1. Genomics and Molecular Structure, Function and Evolution

Regular Papers:

B258 "Computational Synteny Block: A framework to identify Evolutionary Events"
    Jose A. Arjona-Medina and Oswaldo Trelles

B339 "Evolutionary Search Strategies for Efficient Sample-based Representations of Multiple-basin Protein Energy Landscapes"
    Emmanuel Sapin, Kenneth De Jong, and Amarda Shehu

B348 "Structure-Guided Selection of Specificity Determining Positions in the Human Kinome"
    Mark Moll, Paul Finn, and Lydia Kavraki

B354 "Boosting Compound-Protein Interaction Prediction by Deep Learning"
    Kai Tian, Mingyu Shao, Shuigeng Zhou, and Jihong Guan

B376 "Computing Transition Paths in Multiple-Basin Proteins with a Probabilistic Roadmap Algorithm Guided by Structure Data"
    Tatiana Maximova, Erion Plaku, and Amarda Shehu

B435 "A Module tree of Wnt Signaling Pathways"
    Losiana Nayak, Nitai P. Bhattacharyya, and Rajat K. De

B461 "A novel dimensionality reduction algorithm based on Laplace matrix for microbiomie data analysis"
    Yetian Fan, Xingpeng Jiang, Xiaohua Hu, Bo Song, Yuan Ling, and Wei Wu

B472 "Predicting Protein-Protein Interaction Using Co-Occurring Aligned Pattern Clusters"
    Antonio Sze-To, Sanderz Fung, En-Shiun Annie Lee, and Andrew K. C. Wong

B484 "Adaptive Local Learning in Sampling Based Motion Planning for Protein Folding"
    Chinwe Ekenna, Shawna Thomas, and Nancy Amato

B503 "A New Algorithm for The LCS Problem with Application in Compressing Genome Resequencing Data"
    Richard Beal, Tazin Afrin, Aliya Farheen, and Don Adjeroh

B509 "Superposition of Protein Structures Using Electrostatic Isopotentials"
    Ziyi Guo, Juliana Hong, Katya Scheinberg, and Brian Chen

B547 "SNVSniffer: An Integrated Caller for Germline and Somatic SNVs Based on Bayesian Models"
    Yongchao Liu, Martin Loewer, Srinivas Aluru, and Bertil Schmidt

Short Papers:

B241 "Protein model quality assessment by learning-to-rank"

Xiaoyang Jing, Qiwen Dong, Xuan Liu, and Bin Liu

B272 "MALBACsim: a Multiple Annealing and Looping Based Amplification Cycles Simulator"
Li Tengpeng, Zhang Changsheng, Bo Xu, Li Fuqiang, and Cai Hongmin

B338 "Short Read Error Correction using an Augmented FM-Index"
Seth Greenstein, James Holt, and Leonard McMillan

B352 "HapColor: A Graph Coloring Framework for Polyploidy Phasing"
Sepideh Mazrouee and Wei Wang

B400 "Accurate Simulation of Large Collections of Phylogenetic Trees"
Suzanne Matthews

B421 "Time series analysis of microbiome data regularized by local linear manifold"
Xingpeng Jiang, Xiaohua Hu, and Tingting He

B441 "Does Encoding Matter? A Novel View On The Quantitative Genetic Trait Prediction Problem"
Dan He

B453 "Fast alignment filtering of nanopore sequencing reads using locality-sensitive hashing"
Jeremy Wang and Corbin Jones

B490 "Quantifying Feed Efficiency of Dairy Cattle for Genome-wide Association Analysis"
Tingyang Xu, Jiangwen Sun, Erin Connor, and Jinbo Bi

B501 "RF-Phos: Random Forest-Based Prediction of Phosphorylation Sites"
Hamid Ismail, Ahoi Jones, Jung Kim, Robert Newman, and Dukka KC

B515 "Imputation of ChIP-Seq Datasets via Local Low Rank Convex Co-Embedding"
Lin Zhu, De-Shuang Huang, and Canyi Lu

