

FASSBERG

SEMINAR SERIES



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Regulation of gene expression in the three-dimensional genome

Precise gene expression patterns during mammalian development are controlled by cis-regulatory elements, including promoters, enhancers and boundary elements. These elements interact in specific three-dimensional structures in the interphase nucleus. However, it is not well understood how these structures are formed and how regulatory elements function within this context to control gene expression. I will present a combination of functional genomic and computational approaches that provide new insight into the origin and function of chromatin structures. Focussing on the well-characterised globin genes, I will discuss new techniques that have enabled in-depth analyses of their three-dimensional organisation and the function of regulatory elements within this configuration. In addition, I will present data showing how these specific chromatin structures are established during in vivo erythroid differentiation. I will also discuss how I plan to extend these observations genome-wide and in other model systems to further our understanding of the relationship between genome structure and function.

Host: Prof. Dr. Patrick Cramer



Tuesday / 19.11.2019 / 11:00

Max Planck Institute for Biophysical Chemistry
Large Seminar Room / Administration Building

