



## 9<sup>th</sup> Young DZHK Retreat

13 - 15 September 23

[Seminaris SeeHotel Potsdam](#)

### Wednesday, 13 September

2:00 pm *Young DZHK Postdoc Committee Meeting*

3:00 pm Registration & lite bites

4:00 pm **Welcome**

Nadya Al-Wakeel-Marquard & Sonia Singh

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#### 4:10 pm **Rapid fire session – Excellence Programme**

Chairs: Leo Nicolai & Simone Franziska Glaser

1. Aldosterone inhibition alleviates Type 2 pulmonary hypertension by phenotypic shaping of monocyte subsets | Jana Grune (Berlin)
2. Associations of circulating chemerin and adiponectin concentrations with lipoprotein subclasses in a population-Based Study | Stephanie Zylla (Greifswald)
3. Glutamine rewiring to proline biosynthesis is indispensable for endothelial cell proliferation | Anastasia Kyselova (Rhine Main)
4. The dynamic RNA binding protein Cpeb4 regulates cardiomyocyte growth and function | Vivien Kmietczyk (Heidelberg/Mannheim)
5. Long non-coding RNA LINC-PINT regulates abdominal aortic aneurysm disease development and progression | Francesca Fasolo (Munich)

10 min panel discussion

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#### 4:45 pm **1<sup>st</sup> oral session – Cellular Biology of the Heart**

Chairs: Sonia Singh & Laura Parma

1. Skeletal myocyte-specific knockout of Ptpn1 and Ptpn2 enhances inflammatory response in muscle and increases mortality in polymicrobial sepsis | Björn Brinschwitz (Greifswald)
2. Chronic heart failure as a sequel after severe burn injury - First insight into a novel pathological heart-skin axis | Tobias Niederegger (Heidelberg/Mannheim)
3. Establishment of a combined cell cycle sensor and CRISPR/dCas9-based transcriptional screening platform to study human cardiomyocyte cell cycle dynamics | Rosa Kim (Göttingen)
4. Muscle RING-finger proteins (MuRF) regulate PKA activity via retrograde vesicular transport of Rl $\alpha$  in skeletal muscle | Ning Li (Greifswald)
5. Mutant Phosphodiesterase 3A protects from hypertension-induced end-organ damage | Anastasiia Sholokh (Berlin)
6. Vascular senescence controls the neuro-cardiac interface in the aging heart | Julian U. G. Wagner (Rhine Main)

10 min panel discussion



5:45 pm Intensive networking event & coffee break

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**6:45 pm 1<sup>st</sup> poster session**

Chairs Posters A: Sonia Singh & Leo Nicolai

- A1. Quantitative Cardiac MR imaging detect cyclic myocardial deficits in preclinical model of hypertrophic cardiomyopathy | Oumaima Laghzali (Berlin)
- A2. Change of ST-level during and after physical activity in young men | Philip Gemke (Göttingen)
- A3. Strategy for CRISPR/Cas9-based generation of MATCAP1 deficient iPS cells | Moritz Meyer-Jens (Hamburg/Kiel/Lübeck)
- A4. Caspase-6 is necessary and specific for morphological adaptation specifically to shear stresses in pulmonary artery endothelial cells in vitro | Corey Wittig (Berlin)
- A5. Identification of key lncRNAs in cardiac resident macrophages using pooled CRISPR screens | Niklas Petzold (Munich)
- A6. The impact of genetic predispositions for cardiovascular risk factors on SARS-CoV-2 infection, severity and prognosis | Ayesha Syed Mamoor Alam (Rhein-Main)
- A7. CRIP1 as a novel player in hypertension-related inflammatory signaling pathways | Teng Tong (Hamburg/Kiel/Lübeck)

Chairs Posters B: Nadya Al-Wakeel-Marquard & Marcus Vollmer

- B1. Deletion of adipocyte NOS3 potentiates high fat diet-induced hypertension and vascular remodeling via chemerin | Andy W. Ch. Man (Rhein-Main)
- B2. Modulating RAS-MAPK pathway as a potential treatment for strain-induced cardiac arrhythmias caused by RAF1 mutation in Noonan syndrome | Fereshteh Haghighi (Göttingen)
- B3. Cysteine-rich protein 1 (CRIP1) impacts macrophage polarization and foam cell formation | Berkin Ersoy (Hamburg/Kiel/Lübeck)
- B4. Rare genetic background in familial hypertrophic cardiomyopathy causing a lipid and glycogen storage disease | Franziska Seidel (Berlin)
- B5. Endothelial cannabinoid receptor 1 upregulation by pro-atherogenic shear stress promotes vascular inflammation | Aishvarya Prabhu (Munich)
- B6. Proproliferative strategies to increase the success of hiPSC CM/ EHT transplantation | Marie Nehring (Hamburg/Kiel/Lübeck)
- B7. Using single nucleus RNA-sequencing to reveal gene expression signatures in pediatric dilated cardiomyopathy | Anna Myronova (Berlin)

