The Third International Symposium on Optimization and Systems Biology (OSB 2009)

Local Organizer

Organizers

Sponsors

September 20-22, 2009
Zhangjiajie, Hunan, China

ISORA2009 / OSB2009 Sessions & Locations

Date		Conf Room #1	Conf Room #4	Conf Room #5
September 20 Sunday	**Morning 08:30-12:30**	ISORA P1 ISORA P2	OSB A1 OSB A2	OSB B1 OSB B2
	Afternoon 13:30-18:00	OSB P1 OSB P2	ISORA A1 ISORA A2	
	Evening 18:30-22:30	Welcome reception & Art performance		
September 21 Monday	**8:00-18:00**	One day sightseeing to Zhangjiajie National Park		
September 22 Tuesday	**Morning 08:30-12:00**	OSB P3 OSB A3	ISORA A3 ISORA A4	
	Afternoon 13:30-18:00	OSB A4 OSB A5	ISORA A5 ISORA A6	OSB B4 OSB B5
	Evening 18:00-20:00	Banquet		

OSB2009 Schedule

Day	Time	Session	
September 19 Saturday	15:00-23:30	Registration (hotel lobby at Qinghe)	
September 20 Sunday	08:30-08:50	Opening Session (Room #1)	
	09:00-10:20	OSB Session A1 (Room #4)	OSB Session B1 (Room #5)
		Dynamics of Bio-molecular Networks I	Biomolecular Network Analaysis
	10:20-10:50	Coffee break	
	10:50-12:30	OSB Session A2 (Room #4)	OSB Session B2 (Room #5)
		Disease Systems Biology	Complex Network Analysis
	12:30-13:30	Lunch	
	13:30-15:10	OSB Plenary Session P1 (Room #1)	
	15:10-15:40	Coffee break	
	15:40-18:10	OSB Plenary Session P2 (Room #1)	
	18:30-22:30	Welcome reception & art performance	
September 21 Monday	08:00-18:00	One day excursion	
September 22 Tuesday	08:50-09:40	OSB Plenary Session P3 (Room #1)	
	09:40-10:10	Coffee break	
	10:10-11:50	OSB Session A3 (Room #1)	
		Biological Pathway Analysis	
	12:00-13:30	Lunch	
	13:30-15:10	OSB Session A4 (Room #1)	OSB Session B4 (Room #5)
		Dynamics of Bio-molecular Networks II	Computational Systems Biology I
	15:10-15:40	Coffee break	
	15:40-17:40	OSB Session A5 (Room #1)	OSB Session B5 (Room #5)
		Computational Systems Biology II & Bioinformatics	Biomolecular Network Reconstruction
	18:00-20:00	Banquet	

OSB 2009 Program
September 20-22, Zhangjiajie, Hunan, China

September 19 (Saturday)   Registration

15:00-23:30 Registration, Participants arrival in Zhangjiajie, check in Qinghe Jinjiang Hotel/Tianzu Hotel, and Registration package pick up (Hotel Lobby at Qinghe Jinjiang Hotel).

September 20 (Sunday) Technical sessions

08:00-11:30 Registration for late arrivals (*Qinghe Jinjiang Hotel Lobby***)**

08:30-08:50 Opening Session (Conf Room **#1**)

09:00-10:20 OSB Session A1 (Conf Room **#4**)
Topic: Dynamics of Biomolecular networks I
Chair: Qing Nie

09:00-09:20 *Stochastic Hybrid System for Chemical Master Equation*
Luonan Chen, Ruiqi Wang, Kazuyuki Aihara
Department of Electronics, Information and Communication Engineering Osaka Sangyo University, Japan

09:20-09:40 *Consensus of A Modified Time-Delayed Vicsek Model*
Yao Chen, **Jinhu Lü**
Academy of Mathematics and Systems Science, CAS, China

09:40-10:00 *Parameter Optimization in Network Dynamics Including Unmeasured Variables by the Symbolic-numeric Approach*
Masahiko Nakatsui, **Katsuhisa Horimoto**
Computational Biology Research Institute, National Institute of Advanced Industrial Science and Technology, Japan

10:00-10:20 *Stochastic Synchronization of Circadian Rhythms*
R. K. Brojen Singh, Ram Ramaswamy
Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia (Central University), India

09:00-10:20 OSB Session B1 (Conf Room **#5**)
Topic: Systems Biology I - Biomolecular Networks Analysis
Chair: Hong Gil Nam

