

Computation and **I**nformatics in **B**iology and **M**edicine
Training Program

Craig A. Struble, PhD

Assistant Professor
Department of Mathematics, Statistics and Computer Science
Marquette University

***Identification of Genes Common to
Multiple Diseases***

Abstract:

Knowing a gene is related to a disease may allow for development of therapies, or provide deeper insight into disease etiology. While physicians are often aware of gene studies in their own field, they may be unaware of useful research in other disease communities. Motivated by this observation, I am investigating tools for bridging across communities, to find and provide relevant research to physicians from disease fields outside of their area of expertise.

I present an approach to derive relationships between genes and diseases from the LocusLink and PubMed databases. Once derived, graph theoretic analyses are used to identify clusters of diseases and genes shared by those diseases. Several interesting characteristics of the relationship graph and clusters are reported. A case study of using clusters as an information retrieval tool is presented. The talk is concluded with several opportunities to extend the work.

**Tuesday, March 1st, 2005
4:00 p.m.**

Genetics/Biotechnology Center Auditorium
425 Henry Mall