Chairs Posters C: Michael Molitor & Laura Parma

- C1. An altered cardiac energy metabolism causes different aging phenotypes of B6J substrains | Sophia Walter (Berlin)
- C2. Molecular mechanisms of cardiac natriuretic peptide effect on adrenal aldosterone secretion | Sanika Mohagaonkar (Hamburg/Kiel/Lübeck)
- C3. Chronic heart failure associates with enhanced activation and clonal expansion of potentially autoreactive T-cells –flow cytometry and scRNA-Seq based insights | Maximilian Merten (Rhein-Main)
- C4. Biases in 16S amplicon sequencing of low biomass samples | Ulrike Löber (Berlin)
- C5. Nocturnal blood pressure dipping might be an artifact of cuff-based monitoring devices | Nicolai Spicher (Göttingen)



- C6. The role of MRAS in atherosclerosis and relevant cardiovascular risk factors | Pashmina Shah (Hamburg/Kiel/Lübeck)
- C7. Transcriptional regulation by TBX18 in vascular smooth muscle cells is essential for normal aortic development and homeostasis | Debanjan Mukherjee (Rhein-Main)

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7:45 pm- Dinner  
8:30 pm



Thursday, 14 September

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**9:00 am 2<sup>nd</sup> oral session – Cardiac Diseases**

Chairs: Simone-Franziska Glaser & Laura Parma

1. Expression of human ACE2 in heart promotes COVID-19 in a mouse model | Javier Duran (Heidelberg/Mannheim)
2. Innate Immunity in lung vascular maladaptation in HFpEF | Lara Jäschke (Berlin)
3. Reducing microtubule deetyrosination improves heart function in HCM mice and human iPSC-engineered heart tissues | Niels Pietsch (Hamburg/Kiel/Lübeck)
4. Inhibition of the epigenetically regulated transcription factor ZBTB16 impairs endothelial cell functions and induces a premature aging phenotype | Kathrin Anne Stiliz (Rhine Main)
5. In-ovo echocardiography for application in cardiovascular research | Niklas Hegemann (Berlin)
6. LMNA is a novel CAMK2 phosphorylation target and potentially contributes to the development of RBM20 cardiomyopathy | Zakiya Ghouse (Heidelberg/Mannheim)

10 min panel discussion

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**10:15 am Rapid fire session 1**

Chairs: Sonia Singh & Marcus Vollmer

1. Deep immune phenotyping of heart failure to identify molecular signatures of metabolically-Induced dysregulations in peripheral blood mononuclear cells | Maximilian Dominik Nuber (Rhine Main)
2. Lung capillary rarefaction in systemic hypoxemia in HFpEF | Ceren Koçana (Berlin)
3. DNA methylation in ABCG1 mediates an effect of lipoproteins on atherosclerotic markers | Mohamed Kamal Nasr (Greifswald)
4. AAV-mediated all-in-one delivery of CRISPR/Cas9 endogenous gene activation tools in cardiomyocytes | Eric Schoger (Göttingen)

10 min panel discussion

5. Self-assessment of exercise capacity and objective measurements on echocardiography and cardiopulmonary exercise testing (CPET) in patients with 'asymptomatic' systolic heart failure | Hannah Bräunig (Göttingen)
6. Effects of cardiomyocyte LMCD1-downregulation on hypertrophic stimulation by GPCR agonists | Lucia Kilian (Hamburg/Kiel/Lübeck)
7. CRIP1 is associated with endothelial dysfunction and affects the formation of factors important for the nitric oxide synthesis pathway. - Olga Schweigert (Hamburg/Kiel/Lübeck)

10 min panel discussion

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**11:15 am Coffee break**



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**11:45 am 3<sup>rd</sup> oral session – Clinical and Epidemiological Cardiology**