2. Computational Systems Biology

Regular Papers:

B227 "Integrative approach for inference of gene regulatory networks using lasso-based random featuring and application to Psychiatric disorders"
Dong-Chul Kim, Mingon Kang, Ashis Biswas, Chunyu Liu, and Jean Gao

B231 "A novel two-stage method for identifying miRNA-gene regulatory modules in breast cancer"
Wenwen Min, Juan Liu, Fei Luo, and Shihua Zhang

B292 "Construction of signaling networks with incomplete RNAi data"
Qiyao Wang, Yaunfang Ren, Mahmudul Hasan, Ahmet Ay, and Tamer Kahveci

B293 "Constructing directed gene regulatory network solely by gene expression data"
        lu zhang, Yen Kaow Ng, and Shuai Cheng Li

B326 "Analyzing Differential Regulatory Networks Modulated by Continuous-State Genomic Features in Glioblastoma Multiforme"
        Yu-Chiao Chiu, Kai-Wen Liang, Tzu-Hung Hsiao, Yidong Chen, and Eric Chuang

B337 "EpiTracer – an algorithm for identifying epicenters in condition-specific biological networks"
        Narmada Sambaturu, Madhulika Mishra, and Nagasuma Chandra

B393 "Predicting microRNA-disease associations by integrating multiple biological information"
        Wei Lan, Jianxin Wang, Min Li, Jin Liu, and Yi Pan

B413 "A two-step logistic regression algorithm for identifying individual-cancer-related genes"
        Bolin Chen, Xuequn Shang, Min Li, Jianxin Wang, and Fang-Xiang Wu

B419 "Protein-protein interaction network inference from multiple kernels with optimization based on random walk by linear programming"
        Lei Huang, Li Liao, and Cathy Wu

B424 "Triple Imputation for Microarray Missing Value Estimation"
        Chong He, Hui-Hui Li, Changbo Zhao, and Guo-Zheng Li

B458 "Model-Based and Context-Specific Background Correction and Differential Methylation Testing for MBDCap-seq"
        Yuanhang Liu, Desiree Wilson, Robin Leach, and Yidong Chen

B465 "GREAT: GRaphlet Edge-based network AlignmenT"
        Joseph Crawford and Tijana Milenkovic

B466 "Purification of LC/GC-MS based Biomolecular Expression Profiles Using a Topic Model"
        Minkun Wang, Tsung-Heng Tsai, Guoqiang Yu, and Habtom Ressom

B486 "petal: A Novel Co-Expression Network Modeling System"
        Juli Petereit, Frederick C. Jr. Harris, and Karen Schlauch

B506 "Interpretable Deep Neural Networks for Enhancer Prediction"
        Seong Kim, Nawanol Ampornpunt, Ananth Grama, and Somali Chaterji

B511 "DiscMLA: AUC-Based Discriminative Motif Learning"
        Hongbo Zhang, Lin Zhu, and De-Shuang Huang

Short Papers:

B218 "Principle Angle Enrichment Analysis (PAEA): Dimensionally Reduced Multivariate Gene Set Enrichment Analysis Tool"
        Neil Clark, Maciej Szymkiewicz, Zichen Wang, Caroline Monteiro, Matthew Jones, and Avi Ma'ayan

B220 "On Observability of Singleton Attractors in Boolean Networks"

Yushan Qiu, Xiaoqing Cheng, Wai-Ki Ching, Hao Jiang, and Tatsuya Akutsu

B311 "Hausdorff Distance and Global Silhouette Index as Novel Measures for Estimating Quality of Biclusters"
Nishchal Verma, Esha Dutta, and Yan Cui

B313 "Integrated Study to Infer Dynamic Protein-gene Interactions in human P53 Regulatory Networks"
Junbai Wang, Qianqian Wu, and Tianhai Tian

