



CVRC

CardioVascular Research Cluster

BERN

Annual Meeting 2022

20 January 2022

Online (Zoom + Gather Town)

- New Aspects in Cardiovascular Imaging and Technologies
- Roundtable: Cardiovascular Digital Medicine and Big Data - Hype or Revolution?
- Sex Differences, Aging and Genetic Bases of Cardiovascular Diseases
- Acquired Cardiovascular Diseases, Metabolism and Prevention
- Vascular Disorders
- Arrhythmias
- Valvular and Structural Heart Diseases

Meeting Programme

Detailed Scientific Programme

10:55-11:00 Opening / Welcome (online, Zoom) - Andre Frenk, Maria Arnold

Session 1: New Aspects in Cardiovascular Imaging and Technologies

Chairs:

Kady Fischer, Department of Anaesthesiology and Pain Medicine

Andreas Häberlin, Department of Cardiology and sitem Center

11:00 Trends in Cardiac Imaging
Christoph Gräni, Department of Cardiology

11:20-11:40 Flash presentations from abstracts

- Evaluation of a cuffless watch-like sensor for 24-hour ambulatory blood pressure monitoring
Jeremias Ambühl, Departments of Clinical Research and Cardiology
- Reproducibility of 4D cardiac computed tomography feature tracking myocardial strain and comparison against speckle-tracking echocardiography
Benedikt Bernhard, Department of Cardiology
- Caffeine and oxygen reduce aortic distensibility
Louis Setz, Department of Anaesthesiology and Pain Medicine

11:40-11:50 Break

Session 2: Roundtable on “Cardiovascular Digital Medicine and Big Data - Hype or Revolution?”

Chair:

Laurent Roten, Department of Cardiology

11:50-12:30 Cardiovascular Digital Medicine and Big Data - Hype or Revolution?

Panelists:

- Dominique Furrer, Direktion Lehre und Forschung, Insel Data Science Center (IDSC)
- Taulant Muka, Institute of Social and Preventive Medicine
- Georgios Siontis, Department of Cardiology
- Raphael Sznitman, ARTORG and CAIM (Center for Artificial Intelligence in Medicine)

12:30-13:00 Lunch Break

Session 3: Sex Differences, Aging and Genetic Bases of Cardiovascular Diseases

Chairs:

Nadia Mercader, Institute of Anatomy

Marco Osterwalder, Department for Biomedical Research

13:00 Precision Medicine: Important Aspects Related to Sex Differences, Age and Genetic Basis of Cardiovascular Diseases
Babken Asatryan, Department of Cardiology

13:20-13:40 Flash presentations from abstracts

- Sex differences in atrial electrical function
Lucilla Giammarino, Translational Cardiology, Department of Physiology
- Sex and NT-proBNP: the potential mediating role of iron biomarkers
Farnaz Khatami, Institute of Social and Preventive Medicine
- Sex-specific association of pharmacotherapy dosage with major cardiovascular events in two cohorts of patients with atrial fibrillation
Jeanne Moor, Department of General Internal Medicine and Institute of Primary Health Care

13:40-13:50 Break

Session 4: Acquired Cardiovascular Diseases, Metabolism and Prevention

Chairs:

Sarah Longnus, Department of Cardiovascular Surgery and Department for Biomedical Research

Matthias Wilhelm, Department of Cardiology

13:50 **Diabetes and heart disease: Applying epidemiologic approaches**
Arjola Bano, Institute of Social and Preventive Medicine

14:10-14:30 **Flash presentations from abstracts**

- **Circulating DHEA-S levels and major cardiovascular outcomes in chronic Chagas cardiomyopathy: a prospective cohort study**
Sergio Alejandro Gómez Ochoa, Institute of Social and Preventive Medicine
- **Macrophage-derived extracellular vesicles (EVs) have functional and metabolic effects on cardiac grafts in isolated rat hearts**
Selianne Graf, Department of Cardiovascular Surgery and Department for BioMedical Research
- **The sulphated glycolipid Su₇Malt-Sp₆-C₂HN₃-CMG2-Ad-DE attenuates complement activation in an in vitro xenotransplantation model**
Neda Salimi, Department for BioMedical Research