09:00-09:20 *Comparing Biological Networks via Graph Compression*
Morihiro Hayashida, Tatsuya Akutsu
Kyoto University, Japan

09:20-09:40 *A Network-Based Approach for Identifying Effective Drug Combination*
Zikai Wu, **Luonan Chen**

Institute of Systems Biology, Shanghai University, China

09:40-10:00 *Understanding the Biological Functions of DCF1 Based on Molecular Interaction Network*
Xing-Ming Zhao, Renhong Qian, Xiangchun Ju, **Tieqiao Wen**
Institute of Systems Biology, Shanghai University, China

10:00-10:20 *Analysis of Transcriptome of Rice Anther*
Wenjuan Zhang, Wei-Hua Tang, JiguangWang, **Zhiping Liu**, Xing-Ming Zhao, Luonan Chen
Department of Electronics, Information and Communication Engineering Osaka Sangyo University, Japan

10:20-10:50 Coffee break

10:50-12:30 OSB Session A2 (Conf Room #4)
Topic: Disease Systems Biology
Chair: Klyoshi Asai

10:50-11:10 *The Potent Chinese Herbs for Inhibiting Cytotoxicity of Eosinophil Cationic Protein*
Louis J. Tseng, Blacky T. Kao, Wei-Yong Lin, Margaret Dah-Tsyr Chang, Tun-Wen Pai, Ying-Chen Huang, Hao-Teng Chang
Graduate Institute of Molecular Systems Biomedicine, China Medical University,Taiwan

11:10-11:30 *New Approaches for Computer-Assisted Skin Cancer Diagnosis*
M. J. Ogorzałek, G. Surówka, L. Nowak, C. Merkwirth
Jagiellonian University, Poland

11:30-11:50 *Gene Prioritization for Type 2 Diabetes in Tissue-specific Protein Interaction*
Biao-Bin Jiang, Ji-Guang Wang, Jing-Fa Xiao, **Yong Wang**
Academy of Mathematics and Systems Science, CAS, China

11:50-12:10 *Modularized Random Walk with Restart for Candidate Disease Genes Prioritization*
Xing Chen, Guiying Yan, Wei Ren, Ji-Bin Qu
Academy of Mathematics and Systems Science, CAS, China

12:10-12:30 *Prediction of Conformational Epitopes by Geometrical Affinity and Chemical Propensity Approaches*
Cheng-Ying Tang, Wei-Kuo Wu, Yu-Ping Hsu, Hsin-Wei Wang, Tun-Wen Pai, **Hao-Teng Chang**
Graduate Institute of Molecular Systems Biomedicine, China Medical University, Taiwan

10:50-12:30 OSB Session B2 (Conf Room #5)
Topic: Complex Network Analysis
Chair: Kwang-Hyun Cho

10:50-11:10 *Extracting Community Structure of Complex networks by Self-Organizing Maps*
Zhenping Li, Rui-Sheng Wang, Luonan Chen
Beijing Wuzi University, China

11:10-11:30 *A Constrained Optimization Method for Community Detection*
Ji-Guang Wang, Lin Wang, Yu-Qing Qiu, Yong Wang, Xiang-Sun Zhang
Academy of Mathematics and Systems Science, CAS, China

11:30-11:50 *A Weighted Parsimony Model for Community Detection in Complex Networks*
Junhua Zhang, Xiang-Sun Zhang
Academy of Mathematics and Systems Science, CAS, China

11:50-12:10 *A Linear Projection Approach for Resolving Community Structure*
Xiaoping Liao, Wei Ren, Guiying Yan
Academy of Mathematics and Systems Science, CAS, China

12:10-12:30 *A Random Iterative Algorithm for Community Detection*
Junhua Zhang, Shihua Chen
Academy of Mathematics and Systems Science, CAS, China

12:30-13:30 Lunch break

13:30-15:10 OSB Plenary Session P1 (Conf Room #1)
Chair: Luonan Chen

13:30-14:20 *Systems Biology of Cell Signaling*
Qing Nie
Director, Center for Mathematical and Computational Biology (CMCB), University of California at Irvine, USA

14:20-15:10 *Modeling the Roles of miRNA164 in Determining the Age-dependent Cell Death in Plant Leaves*
Hong Gil Nam
Director, Systems Bio-Dynamics Research Center, Pohang University of Science and Technology, Korea

