The 5th International Workshop on Computational Network Biology: Modeling, Analysis, and Control (CNB-MAC 2018)

August 29, 2018 | Washington, D.C.

CNB-MAC 2018 Workshop Chairs:

Byung-Jun Yoon (Texas A&M) Xiaoning Qian (Texas A&M)
Tamer Kahveci (University of Florida) Ranadip Pal (Texas Tech University)

Workshop Program:

08:45-09:00 Opening Remarks – *CNB-MAC 2018 Workshop Chairs*

09:00-10:15 Session 1 – *Session chair: Dr. Ranadip Pal*

- **Identification of co-evolving temporal networks** – *by Rasha Elhesha, Aisharjya Sarkar, Christina Boucher and Tamer Kahveci*
- **A Linear Delay Linear Space Algorithm for Enumeration of All Connected Induced Subgraphs** – *by Mohammed Alokshiya, Saeed Salem and Fidaa Abed*
- **MetaNN: Accurate Classification of Host Phenotypes From Metagenomic Data Using Neural Networks** – *by Chieh Lo and Radu Marculescu*

10:15-10:35 Coffee Break

10:35-12:15 Session 2 – *Session chair: Dr. Tamer Kahveci*

- **Recursive model for dose-time responses in pharmacological studies** – *by Aminur Rahman, Saugato Rahman Dhruba, Souparno Ghosh and Ranadip Pal*
- **Global analysis of N6-methyladenosine functions and its disease association using deep learning and network-based methods** – *by Songyao Zhang, Shaowu Zhang, Xiaonan Fan, Jia Meng, Yidong Chen and Yuifei Huang*
- **Cross-Population Analysis for Functional Characterization of Type II Diabetes Variants** – *by Dalia Elmansy and Mehmet Koyutürk*
- **A Stochastic Model of Size Control in the Budding Yeast Cell Cycle** – *by Mansooreh Ahmadian, John Tyson and Yang Cao*

12:15-13:45 Lunch Break

13:45-15:00 Session 3 – *Session chair: Dr. Anna Ritz*

- **Characterizing Building Blocks of Resource Constrained Biological Networks** – *by Yuanfang Ren, Ahmet Ay, Alin Dobra and Tamer Kahveci*
- **Network-based machine learning and graph theory algorithms for precision oncology** – *by Wei Zhang, Jeremy Chien, Jeongsik Yong and Rui Kuang*

- **Network-Based Prediction of Polygenic Disease Genes Involved in Cell Motility** – *by Miriam Bern, Alexander King, Derek Applewhite and Anna Ritz*

15:00-15:20 Coffee Break

15:20-16:35 Session 4 – *Session chair: Dr. Yufei Huang*

- **Optimal Clustering with Missing Values** – *by Shahin Boluki, Siamak Zamani Dadaneh, Edward Dougherty and Xiaoning Qian*
- **Analysis and Remedy of Negativity Problem in Hybrid Stochastic Simulation Algorithm and its Application** – *by Minghan Chen and Yang Cao*
- **Scalable Optimal Bayesian Classification of Single-Cell Trajectories under Regulatory Model Uncertainty** – *by Ehsan Hajiramezanali, Mahdi Imani, Ulisses Braga-Neto, Xiaoning Qian and Edward R. Dougherty*

16:35-16:45 Announcement of Student Travel Awards – *Award Chair (Dr. Ranadip Pal)*

16:45-17:00 Closing Remarks – *CNB-MAC 2018 Workshop Chairs*

17:00-18:00 Poster Session – *Session chair: Dr. Byung-Jun Yoon*

- **Decoding TDP-43 dependent Cryptic Splicing in Amyotrophic Lateral Sclerosis and Identifying novel disease-causing genes** – *by Hari Krishna Yalamanchili, Hyun-Hwan Jeong and Zhandong Liu*
- **Analyzing Genomic Data Using Tensor-based Orthogonal Polynomials** – *by Saba Nafees, Sean Rice and Caleb Phillips*
- **Bayesian Biomarker Discovery for RNAseq Data** – *by Ali Foroughi Pour and Lori A. Dalton*
- **Comprehensive updates in network synthesis models to create an improved benchmark for network alignment algorithms** – *by Hyun-Myung Woo, Hyundoo Jeong and Byung-Jun Yoon*
- **An Algorithmic Approach to the Representation of Biological Information and Long-term Memory** – *by John Pfaltz*
- **Bayesian Modeling of Plant Drought Resistance Pathway** – *by Aditya Lahiri, Aniruddha Datta and Priyadharshini Venkatasubramani*
- **Integration of multiple data sources for gene network inference using genetic perturbation data** – *by Xiao Liang, William Chad Young, Ling-Hong Hung, Adrian Raftery and Ka Yee Yeung*
- **HetNetAligner: A novel algorithm for local alignment of heterogeneous biological networks** – *by Marianna Milano, Pietro Hiram Guzzi and Mario Cannataro*
- **SL-GLAlign: Improving the Local Alignment of Biological Networks through Simulated Annealing** – *by Marianna Milano, Wayne Hayes, Pierangelo Veltri, Mario Cannataro and Pietro Hiram Guzzi*
- **Sensitivity Analysis of Discrete Models and Application in Biological Networks** – *by Gaoxiang Zhou, Kai-Wen Liang and Natasa Miskov-Zivanov*