BRIGHAM AND WOMEN'S HOSPITAL

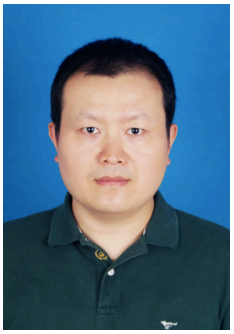
HARVARD MEDICAL SCHOOL

181 Longwood Avenue
Boston, Massachusetts 02115-5804

Department of Medicine
Channing Division of Network Medicine

Channing Network Science Seminar

Oct 23, 2015, 11am @ 5th floor conference room



Bingbo Wang, Ph.D.

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Diversified Control Paths: A Significant Way Disease Genes Perturb the Human Regulatory Network

Abstract: The complexity of biological systems motivates us to use the underlying networks to provide deep understanding of disease etiology. We combine tools from control theory and network science to address the diversified control paths in biological networks. Then the ways by which the disease genes perturb biological systems are identified and quantified by the diversified control paths in a human regulatory network. Furthermore, as an application, prioritization of candidate genes is presented by use of control path analysis and gene ontology annotation. We use cross-validation to evaluate the ability of finding the gene-disease relationship.

Bio: Bingbo Wang is a lecturer of School of Computer Science and Technology, Xidian University, China. He received his doctor's degree in computer application technology from Xidian University, in 2014. His research interests include bioinformatics and complex network analysis. His research works was published in Plos One, Scientific Reports, Europhysics Letters, J. Stat. Mech. and Proteome Science. He hosted the NSFC project and participated in several National Key Natural Science Foundation projects in China.

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e0135491. http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0135491

Hosted by Amitabh Sharma