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fundamental research | artificial intelligence | data science | health services research | clinical research | robotics | structural analysis | molecular genetics | vascular biology | engineering | computer vision | preclinical models | 3D cell culture | imaging technologies | microscopy & visual analysis | bench to bed | fundamental research | artificial intelligence | **FUNDAMENTAL**health services research | clinical research | robotics | structural analysis **CESEARCH & C PIONEERING** visual analysis | bench to bed | fundamental research | artificial intelligence | clinical models | services research | clinical research | nobotics | structural analysis **EESEARCH & C PIONEERING** visual analysis | bench to bed | fundamental research | artificial intelligence | clinical genetics | services research | clinical research | robotics | structural analysis | molecular genetics | vascular biology | engineering | computer vision | preclinical models | 3D cell culture | imaging technologies | microscopy & visual analysis | bench to bed | fundamental research | artificial intelligence | data_science | health carrie

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Lucerne Cantonal Hospital, Switzerland

WORD OF WELCOME



We would like to welcome you to Lucerne to the 2025 BVS Spring Meeting!

The now traditional international meeting took place last year in Berlin, where we met for two days of great presentations on cutting-edge research in vascular biology, genetics, state-of-the-art imaging technologies, advances in clinical research and much more.

Both established and emerging researchers shared their research findings and visions with us, we gained new insights during exciting discussions, and the best presentations were honoured with well-deserved awards.

This year, we will continue to focus on basic vascular research in all its aspects and its bench-to-bed

translation. Furthermore, insights into the sciences of artificial intelligence, health data, health sciences and health care research and their potential gain in knowledge for basic research will bring us future research perspectives.

True to tradition, the conference remains dedicated to knowledge exchange, which will take place on Friday and Saturday with keynote lectures and talks, and the traditional Friday evening dinner will allow for networking in a relaxed atmosphere.

We hope you will enjoy the conference and your stay in Lucerne.

On behalf of the organising committee,

Prof. Dr. med. Maani Hakimi Head of Department Department of Vascular Surgery LUKS | Lucerne Cantonal Hospital

BASIC VASCULAR SCIENCE

Prof. Dr. med. Thomas Schmitz-Rixen

German Society of Surgery

Dr. Margreet R. de Vries Leiden University Medical Center

> **Prof. Janice Tsui, FRCS** Royal Free London

Prof. Dr. med. Maani Hakimi LUKS | Lucerne Cantonal Hospital **Prof. George Hamilton, FRCS** Royal Free London

Mr. Simon Parvin, FRCS Former Secretary General, ESVS

Prof. Dr. Paul H.A. Quax Leiden University Medical Center

Dr. med. Juan Antonio Celi de la Torre LUKS | Lucerne Cantonal Hospital

EVENT ORGANISERS





- Prof. Dr. med. Maani Hakimi Head of Department
- • Department of Vascular Surgery
 - LUKS | Lucerne Cantonal Hospital



Prof. Dr. med. Reto Babst

Vice dean of Faculty of Health Sciences and Medicine Medical Director Joint Medical Master University of Lucerne & University of Zürich

Dr. med. Juan Antonio Celi de la Torre

Research Intern Department of Vascular Surgery LUKS | Lucerne Cantonal Hospital



Prof. Dr. Stefan Boes

Dean Faculty of Health Sciences and Medicine, University of Lucerne



Sponsorship is crucial for ensuring the success and sustainability of our BVS events! We are grateful to the following sponsors for their support, as it is essential for making the event possible. Sponsors provide the necessary funding, resources, and expertise that enable our high-quality sessions, secure renowned speakers, and reach a wider audience. Moreover, sponsors also help foster a partnership between academia and industry, creating valuable networking opportunities for attendees. Without their backing, the present academic event simply wouldn't be feasible.





