

Jiguang Wang

Curriculum Vitae

Personal data:

- Name: Jiguang Wang
- Sex: Male
- Born: 10/28/84

Contact Information:

- Address: Institute of Applied Mathematics,
Academy of Mathematics and Systems Science (AMSS),
Chinese Academy of Sciences (CAS),
Beijing 100190, China
- Telephone: +86-10-62571860
- Fax: +86-10-62571860
- E-mail: wjg AT amss DOT ac DOT cn
- Homepage: <http://zhangroup.aporc.org/JiguangWang>

Profile:

Jiguang Wang is expected to get his Ph.D. degree in Operations Research and Control Theory from AMSS of CAS in July 2011. He is major in developing models and algorithms in computational biology and systems biology since his graduation from college in 2006. He is now interested in several topics including detecting modules in complex network, inferring TF activity additional with transcription regulatory network according to integrating heterogenous resources, analyzing functions of biological networks, exploring aging mechanisms by network topology, and some other related topics.

Ph. D Thesis:

The research on molecular network models of complex disease (in Chinese).

Education:

- Ph.D., Operations Research and Control Theory (Supervised by Prof. Xiang-Sun Zhang), Academy of Mathematics and System Sciences, CAS, 2006.9 ~ 2011.6 (expected)
- B.A., Information and computation science, Beijing Institute of Technology, 2002.9 ~ 2006.7

Projects:

2009 ~ 2010 The research of dynamic model and algorithms for network biomarkers in type 2 diabetes, Principal Investigator, Ph. D research project supported by Chinese Academy of Sciences.

Honors and Awards:

- The Presidential Outstanding Research Scholarship from the Academy of Mathematics and Systems Science of Chinese Academy of Sciences, 2009
- “Three goods” Student in AMSS, 2007
- Beijing Outstanding Graduates, 2006
- Honorable Prize in Mathematical Contest in Modeling, 2005

Skills:

- Good knowledge in basic Mathematical theories including Probability Theory, Statistics, Graphical Theory, Computational Complexity, Operation Research, Mathematical Programming, Data Mining, etc.
- Familiar with several types of computer languages including Matlab, C++, Python, etc.
- Experience in cooperation with biologist in several projects including 3T3-L1 cell differentiation, the study of teratoma in mouse, and GK rat with Type II diabetes.
- Familiar with biological databases for PPI, ChIP-chip, ChIP-seq, metabolic pathways, gene expression, etc.
- Basic understanding of biotechnology like real-time PCR, Western blot, co-IP, etc.

Publications:

- [1] **Jiguang Wang**, Qiang Huang, Zhi-Ping Liu, Yong Wang, Ling-Yun Wu, Luonan Chen, Xiang-Sun Zhang, Network-based gene ontology analysis. *Nucleic Acids Research*, doi: 10.1093/nar/gkr251, 2011.
- [2] **Jiguang Wang**, Shihua Zhang, Yong Wang, Luonan Chen, and Xiang-Sun Zhang. Disease-aging network reveals significant roles of aging genes in connecting genetic diseases. *PLoS Comput Biol*, 5(9): e1000521, 2009.
- [3] Huarong Zhou, Shigeru Saito, Guanying Piao, Zhi-Ping Liu, **Jiguang Wang**, Katsuhisa Horimoto, Luonan Chen. Network screening of Goto-Kakizaki rat liver microarray data during diabetic progression. *BMC Systems Biology*, 5(Suppl 1):S16, 2011.
- [4] Xiang-Sun Zhang, Rui-Sheng Wang, Yong Wang, **Jiguang Wang**, Yu-Qing Qiu, Lin Wang, and Luonan Chen. Modularity optimization in community detection of complex networks. *Europhysics Letters*, 87: 38002, 2009.
- [5] **Jiguang Wang**, Luonan Chen, Xiang-Sun Zhang. Proteome and transcriptome-based reconstruction of active protein-gene networks by Gaussian graphical model in type II diabetes. In preparing.
- [6] Wei Song*, **Jiguang Wang***, Ying Yang, Nai-He Jing, Xiang-Sun Zhang, Luonan Chen, Jia-Rui Wu. Variable cellular contexts convert roles of p53 in tumorigenesis of embryonal carcinoma cells. In preparing. (*co-first author)
- [7] **Jiguang Wang**, Yong Wang, Xianwen Ren, Wei Guo, Luonan Chen, Uncover the Transient Transcriptional Regulations by a Novel Sliding Window Correlation Strategy. *The proceedings of ISB*, 2010.
- [8] **Jiguang Wang**, Yuqing Qiu, Rui-Sheng Wang, Xiang-Sun Zhang. Remarks on network community properties. *Jrl Syst Sci & Complexity*, 21: 637-644, 2008.
- [9] **Jiguang Wang**, Lin Wang, Yu-Qing Qiu, Yong Wang, Xiang-Sun Zhang. A Constrained Optimization Method for Community Detection. *The proceedings of OSB*, 20-22, 2009.

References :

Prof. Xiang-Sun Zhang
Academy of Mathematics and Systems Science
NO.55 Zhongguancun East Road
Haidian, Beijing 100190
zxs@amt.ac.cn
Tel: 86-10-62561440
Fax: 86-10-62561963

Prof. Luonan Chen
Laboratory of Systems Biology
Institutes for Biological Sciences
Chinese Academy of Sciences
Shanghai 200233, China
lnchen@sibs.ac.cn
Tel: +86-21-6436-5937
Fax: +86-21-5497-2551

Prof. Dong Xu
Computer Science Department
201 Engineering Building West
Columbia, MO 65211-2060
xudong@missouri.edu
Phone: (573) 882-3842
Fax: [573] 882=8318