



and

## the 4th Canadian Student Conference on Biomedical Computing

present Guest Speaker :

### **Olga Troyanskaya**

<http://imperio.princeton.edu/cm/node/13>

**Princeton University, Lewis-Sigler Institute for Integrative Genomics**

### *Digging in data: how computation can be used to drive biological discovery*

The explosion of functional genomics data, including microarray, proteomics, and high-throughput genetic studies, has the promise of a systems-level view of protein function, interactions, and regulation. In the future, such systems-level understanding of biology can pave the way for predictive physiological models and molecular medicine. However, these data are noisy, computationally diverse, and biologically heterogeneous. I will discuss our recent work in developing robust methods for integrated analysis of these data with the goal of enabling exploration and discovery of novel biology, and in addressing the disconnect between computation and experiments through an integrative computational-experimental framework for function discovery. We applied these methods to data from human and model organisms, identifying and experimentally validating previously unknown protein functions, including several new players in macroautophagy in human fibroblasts and over 100 new mitochondrial organization and biogenesis proteins in yeast.

Introductory speaker (10 mins):

**Monica Sleumer**, Jones lab (GSC)

*De Novo Detection of Regulatory Elements in C. elegans*

**Thursday, March 12, 2009, 6:00 pm**

Gordon and Leslie Diamond Family Theatre,  
BC Cancer Research Centre,  
675 West 10th Avenue



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