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Iuzerner kantonsspital

The Cantonal Hospital, Lucerne commonly referred to by its acronym LUKS, is situated in the geographically central region of Switzerland and offers an extensive array of diagnostic and therapeutic services that cater to a diverse patient population. As the most expansive medical facility in Central Switzerland, it encompasses C comprehensive network of more than hundred specialised clinics, one departments, centers, and each providing dedicated to high-quality healthcare and advancing medical knowledge through innovative practices

UNIVERSITÄT LUZERN

Established in February 2023, the **Faculty** of Health Sciences and Medicine at the University of Lucerne quickly presented itself as a key player in tackling modern health challenges. The faculty evolved from the Department of Health Sciences and Medicine, created in 2019, drawing on the foundational principles of the earlier Department of Health Sciences and Health Policy.

Partnering for the BVS25' is the **Center for Clinical Research,** an Associated Institute of the University of Lucerne, based at the Cantonal Hospital of

and research initiatives.

Through its function as a **University Teaching and Research Hospital**, it also serves as a distinguished institution of higher learning that focuses on both teaching and research within the medical field. Lucerne. The mission of the CCR is to support and develop high-quality clinical research for the LUKS and for the Faculty of Health Sciences and Medicine.

Spitalstrasse, 6004 Luzern

Frohburgstrasse 3, 6002 Luzern



WORKSHOPS

FRI **23 MAY**

N PARTNERSHIP W/: FUJIFILM VISUALSONICS

1A

PRECLINICAL ULTRASOUND FOR VASCULAR BIOLOGY RESEARCH - ULTRA-HIGH FREQUENCY (UHF) | 4.0G, RIGI 4.04 Workshop Leader: Dr. Margreet R. de Vries (LUMC)

ENDOVASCULAR SURGERY: PROSTHESIS SIZING AND SIMULATION OF PROCEDURE | 1.OG, SKILLS LAB

Workshop Leader: Dr. med. Robert Seelos (LUKS)

Simulators of endovascular procedures offer a safe and controlled environment for learners to practice and hone their skills. Participants can gain hands-on experience in

I PART MEI

IN PARTNERSHIP W/: UNIVERSITY OF LUCERNE performing interventions, such as catheter placements and stentgraft deployments, all while receiving immediate feedback on their techniques, fostering collaboration among peers. This learning environment enhances communication skills and teamwork, which are essential in the multidisciplinary field of vascular medicine.

TIPS, TRICKS AND CAVEATS: OBTAINING A GRANT VIA A COMPETITIVE PROCESS | 4.0G, RIGI 4.04

Workshop Leader: Prof. Dr. med. François Curtin (Center for Clinical Research, LUKS) & Anita Soltermann (Grants Office University of Lucerne)

Fundraising is essential to support research by funding new concepts, experiments, and academic advancements. Connecting with donors, applying for grants, organizing events, and engaging with the community are all part of the fundraising process. Researchers depend on financial aid to sustain their work and contribute to knowledge growth in various fields.

PROGRAM: 23 MAY

09:30 Registration | 4.0G

10:00 1a: Preclinical Ultrasound for Vascular Biology Research - Ultra-High Frequency (UHF) | 4.0G, Rigi 4.04 1b: Endovascular Surgery: Prosthesis sizing and simulation of procedure | 1.OG, Skills Lab

WORKSHOPS Break | 4.0G, Aufenthaltsraum 11:30

12:00 2: Tips, Tricks and Caveats: obtaining a grant via a competitive process | 4.0G, Rigi 4.04

