

PROGRAMME

THE INTERNATIONAL SYMPOSIUM ON RESISTANCE ARTERIES

ISRA

2 - 5 DECEMBER

2024

ELSINORE · HELSINGØR · DENMARK



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ORGANIZING COMMITTEE

Thomas Jepps
(University of Copenhagen)

Christian Aalkjaer
(Aarhus University)

Ulrike Muscha Steckelings
(University of Southern Denmark)

Iain Greenwood
(St. George's University of London)

Ed van Bavel
(Amsterdam University Medical Centers)

Manuel Navedo
(University of California, Davis)

Miranda Good
(Tufts Medical Center)



WELCOME TO ISRA2024

It is a pleasure to welcome you to the 14th International Symposium on Resistance Arteries (ISRA 2024) in Helsingør, Denmark!

This year marks the 40 year anniversary since the first ISRA, when ~30 prominent resistance artery researchers met in Sandbjerg, Denmark. This conference has gone on to become a mainstay for vascular researchers across the world to meet and present their latest findings.

It is hard to overstate the importance of the vascular network and, in particular, the resistance arteries when it comes to ensuring the appropriate regulation of blood flow to each organ of the body and the arterial pressure. Ultimately, healthy resistance arteries are essential to a healthy life. However, understanding the role of resistance arteries in the development and progression of multiple diseases is difficult given the complex mix of endothelial cells, smooth muscle cells, elastic and connective tissue, fibroblasts, inflammatory cells, perivascular adipose tissue and nerves that make up the arterial wall.

Combining knowledge and expertise on vascular health across groups studying different cell types and diseases is a challenge. This conference will unite basic and clinical scientists from around the world, and industry leaders that are focused on cardiometabolic diseases involving dysregulated resistance arteries.

Together with the organizing committee, we have created a programme to showcase the importance of resistance arteries within several focused sessions. We have 13 world-leading invited speakers who will present their latest research on a myriad of topics centered on resistance arteries. Additionally, this year we have focused on filling the programme with communications selected from abstracts. We believe this structure will result in more unpublished, novel data being presented, stimulate constructive, vibrant discussions and support collaborations across disciplines to close the gaps in knowledge between vascular physiology and the many diseases that have vascular complications.

We would like to extend our thanks to all of you for supporting ISRA, as well as our sponsors, without whom this meeting would not be possible.

Besides an excellent scientific programme, we hope you will discover the beauty, charm and hygge of Copenhagen and Helsingør at Christmas time.

We hope you will enjoy ISRA2024 and the wonderful, cozy Danish Christmas spirit.

Thomas Jepps and Christian Aalkjær



GENERAL INFORMATION

CONFERENCE WEBSITE

www.isra2024.org

ISRA 2024 CONFERENCE SECRETARIAT

CAP Partner

Nordre Fasanvej 113, 1 floor

2000 Frederiksberg

Denmark

Tel.: +45 70 20 03 05

info@cap-partner.eu

www.cap-partner.eu

ACCOMMODATION & CATERING

Room check-in at Konventum is available from 14:00 (2 pm), and check-out is at 09:00 (9 am).

Breakfast is served Monday to Friday from 07:00 to 09:00 (7 am–9 am)

Lunch & dinner is included in your registration and will be in Konventums restaurant – please see the programme for dining times.

NOTE: Dinner on the 5th of December is not included because of the Gala Dinner.

CERTIFICATES OF ATTENDANCE

After the conference, all participants will receive an email with a link to download their certificate of attendance.

INFORMATION FOR SPEAKERS

The format of presentations should be 16:9 (widescreen format) in Microsoft PowerPoint, and the language should be English. Please use a USB stick to transfer your presentation to the computer in the plenary room. Make sure you upload your presentation no later than the break or session before your session. At the end of the conference, all presentations will be deleted to prevent any copyright issues from arising.

WI-FI ACCESS

Free WI-FI access is provided at the conference venue and hotel rooms.

BADGES

Conference name badges must be worn during the conference. Access to the plenary room will not be granted without a name badge issued by the conference secretariat.

Important! Before you leave the conference, please return your badge at the registration desk.



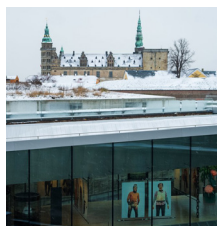
SOCIAL EVENTS

WELCOME RECEPTION

Sponsored by Sophion

Date 2 December 2024
Time 20:00 - 21:00
Place The bar at Konventum, also called 'Mødestedet'

The reception is included in the registration fee.