Chairs: Marcus Vollmer & Nadya Al-Wakeel-Marquard

1. Automated measures of cardiac structure and function are comparable to human measures in outcome prediction of chronic heart failure | Aída Romano Martínez (Rhine Main)
2. Role of B-cell activating factor (BAFF) in dilated cardiomyopathy (DCM) – Method for sequential isolation and cultivation of blood cell subpopulations | Esther Klein (Greifswald)
3. Large-Scale Plasma Protein Profiling of Coronary, Carotid, and Peripheral Atherosclerosis | Celine Müller (Rhine Main)
4. Association of mental health with cardiovascular risk factors and vascular remodeling in the young – results from the KiGGS cohort | Julia Büschges (Berlin)
5. Joint model analysis of individual LDL-c trajectories over time and its association with all-cause mortality in the general population in Northeast Germany | Helena Heilke (Greifswald)
6. Proteomic profile of chronotropic incompetence reveals differences in the heart failure phenotypes | Noémie Bélanger (Rhine Main)

10 min panel discussion

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12:45 pm Lunch

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**1:45 pm Rapid fire session 2**

Chairs: Djawid Hashemi & Michael Molitor

1. S100A1 protects cardiomyocytes from hypertrophic growth by controlling the de-novo synthesis of contractile and mitochondrial protein programs | Dorothea Noll (Heidelberg/Mannheim)
2. Body mass-related epigenetic and transcriptional reprogramming in heart failure phenotypes | Elif Yapici (Rhine Main)
3. Spatiotemporal Role of PKD1-NLRP3 Axis in Pathogenesis of Sepsis-induced Cardiomyopathy | Mohamed Ghait (Greifswald)
4. Transplantation of human engineered heart tissue in a chronic myocardial injury model | Constantin von Bibra (Göttingen)

10 min panel discussion

5. Effect of empagliflozin on the plasma lipidome in patients with type 2 diabetes mellitus – results from the EmDia trial | Katrin Bauer (Rhine Main)
6. Discovery and characterization of genetically determined lncRNA CH-AS1 and isoforms in coronary artery disease | Shuangyue Li (Munich)
7. An equivocal role of vitamin D3 and calcium supplementation on smooth muscle cell calcification | Wera Pustlauk (Berlin)
8. Pacemaking: Mechanisms of spontaneous beating in ventricular and atrial engineered heart tissue | Carl Schulz (Hamburg/Kiel/Lübeck)

10 min panel discussion

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**2:45 pm- 3:45 pm**    **2<sup>nd</sup> poster session & coffee**

Chairs Posters D: Djawid Hashemi & Simone Franziska Glaser

- D1. Glutaminase inhibitor CB-839/968 ameliorate cardiac hypertrophy in mice subjected to TAC | Andrea Matzen (Hamburg/Kiel/Lübeck)
- D2. Normal blood pressure in angiotensinogen knockout mice | André Felipe Rodrigues (Berlin)
- D3. Remodelling of cAMP and PDE dynamics within the SERCA2a microdomain in heart failure with preserved ejection fraction caused by obesity and type 2 diabetes | Ping Lai (Hamburg/Kiel/Lübeck)
- D4. Mitophagy controls endothelial quiescence and protein synthesis | Christina Karantanou (Rhine Main)
- D5. Platelet migration in atherosclerosis progression and plaque instability | Sezer Akgöl (Munich)
- D6. NLRP3-mediated processing of the muscle motor protein myosin heavy chain (MyHC) is involved in development of sepsis-induced cardiomyopathy | Lukas Lang (Greifswald)
- D7. BMP10, a novel biomarker in atrial fibrillation, is secreted by atrial cardiomyocytes - evidence from human experimental models | Laura Sommerfeld (Hamburg/Kiel/Lübeck)

Chairs Posters E: Leo Nicolai & Marcus Vollmer

- E1. A CRYAB p.Arg120Gly Human Disease Model Exhibits Important Hallmarks of Desmin-related Cardiomyopathy | Erda Alizoti (Hamburg/Kiel/Lübeck)
- E2. Circadian regulation of cardiac NAD<sup>+</sup> metabolism by REV-ERBs in development and disease | Bryce Carpenter (Rhine Main)
- E3. Impaired Sarcomere Shortening Response to Rate-Dependent Stress in a Murine Model of HFpEF and the Long-Term Effects of CAMKII Inhibition | Rashin Roshanbin (Berlin)
- E4. Effect of spermidine and exercise training in heart failure with preserved ejection fraction | Sanjeev Kumar Sagwal (Greifswald)
- E5. Generalized Arterial Calcification of Infancy Due to Novel Homozygous Splice-site Variant in ENPP1 | Ilyas Ahmad (Hamburg/Kiel/Lübeck)
- E6. The role of CaMKII-dependent histone modification and chromatin remodeling state in heart failure | Farhad Bazgir (Heidelberg/Mannheim)
- E7. The impact of shear stress on EndMT in vitro and implementation into a novel plaque erosion model | Alicia Beele (Munich)
- E8. Characterizing the interaction between circadian clocks and NAD<sup>+</sup> metabolism in human cardiac aging | Margaux Lecacheur (Rhine Main)

