CVRC

CardioVascular Research Cluster

BERN

Annual Meeting 2026

Monday, January 19, 2026

Online presentations +
On-site roundtable, posters & Apéro,
Conference Rooms U1_006–007 and Foyer, Anna-Seiler-Haus

- Acquired Cardiac and Vascular Diseases
- Genetic Cardiovascular Diseases, Development & Regeneration
- Cardiovascular Technologies & Imaging
- Roundtable: "New imaging directions in CV medicine and research"

Meeting Programme

Organization Committee

Dr. Maria Arnold, Scientific and Administrative Manager of the Cardiovascular Research Cluster Bern

PD Dr. med. Sarah Bernhard, Department of Angiology

Ms. Daniela Castillo Robles, Administrative Assistant Cardiovascular Research Cluster Bern

Prof. Dr. Yvonne Döring, Department of Angiology and Department for BioMedical Research

Prof. Dr. Sarah Longnus, Department of Cardiac Surgery and Department for BioMedical Research

Prof. Dr. med. Katja Odening, Translational Cardiology, Department of Cardiology and Department of Physiology

PD Dr. Marco Osterwalder, Department for BioMedical Research and Department of Cardiology

Prof. Dr. med. Emrush Rexhaj, Department of Cardiology and Department for BioMedical Research

Meeting Programme Overview

10:00-10:10	**Opening / Welcome** (online, Zoom)
10:10-11:35	**Session 1: Acquired Cardiac and Vascular Diseases**
11:35-11:45	**Introduction to Cluster *MIDHAS: Metabolism, Inflammation, Digital Health to Advance Systems Medicine***
11:45-12:30	**Lunch break**
12:30-13:55	**Session 2: Genetic Cardiovascular Diseases, Development & Regeneration**
13:55-14:05	**Break**
14:05-15:15	**Session 3: Cardiovascular Technologies & Imaging**
15:15-15:45	**Break + Poster hanging** (end online part, relocate to Anna- Seiler-Haus, Conference Rooms U1_006-007 and Foyer)
15:45-16:30	**Session 4: Roundtable "New imaging directions in CV medicine and research"**
16:30-16:40	**Break**
16:40-18:45	**Poster presentations and get-together Apéro**
18:45-19:00	**Prize announcements and closing**

Detailed Scientific Programme

10:00-10:10 **Opening / Welcome (online, Zoom)**

Session 1: Acquired Cardiac and Vascular Diseases

Chairs:

Matthias Siepe, Department of Cardiac Surgery

Nina Ullrich, Department of Physiology

10:10 **Ex-situ heart perfusion: Clinical successes and emerging research challenges**
Sarah Longnus, Department of Cardiac Surgery and Department for Biomedical Research

10:30-11:15 **Flash presentations from abstracts**

- **In-silico patient-specific mitral valve model for transcatheter-edge-to-edge repair**
  Valérie Kulka, ARTORG Center for Biomedical Engineering Research

- **Regulation of vascular smooth muscle cell function by autophagy in atherosclerosis**
  Mahadia Kumkum, Institute for Cardiovascular Prevention (IPEK), Ludwig-Maximilians-Universität (LMU), Munich

- **Association of acylcarnitine species and anthropometry markers in a population-based apparently healthy cohort**
  Ko Ko Maung, Department of Medicine, Internal Medicine, Lausanne University Hospital (CHUV) and University of Lausanne

- **Extending out-of-body times with hypothermic, oxygenated perfusion (HOPE) in a porcine model of donation after circulatory death (DCD)**
  Rahel Ottersberg, Department of Cardiac Surgery and Department for BioMedical Research

- **A porcine model of heart failure with preserved ejection fraction (HFpEF)**
  Felipe Sanches Edaes, Department of Physiology

- ChemR23 in macrophages: A link between PVAT dysfunction and vascular inflammation in atherosclerosis
  Julia Schulz, Department of Vascular Surgery and Department for Biomedical Research