GALA DINNER

Date 5 December 2024
Time 18:30 - 22:00
Place M/S Maritime Museum of Denmark
Address Ny Kronborgvej 1, 3000 Helsingør

The Gala Dinner is not included in the registration fee and only accessible to those who have purchased a ticket.

Note: Buses have been arranged to transport attendees to and from the venue.

- > Bus departure from Konventum to M/S Maritime Museum at 18:10
- > Bus departure from M/S Maritime Museum to Konventum at 22:10

EXPLORE HELSINGØR AND COPENHAGEN

HELSINGØR (EL SINORE)



Kronborg Castle

Explore the UNESCO World Heritage-listed castle, famously known as Hamlet's Castle.



Christmas Markets

at Kronborg Castle, Værftets Madmarked and around the city – Enjoy a cozy and festive market with local crafts, gifts, and seasonal treats.



Louisiana Museum of Modern Art

Just a short drive from Helsingør, this iconic museum offers world-class art, stunning Øresund views, and a cozy café for warm beverages.

COPENHAGEN



Tivoli Gardens Christmas Market

– Enjoy magical lights, festive stalls, and a true Christmas atmosphere in one of the world's oldest amusement parks.



Nyhavn Christmas Market

A smaller but charming market along the iconic harbor, offering mulled wine (gløgg) and holiday souvenirs.



The Little Mermaid

Visit this iconic statue inspired by Hans Christian Andersen's fairy tale.



Amalienborg Palace Square

See the royal guards and enjoy the Christmas decorations around the royal residence.

WHERE TO EAT

Denmark is renowned for its fantastic food scene, offering countless restaurants to explore and enjoy.



HELSINGØR (EL SINORE)

Café Kronborg

A cozy spot offering Danish classics near the castle.

Culture Yard Café (Kulturværftet)

Enjoy simple and delicious meals with a view of the harbor.

Strejf

Located in the heart of Helsingør, Strejf offers a cozy dining experience with stunning views of Kronborg Castle and the Øresund.

COPENHAGEN

Cofoco Restaurants

Affordable, high-quality dining across several trendy locations. (e.g., Vækst, Høst, Spuntino).

Madklubben Restaurants

Stylish and accessible dining with options for every taste (e.g., Madklubben København, Bistro Royal, Madklubben Grill).

Torvehallerne Food Market

While partially outdoors, it's a fantastic spot for seasonal Danish treats and warm drinks.

Nimb Brasserie

Inside Tivoli Gardens, this elegant spot offers a luxurious dining experience with views of the Christmas lights.

PROGRAMME

MONDAY 2 DECEMBER

12:00–12:45	Registration & Sandwich	
12:45	Welcome	Thomas Jepps & Christian Aalkjær
FUNDAMENTALS OF RESISTANCE ARTERIES		Chairs: Camilla Wenceslau & Thomas Jepps
13:00–13:35	Ion channels – key regulators of resistance arteries	Manuel Navedo (University of California, Davis)
13:35–13:55	Physiologically specific roles for post-translational modifications of Pannexin 1 in vasoconstriction	Brooke O'Donnell (University of Virginia)
13:55–14:15	6-Nitrodopamine is a Potent Vasodilator of Mouse Mesenteric Arteries In Vitro	Gilberto De Nucci (University of Campinas)
14:15–14:35	Vascular smooth muscle BK channels limit ouabain-induced vasoconstriction: dual role of the Na/K-ATPase as a hub for Src-kinase and the Na/Ca-exchanger	Rudolf Schubert (University of Augsburg)
14:35–14:55	Influence of G-protein Receptor Kinases on CGRP-mediated Relaxations of Cerebral Arteries	Skye Lau (St George's University of London)
14:55–15:30	Break & Check in at the hotel if not already done	
15:30–16:20	9 x 5 min Poster Flash talk (Plenary room)	Chairs: Iain Greenwood & Kim Dora
16:30–18:00	Poster Session 1 (Exhibition area)	
18:00	Dinner	
19:15–20:00	Plenary talk with Ed van Bavel (Amsterdam UMC) The resistance vasculature in acute ischemic stroke	Chair: Christian Aalkjær
20:00–21:00	Welcome reception – in the bar area	