Chairs Posters F: Michael Molitor & Sonia Singh

- F1. Deciphering the molecular effects of physical activity by a targeted proteomics approach | Anna Kerber (Rhine Main)
- F2. Development of a digital to analog converter to reconstruct 12 leads ECG | Jader A. Giraldo-Guzmán (Greifswald)
- F3. Elucidating phosphodiesterase 3A signaling as a basis for gaining insight into hypertension-driving mechanisms | Tiannan Liu (Berlin)
- F4. DNA methylation in (sub)clinical atherosclerosis, cardiovascular function and cardiovascular outcome | Markus Ingold (Rhine Main)
- F5. Underlining the role of asprosin in pathogenesis of Marfan syndrome | Prithviraj M.V. Shetty (Hamburg/Kiel/Lübeck)



F6. Investigating the role of the AP-1 transcriptional complex during cardiac remodeling | Srishti Shekhar (Heidelberg/Mannheim)

F7. Identification of protein biomarker signatures for early detection of lung cancer and pathomechanistic overlap with cardiovascular disease | Sanaz Naghizadeh (Rhine Main)

4:00 pm Group photo (~15 minutes)

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4:30 pm- Social event

6:30 pm

7:00 pm Dinner

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**8:15 pm- Keynote lecture**

**9:15 pm** Navigating Your Academic Journey: Insights and Experiences on Career Perspectives | Monika Gladka (Amsterdam)



## Friday, 15 September

### 9:00 am **Rapid fire session 3**

Chairs: Djawid Hashemi & Tobias Reinberger

1. SHISA3 regulates vascular cell fate from the human epicardium via the TGF-beta signaling axis | Laura Priesmeier (Göttingen)
2. Effects of diet-induced obesity on heart and cardiomyocyte function are age-dependent | Patricia Owesny (Berlin)
3. Mechanosensitive ion channels in integrin mediated platelets function | Shuxia Fan (Munich)
4. Phenotype-specific EWAS of heart failure | Mykhailo Krolevets (Rhine Main)

10 min panel discussion

5. Development of Spatial and Temporal Proteomics Workflows for Pig Hearts | Jumana Jaber (Göttingen)
6. Modelling of a RYR2-associated left ventricular non compaction and sudden cardiac death overlap syndrome in hiPSC-EHTs | Julian Schlobohm (Hamburg/Kiel/Lübeck)
7. Characterizing the role of the RNA-binding protein Mbnl2 during cardiac remodeling | Maja Bencun (Heidelberg/Mannheim)
8. More than just hypertrophy – Endothelin-1 treatment models HFpEF in hiPSC derived cardiomyocytes on functional, mechanical and molecular level | Caterina Redwanz (Greifswald)

10 min panel discussion

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### 10:30 am **4<sup>th</sup> oral session – Atherosclerosis and Vascular Biology**

Chairs: Leo Nicolai & Michael Molitor

1. Single-cell and spatially resolved transcriptome analysis reveals the lncRNA DLX6-AS1 as a novel regulator of human atherosclerosis | Jessica Pauli (Munich)
2. Global cannabinoid receptor 1 deficiency promotes atherosclerosis by regulating bone marrow hematopoiesis | George Shakir (Munich)
3. Profiling resident and circulating immune cells in human infective endocarditis | Rainer Kaiser (Munich)
4. Vessels on-a-chip: A self-assembling vascular organoid model - Jennifer Paech (Berlin)
5. Development of novel atheroprotective CD40-TRAF6 inhibitors with high translational potential | Venetia Bazioti (Munich)
6. Platelets gain inflammatory and procoagulant capabilities as they age in circulation | Afra Anjum (Munich)

10 min panel discussion

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11:30 am Coffee break

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**12:00 pm** **Keynote lecture**

Gender Equity in the Cardiology and Cardiovascular Research Workforce | Carolin  
Lerchenmüller (Heidelberg)

**1:00 pm** **Wrap-up and announcement of session winners**

**1:15 pm** **Evaluation**

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1:30 pm End & farewell coffee & snacks

1:50 pm *Bus departure to Potsdam central station*