

07 Dec  
2022  
Wednesday  
LECTURE\*

2.00 pm - 3.00 pm



# Deciphering gene expression regulation in health and disease using integrative Omics approaches



## ABSTRACT

The development of an adult human being from a single fertilized egg is accompanied by the generation of ~200 functionally distinct cell types. Each of these cell types expresses only a subset of the 20.000 genes that the human genome encodes for. Cell-type specific gene expression patterns thus ensure the generation of hundreds of phenotypes based on a single genotype. Transcription factors play an important role in driving cell-type specific gene expression, but so-called epigenetic modifications of DNA and core histones also regulate changes in gene expression and phenotype during development and during adult life. Our lab is integrating state-of-the-art quantitative mass-spectrometry based (interaction) proteomics and next generation DNA sequencing technology to decipher (epi)genetic regulation of gene expression in (differentiated) stem cells. Furthermore, we use the same technology to study deregulation of gene expression in cancer. In my lecture I will provide an overview of some of our recent results related to these topics.

## SPEAKER

### Prof Michiel Vermeulen

Research director of the RIMLS-Science Institute  
Radboud University, Netherlands

## HOSTS:

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### Location:

Luxembourg Learning  
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Learning Hub 2.02  
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