LAUSANNE INTEGRATIVE METABOLISM
AND NUTRITION ALLIANCE (LIMNA)

Wednesday October 7, 2015  at 2.00pm
Conference Room: AI 1153 (*) EPFL – Lausanne

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“Mitochondrial proteins, pathways, and pathogenesis”

Host: Johan Auwerx

Abstract:
Mitochondrial dysfunction is associated with a spectrum of rare inborn errors of
metabolism and an increasing number of common diseases, including Parkinson’s,
Alzheimer’s, various cancers and type 2 diabetes. However, the nature and cause of
this dysfunction is quite often confounding or unclear. Central to this problem is the
recent realization that mitochondria are much more complex than once thought and
possess hundreds of proteins with no known biochemical functions. Elucidating the
biochemical functions of these proteins has become a major bottleneck in
understanding basic mitochondrial biology and the pathophysiology of mitochondria-
related disorders. The long-term significance of my research program is to widen
this biomedical bottleneck by accelerating the functional annotation of key disease-
related “orphan” mitochondrial proteins (OMPs), thereby taking an important
first step toward rational therapeutic design for many mitochondrial diseases. We do
so by first designing large-scale mass spectrometry and computational analyses
designed to make initial connections between OMPs and known mitochondrial
pathways and processes, and then employing mechanistic and structural
approaches to define the functions of select OMPs at biochemical depth.

(*) IMPORTANT NOTICE: All external participants have to pass through SV
Reception/Welcome Desk to be able to access to AI 1153.
Contact person to call at arrival at SV Reception Desk: Johan
Auwerx 30951/Administrative Assistant: 39522.

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