15:10-15:40 Coffee break

15:40-18:10 OSB Plenary Session P2 (Conf Room #1)
Chair: Xiang-Sun Zhang

15:40-16:30 *Rapid progress in sequence analysis of RNA*
Kiyoshi Asai
Director, Computational Biology Research Center, AIST, University or Tokyo, Japan

16:30-17:20 *Exploring the Design Principle of Emergent Properties in Biological Systems*
Kwang-Hyun Cho
Korea Advanced Institute of Science and Technology (KAIST), Korea

17:20-18:10 *The Prediction of Protein Post-translational Modification Sites*
Naiyang Deng
China Agricultural University, China

18:30-20:00 -Welcome reception at Qinghe Jinjiang Hotel

20:30-22:30 "The Charming Western Hunan"-Ethnic Art performance.

September 21 (Monday) Social Program: One-day tour to Zhangjiajie National Park
8:00 Departure at Qinghe Jinjiang Hotel Lobby

September 22 (Tuesday) Technical sessions

08:50-9:40 OSB Plenary Session P3 (Conf Room #1)
Chair: Luonan Chen

08:50-9:40 *Next Generation DNA Sequencing and Bioinformatics: Bottlenecks and Opportunities*
Stephen KW Tsui
Director, Centre for Microbial Genomics and Proteomics, Director, Hong Kong Bioinformatics
Centre, The Chinese University of Hong Kong, Hong Kong

9:40-10:10 Coffee break

10:10-11:50 OSB Session A3 (Conf Room #1)
Topic: Biological Pathway Analysis
Chair: Stephen KW Tsui

10:10-10:30 *Mathematical Modeling of Signaling Pathways Leading to Type I IFN Gene Expression*
Xiufen Zou, Xueshuang Xiang, Yan Chen, Zishu Pan
Wuhan University, China

10:30-10:50 *A Novel Approach for Pathway Inference Based on Network Flow*
Xianwen Ren, Xiang-Sun Zhang
Academy of Mathematics and Systems Science, CAS, China

10:50-11:10 *Crosstalk of Dysfunctional Pathways in Alzheimer's Disease Brains*
Zhi-Ping Liu, Luonan Chen
Department of Electronics, Information and Communication Engineering Osaka Sangyo
University, Japan

11:10-11:30 *Prediction of Differentiation-ralated Pathways Induced by Rho-GDIg*
Jiao Wang, Xiao Li, Tieqiao Wen
Institute of Systems Biology, Shanghai University, China

11:30-11:50 *A General Analysis of Single IP3 Receptors Modulated by Cytosolic Ca2+ and IP3*
Chen Jia, Yihan Li, Minping Qian
Peking University, China

12:00-13:30 Lunch break

13:30-15:10 OSB Session A4 (Conf Room #1)
Topic: Dynamics of Biomolecular Networks II
Chair: Tieqiao Wen

13:30-13:50 *Exponential Stability Analysis for Impulsive Neural Networks with Time-varying Delays*
Shui-Ming Cai, Feng-Dan Xu, Wei-Xing Zheng, Zeng-Rong Liu
Institute of Systems Biology, Shanghai University, China

13:50-14:10 *Global Synchronization for General Delayed Dynamical Networks*
Jianhua Xu, Zengrong Liu, Xiao Chang
Institute of Systems Biology, Shanghai University, China

14:10-14:30*. Markov Model of Biological Networks*
Cai-Feng Du, Fu-Zhou Gong
China University of Petroleum, China

14:30-14:50 *Response Time and Its Role in Noise Filtering*
Dengyu Liu, Xiao Chang, Ruiqi Wang
Institute of Systems Biology, Shanghai University, China

14:50-15:10 *Cross-species Comparison for Identifying Orthologous Simple Sequence Repeats of Disease Genes*
Chih-Chia Chen, Tsan-Huang Shih, Chien-Ming Chen, Chin-Hua Hu, Wen-Shyong Tzou, **Tun-Wen Pai**
Department of Computer Science and Engineering, National Taiwan Ocean University, Taiwan

13:30-15:10 OSB Session B4 (Conf Room #5)
Topic: Computational Systems Biology I
Chair: M. J. Ogorzałek

13:30-13:50 *A Study of Network-based Kernel Methods on Protein-Protein Interaction for Protein Functions Prediction*
Wai-Ki Ching, **Limin Li**, Yat-Ming Chan, Hiroshi Mamitsuka
Department of Mathematics, The University of Hong Kong

