

Monday April 30 , 2018 – 10h00

Conference room AI 1153 (*)- EPFL - Lausanne

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“Progeria and proteomics - An overview of my master's thesis and PhD”

Host: Prof. Johan Auwerx

Abstract:

For many non-communicable diseases, mechanisms acting exclusively at the protein level (e.g. synthesis, degradation, aggregation, post-translational modification) are major contributors to loss of cell function. This is also true for Hutchinson-Gilford progeria, a rapid aging disease for which good model systems were lacking at the time. During my master's thesis, I was able to partially mimic the disease in healthy cells using both genetic and chemical treatments. However, to fully uncover the complex molecular network for diseases such as progeria, omics approaches are necessary. Therefore, during my PhD, I focused on developing MSqRob: a versatile R package with a graphical user interface that allows easy quantification of both simple and complex proteomics data. During my talk, I will show the rationale behind MSqRob and demonstrate its performance. Furthermore, I will introduce our newest addition to quantify proteomics data for which peptides are completely missing in one condition. Although very different in nature, both my master's and my PhD work have indirectly made a contribution to elucidate pathological protein network perturbations.

(*) IMPORTANT NOTICE: All external participants have to pass through SV Reception/Welcome Desk to be able to access to AI 1153.

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