Lunch | 4.0G, Aufenthaltsraum 12:45

TRANSLATIONAL VASCULAR RESEARCH & BIOLOGY				
Chair:				
Prof. Janice Tsui, FRCS & Prof. Dr. Thomas Schmitz-Rixen				
13:30	Welcome Speech Janice Tsui & Maani Hakimi			
13:40	From Lab to Life: Advancing Tissue-Engineered Vascular Grafts into the Clinic Melanie Generali			
14:00	Manuka Honey and its Phenolic Component, Methyl Syringate, Mediate Neutrophil Inflammatory Behaviors for Potential Use as a Vascular Prosthetic Bioactive Evan Main			
14:10	Static Human Vein Culture: A Model of Graft Intimal Hyperplasia Shuang Zhao			
14:20	β3-Adrenergic Receptor-Induced Perivascular Adipose Tissue Browning Does Not Impact Vein Graft Remodeling on a High-Fat, High-Cholesterol Diet Nicky Kruit			
14:30	ChemR23 receptor on macrophages modifies PVAT function and crosstalk within the arterial vasculature in atherosclerosis Julia Schulz			
14:40	Treatment of arterial media calcification by altering the nitric oxide metabolism Saar Adriaensen			
14:50	Do small extracellular vesicles (sEVs) have a role in chronic diabetic foot ulcers? Lucinda Cruddas			
15:00	Anti-inflammatory treatment with dexamethasone preserves microvascular integrity during ex vivo mouse heart perfusion Milou van Buren			
15:10	High-oxalate diet kidney disease induces hypertension and inflammation and drives impaired murine arteriovenous fistula remodeling Eduard de Winter			
15:20	Dietary Strategies for Vascular Health: From Preclinical Evidence to Translation Florent Allagnat			

15:40 Break | 4.0G, Aufenthaltsraum

ANGIOGENESIS & VASCULAR REMODELING			
Chair: Prof. Ferdinand le Noble & Prof. Manuel Mayr, PhD			
16:10	Design principles of vascular networks-defining novel targets for pro- and anti angiogenic therapies Ferdinand le Noble		
16:30) Endothelial-to-Mesenchymal Transition is a defining feature of intussusceptive angiogenesis vs sprouting Andrea Banfi		
16:40	Characterization of Plaque Instability in Response to Anti-PD-L1 Therapy Kayleigh van Dijk		
16:50) Endothelial cells promote fibrinolysis in venous malformations because of changes in their haemostatic transcriptome Jeries Abu-Hanna		
17:00) Platelets Promote the 3-Dimensional Propagation of Vascular Fibrin as a Prerequisite for Thrombus Stability Joanna Liu		
17:1C	A mouse model of impaired FXIII-mediated fibrin alpha-chain crosslinking shows increased venous thromboembolism Cedric Duval		
17:20) Length of ischaemia duration is associated with fibrin film coverage on thrombi from patients with acute myocardial infarction Cedric Duval		
17:30	O Collagen in retrieved human thrombi Hannah Eskender		
17:40) Patients' perspectives on treatment of thromboembolic diseases in the UK Janice Tsui		
17:50	Cardiovascular Proteomics to Uncover New Disease Mechanisms Manuel Mayr		
18:10	Host's speech Maani Hakimi, Lucerne		
19:30) Dinner @ Zunfthausrestaurant Pfistern, Kornmarkt 4, 6004 Luzern		



PROGRAM: 24 MAY

08:00 Registration

	BIOENGINEERING & IMAGING				
	Chair: Luke Brewster, MD, PhD & B. Walpoth, MD, PD, FAHA CO-HOST: WITERNATIONAL SOCIETY FOR APPLI				
08:30	TBA Cintica				
08:50	Vascular mechanics - A Force to be Reckoned with Clinically Luke Brewster				
09:10	Influence of shear stress on vascular endothelial cells regarding cellular senescence Constantin Puppe				
09:20) Functional and persistent microvascular networks in a VEGF-decorated matrix: a vascularization module Andrea Banfi				
09:30	Going Beyond the Diameter Criterion: The Predictive Value of 4D-Ultrasound Based Wall Motion Indices for Abdominal Aortic Aneurysm Rupture Risk Assessment Manuel Schönborn				
09:40	Comprehensive Analysis of Accelerated Atherosclerotic Lesion Composition Using Non-invasive Spectral Photoacoustic and Ultrasound Imaging. Kayleight van Dijk				
09:50	Challenges in characterising lower limb arterial disease on CT imaging Calvin Eng				
10:00) Microvasculature assessment in peripheral arterial disease using high-resolution Photoacoustic tomography Nam Huynh				
10:10	Assessing revascularization success in patients with Peripheral Artery Disease using Multispectral Optoacoustic Tomography Briain Haney				
10:20	Quantitative Perfusion imaging in skeletal muscle: comparison of Arterial Spin Labelling MRI and contrast ultrasound Conrad von Stempel				
10:30	TBA Paula Keschenau				
10:50	50 Break 4.0G, Aufenthaltsraum				
	PIONEERING SCIENCES & INNOVATIONS				
	Chair: Prof. Dr. med. Maani Hakimi & Dr. Marareet P. de Vries				

