

DBMR Research Conference

Langhans Hörsaal Pathologie
Murtenstrasse 31, 3008 Bern

Date July 1, 2019, 5 pm – 6 pm

Title **Re-engineering developmental processes for cartilage and bone regeneration**

Speaker Prof. Dr. Ivan Martin, PhD
Department of Biomedicine, University Hospital Basel, Switzerland

Biosketch

Prof. Dr. Ivan Martin studied Biomedical Engineering at the University of Genova where he obtained his PhD in 1996. Between 1996 and 1999 he was a postdoctoral associate at Harvard/MIT. He joined the Department of Biomedicine at the University of Basel in 1999 as Director of the Tissue Engineering Research Group. In 2007 he was appointed Professor for Tissue Engineering. From 2004 to 2009 he was the first Chair of the European section of the Tissue Engineering Regenerative Medicine International Society (TERMIS). He is currently member of the editorial boards of 5 international journals and of the 'Mesenchymal stem cell committee' of the International Society for Cellular Therapy (ISCT). In 2018, he was elected as member of the Swiss Academy of Medical Sciences. His group includes scientists from the biological, engineering and clinical fields, dedicated to develop solid scientific basis for innovative translational strategies in regenerative medicine. He is author of more than 250 peer-reviewed papers on international journals (H-index of 84) and inventor on 10 patent applications. The developed science and technology have been translated into clinical trials for cell-based cartilage and bone repair, and into the founding of a spin-out company for the commercialization of tissue culture bioreactors (Cellec Biotek AG).

Abstract

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 introduce and discuss the challenges and opportunities of regenerative concepts based on mimicking developmental processes. Rather than engineering a tissue, the strategy would target the use of cells (e.g., mesenchymal stromal cells) to engineer temporally staged processes, recapitulating events of development (e.g., endochondral ossification for bone or joint cavitation for articular cartilage). The product would be a construct containing the necessary and sufficient cues to autonomously remodel into the target repair tissue upon grafting.

Prof. Dr. Ivan Martin has been invited by Prof. Dr. Willy Hofstetter, Bone Biology & Orthopaedic Research Group, DBMR, University of Bern.

September 2, 2019

"Ambient Ionization Mass Spectrometry for Cancer Diagnosis and Clinical Use"

Next DBMR Research Conference

Prof. Dr. Livia S. Eberlin, Department of Chemistry, University of Texas at Austin, TX, USA

The DBMR Research Conference takes place from 5 pm – 6 pm and will be followed by an apéro.



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