- From health to microstroke: how local vascular topology shapes oxygen perfusion in the brain
  Gaia Stievano, ARTORG Center for Biomedical Engineering Research

11:15	Physician modified endografts for complex aortic aneurysms Drosos Kotelis, Department of Vascular Surgery

11:35-11:45	Introduction to Cluster *MIDHAS: Metabolism, Inflammation, Digital Health to Advance Systems Medicine* Invited Speaker: Laura Hackl, Department for Biomedical Research
11:45-12:30	Lunch Break

Session 2: Genetic Cardiovascular Diseases, Development & Regeneration

Chairs:

Marco Osterwalder, Department for Biomedical Research

Marina Rieder, Department of Cardiology

12:30	Cardiac injury response: from repair to regeneration - lessons learned from the zebrafish Nadia Mercader, Institute of Anatomy
12:50	Identification and validation of genetic modifiers in Long-QT syndrome Christiane Zweier, Department of Human Genetics

13:10-13:55 **Flash presentations from abstracts**

- **Development of a novel organoid model for arrhythmogenic cardiomyopathy**
  Arturo Aguado Gonzalez, Department for Biomedical Research

- **Stiffness-driven mechanosensitive signaling and electrical adaptation in hiPSC-CM**
  Masaba Sayor Baroi, Department of Physiology

- **Utilizing human cardiac organoids (cardioids) for identification of gene regulatory elements implicated in human heart chamber formation**
  Lisa Conrad, Department for Biomedical Research

- **Investigating the role of *cox7a1* in the zebrafish cardiac injury response**
  Carla Lembke, Institute of Anatomy and Department for Biomedical Research

- **Modelling the effects of PKP2 gene therapy on ventricular conduction in arrhythmogenic cardiomyopathy**
  Alessio Ostini, Department of Cardiology and Department of Physiology

- **Cellular electrophysiological characterization of human cardioids at different maturation stages**
  Varjany Vashanthakumar, Department of Cardiology and Department of Physiology

- **Development of a laser injury model using human cardiac spheroids**
  Christian Zuppinger, Department for Biomedical Research and Institute of Anatomy

13:55-14:05 Break

Session 3: Cardiovascular Technologies & Imaging

Chairs:

Dominik Günsch, Department of Anaesthesiology and Pain Medicine

Dominik Obrist, ARTORG Center for Biomedical Engineering Research

14:05 **Cutting-edge translational research in cardiac imaging**
Christoph Gräni, Department of Cardiology

14:25 **Cardiovascular implantable electronic devices: emerging technologies and remaining challenges**
Andreas Häberlin, Department of Cardiology

14:45-15:15 **Flash presentations from abstracts**

- **Effects of microvascular and macrovascular dysfunction on myocardial perfusion and oxygenation during hyperaemia**
  Lena Bürgi, Department of Anaesthesiology and Pain Medicine
- **Preliminary results from the muscleHealth study investigating parameters of muscle health derived from bio-impedance and mechanical measurements as indicators of sarcopenia in patients with chronic disease**
  Prisca Eser, Centre for Rehabilitation and Sports Medicine
- **The thrombectomy in limb ischemia score (TILI-Score): score proposal and results of an interobserver readability survey**
  Aleksandra Tuleja, Department of Angiology
- **Artificial intelligence-based fully automated whole-aorta segmentation and quantification in computed tomography images**
  Wen Xie, Department of Cardiology

15:15-15:45 **Break + Poster hanging (end online part, go to ASH)**

Session 4: Roundtable “New imaging directions in CV medicine and research”

Anna-Seiler-Haus, Conference Rooms U1_006-007

Chairs:

