DISTINGUISHED LECTURE in BIOLOGICAL ENGINEERING

“Decoding Transcriptional Regulation”

Monday – June 8, 2015 – 12:15 p.m.
EPFL – room SV1717a

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host: Prof. Bart Deplancke

Abstract:
In higher eukaryotes, genes are expressed dynamically in complex spatial and temporal patterns, which are progressively refined to set up body plans and define specific cell-types. I am presenting our work towards understanding transcriptional regulation in Drosophila by an interdisciplinary approach. We functionally characterize regulatory sequences by enhancer screens and by determining tissue-specific regulator binding. Computational motif analyses coupled to supervised machine-learning methods are powerful tools that allow us to determine motifs that are shared in functionally related sequences and are promising candidates to explain regulatory function. We also study how enhancers activate different types of promoters and how enhancer – core-promoter specificity is encoded in the two elements’ sequences. We finally dissect the combinatorics of transcription factors and transcriptional cofactors at enhancers by directed tethering in enhancer complementation assays, which revealed functionally distinct classes of transcription factors and cofactors.

Sandwiches will be provided

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