B347 "An efficient method to identify essential proteins for different species by integrating protein subcellular localization information"
Xiaoqing Peng, Jianxin Wang, Jiancheng Zhong, Junwei Luo, and Yi Pan

B362 "Exhaustive analysis of dynamical properties of Biological Regulatory Networks with Answer Set Programming"
Emna Ben Abdallah, Maxime Folschette, Olivier Roux, and Morgan Magnin

B397 "Identification of phenotypic networks based on whole transcriptome by comparative network decomposition"
Chuanchao Zhang, Juan Liu, Qianqian Shi, Tao Zeng, and Luonan Chen

B426 "An Efficient ACS Algorithm for Classification-based Peptide Identification"
Xijun Liang, Zhonghang Xia, Ling Jian, Xinnan Niu, and Andrew Link

B430 "Joint inference of tissue-specific networks with a scale free topology"
Somaye Hashemifar, Behnam Neyshabur, and Jinbo Xu

B470 "Gene Selection for Cancer Classification With the Help of Bees"
Johra Moosa, Rameen Shakur, Mohammad Kaykobad, and M Sohel Rahman

B483 "Human Absorbable Dietary microRNAs Prediction based on an Ensemble Manifold Ranking Model"
Jiang Shu, Kevin Chiang, Dongyu Zhao, and Juan Cui

B497 "Guilt-by association approach to identify novel human aging-related genes using protein domains"
Jasjit Banwait, Schuyler Dougherty, Ishwor Thapa, and Dhundy Bastola

B521 "A test for detecting differentially methylated regions"
Iksoo Huh, Soojin V. Yi Yi, and Taesung Park

3. Medical Informatics and Translational Bioinformatics

Regular Papers:

B229 "RREV: Reconfigurable Rendering Engine for Cross-Cohort Visualization of Clinically Annotated Polysomnograms"

Catherine Jayapandian, Wei Wang, Michael Morrical, Dennis Dean II, Daniel Mobley, Mathew Kim, Michael Rueschman, Kenneth Loparo, Susan Redline, and Guo-Qiang Zhang

B247 "Spatio-Temporal Diffusion-based Dynamic Cell Segmentation"
Fatima Boukari and Sokratis Makrogiannis

B263 "Context-learning Based Electroencephalogram Analysis for Epileptic Seizure Detection"
Guangxu Xun, Xiaowei Jia, and Aidong Zhang

B282 "Sparse Multidimensional Patient Modeling using Auxiliary Confidence Labels"
Eric Heim and Milos Hauskrecht

B283 "Analysis of Oddity in Facial Physiology of Children with Autism using 3D Imaging"
Manar Samad, Jonna Bobzien, John Harrington, and Khan Iftekharuddin

B324 "Modeling Electronic Health Records in Ensembles of Semantic Spaces for Adverse Drug Event Detection"
Aron Henriksson, Jing Zhao, Henrik Boström, and Hercules Dalianis

B346 "A Generative Bayesian Model To Identify Cancer Driver Genes"
CHRISTOPHER MA

B371 "A Seeding-Searching-Ensemble Method for Gland Segmentation and Detection"
Yizhe Zhang, Lin Yang, John MacKenzie, Rageshree Ramachandran, and Danny Chen

B433 "On Frequency Dependencies of Sliding Window Correlation"
Sadia Shakil, Shella Keilholz, and Chin-Hui Lee

B437 "Robust point matching by l1 regularization"
Jianbing Yi, Yan-Ran Li, Xuan Yang, and Guoliang Chen

B446 "Temporal Weighting of Clinical Events in Electronic Health Records for Pharmacovigilance"
Jing Zhao

B500 "Level Set Segmentation using Non-Negative Matrix Factorization of Brain MRI Images"
Dimah Dera, Nidhal Bouaynaya, and Hassan Fathallah-Shaykh

B502 "Using Myoelectric Signals to Recognize Grips and Movements of the Hand"
Gene Shuman, Zoran Duric, Daniel Barbara, Jessica Lin, and Lynn H. Gerber