Federico Caobelli, Department of Nuclear Medicine

Theo Meister, Department of Cardiology

15:45-16:30	**New imaging directions in CV medicine and research** **Panelists:** - **Kady Fischer, Department of Anaesthesiology and Pain Medicine** - **Christoph Gräni, Department of Cardiology** - **Kuangyu Shi, Department of Nuclear Medicine** - **Peter Vermathen, Department of Neurology and Department for Biomedical Research**
16:30-16:40	**Break**
16:40-18:45	**Poster presentations (Anna-Seiler-Haus, Foyer in front of Conference Rooms U1_006- 007) and get-together Apéro** **-16:40-17:30: Poster Session 1, even numbers** **-17:30-18:20 Poster Session 2, odd numbers**
18:45-19:00	**Prize announcements & closing**

List of Abstracts / Posters (in alphabetical order)

Poster nb.	Name	Affiliation	Title
1	Aguado Gonzalez Arturo	Department for Biomedical Research	Development of a novel organoid model for arrhythmogenic cardiomyopathy
2	Arora Prateek	Institute of Anatomy and Department for BioMedical Research	LipidLocator: a spatial lipidomics pipeline, enables deciphering of lipid profiles in zebrafish
3	Baroi Masaba Sayor	Department of Physiology	Stiffness-driven mechanosensitive signaling and electrical adaptation in hiPSC-CM
4	Beer Georgia	Department of Cardiac Surgery and Department for BioMedical Research	Hemolysis limits the extension of out-of-body times during normothermic perfusion in a porcine model of donation after circulatory death (DCD)
5	Brenken Anna Josephine	Department of Anaesthesiology and Pain Medicine	The impact of micro air embolism on myocardial function of the septum during surgeries on cardiopulmonary bypass
6	Bürgi Lena	Department of Anaesthesiology and Pain Medicine	Effects of microvascular and macrovascular dysfunction on myocardial perfusion and oxygenation during hyperaemia
7	Chanda Adrita	Department for BioMedical Research	Establishment of hiPSC-derived cardiac spheroids as a scalable 3D model for arrhythmogenic cardiomyopathy
8	Conrad Lisa	Department for BioMedical Research	Utilizing human cardiac organoids (cardioids) for identification of gene regulatory elements implicated in human heart chamber formation
9	Evans Bryce	Division of Angiology and Department for BioMedical	ChemR23 prevents phenotypic switching of vascular smooth muscle cells into macrophage like foam cells in atherosclerosis.
10	Helmer Anja	Department of Cardiac Surgery and Department for BioMedical Research	Sex-dependent recovery of left ventricular function and corresponding gene expression in a rat model of donation after circulatory death (DCD)
11	Herwegh Nico / Eser Prisca	Centre for Rehabilitation and Sports Medicine	Preliminary results from the MuscleHealth Study investigating parameters of muscle health derived

			from bio-impedance and mechanical measurements as indicators of sarcopenia in patients with chronic disease
12	Hotz Sanna	Department of Anaesthesiology and Pain Medicine	Does assessment of preoperative ventricular function by longitudinal strain predict how anaesthetists manage perioperative haemodynamic instability?
13	Kulka Valérie	ARTORG Center for Biomedical Engineering Research	In-silico patient-specific mitral valve model for transcatheter-edge-to-edge repair
14	Kumkum Mahadia	Institute for Cardiovascular Prevention (IPEK), Ludwig-Maximilians-Universität, Munich	Regulation of vascular smooth muscle cell function by autophagy in atherosclerosis
15	Lambride Chryso	Department of Neurology, University of Zurich and ARTORG Center for Biomedical Engineering Research, University of Bern	Loss of cerebral autoregulation after stroke drives abnormal perfusion patterns
16	Lembke Carla	Institute of Anatomy and Department of BioMedical Research	Investigating the role of *cox7a1* in the zebrafish cardiac injury response
17	Louradour Julien	Translational Cardiology and Department of Physiology	Promising QT-shortening effect of the endocannabinoid N-arachidonoyl-L-serine (ARA-S) in a transgenic rabbit model of long QT syndrome type 1
18	Maung Ko Ko	Department of Medicine, Internal Medicine, Lausanne University Hospital (CHUV) and University of Lausanne	Association of acylcarnitine species and anthropometry markers in a population-based apparently healthy cohort
19	Mohammadi Kazaj Pooya	Department of Cardiology	Fully automated whole-cardiac substructures segmentation and quantification in CT Imaging: Whole-CCT
20	Motta Antonio / Lukas Zeiter	Translational Cardiology, Department of Physiology and Department of Cardiology	Novel KCNE2-variant modulates temperature-dependent changes in I_{Kr} current
21	Naveed Muhammad	Translational Cardiology and Department of Physiology	Therapeutic potential of BeKm-1, a peptide blocker of hERG/I_{Kr}, in short QT syndrome type 1
22	Ördög Balázs (1)	Department of Physiology	Biodistribution and gene expression profiling of the novel adeno-associated virus capsid SLB101 in the rabbit
23	Ördög Balázs (2)	Department of Physiology	Effects of a hERG-activating peptide on action potential duration in rabbit cardiomyocytes

