

Seminar Series of the  
CIHR Training Grant in  
**Protein Folding and  
Interaction Dynamics**

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**Ions, loops, and side  
chains: Dynamic  
regulations of histone  
deacetylases (HDACs)**

Histone deacetylases (HDACs) modify the structure and function of chromatin and are crucial for transcriptional repression and epigenetic landscaping. It has been hypothesised previously that the structure of class I HDACs is flexible and also that these enzymes are regulated allosterically (a) by the binding of regulators and (b) by post-translational modifications.

In the talk I will show how structural dynamics of the isoforms HDAC2 and HDAC8 relate to enzymatic function and how small regulators, such as potassium ions, bind to HDAC8 in order to regulate its enzymatic activity. A series of new NMR methods developed to characterise the dynamics of charged side chains and characterise the binding of monovalent cations to medium-large proteins will also be presented.

Host: Dr. Lewis Kay

Wednesday, December 10 - 11:00am  
Medical Sciences Building, Rm. 4171  
University of Toronto