9th 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

4:10 pm  Rapid fire session – Excellence Programme
Chair: 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

4:45 pm  1st oral session – Cellular Biology of the Heart
Chair: 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 Rlox 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

6:45 pm  **1st 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 IncRNAs 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 | Aishvaryaa Prabhu (Munich)
B6. 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)
B7. Proproliferative strategies to increase the success of hiPSC CM/ EHT transplantation | Marie Nehring (Hamburg/Kiel/Lübeck)
B8. 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 Mohagooankar (Hamburg/Kiel/Lübeck)
C3. Endothelial cysteinolysis protects against age-related cardiac hypertrophy | Maria Kyriaki Drekolia (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)
Thursday, 14 September

9:00 am  2nd 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 HFrEF | Lara Jäschke (Berlin)
3. Reducing microtubule detyrosination 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 Stilz (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

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 HFrEF | Ceren Koçana (Berlin)
3. DNA methylation in ABCG1 mediates an effect of lipoproteins on atherosclerotic markers | M. 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

11:15 am  Coffee break
11:45 am 3rd 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

12:45 pm Lunch

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 IncRNA 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
2:45 pm - 2\textsuperscript{nd} 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+ 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+ 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)

4:30 pm  Social event
6:30 pm  Dinner

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 (Rhone 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

10:30 am  **4th oral session – Atherosclerosis and Vascular Biology**

Chairs: Leo Nicolai & Michael Molitor

1. **Single-cell and spatially resolved transcriptome analysis reveals the IncRNA 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 Baziotis (Munich)
6. **Platelets gain inflammatory and procoagulant capabilities as they age in circulation** | Afra Anjum (Munich)

10 min panel discussion

11:30 am  **Coffee break**
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**

1:30 pm  End & farewell coffee & snacks

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