Prof. Dr. med. Maani Hakimi & Dr. Margreet R. de Vries			
11:10	No Free Lunch: Requirements and Rewards of Modern Data Use Daniel Stekhoven		
11:30	Early time-restricted feeding decreases abdominal aortic aneurysm progression in a mouse model of elastase- induced AAA Clémence Bechelli		
11:40	PDGFR-β-driven vascular smooth muscle cell remodelling and aortic dilatation Ryan Laloo		
11:50	An APRIL-targeting immunotherapy for abdominal aortic aneurysm Melissa Zenker		
12:00	Thoracic Aorta in Mouse Models of Hereditary Aortic Diseases: Losartan Reduces Aortic Dilatation but Has no Effect on Aortic Rupture Force in Mice Modeling Marfan Syndrome Janine Meienberg		
12:10	Combining complex stem cell models and multiomics to reveal causality of aortic disease genetic variants Aminder Singh		
12:20	Whole-Genome Sequencing Reveals Co-Occurring Hereditary (Aortic) Diseases and Enables Pharmacogenetic Profiling Janine Meienberg		
12:30	Biological Optimization - what we can learn from fundamental research to improve the next generation of stent grafts Job van Helvoirt		
12:50) Best Talks Award & ISACB Award Prof. P. Quax & L. Brewster, MD PhD		
	Closure Dr. Celi de la Torre		
13:05	Photo session w/ all participants/awardees/hosts		

VENUE & DINNER



SITE PLAN



Entrance House 10 Entrance House 10 Feingut restaurants

P & Parking/with walking disabilitiesPharmacy

----- Footpath to House 10

+ Emergency

Bus lines 9, 19 and 30Information

HOW TO GET THERE

BY PUBLIC TRANSPORT

Bus routes 9, 19 and 30 go directly to the Lucerne Cantonal Hospital (lower right corner on the site plan).

BY CAR

The parking (Parkhaus, Spitalstrasse 34, lower right corner on the site plan) is reserved exclusively for patients and visitors. The number of parking spaces for cars and motorbikes in our multistorey car park is nevertheless limited. We therefore recommend that you use public transport. Taxis may drive directly to the main entrance. Parking spaces for people with walking disabilities are marked accordingly on site. Pricing:

08.00 to 20.00 (high tariff): CHF 0.80/15 min.

20.00 to 08.00 (low tariff): CHF 0.30/15 min.

The daily maximum is CHF 38.00.

FROM ZURICH INTERNATIONAL AIRPORT

By public transport: By train directly from the airport (e.g. train IR 75, runs every hour) to Lucerne main station. From there, take bus 18 or 19 to the hospital. Total time: approx. 1.5 hours. Pricing: approx. 40 CHF.

By car: Follow Butzenbüelring to A51. Take the A4, E41 and A14 motorways in the direction of Lucerne, exit in the direction of Littau/Emmen-Süd/Entlebuch. From there follow the signs to "Spital" Total time: approx. 1 hour.

INFORMATION

<u>Emergency phone numbers in Switzerland:</u>

EMERGENCIES	112
FIRE	118
POLICE	117
MEDICAL/AMBULANCE	144

Hosting party's phone numbers:

J.A. CELI DE LA TORRE Overall organisation

+41 79 762 54 14



Keep updated on the meeting's program, workshops and keynote lectures and follow us for early notifications on upcoming events!



www.bvssm.com

www.linkedin.com/company/basicvascularscience



The WiFi is available to you free of charge. To use it, connect to the WiFi 'Public' and then

open any website. The Luzerner Kantonsspital login page will be displayed automatically. Follow the instructions. The password will be sent to you by SMS.

