Research at a Glance

**Project:**
Cardiovascular MR imaging of scar and diffuse fibrosis in patients with ventricular arrhythmia

**Supervisors:**
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Start of doctoral project at GSB:
September 2015

Project Description:
Ventricular tachycardia (VT) Is a life-threatening cardiac arrhythmia and the most commonly identified — arrhythmia in sudden cardiac death. Cardiovascular magnetic resonance (CMR) imaging is a non-Invasive diagnostic tool for cardiac morphologic and functional assessment. In particular, late gadolinium enhancement (LGE) imaging stands as the gold standard for imaging of myocardial scar which provides more accurate diagnosis than localized and invasive biopsy. Furthermore quantitative 11 mapping has emerged as an imaging method for diffuse fibrosis which allows non-invasive characterization of myocardial tissue decomposition.

The aim of this project is to 1) develop novel imaging techniques that enable better quantification and visualization of scar and diffuse fibrosis, 2) understand the mechanism of VT by merging CMR and electroanatomic mapping data in patients with VT.

Selected Publications


Jihye Jang, G. Addae, W. Manning, R. Nezafat, Three-dimensional Holographic Visualization of High-resolution Myocardial Scar on HoloLens, 25th Annual Meeting of ISMRM, Hawaii, USA, 2017 (ISMRM Cardiac Study Group Trainee Abstract Award)

Jihye Jang, S. Nakamori, R. Nezafat, Improving Precision of Myocardial T1 Mapping with 3-parameter Model using Tissue Characteristic-based Denoising, 25th Annual Meeting of ISMRM, Hawaii, USA, 2017