TUESDAY 3 DECEMBER

VASCULAR IMAGING		Chairs: Chris Garland & Brant Isakson
09:00–09:35	Seeing light at the end of the tunnel: how leukocytes cross the vascular endothelial barrier	Jaap van Buul (University of Amsterdam)
09:35–09:55	Real-time in vivo images of the microcirculation using superresolution ultrasound imaging	Charlotte Mehlin Sørensen (University of Copenhagen)
09:55–10:15	Vascular heterogeneity determines leukocyte transendothelial migration efficiency	Merel Tebbens (University of Amsterdam)
10:15–10:35	Imaging pulsatility along the microvascular network: from arterioles to capillaries to venules	Dmitry Postnov (Aarhus University)
10:35–11:00	Break	

NOVEL VASCULAR PHARMACOLOGY		Chairs: José Lopez-Lopez & Neena Kalia
11:00–11:35	Sexual dimorphism in arterial function: Recent insights	Iain Greenwood (St. George's, University of London)
11:35–11:55	IP2015, a monoamine reuptake inhibitor, increases peripheral flow in genitalia of anesthetized female rats	Simon Comerma Steffensen (Aarhus University)
11:55–12:15	Renal TRPM3 Channels in Blood Flow and Blood Pressure Regulation	Jorge Rojo Mencia (Valladolid University)
12:15–12:35	Colchicine as a novel treatment for hypertension	Thomas Jepps (University of Copenhagen)
12:35–12:55	Pravastatin enhances impaired endothelium-dependent dilation of uterine radial arteries from women with pre-eclampsia	Tim Murphy (University of New South Wales)
12:55–14:00	Lunch	
INFLAMMATION & PHENOTYPIC SWITCHING		Chairs: Sophie Saxton & Teresa Perez Garcia
14:00–14:35	Immune Dysregulation in Cardiovascular Disease: From Novel Mechanisms to Therapeutic Targeting	Pasquale Maffia (University of Glasgow)
14:35–14:55	pH-sensing GPR68 promotes the contractile phenotype in vascular smooth muscle cells	Madison Williams (East Carolina University)
14:55–15:15	Smooth muscle-specific deletion of YAP/TAZ via Itga8-Cre leads to pan-aneurysmal disease with chondrogenic differentiation and severe inflammation	Sebastian Albinsson (Lund University)
15:15–15:35	Kv1.3 channel is a key player in uremia-induced vascular calcification	Pilar Cidad (Valladolid University)
15:35–15:55	The alpha7 nicotinic acetylcholine receptor agonist PHA 568487 dampens inflammation in PBMCs from patients with newly discovered coronary artery disease	Rebecka Wilhelmsson (University of Gothenburg)
15:55–16:10	Symposium – Sponsored by MaxCyte Dr. Peer Heine; Rapid Development of Membrane Physiology Assays using Scalable Electroporation	
16:10–16:30	Break	
16:30–18:00	Poster Session 2 (Exhibition area)	
18:00	Dinner	
PULMONARY CIRCULATION		Chairs: Swapnil Sonkusare & Russel Richardson
19:15–19:50	Potassium channels in pulmonary vascular physiology and pathophysiology	Angel Cogolludo (Universidad Complutense Madrid)
19:50–20:10	The loss of mitochondrial acid-sensing ion channel 1a is associated with mitochondrial dysfunction in pulmonary arterial smooth muscle cells following chronic hypoxia	Megan Tuineau (The University of New Mexico School of Medicine)
20:10–20:30	Targeting SK-channels in the 'pulmonary vein sleeve-myocardium' as a strategy to reduce atrial ectopies	Luca Soattin (University of Copenhagen)

