



Nathan Price, Ph.D.

Assistant Professor,
Department of Chemical
and Biomolecular
Engineering Institute for
Genomic Biology
University of Illinois,
Urbana-Champaign

"Systems Biology in
Medicine: Applications to
Anemia, Diabetes, and
Cancer "

Date: Friday, February 8
Time: 1:00-2:00 EST
Location: Clark Hall 314

Abstract:

Systems biology – the intersection of high-performance computing with high-throughput experimental technologies to drive biological discovery – has the potential to transform the practice of medicine to a more predictive and personalized discipline. These technologies enable the reconstruction and modeling of large-scale biochemical networks in human systems that can aid in the understanding, and eventual control, of disease phenotypes. In addition, disease-perturbed biomolecular networks result in altered levels of gene and protein expression that necessarily leave molecular fingerprints that can be identified for accurate disease diagnosis to aid in the selection of appropriate therapies for the patient. Systems approaches to human disease will be illustrated in three cases: hemolytic anemia, diabetes, and cancer.