



Innovations in Regenerative Medicine

Wednesday, November 1st, 13:00 – 14:00

IREM, Wagistrasse 12 (6th floor-WAD-L-121/123)



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Transposable elements and their epigenetic controllers, the long-hidden orchestrators of our biology

The part of our genome that encodes for proteins has been the main focus of biomedical research for many decades. This is understandable, because proteins are the ingredients of our makeup and their abnormalities the source of our ills. Yet protein-coding sequences represent only 2% of our DNA. Half of our genome is derived instead from transposable elements (TEs), these virus-like entities sprinkled in millions of copies throughout our DNA. This endovirome is still called by many the dark side of our genome, owing a poor understanding of its relevance for human biology.

I will describe how far this is from the truth, and how TEs and their epigenetic controllers partner up to shape the human regulome and play the role of key influencers in all biological events examined so far. I will also explain how TEs act as sentinels to alert the cell against epigenetic disturbances, and how cancer cells subvert TE-controlling KRAB zinc finger proteins to evade this surveillance mechanism.

