

Aarhus, 24 – 27 April 2023

Programme

Monday April 24

Registration opens at 08.30

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

Monday April 24

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| 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>Plenary lecture Vascular-macrophage crosstalk in the muscle Karrien De Bock, Zürich Chair: Karl Swärd</p> | |
| 17.45-18.45 | <p>Welcome reception Town Hall</p> | |

Tuesday April 25

08:00

Concert Hall opens

Session 2.1 - Auditorium B

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| 8.30-9.10 | <p>Plenary lecture Exercise to reverse microvascular dysfunction induced by age and lifestyle Ylva Hellsten, Copenhagen 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 |
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| | Chairs: Vladimir Matchkov, Søren Grubb | Chairs: Ed Eringa, Elena Osto |
| 9.15-9.45 | <p>Arterial smooth muscle cells and contractile pericytes are key target cells in cerebral Small Vessel Diseases! Anne Joutel, Paris</p> | <p>Inflammation and resistance artery perivascular adipose tissue function in cardiovascular disease Sophie Saxton, Manchester</p> |
| 9.45-10.15 | <p>Deciphering the vascular component of Alzheimer's disease Marta Cortes-Canteli, Madrid</p> | <p>Endothelial cells at the spotlight of adipose tissue biology Mariona Graupera, Barcelona</p> |
| 10.15-10.30 | <p>Preserved blood-brain barrier and neurovascular coupling in 5xFAD mouse model of Alzheimer's disease in vivo Oleg Zhukoc, Copenhagen</p> | <p>Obesity alters the angiocrine landscape in adipose tissue Andreas Fischer, Göttingen</p> |
| 10.30-10.45 | <p>Medin, the most common human amyloid, promotes age-associated neurovascular dysfunction and Aβ deposition Marleen Veit, Tübingen</p> | <p>Effects of obesity on skeletal muscle microvascular function in children Rasmus Kopp Hansen, Aalborg</p> |

10.45-11.15

Break - Exhibition

Tuesday April 25

Session 2.4 - Auditorium A

Session 2.5 - Auditorium B

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

Tuesday April 25

Session 2.6 - Auditorium A

Session 2.7 - Auditorium B

| 14.30-16.00 | Lymphatics Chairs: Donna B. Bødtkjer, Helge Wiig | Imaging and artificial intelligence Chairs: Gerry Meninger, Stefan Chlopicki |
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| 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 ²⁺ 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 Break - Exhibition | | |
| Session 2.8 - Auditorium B | | |
| 16.30-17.10 | Plenary lecture Macro and microcirculation interaction Stephane Laurent, Paris Chair: Ingrid Fleming | |
| 17.10-18.30 Drinks and networking | | |
| 17.30-18.30 General Assembly | | |

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

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

Wednesday April 26

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

Wednesday April 26

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

Thursday April 27

8.00

Concert Hall Opens

Session 4.1 - Auditorium B

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

Session 4.3 - Auditorium B

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

Coffee break

Session 4.4 - Auditorium B

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| 11:15-12:35 | Plenary lecture ESM Award Lectures 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 Univeristy |
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| 12.30-12.35 | Travel, Oral, and Poster Awards and closing |
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