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Ph.D. student in Virology (Würzburg)

We are seeking a Ph.D. student to work on human cytomegalovirus (HCMV) latency and reactivation in myeloid cells using a combination of single cell mRNA sequencing, CRISPR/Cas9 and novel reverse genetics approaches. The position is for ≥3 years. Employment is based on 65% TV-L E13.

The human cytomegalovirus (HCMV) persistently infects the majority of the world's population. While HCMV infection of healthy individuals is usually subclinical, life-threatening HCMV disease is frequent among the immunocompromised. Following entry of the virus into a cell, a decision is made whether this results in lytic, latent or abortive infection. This decision is shaped by the interplay between cell-intrinsic and extrinsic factors. We aim to unravel novel mechanisms and the functional interplay by which HCMV manipulates its host cells throughout the viral life cycle in human monocytes and macrophages. We will employ novel barcoded reporter viruses and metabolic RNA labeling combined with single cell RNA sequencing (scSLAM-seq) [1]. We will exploit the extensive intercellular heterogeneity that is present at single cell level to identify novel host factors that govern infection outcome. Interesting cellular candidate genes will then be functionally characterized to decipher their role in cell-intrinsic defenses and viral evasion thereof.

We offer an attractive collaborative research environment, personal daily support in the lab by experienced postdoctoral researchers and structured biomedical training. We encourage the supervision and guidance of master and bachelor students, in order to build personal teaching and leadership skills.

Applications welcome by e-mail to: Lars.Doelken@uni-wuerzburg.de

References:

1. scSLAM-seq reveals core features of transcription dynamics in single cells.
Erhard, F.; …; **Dölken, L**.
Nature 2019, 571, 419–423, doi:10.1038/s41586-019-1369-y.