PROGRAMME

WEDNESDAY 4 DECEMBER

CEREBROVASCULAR DISEASE		Chairs: Susanne van Veluw & Jaap van Buul
08:30–09:05	Cerebrovascular mechanosensation and blood flow control in health and disease	Osama Harraz (University of Vermont)
09:05–09:25	Importance of cerebrovascular endothelial cell autophagy in acute ischemic stroke	Sohom Mookherjee (University of Utah)
09:25–09:45	Cellular senescence contributes to vascular cognitive impairment in male but not female atherosclerotic mice	Melanie Lambert (Montreal Heart Institute)
09:45–10:05	The differential expressions of enzymes correspond to the opposite flow-induced responses of basilar and middle cerebral arteries	Akos Koller (Semmelweis University)
10:05–10:25	A Protective Role of the Calcium-Activated Chloride Channel, TMEM16A, in Acute Ischemic Stroke Outcome	Christian Aalkjær (Aarhus University)
10:25–11:00	Break	
THE CORONARY CIRCULATION AND HFPEF		Chairs: Jo de Mey & Ed Eringa
11:00–11:35	Imaging the coronary microcirculation in vivo – preventing damage caused by hyperglycaemia	Neena Kalia (University of Birmingham)
11:35–11:55	Phosphodiesterase 9A Inhibition Improves Coronary Microvascular Disease in Heart Failure with Preserved Ejection Fraction through Peroxiredoxin 5 Antioxidant Pathways	Zsolt Bagi (Augusta University)
11:55–12:15	Asymmetric dimethylarginine (ADMA) and small coronary artery vasospasm	Chris Garland (University of Oxford)
12:15–13:15	Lunch	
HYPERTENSION		Chairs: William Jackson & Ed van Bavel
13:15–13:50	Reprogramming endothelial cells to prevent and treat hypertension	Camilla Ferreira Wenceslau (University of South Carolina)
13:50–14:10	Synergistic cardiorenal injury by combined high salt diet and endogenous aldosterone excess	Holger Schneider (University Hospital LMU Munich)
14:10–14:30	Role of TRPM8 channels in vascular tone and blood pressure regulation	Teresa Perez-Garcia (Valladolid University)
14:30–14:50	Signaling from smooth muscle to endothelium via TNF elevates blood pressure in obesity	Swapnil Sonkusare (University of Virginia)
14:50–15:10	Proteomic profiling identifies shared exosome dysregulation in hypertensive rats and human Alzheimer's Disease progression	Joakim Bastrup (University of Copenhagen)
15:10–15:30	P2Y6 and AT1 Receptor Crosstalk in essential hypertension: A Novel Therapeutic Target	José Lopez-Lopez (Valladolid University)
15:30	Free afternoon	
18:00	Dinner <i>Dinner is INCLUDED in your registration. Please let us know if you plan to eat elsewhere to prevent food waste</i>	

THURSDAY 5 DECEMBER

DIABETES		Chairs: Ulrike Stecklings & Tim Murphy
09:00-09:35	Perivascular adipose tissue dysfunction as a cause of cardiometabolic disease	Ed Eringa (Amsterdam UMC)
09:35-09:55	Effect of transglutaminase 2 modulation in resistance arteries from diabetic and non-diabetic patients	Ulf Simonsen (Aarhus University)
09:55-10:15	Manipulating the immune system to improve cardiovascular function in obesity	Sophie Saxton (University of Manchester)
10:15-10:30	Symposium – Sponsored by University of California Davis Prof. Manuel Navedo; Postdoc Opportunities at UC Davis	
10:30-11:00	Break	
AGEING		Chairs: Vladimir Matchkov & Eric Thorin
11:00-11:35	Endothelial Dysfunction and Mitochondrial Dysregulation: Mechanisms of Microvascular Aging and Vascular Fragility	Stefano Tarantini (University of Oklahoma Health Sciences Center)
11:35-11:55	Exploring the Interaction Between Erythrocytes and the Vascular Wall	Tasnim Mohaissen (University of Copenhagen)
11:55-12:15	Targeting vascular senescence and inflammation with the senolytic quercetin is more beneficial in men than in women atherosclerotic patients	Pauline Mury (Montreal Heart Institute)
12:15-12:35	Sex-specific differences in ischemia-reperfusion outcomes in aged mice	Line Mathilde Hansen (Aarhus University)
12:35-12:50	Symposium – Sponsored by Blue Cell Therapeutics Dr. med. Søren P. Sheikh; Allogeneic cell therapy for Erectile Dysfunction	
12:50-14:00	Lunch	
EXERCISE & SEX DIFFERENCES		Chairs: Osama Harraz & Madeline Nieves-Cintron
14:00-14:35	Exercise and oxygen delivery to skeletal muscle: The ultimate vascular challenge in health and disease	Russell Richardson (University of Utah)
14:35-14:55	Oxygen Signalling in Mouse Skeletal Muscle: Mechanism of Capillary-to-Arteriole Conduction	Mohammed El-Lakany (Western University Ontario)
14:55-15:15	Sex-Dependent Effects of Adiposity-Driven Hypertension on Mesenteric Arterial Mechanics	Dillon McClintock (Washington University in St. Louis)
15:15-15:35	E-cigarette Exposure Alters cAMP Signaling in Vascular Smooth Muscle: Sex-Specific Effects and Implications for Cardiovascular Health	Madeline Nieves-Cintron (University of California Davis)
15:35-16:00	Break	
16:00-16:45	Plenary Talk with Susanne van Veluw (Harvard University) Mechanisms of Microvascular Injury in Cerebral Amyloid Angiopathy	Chari: Manuel Navedo
16:45-17:30	Close of conference - Drinks and Prizes	
18:30	Gala Dinner at M/S Maritime Museum of Denmark Bus depatures from Konventum 18:10	

