



University of
Zurich^{UZH}

Institute for Regenerative
Medicine (IREM)



Colloquium

Clinical Colloquium Regenerative Medicine

**Monday, 26th March 2018 at 1–2pm,
Institute for Regenerative Medicine (IREM),
University of Zurich, Wagistrasse 12,
WAD-904 (Founders Lab), 8952 Schlieren**

Prof. Ivan Martin

Department of Biomedicine, University Hospital Basel

Re-engineering developmental processes for tissue regeneration

Biological processes leading to tissue formation during embryonic development are characterized by a large stability and reproducibility of events, typically referred to as 'robustness'. Would regenerative medicine approaches be more repeatable and effective if they targeted the recapitulation of molecular pathways typical of tissue development? Within the exemplifying context of cartilage and bone repair, this lecture will discuss regenerative concepts based on engineering temporally staged processes, recapitulating events of development. The products would be constructs containing the necessary and sufficient cues to autonomously remodel into the target repair tissue upon grafting.

In this perspective, however, cells in adults may strongly differ from multipotent embryonic cells, and typically reside in an environment, which is tightly regulated by post-natal mechanical conditioning or immune/inflammatory processes. Thus, the developmental machinery might need to be re-designed for regenerative purposes by establishing artificial events or conditions. Will the resulting approach of 'developmental re-engineering' offer a chance for enhanced and robust regeneration?

Organiser: Prof. Dr. Dr. Simon P. Hoerstrup / Prof. Dr. Roger M. Nitsch

Execution/Chair: Dr. Steffen M. Zeisberger / Dr. Christian Tackenberg

IREM, University of Zurich

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