



The Department of Pharmacology

Proudly Presents the
Seminar Series:

Signaling

Neuroscience

Genomics

Frontiers in Pharmacology

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**“Awake the sleeping, mute the screaming:
towards targeted overwriting of epigenetic marks to modulate gene
expression profiles.”**

It becomes increasingly clear that many diseases are associated with epigenetic alterations causing aberrant gene expression. Contrary to genetic mutations, epigenetic abnormalities affecting DNA methylation and histone modifications are reversible. Current drugs affecting epigenetics show re-expression of silenced genes, but act non-selectively and transiently. We develop targeted rewriters of epigenetic marks (TREMs) as a novel approach towards permanent normalisation of specific aberrantly expressed genes. TREMs consist of highly specific DNA binding domains coupled to epigenetic enzymes. Towards this end, Zinc Finger Proteins and Triplex Forming Oligos are engineered to achieve gene-specific targeting in the human genome. These agents can then target the fused epigenetic enzyme to overwrite epigenetic abnormalities specifically at that site. The approach will result in the specific and permanent normalisation of gene expression.

Friday, November 13th

10:00 am

GBSF Auditorium

(Rm. # 1005)