14:30-14:40 **Break**

Session 5: Vascular Disorders

Chairs:

Yvonne Döring, Division of Angiology, Swiss Cardiovascular Centre

Florian Schönhoff, Department of Cardiovascular Surgery

14:40 **NETs and extracellular citrullination in vascular disorders**
Nicoletta Sorvillo, Department for Biomedical Research

15:00-15:20 Flash presentations from abstracts

- Clinical presentation of simple and combined or syndromic arteriovenous malformations
Sarah Maike Bernhard, Division of Angiology, Cardiovascular Center
- Venous endothelial cells are protected against heparan sulfate shedding
Anastasia Milusev, Department for BioMedical Research
- Unravel the role of ACKR3 expression on B cells in atherosclerosis
Anaïs Yerly, Division of Angiology, Swiss Cardiovascular Center and Department for BioMedical Research

15:20-15:30 Break

Session 6: Arrhythmias

Chairs:

Jan Kucera, Department of Physiology

Katja Odening, Translational Cardiology, Department of Cardiology and Department of Physiology

15:30 Arrhythmias: a simple word for complex mechanisms
Jean-Sébastien Rougier, Institute of Biochemistry and Molecular Medicine

15:50-16:10 Flash presentations from abstracts

- Association of diabetes with atrial fibrillation types: a systematic review and meta-analysis
Fadi Alijla, Institute of Social and Preventive Medicine
- Perinexin in cardiac intercalated discs are privileged sites for ephaptic coupling: a model study
Ena Ivanovic, Department of Physiology
- Differences in extent of mechano-induced QT-changes in SQTS, WT and LQTS rabbit models
Saranda Nimani, Translational Cardiology, Department of Physiology

16:10-16:20 Break

Session 7: Valvular and Structural Heart Diseases

Chairs:

Yara Banz, Institute of Pathology

Thomas Pilgrim, Department of Cardiology

16:20 Achievements and challenges in the transcatheter treatment of valvular heart disease

Fabien Praz, Department of Cardiology

16:40-17:00 Flash presentation from abstracts

- The non-linear relationship between aortic valve opening area and transvalvular flow
Eric Buffle, Department of Cardiology
- Zebrafish model to study autophagy and lysosomal processing in zebrafish cardiovascular development
Myra Chavez, Institute of Anatomy
- A computational and mathematical framework to identify metrics related to leaflet and blood flow motion triggering calcification in bioprosthetic aortic valves
Pascal Corso, ARTORG Centre for Biomedical Engineering Research

17:00-17:30 Break

17:30-18:40 Poster presentations (online, Gather Town)

18:40-19:00 Prize announcements (Robert Rieben, Department for BioMedical Research)

Closing - Emrush Rexhaj, Maria Arnold

List of Posters (in alphabetical order)

