

IBN SEMINAR SERIES



Mechanobiology of Microtissues: Factors that Tip the Balance Towards Disease

Professor Viola Vogel
Department for Health Sciences and Technology
ETH Zürich, Switzerland

Tuesday, January 16, 2018 • 10:00 am to 11:00 am
Creation Theatrette, Level 4 • The Matrix, 30 Biopolis Street, Biopolis

ABSTRACT

Major transformations of extracellular matrix (ECM) accompany the onset and progression of many chronic diseases, yet it remains poorly understood whether and how the ECM orchestrates the deterioration of healthy to pathological tissues. These processes are regulated by a complex interplay of cells with their ECM, whereby the biochemical composition as well as the physical features of ECM are well recognized to regulate cell functions. Deciphering how diverse and often synergistic stimuli steer a multicellular system towards disease can be more easily studied utilizing de novo-grown tissues in microtissue platforms as they are more easily to control and to quantitatively analyze. Our progress towards this goal and how to translate the findings to the organ level will be discussed.

ABOUT THE SPEAKER

Viola Vogel is a Professor and Vice Chair of the Department of Health Sciences and Technology heading the Laboratory of Applied Mechanobiology at the ETH Zürich, Switzerland. Trained as a Physicist at the Frankfurt University, Germany, and after completing her graduate research at the Max-Planck Institute for Biophysical Chemistry (1987), she spent two years as postdoctoral fellow in the Department of Physics at the University of California Berkeley. As faculty member, she joined the Department of Bioengineering at the University of Washington, Seattle in

1990 to start a Molecular Bioengineering Program and moved there through the ranks to Full Professor. She was the Founding Director of the Center for Nanotechnology at the University of Washington (1997-2003) prior to her move to Switzerland in 2004, where she initially joined the Department of Materials and then co-founded the new Department of Health Sciences and Technology (2012).

This seminar is free and no pre-registration is required.

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