

## Hosting group information for applicants

Name of DKFZ research division/group:

**Division of Regulatory Genomics and Cancer Evolution (B270)**

Contact person: **Duncan Odom**

Group homepage: <https://www.dkfz.de/en/regulatorische-genomik/index.php>

Please visit our website for further information on our research and recent publications.

### RESEARCH PROFILE AND PROJECT TOPICS:

Dr Odom's laboratory studies how genetic sequence information shapes the cell's DNA regulatory landscape and thus the trajectory of cancer genome evolution. Our long-standing interest in interspecies analysis of matched functional genomic data has revealed the extensive and rapid turn-over of tissue-specific transcription factor binding, insulator elements, polymerase occupancies, and enhancer activities during organismal evolution. My laboratory has begun exploiting single-cell RNA-sequencing and large-scale whole genome sequencing in understanding molecular and cancer genome evolution. Recent high-profile studies from the Odom lab used single-cell transcriptional analysis to conclusively demonstrate that ageing results in substantial increases in cell-to-cell transcriptional variability and exploited chemical carcinogenesis in mouse liver to reveal how the persistence of DNA lesions profoundly shapes tumour genomes.

First, we are currently interviewing for experimentally focused postdoctoral fellows to spearhead multiple diverse and interdisciplinary collaborations in single-cell analysis, functional genomics, and spatial transcriptomics with Gerstung, Stegle, Hofer, and Goncalves laboratories at DKFZ. Such an appointment would offer unusual opportunities for an experimentally-focused postdoc to learn and deploy bioinformatics tools in collaboration with one or more world-leading computational biology laboratories. Second, we are seeking a postdoctoral researcher to spearhead a collaboration with Edith Heard's group at EMBL, focused on how X-chromosome dynamics can shape disease susceptibility in older individuals.



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