



**DZHK**  
DEUTSCHES ZENTRUM FÜR  
HERZ-KREISLAUF-FORSCHUNG E.V.

UniversitätsKlinikum Heidelberg

## External Seminar Speaker

**Prof. Dr. Börn C. Knollmann, M.D. Ph.D.**

William Stokes Professor of Medicine and Pharmacology  
Director Vanderbilt Center for Arrhythmia Research  
and Therapeutics (VanCART)  
Vanderbilt University, Department of Medicine  
Nashville, USA



**Place:** Analysezentrum 3, 2. OG, Room 02.332

**Date:** Friday, 16.02.2018

**Time:** 1.00 pm

### **Mechanism and treatment of calcium triggered atrial and ventricular arrhythmia**

The cardiac ryanodine receptor (RyR2) releases calcium (Ca) from intracellular stores – the sarcoplasmic reticulum (SR) – and is essential for cardiac excitation-contraction coupling. Spontaneous Ca release via RyR2 has been associated with atrial fibrillation, catecholaminergic polymorphic ventricular tachycardia (CPVT), and sudden death in heart failure. The current concept is that spontaneous openings of RyR2 channels cause diastolic SR Ca release, resulting in delayed afterdepolarizations and triggered beats that can generate atrial and ventricular tachyarrhythmia. Using mice lacking cardiac calsequestrin as a genetic model of Ca-triggered arrhythmia, the lecture will discuss the pathophysiology of Ca-triggered atrial and ventricular arrhythmia and describe experimental and clinical strategies for finding better antiarrhythmic medicines.

**Host:** **Prof. Dr. med. Johannes Backs**

Director of the Department Molecular Cardiology and Epigenetics  
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