Poster nb.	Name	Affiliation	Title
1	Alijla Fadi	Institute of Social and Preventive Medicine, University of Bern	Association of diabetes with atrial fibrillation types: a systematic review and meta-analysis
2	Ambühl Jeremias	Department of Cardiology and Clinical Research, Bern University Hospital, University of Bern	Evaluation of a cuffless watch-like sensor for 24-hour ambulatory blood pressure monitoring
3	Baumann Rico	Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern	Impact of hyperoxia on right ventricular function during general anaesthesia in patients with stable coronary artery disease
4	Becker Philipp	Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern	Transthoracic shocks lead to regional left-ventricular diastolic dysfunction in territories with acute myocardial injury
5	Bernhard Benedikt	Department of Cardiology, Bern University Hospital, University of Bern	Reproducibility of 4D cardiac computed tomography feature tracking myocardial strain and comparison against speckle-tracking echocardiography
6	Bernhard Sarah Maïke	Division of Angiology, Swiss Cardiovascular Center, Bern University Hospital, University of Bern	Clinical presentation of simple and combined or syndromic arteriovenous malformations
7	Buffle Eric	Department of Cardiology, Bern University Hospital, University of Bern	The non-linear relationship between aortic valve opening area and transvalvular flow
8	Carvalho João A. S.	Institute of Anatomy, University of Bern	Identification of intercellular communication hubs and their signaling regulation during zebrafish heart regeneration
9	Chavez Myra N	Institute of Anatomy, University of Bern	Zebrafish model to study autophagy and lysosomal processing in zebrafish cardiovascular development
10	Corso Pascal	ARTORG Centre for Biomedical Engineering Research, University of Bern	A computational and mathematical framework to identify metrics related to leaflet and blood flow motion triggering calcification in bioprosthetic aortic valves
11	Egle Manuel	Department of Cardiovascular Surgery, Bern University Hospital and	Preservation of nitric oxide synthase activity required for beneficial effects

		Department for BioMedical Research, University of Bern	of hypothermic oxygenated perfusion in cardiac grafts obtained with DCD
12	Evans Bryce	Division of Angiology, Swiss Cardiovascular Center, Bern University Hospital, University of Bern	Vascular ChemR23 expression is protective against atherosclerosis
13	Garachemani Davide	Department of Cardiology, Bern University Hospital, University of Bern	Phenotyping patients with suspected myocarditis based on the Lake Louise Criteria in cardiac magnetic resonance imaging
14	Giammarino Lucilla	Translational Cardiology, Department of Physiology and Department of Cardiology, Bern University Hospital, University of Bern	Sex differences in atrial electrical function
15	Gómez Ochoa Sergio Alejandro	Institute of Social and Preventive Medicine, University of Bern	Cardiovascular biomarkers and diastolic dysfunction in patients with chronic Chagas cardiomyopathy
16	Gómez Ochoa Sergio Alejandro	Institute of Social and Preventive Medicine, University of Bern	Longitudinal speckle tracking strain abnormalities in Chagas disease: A systematic review and meta-analysis
17	Gómez Ochoa Sergio Alejandro	Institute of Social and Preventive Medicine, University of Bern	Circulating DHEA-S levels and major cardiovascular outcomes in chronic Chagas cardiomyopathy: a prospective cohort study
18	Gonzalez-Jaramillo Nathalia	Institute of Social and Preventive Medicine, University of Bern and Department of Cardiology, Bern University Hospital	Fulfillment of various recommendations for physical activity within three weeks of hospital discharge from percutaneous coronary intervention
19	Graf Selianne	Department of Cardiovascular Surgery, Bern University Hospital and Department for BioMedical Research, University of Bern	Macrophage-derived extracellular vesicles (EVs) have functional and metabolic effects on cardiac grafts in isolated rat hearts
20	Grob Leonard	Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern	Investigation of ventricular-aortic coupling using 4D-flow cardiovascular magnetic resonance
21	Itodo Oche Adam	Institute of Social and Preventive Medicine, University of Bern and Swiss Paraplegic Research, Nottwil	Early changes in androgen hormones in individuals with spinal cord injury: a longitudinal study
22	Ivanovic Ena	Department of Physiology, University of Bern	Perinexi in cardiac intercalated discs are privileged sites for ephaptic coupling: a model study
23	Khatami Farnaz	Institute of Social and Preventive Medicine, University of Bern	Sex and NT-proBNP: the potential mediating role of iron biomarkers

