



present Guest Speaker:

**Nathan Price**

**Institute for Systems Biology, Seattle**

*Integrated modeling of metabolic and regulatory networks*

To harness the power of genomics, it is essential to link genotype to phenotype through the construction of quantitative systems models. I will discuss approaches for the creation of such quantitative models that can simulate a variety of cellular functions. I will focus particularly on automated methods for integrating metabolic and regulatory networks such as our newly developed approach, Probabilistic Regulation of Metabolism (PROM) (Chandrasekaran and Price, PNAS, 2010). PROM is notable in that it represents the successful integration of a top-down reconstructed, statistically inferred regulatory network with a bottom-up reconstructed, biochemically detailed metabolic network, bridging two important classes of systems biology models that are rarely combined quantitatively. Additionally, I will discuss our new strategy to curate the inference of regulatory interactions from high throughput data using metabolic networks—providing multiple layers of biological context to the problem of regulation. Finally, I will describe our approach to building tissue and cell type specific metabolic models, which we have now done for 131 different cell types and tissues in the human body.

Introductory speakers (10 mins):

**Evan Morien**, Pavlidis lab, CHiBi, UBC

*Genomic Expression Patterns in Wild Pacific Salmon*

**Thursday, March 8, 2012, 6:00 pm**

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



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