

2009 ISIBM International Joint Conferences on Bioinformatics, Systems Biology and Intelligent Computing

August 3-6, 2009, Shanghai, China

<http://www.isibm.org/IJCBS/index.html>

Session Title: **Machine Learning and Human Diseases**

Session Chairs:

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Machine learning is particularly appealing for modeling complex biological patterns. For many biological problems, although some experimental observations have been made, the underlying mechanisms are still poorly understood. It is thus highly desired that machine learning methods can be used to model the complex patterns hidden in the available data.

This special session will focus on machine learning algorithms and applications that are useful for studies on human diseases. Topics of interest include, but are not limited to, nucleotide and protein sequence pattern recognition in human genetic research; protein structure-based methods for modeling the effect of mutations; disease classification based on gene expression, proteomic or metabolomic profiles; molecular classification and characterization of human pathogens; modeling human-pathogen interactions; clinical data mining and decision support systems; biological feature extraction and selection; machine learning algorithms for noisy biological data; semi-supervised learning algorithms to utilize unlabeled data; evolutionary computing; etc.

Authors should prepare their manuscripts according to the instructions given in the conference website, and submit directly to the session chairs via email by February 15, 2009. Paper acceptance will be based on quality, relevance and originality.