24	Martinez Salazar Berenice	Division of Angiology, Swiss Cardiovascular Center, Bern University Hospital and Department for BioMedical Research, University of Bern	Long-term consequences of COVID-19 in cardiovascular disease
25	Milusev Anastasia	Department for BioMedical Research, University of Bern	Venous endothelial cells are protected against heparan sulfate shedding
26	Moor Jeanne	Department of General Internal Medicine, Bern University Hospital and Institute of Primary Health Care (BIHAM), University of Bern	Sex-specific association of pharmacotherapy dosage with major cardiovascular events in two cohorts of patients with atrial fibrillation
27	Nimani Saranda	Translational Cardiology, Department of Physiology and Department of Cardiology, Bern University Hospital, University of Bern	Differences in extent of mechano-induced QT-changes in SQTS, WT and LQTS rabbit models
28	Oeri Salome	Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern	New aspects into the investigation of biventricular diastolic dysfunction using cardiovascular magnetic resonance feature tracking
29	Osterwalder Marco, Zoia Matteo	Department for BioMedical Research, University of Bern	A gene desert regulating pleiotropic Shox2 expression and cardiac pacemaker differentiation during embryonic development
30	Raguindin Peter Francis	Institute of Social and Preventive Medicine, University of Bern	Predictive value of novel circulating biomarkers in Chagas disease: The Brazilian Chagas disease cohort
31	Rieder Marina	Translational Cardiology, Department of Cardiology, Bern University Hospital, University of Bern	Novel risk stratification approaches in Long-QT syndrome
32	Roland Virginia	Department for BioMedical Research, University of Bern	Probing the functional necessity of cardiac enhancers associated to key regulators of heart development
33	Rösch Yannick	ARTORG Center for Biomedical Engineering Research, University of Bern	Endovascular drug delivery in myocardial microvascular obstruction - learnings from a microfluidic model
34	Salimi Neda	Department for BioMedical Research, University of Bern	The sulphated glycolipid Su ₇ Malt-Sp ₆ -C ₂ HN ₃ -CMG2-Ad-DE attenuates complement activation in an in vitro xenotransplantation model
35	Sanz Maria-Nieves	Department of Cardiovascular Surgery, Bern University Hospital and Department for BioMedical Research, University of Bern	Investigating the role of mitochondrial DNA and TLR9 in a preclinical model of heart donation after circulatory death
36	Schindewolf Marc	Division of Angiology, Swiss Cardiovascular Center, Bern	Association of sex and cardiovascular risk factors with atherosclerosis

		University Hospital, University of Bern	distribution pattern in lower extremity peripheral artery disease
37	Schnyder Aaron	Department of Cardiology, Bern University Hospital, University of Bern	Incorporating right ventricular strain into risk stratification of patients with suspected myocarditis
38	Setz Louis	Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern	Caffeine and oxygen reduce aortic distensibility
39	Stark Anselm	Department of Cardiology, Bern University Hospital, University of Bern	Global and regional myocardial deformation and its relation to myocardial scarring in patients presenting after a ST-elevation myocardial infarction
40	Thakur Manovriti	Division of Angiology, Swiss Cardiovascular Center, Bern University Hospital and Department for BioMedical Research, University of Bern	Exploring NET-driven arterial thrombosis in LEAD
41	Utz Christoph David	Department of Anaesthesiology and Pain Medicine, Bern University Hospital, University of Bern	Designing a free-breathing oxygenation-sensitive cardiovascular magnetic resonance sequence to allow for peri-operative ischemia imaging.
42	Wang Junhua	Department for BioMedical Research, University of Bern	The role of C1-inhibitor in ischemia/reperfusion injury of amputated limbs from ex vivo reperfusion
43	Wehrli Faina	Institute of Social and Preventive Medicine, University of Bern and Department for Cardiology, Bern University Hospital, University of Bern	Prognostic value of left ventricular ejection fraction in hospitalized heart failure patients
44	Yerly Anaïs	Division of Angiology, Swiss Cardiovascular Center, Bern University Hospital and Department for BioMedical Research, University of Bern	Unravel the role of ACKR3 expression on B cells in atherosclerosis
45	Zollet Valentina	Department for BioMedical Research, University of Bern	Limb ischemia reperfusion injury leads to an increase of citrullinated fibrinogen