

# SFB 960-/BZR – Kolloquium

## GBM Lecture

25 April 2019, 14.00

H53



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#### ***Targeting the X chromosome for global transcription regulation***

The transcription of most genes on the single X chromosome of male fruit flies (*Drosophila melanogaster*) is doubled to match the combined output of the two X chromosomes in females. This sophisticated regulation – the dosage compensation – is of vital importance. By studying the system, we address questions of broad relevance for all metazoans. What are the genetic and epigenetic principles that allow the X chromosome to be distinguished from the autosomes? How do transcription factors find their functional binding sites in complex eukaryotic genomes in the context of a vast excess of similar sequences? How does the folding of chromosomes and the nuclear architecture contribute to chromosome-wide gene regulation? What is the role of long, non-coding roX RNA in the regulatory ribonucleoprotein complex? How is transcription tuned in the two-fold range? Each answer we find leads to more and more interesting questions.

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