

INTRICARE

SFB Transregio TRR 219
Homburg - Aachen

Cardiorenal Winter School
of the graduate schools
SFB TRR219 IRTG &
Marie-Curie ITNs CaReSyAn &
INTRICARE and Cardiorenal Retreat

Functional analyses
of kidney-heart crosstalk

5th - 7th February, 2020



DFG Deutsche
Forschungsgemeinschaft



UNIKLINIK
RWTHAACHEN

Contact/Organizer

University Hospital RWTH Aachen
Institute for Molecular Cardiovascular Research (IMCAR)
Univ.-Prof. Dr. Joachim Jankowski
Dr. Heidi Noels

Medical Clinic I
PD Dr. Claudia Goettsch

Organization

Mareike Staudt, M.Sc.
Phone: +49-176 66698749
email: mstaudt@ukaachen.de

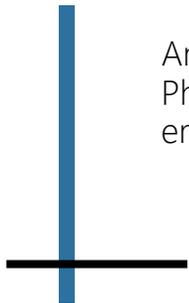
Sandra Knarren
Phone: +49-241-8080580
email: sknarren@ukaachen.de

Andrea Büscher, M.Sc.
Phone: +49-157 85619234
email: anbuescher@ukaachen.de

Fabian Peisker, M.Sc.
Phone: +49-162 3392909
email: fpeisker@ukaachen.de

Anika Himmelsbach, M.Sc.
Phone: +49-170 3425592
email: ahimmelsbach@ukaachen.de

Notes:



Notes:

Meeting venue



Lufthansa Seeheim Conference Hotel

Lufthansaring 1
64342 Seeheim-Jugenheim, Germany
+49 69 696 13 1000
info@lufthansa-seeheim.de

Where are the....

...meals: Restaurant „eat&meet “

...presentations and posters: „ Boardmeeting area “

Program Cardiorenal Winter School and Annual Retreat 2020

Wednesday, 05 February 2020

7.30 Bus departure in Aachen, University Hospital

11.30 - 13.00 Arrival and lunch, hang up posters

13.15 - 13.30 **Welcome** (brief overview of the program)
*Claudia Goettsch (SFB), Heidi Noels (CaReSyAn)
and Wilhelm Jahnen-Dechent (INTRICARE)*

Chair: Anne Babler and Sebastian Maxeiner

13.30 - 14.15 **Analyses of pathological mechanisms and organ function:
approaches within our own consortia (10'+5')**

13.30-13.45 Vascular reactivity: small vessel myography
Sam Hobson (KI)

13.45-14.00 Vascular reactivity: rat kidney perfusion
Christian Hemmers (UKA)

14.00-14.15 Real-time measurement via Seahorse Flux Analyzer
Julia Möllmann (UKA)

14.15 - 14.55 **Animal models of chronic kidney disease
and the cardiorenal syndrome (15'+5')**

14.15-14.35 Mouse models
Dickson Wong (UKA)

14.35-14.55 Rat models
Mathias Hohl (USAAR)

14.55 - 15.15 **Cutting edge technology I (15'+5')**

14.55-15.15 Mass spectrometry imaging
Joachim Jankowski (UKA)

15.15 - 15.45 Coffee Break and Check-In

15.45 - 18.00 **Poster presentation/discussion**

Sofia de la Puente Secades

Vitamin K and vascular calcification: why there is a deficiency in CKD?

Robert Dzhanayev

Fetuin-A-based theranostics in treatment of vascular calcification.

Katja Ermert

Characterization of renal microvasculature in chronic kidney disease.

Ana Amaya Garrido

The role of calprotectin in vascular calcification.

Maurice Halder

Tracing the cellular origin of in-stent restenosis.

Tianlin He

Urinary collagen type I peptides predict cardiovascular outcome in heart failure.

Christian Hemmers

Identification of cardiokines influencing fibroblasts and vasoactivity.

Juliane Hermann

Multimodal mass-spectrometric imaging of whole organs.

Marina Heuschkel

Bioinformatics predict novel mechanisms in calcific aortic valve disease.

Jonas Heyn

Interplay of organelles in vascular calcification.

Anika Himmelsbach

The role of the VPS10 domain receptor sortilin in cardiovascular calcification in chronic kidney disease.

Sam Hobson

Increased senescent cell burden and modified NRF2 expression in a model of uremic vascular calcification.

Sina Köppert

Cellular clearance of calciproteins depends on their maturation state and crystallinity.

Michael Kohlhaas

Impact of Anderson-Fabry disease-causing mutations on excitation-contraction coupling of cardiac myocytes.

Katja Krüger

Metabolic and mitochondrial dysfunction in uremic cardiomyopathy.

Michaela Lellig

Biosynthesis of angioprotectin.

Setareh Orth-Alampour

Identification of novel inhibitor of vascular calcification.

Linsey Peters

Micromanaging atherosclerosis: vascular microRNA-26b attenuates atherosclerosis development.

Eleni Petra

Urine peptidome analysis in Heart Failure, Chronic Kidney Disease and Cardiorenal Syndrome towards the definition of disease-specific markers.

Nikolas Rapp

The effect of uremic serum on VSMC.

Valeria Saar-Kovrov

ApoC1 as a possible link between cardiovascular and kidney diseases.

Sai Sahana Sundararaman

PCSK9, the LDLR murderer - are chemokine receptors accessories to the crime or other victims.

Wendy Theelen

Identification of the enzymes synthesizing CBF.

Rogier Veltrop

iPSC derived cardiomyocytes; a novel platform to investigate cardiac pathology.

David Weissman

Murine cardiac mitochondria and myocytes are not affected by dialysates from CKD patients.