13:50-14:10 *Semi-supervised Drug-Protein Interaction Prediction from Heterogeneous Spaces*
Zheng Xia, Xiaobo Zhou, Youxian Sun, **Ling-Yun Wu**
Academy of Mathematics and Systems Science, CAS, China

14:10-14:30 *Protein Subcellular Localization Prediction for Fusarium graminearum*
Chenglei Sun, Wei-Hua Tang, Luonan Chen, Xing-Ming Zhao
Institute of Systems Biology, Shanghai University, China

14:30-14:50 *Kernel Regularized Multiple Criteria Linear Programming*
Wen-Jing Chen, Ying-Jie Tian
Graduate University of Chinese Academy of Sciences, China

14:50-15:10 *A Novel SVM-RFE for Gene Selection*
Jun-Yan Tan, Zhi-Xia Yang, Naiyang Deng
College of Science, China Agricultural University, China

15:10-15:40 Coffee break

15:40-17:40 OSB Session A5 (Conf Room #1)
Topic: Computational Systems Biology II & Bioinformatics
Chair: Katsuhisa Horimoto

15:40-16:00 *Shrunken Dissimilarity Measure for Genome-wide SNP Data Classification*
Haiyong Liao, **Yang Liu**, Michael K. Ng
Hong Kong Baptist University, HongKong

16:00-16:20 *Align Protein Surface Structures to Identify Evolutionally and Structurally Conserved Residues*
Lin Wang, **Ji-Guang Wang**, Luonan Chen
Academy of Mathematics and Systems Scicence, CAS, China

16:20-16:40 *Evolving Additive Trees for Modeling Biochemical Systems*
Yuehui Chen, Bin Yang, Yaou Zhao, Qingfang Meng
University of Jinan , China

16:40-17:00 *Analysis for Stimuli to Shoot Genes of Arabidopsis Thaliana Based on Logical Relationships*
Shudong Wang, Yan Chen, Qingyun Wang, Eryan Li, Yansen Su, Dazhi Meng
Shandong University of Technolog, China

17:00-17:20 *Inverse Eigenvalue Problems and Their Associated Approximation Problems for Matrices with J-(Skew) Centrosymmetry*
Zhong-Yun Liu, You-Cai Duan, Yun-Feng Lai, **Yu-Lin Zhang**
School of Mathematics and Computing Science, Changsha University of Science and Technology, China

17:20-17:40 *ChemIME: An Input Method Engine for Chemical Compounds*
Haruka Takeuchi, Xu Yang, **Shin-ya Takane**
Osaka Sangyo University, Japan

15:40-17:40 OSB Session B5 (Conf Room #5)
Topic: Biomolecular Networks Reconstruction
Chair: Hao-Teng Chang

15:40-16:00 *Discovering Transcriptional Regulation by Integrating Protein-Protein Interaction, Gene Expression and Transcriptional Interaction Data*
Fei Luo, **Jinyan Li**
School of Computer Engineering, Nanyang Technological University, Singapore

16:00-16:20. *Finite-Horizon Control of Genetic Regulatory Networks with Multiple Hard-Constraints*
Wai-Ki Ching, **Yang Cong**
Department of Mathematics, The University of Hong Kong

16:20-16:40 *Nonlinear Coupling for Improved Stochastic Network Model: A Study of Schnakenberg Model*
Youfang Cao, Jie Liang
Shanghai Jiao Tong University, China

16:40-17:00 *A Parallel Algorithm of Constructing Gene Regulatory Networks*
Mei Xiao, Luwen Zhang, Bing He, Jiang Xie, Wu Zhang
Institute of Systems Biology, Shanghai University, China

17:00-17:20 *Voting for the Prediction of Protein Secondary Structure and Its Evaluation*
Ying-Song Dong, Zhi-Song He, Zi-Liang Qian, **Yu-Dong Cai**
Institute of Systems Biology, Shanghai University, China

17:20-17:40 *An Information and Combinatorial Theories-based Supervised Learning Framework for Integrative Inference and Analysis of Genetic Regulatory Networks*
Binhua Tang, Xuechen Wu, Ge Tan, Su-Shing Chen, Qing Jing, Bairong Shen
Department of Bioinformatics, Tongji University, Shanghai, China

18:00-20:00 Banquet

*The above program subjects to revision based on further information and Ad Hoc presentation requests.