

CCR – Lecture Series

Friday, September 25th, 2026, 11:00 AM

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TERRA: RNA-mediated regulation of telomere structure and function

Telomeres are specialized nucleoprotein structures that protect the ends of linear eukaryotic chromosomes. By solving the end-replication and end-protection problems, telomeres ensure proper genome replication and stability. Telomere function relies on the multiprotein complex shelterin and is further regulated by TERRA, a long non-coding RNA transcribed by RNA polymerase II from telomeres. TERRA interacts with telomeric DNA and several telomere-associated proteins and has been implicated in the regulation of telomere structure, replication, DNA repair and telomerase activity.

In my talk, I will discuss our work aimed at understanding how TERRA contributes to telomere homeostasis, with particular emphasis on TERRA interactions with shelterin in human cells and their functional consequences. I will also present studies in Chinese hamster cells, where abundant TERRA transcripts originate predominantly from interstitial telomeric sequences. Together, these findings illustrate the diverse and context-dependent functions of TERRA and provide new perspectives on how telomeric repeat-containing RNAs contribute to genome stability.

Venue: Lecture Hall B1, Borschkegasse 4a

Time: Friday, September 25th, 2026 at 11:00 AM

Host: Klaus Holzmann



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