ZHMB – Zentrum für Human- und Molekularbiologie
Fachrichtung Biowissenschaften

UNIVERSITÄT DES SAARLANDES

ZHMB Kolloquium

Predicing condition-specific RNA splicing, proteome, and proteome interactions

Montag, 23. November 2026, 12:15 Uhr

Campus Saarbrücken, Geb. B 2.1, HS02

MS Teams: https://tinyurl.com/476ck7hm

Vortrag von

Prof. Dr. Volkard Helms

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This talk addresses the interplay between the molecular make-up of cells and their functional identity, that is also termed cell fate.

It is well known that specific cell types express typically only a selected subset of all genes. Furthermore, alternative splicing produces condition-specific mRNA isoforms. Protein abundance is also condition-specific, as transcript and protein levels are typically correlated to about 0.5, but this correlation may decrease down to 0.2 for certain tumors. Moreover, non-canonical protein translation may produce untypical peptide chains that start at alternative AUG sites or even at non-cognate triplets. Finally, due to post-translational modifications and structural differences between protein isoforms, a protein-protein pair may physically interact in one condition, but not be able to interact in another condition.

The talk will highlight recent studies from our group on connecting exon usage to chromatin via RNA-binding proteins (https://doi.org/10.1093/nargab/lqaf161), on predicting non-canonical translation (https://doi.org/10.1093/nargab/lqag100), on relating transcriptomic and proteomic levels (https://doi.org/10.1002/pro.70806), and on predicting condition-specific protein-protein interactions (https://www.biorxiv.org/content/10.64898/2026.10.29.762715v1).