24	Ostini Alessio	Department of Physiology	Modelling the effects of PKP2 gene therapy on ventricular conduction in arrhythmogenic cardiomyopathy
25	Ottersberg Rahel	Department of Cardiac Surgery and Department for BioMedical Research	Extending out-of-body times with hypothermic, oxygenated perfusion (HOPE) in a porcine model of donation after circulatory death (DCD)
26	Rapp Vincent	Department for BioMedical Research	A cis-regulatory module essential for Holt-Oram syndrome-associated Tbx5 function in the developing heart and limbs
27	Rougier Jean-Sébastien	Institute of Biochemistry and Molecular Medicine	$Na_v1.5$ sodium current modulation by the calcium channel $Ca_v1.2$
28	Sanches Edaes Felipe (1)	Department of Physiology	A Langendorff-free workflow for the isolation and culture of primary atrial cells from adult mouse hearts
29	Sanches Edaes Felipe (2)	Department of Physiology	A porcine model of heart failure with preserved ejection fraction (HFpEF)
30	Schulz Julia	Department of Vascular Surgery and Department for Biomedical Research	ChemR23 in macrophages: A link between PVAT dysfunction and vascular inflammation in atherosclerosis
31	Stievano Gaia	ARTORG Center for Biomedical Engineering Research	From health to microstroke: how local vascular topology shapes oxygen perfusion in the brain
32	Straughan Ross	ARTORG Center for Biomedical Engineering Research	Characterizing microvascular obstructions using contrast-free synchrotron X-ray phase contrast micro-tomography
33	Tuleja Aleksandra	Departament of Angiology	The thrombectomy in limb ischemia score (TILI-Score): Score proposal and results of an interobserver readability survey
34	Vannucci Marina	Department of Physiology	Computational analysis of a cardiac cell pair exposed to an external electric field generates testable predictions to evidence ephaptic coupling with optical mapping experiments
35	Vashanthakumar Varjany	Translational Cardiology, Department of Physiology and Department of Cardiology	Cellular electrophysiological characterization of human cardioids at different maturation stages
36	Wisnumurti Ekapaksi	Department for BioMedical Research	Investigating coding and non-coding genomic mechanisms underlying cardiac ion channel expression and channelopathies in hiPSC-CMs and cardioids subjected to maturation

			protocols
37	Xie Wen	Department of Cardiology	Artificial intelligence–based fully automated whole-aorta segmentation and quantification in computed tomography images
38	Xu Yan	Institute of Social and Preventive Medicine	CVD Risk in individuals with severe and complex health conditions: A systematic review and meta-analysis
39	Zheng Yi	Department of Cardiology	Artificial intelligence 12-lead electrocardiography to determine atrial fibrillation risk among UK Biobank participants with predisposing conditions – a retrospective observational study
40	Zuppinger Christian	Department for BioMedical Research and Institute of Anatomy	Development of a laser injury model using human cardiac spheroids