

Friday September 6 , 2019- 14h00
Conference room SV 1717- EPFL - Lausanne

Dr. Gerard Karsenty

Professor and Chair – Genetics & Development Department, University of Columbia, New York, USA

“The impact of bone on whole organism physiology”

Hosts: Prof. Kristina Schoonjans and Prof. Johan Auwerx

Abstract:

We are using mouse genetics to ask whether we know, as we assume we do, all the physiological functions fulfilled by each organ in mammals. This exploration is based on the belief that physiology, i.e., the science of how organs talk to each other to maintain a whole-organism homeostasis, has been stalled in the last 70 years or so. As a case in study we focus our efforts on the skeleton and are asking does bone have any other function besides making bone? Based on cell biological and clinical observations we have hypothesized that there must be a coordinated control, endocrine in nature, of bone growth, energy metabolism and reproduction. Exploring every tenet of this working hypothesis revealed, as it will be illustrated during the talk, that bone is a multipurpose endocrine organ that influences many more physiological processes than simply bone modeling and remodeling. Analysis of all the bone-regulated functions reveals a common feature shared by all of them. This in turn suggests that bone may have been invented as a survival tool for animals leaving the sea to live on land.

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