Julia Wirth

Negative impact of CKD on cardioprotective properties?

Burcu Yesilyurt

The role of PDGF in ex vivo model of aortic calcification.

Rapid fire presentations:

<i>Maryam Amini</i>	Differential calcium signals in CKD derived monocytes, a potential role in inflammasome formation.
<i>Andrea Büscher</i> <i>Eva Harlacher</i>	Calciprotein particles (CPP) regulate calcification. Alterations of chemokine levels contributing to remodeling after myocardial infarction in CKD.
<i>Barbara Klinkhammer</i>	Cellular and molecular mechanisms of renal injury in 2,8-dihydroxyadenine nephropathy.
<i>Pascal Mann</i>	The SGLT2 inhibitor ertugliflozin reduces cardiac fibrosis and modulates cardiac substrate metabolism in a mouse model of cardiac hypertrophy.
<i>Sebastian Maxeiner</i>	Complement activation leads to C3 and C5 dependent prothrombotic alterations of fibrin clots.
<i>Bilal Mir</i>	PIKfyve inhibition reduces the calcification potential of vascular smooth muscle cell-derived extracellular vesicles.
<i>Sumra Nazir</i>	Aryl hydrocarbon receptor: from intestinal sensor to novel player in immun modulation and vascular disease?
<i>Fabian Peisker</i>	Reprogramming of the immune system in chronic kidney disease as a potential driver of cardiovascular disease.

Poster presentations:

<i>Hoda Alibiglou</i>	Molecular machinery that functionally regulates TNAP activation in calcifying smooth muscle cells.
<i>Maria Chiara Arrivas</i>	The role of gastric inhibitory peptide (GIP) in sepsis and septic cardiomyopathy.
<i>Constance Baaten</i> <i>Anne Babler</i>	Platelet function in CKD. Dissecting mechanisms of adventitial progenitor recruitment driving vascular calcification in CKD.
<i>Giulia Ilaria Bagarolo</i>	Identification and validation of peptide biomarkers in a cohort of CKD patients through LS-MS and bioinformatics tools.
<i>Guzide Bender</i>	A new bend in the road: novel interactions between HDL and chemokine receptors.
<i>Shruti Bhargava</i> <i>Jepe Christensen</i>	Active site of calcification blocking factor. Data anonymization and prediction models for proteomics data.
<i>Carina Ciliox</i>	The role of cytoskeleton dynamics in intimal and medial calcification.
<i>Irene Cortijo</i>	Participation of uremic retention solutes on vascular calcification: The effects of lanthionine and H ₂ S as well as glutathione, diallyl disulfide and diallyl trisulfide.

Program Cardiorenal Winter School and Annual Retreat 2020

Wednesday, 05 February 2020

18.00 - 19.20 **Cutting edge technology II (15'+5')**

Chair: Barbara Klinkhammer and Alexander Nickel

18.00-18.20 Single cell RNA sequencing

Rafael Kramann (UKA)

18.20-18.40 Insights into calcium signaling

Barbara Niemeyer (USAAR)

18.40-19.00 Methodological aspects of molecular imaging using PET and PET-CT

Felix Mottaghy (UKA)

19.00-19.20 Protein-protein interaction

Emiel van der Vorst (UKA)

19.20 - 19.30 **Announcement of poster presentation finalists**

19.30 - 19.45 **DFG campaign: Ich habe mich #fürdasWissen entschieden/ Because research matters**

Sandra Knarren (UKA)

From 19.45 Dinner and networking

Program Cardiorenal Winter School and Annual Retreat 2020

Thursday, 06 February 2020

07.30 - 08.30 Breakfast

Chair: Mathias Hohl and Constance Baaten

08.30 - 09.15 Poster presentation by the four finalists (5'+5')

09.15 - 10.10 Early career program (5'+5')
Rapid fire presentations

*Sumra Nazir
Bilal Mir
Andrea Büscher
Pascal Mann
Maryam Amini*

10.10 - 10.30 Coffee Break

10.30 - 11.10 Early career program (5'+5')
Rapid fire presentations

*Barbara Klinkhammer
Fabian Peisker
Eva Harlacher
Sebastian Maxeiner*

11.10 - 11.40 Peer-to-peer (P2P)
Andrea Büscher, Anika Himmelsbach, Fabian Peisker (UKA)

11.40 - 12.00 Award ceremony for best poster presentation/
best rapid fire presentation

12.00 - 13.00 Developing a research career - International trends &
gender challenges: Equal opportunity session
Beate Scholz

13.00 - 14.00 Lunch with opportunity for discussion with Beate Scholz

END of Cardiorenal Winter School

Program Cardiorenal Winter School and Annual Retreat 2020

Thursday, 06 February 2020

Cardiorenal Retreat

14.15 - 15.45 Keynote lecture session 1

Chair: Danilo Fliser

14.15-15.00 Integrative Analysis of Prognostic Biomarkers
Derived from Multi-omics Panels

Andreas Heinzl, Medical University of Vienna

15.00-15.45 Cardiovascular comorbidity in children with CKD
and transplantation-results of the 4C/4C-T study
Anette Melk, Hannover Medical School

15.45 - 16.15 Coffee Break

16.15 - 18.30 Keynote lecture session 2

Chair: Nikolaus Marx

16.15-17.00 Novel mechanisms of cardiovascular repair and
regeneration

Stefanie Dimmeler, Frankfurt University

17.00-17.45 Tissue Engineering in CVD

Carlijn Bouten, Eindhoven University

17.45-18.30 Mitochondria as targets of cardioprotection

Derek Hausenloy, National Heart Centre Singapore

18.30 Group picture

From 19.00 Dinner (restaurant) and networking (bar)