POSTER OVERVIEW

No.	Poster session	Abstract title	Presenter	Country
1	Poster session 1	Novel IDO-1 generated Tryptophan derivative, cis-WOOH, mediates vasorelaxation of murine mesenteric arteries via BKCa.	Samuel Baldwin	DK
2	Poster session 2	Effect of altered miRNA processing on the anticontractile function of perivascular adipose tissue in the aorta and small mesenteric arteries	Geiza Rafaela Bobato	BR
3	Poster session 1	Impact of ceramides produced by cerebrovascular endothelial cells on acute ischemic stroke outcomes	Sohom Mookherjee	US
4	Poster session 2	KCNQ Channel Deficiency impairs Adipose-Vascular-Coupling independent from structural and physiological Parameters	Mario Kassmann	DE
5	Poster session 1	Endothelial Cell-Selective Adhesion Molecule Modulates Pulmonary Vascular Resistance through NO-Mediated Mechanosensing	Vadym Buncha	US
6	Poster session 2	Vascular CaV1.2 remodeling in HFpEF	Miguel Martin Aragon Baudel	US
7	Poster session 1	Myocardin related transcription factor and galectin-3 drive lipid accumulation in human blood vessels	Johan Holmberg	SE
8	Poster session 2	The Impact of Coexistence of Undernutrition and Obesity on the Pancreatic and Mesenteric Resistance Arteries	Ana Paula Davel	BR
9	Poster session 1	Purinergic Receptor Activation Constricts Urinary Bladder Arterioles Independent of P2X1 and P2X3 Receptors	Alexis Boron	US
10	Poster session 2	Therapeutic potential of colchicine in coronary microvascular dysfunction: mechanistic insights from human and rat arteries	Jessica Meades	DK
11	Poster session 1	Edema compression and contractile disturbances of parenchymal arterioles following ischemia-reperfusion.	Line Mathilde Hansen	DK
12	Poster session 2	Microvascular pulsatility of the ageing brain and confounding effects of anaesthesia	Mia Skøtt	DK
13	Poster session 1	Potassium channel mediated NO-induced vasodilation during maturation: dominance of Kv7 channels	Rudolf Schubert	DE
14	Poster session 2	Estrus cycle regulation of mesenteric and cerebrovascular myogenic tone via Kv7, a potential mechanism underlying menstrual migraine	Amalie Sørensen	DK
15	Poster session 1	Glucose-Induced Endothelial Gene Expression in Simulated Microgravity and Static Conditions	Augusta Volkevičiūtė	LT
16	Poster session 2	The role of NALCN in arterial contraction	Ugochukwu Ejiegbu	UK
17	Poster session 1	Characterization of microvascular impairment in patients with angina symptoms	Markus Baun-Mikkelsen	DK

No.	Poster session	Abstract title	Presenter	Country
18	Poster session 2	Liver microcirculation studied by laser speckle contrast imaging in vivo	Oleg Zhukov	DK
19	Poster session 1	Vascular smooth muscle-specific YAP/TAZ deletion triggers cerebral aneurysm development and cognitive impairment in mice	Olivia Ritsvall Losand	SE
20	Poster session 2	Sex-specific differences in Alzheimer's disease across Braak stages and in a novel model based on hypertensive rats	Pelle Munck	DK
21	Poster session 1	Microvascular pulse transfer function: A minimally-invasive approach to characterize microvascular resistance heterogeneity	Rasmus Juul Jensen	DK
22	Poster session 2	Oestrus cycle regulation of cerebrovascular ion channel function, a potential mechanism underlying menstrual migraine.	Olivia Schaub	DK
23	Poster session 1	Novel Method for Investigating the Arterial Secretome in Hypertension	Sophie Olesen	DK
24	Poster session 2	Dietary nicotinamide mononucleotide (NMN) reduces stiffness and restores myogenic tone in skeletal muscle arteries from aged male mice	Tim Murphy	AU
25	Poster session 1	Acid Sensing Ion Channel 1a Deletion Leads to Endothelial Dysfunction Associated with Hyperglycemia and Insulin Deficiency	Xavier DeLeon	US
26	Poster session 2	The alpha7 nicotinic acetylcholine receptor agonist PHA 568487 dampens inflammation in PBMCs from patients with newly discovered coronary artery disease	Rebecka Wilhelmsson	SE
27	Poster session 1	Vascular heterogeneity determines leukocyte transendothelial migration efficiency	Merel Tebbens	NL
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