

## PhD or MSc opportunities in Comparative Biochemistry



### Epigenetics and Oxidative Stress

Storey lab, Carleton University, Ottawa



The Storey lab is seeking highly motivated graduate (MSc or PhD level) students interested in learning state-of-the-art biochemical techniques and bioinformatic tools to help further elucidate the molecular mechanisms that allow a range of animal models to survive harsh environmental conditions.

Oxidative stress due to reactive oxygen species (ROS) is a widespread consequence of environmental stress that causes serious damage to cellular macromolecules. Antioxidant defenses to counter ROS attack can be overwhelmed leading to permanent damage or death. Projects are available to examine environmental stress-responsive oxidative damage to DNA and determine if this causes sustained or permanent changes to DNA via epigenetic mechanisms (e.g. DNA methylation, histone modifications) that alter gene expression. Projects will analyze DNA and histone modifications as well as changes in the enzymes activities that catalyze these modifications in metabolically depressed animals following environmental stress.

We are an integrative lab of comparative biochemists and molecular physiologists, working to understand the strategies of animal adaptation to environmental stress. Successful candidates will focus on evaluating post-translational modifications of histones, changes in DNA methylation, analysis of enzymes that mediate epigenetic change, and bioinformatic studies of genes/proteins. Full funding packages are available to qualified applicants. Funding supplements guaranteed for NSERC/OGS winners.

The training and experience provided by this project are broadly applicable to multiple future career paths – our graduated students go to medical school, faculty positions, and research leadership in companies.

Applications should include an unofficial copy of your transcript, a resume, a letter outlining why you are interested in a position and your research experience, and the names and contact details of two academic referees

Visit <http://www.kenstoreylab.com/> for more information on the Storey Lab & contact Ken Storey at [kenneth.storey@carleton.ca](mailto:kenneth.storey@carleton.ca)

