BIOENGINEERING SEMINAR

“From Stripes to Blood Flow: Decoding Cell Fate Emergence in the Lateral Plate Mesoderm”

Thursday – April 19, 2018 – 15h00
EPFL – room SV1717

Prof. Christian Mosimann
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host: Prof. Andrew Oates

Abstract

In vertebrates, cardiovascular progenitors arise along with kidney, smooth muscle, and limb skeleton lineages from lateral plate mesoderm (LPM). How LPM is specified and what molecular features connect its distinct cell fates remain vaguely defined, in part due to the LPM’s dynamic architecture. By combining live imaging, cis-regulatory element analysis, and cross-species reporter assays centered on the zebrafish, we are charting the emergence of the LPM and trace its control back to an evolutionarily conserved regulatory program. These findings provide a paradigm for the origins of essential parts in the vertebrate body plan and establish a genetic basis for the programming of cardiovascular lineages in vitro.