiovascular risk stratification and treatment monitoring</b></p> <p>Chairs: Boy Houben, Toke Bek</p> <p>Retinal Vessel Analysis in Clinical Practice and Cardiovascular Prevention Henner Hanssen, Basel</p> <p>Micro- vs. macrovascular health screening to monitor therapy progression Lukas Streese, Düsseldorf</p>	
<p><b>Session 3.7 - Auditorium A</b></p>		<p><b>Session 3.8 - Auditorium B</b></p>
14.20-15.50	<p><b>Leucocyte adhesion and signaling</b></p> <p>Chairs: Markus Sperandio, Dean Kavanagh</p>	<p><b>Angiogenesis, vascular development</b></p> <p>Chairs: Lopa Leach, Iain Greenwood</p>
14.20-14.50	<p><b>How leukocytes cross the vascular endothelial barrier: secrets revealed by high-end microscopy</b></p> <p>Jaap Van Buul, Amsterdam</p>	<p><b>Organo-typical control of angiogenesis in the nervous system.</b></p> <p>Ferdinand le Noble, Karlsruhe</p>
14.50-15.20	<p><b>Preventing Coronary Microcirculatory Disturbances Following Myocardial IR injury</b></p> <p>Neena Kalia, Birmingham</p>	<p><b>Guidance of endothelial barrier formation</b></p> <p>Anne Eichmann, Paris/New Haven</p>



## Wednesday April 26

15.20-15.35	<b>Pericyte loss initiates microvascular dysfunction in the development of diastolic dysfunction</b> Steven Simmonds, Leuven	<b>NCoR1 limits specifically endothelial angiogenic capacity by affecting notch signaling via the transcription factor RBPJk</b> Tom Teichmann, Frankfurt
15.35-15.50	<b>A20 and the non-canonical NF-<math>\kappa</math>B pathway are key regulators of neutrophil recruitment during fetal ontogeny</b> Lou Martha Wackerbarth, Munich	<b>TRAIL-TRAIL-R ligation regulates EC-pericyte crosstalk to generate stable microvessel networks in ischaemia</b> Manisha Patil, Sydney
16.00-17.00	<b>Poster Session III</b>	
17.00-18.00	<b>Poster Session IV</b>	
19.00	<b>Conference Dinner</b>	

# Thursday April 27

8.00

## Concert Hall Opens

Session 4.1 - Auditorium B

8.30-9.10	<b>Plenary lecture</b> <b>Making and breaking symmetry in vascular networks</b> Holger Gerhard, Berlin Chair: Ed van Bavel
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Session 4.2 - Auditorium A

Session 4.3 - Auditorium B

9.15-10.45	<b>Exercise, gender and microcirculation</b> Chairs: Cor de Wit, Ylva Hellsten	<b>Cancer and the microcirculation</b> Chairs: Ebbe Bødtkjær, Nicola Brown
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9.15-9.45	<b>Unpicking the drivers of activity-induced angiogenesis</b> Roger Kissane, Liverpool	<b>Tumour microenvironment to improve immunotherapy</b> Kebs Hodivala-Dilke, London
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9.45-10.15	<b>The microcirculation and menopause – effects of exercise training</b> Lasse Gliemann, Copenhagen	<b>Exploring the role of stroma as immune modulators in the extended tumour microenvironment</b> Jackie Shields, Cambridge
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10.15-10.30	<b>Short-term high-intensity interval training improves micro- but not macrovascular function in hypertensive patients</b> Lukas Streese, Basel	<b>Age and cancer-related endothelial-mesenchymal transition in murine lungs</b> Marta Smęda, Krakow
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10.30-10.45	<b>Effects of diabetic neuropathy on microvascular function across lower leg skeletal muscles in humans</b> Ryan Larsen Aalborg	<b>Tumor feed arteries are specialized towards low resistance</b> Ebbe Bødtkjær, Aarhus
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10.45-11.15

## Coffee break

Session 4.4 - Auditorium B

11:15-12:35	<b>Plenary lecture</b> <b>ESM Award Lectures</b> Chair: Christian Aalkjær
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11.15-12.00	ESM, Malpighi Award lecture: Britta Engelhardt, University of Bern
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12.00-12.30	JVR/ESM Award lecture: James Bell, Cardiff University
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12.30-12.35	Travel, Oral, and Poster Awards and closing
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