

## **New insights into peroxisomes - small organelles with exciting biology and a huge impact on human health.**

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Peroxisomes are central metabolic organelles whose decreased function gives rise to severe peroxisomal diseases. It is recently becoming clear that beyond such inborn errors of metabolism, that the gradual deterioration of peroxisomal functions with age as well as small alterations in peroxisomal functions due to gene variants, contributes also to multiple and prevalent diseases such as cancer, viral infection, diabetes and neurodegeneration. Despite the clear importance of peroxisomes in pathophysiological processes, the research on peroxisomes is dramatically lagging behind research on other metabolic organelles such as mitochondria. This is perhaps due to the misconception that peroxisomes play only ancillary or redundant roles with mitochondria. This is far from true since the majority of peroxisomal functions cannot be replaced by other organelles. I will discuss our efforts in the last years to systematically uncover the peroxisomal proteome and the diversity of peroxisomal functions.