Short Papers:

B201 "The Influence of EM Estimation of Missing Nodes in DCM on Model Ranking"
Shaza Zaghlool and Christopher Wyatt

B230 "Feature-Level Fusion of Multimodal Physiological Signals for Emotion Recognition"
        Jing Chen, Bin Hu, Lixin Xu, Philip Moore, and Yun Su

B251 "Quantitative Assessment of the Parallel MRI Reconstruction Using Background Noise Uniformity"
        Fu-Hsing Wu and Hsin-Chih Lo

B254 "An Image Reconstruction Model and Hybrid Algorithm for Limited-angle Projection Data"
        Hongxia Gao, Yinghao Luo, Kewei Chen, Ge Ma, and Lixuan Wu

B261 "Classification of Alzheimer's Disease Based on the combination of Morphometric Feature and Texture Feature"
        Yi Ding, Cong Zhang, Tian Lan, Xinjie Zhang, Wei Wang, and Zhiguang Qin

B268 "Segmentation of Multicolor Fluorescence In-Situ Hybridization (M-FISH) Image Using an Improved Fuzzy C-Means Clustering Algorithm While Incorporating Both Spatial and Spectral Information"
        Jingyao Li, Dongdong Lin, and Yu-Ping Wang

B275 "On Using Compressed Sensing and Peak Detection Method for the Dynamic Instability Parameters Estimation for Microtubules Modeled in three States"
        Shantia Yarahmadian, Vineetha Menon, and Vahid Rezania

B278 "Improved Brain Tumor Growth Prediction and Segmentation in Longitudinal Brain MRI"
        Linmin Pei, Syed Mohammad Shamim Reza, and Khan Iftekharuddin

B349 "Robust landmark-based image registration using l1 and l2 norm regularizations"
        Xuan Yang, Bo Wang, and Yan-Ran Li

B382 "Survival Analysis via Transduction for Semi-Supervised Neural Networks in Medical Prognosis"
        Faisal Khan and Casimir Kulikowski

B395 "{On Automated Flow Cytometric Analysis for MRD Estimation of Acute Lymphoblastic Leukaemia: a comparison among different approaches"
        Paolo Rota, Stefanie Groeneveld-Krentz, and Michael Reiter

B411 "Audio Signals Encoding for Cough Classification Using Convolutional Neural Networks: A Comparative Study"
        Hui-Hui Wang, Jia-Ming Liu, and Mingyu You

B427 "Using Hidden Markov Models to Capture temporal Aspects of Ultrasound Data in Prostate Cancer"
        Layan Nahlawi, Farhad Imani, Mena Gaed, Jose A. Gomez, Madeleine Moussa, Eli Gibson, Aaron Fenster, Aaron Ward, Purang Abolmaesumi, Parvin Mousavi, and Hagit Shatkay

B456 "Segmentation-based Multi-scale Framework for the Classification of Epithelial and Stromal Tissues in H&E Images"
        Filiz Bunyak, Adel Hafiane, Zahraa Al-Milagi, Ilker Ersoy, Anoop Haridas, and Kannappan Palaniappan

B480 "EEG Dynamic Source Localization using Marginalized Particle Filtering"
        Bradley Ebinger, Nidhal Bouaynaya, Petia Georgieva, and Lyudmila Mihaylova

4. Cross-Cutting Computational Methods and Bioinformatics Infrastructure

    Regular Papers:

    B205 "Feature Selection of High-dimensional Biomedical Data using Improved SFLA for Disease Diagnosis"
        Yongqiang Dai, Bin Hu, Yun Su, Chengsheng Mao, Jing Chen, Xiaowei Zhang, Philip Moore, Hanshu Cai, and Lixin Xu

    B222 "Learning to Rank for Biomedical Information Retrieval"
        Bo Xu, Hongfei Lin, and Yuan Lin

    B242 "Identification of DNA-binding proteins by auto-cross covariance transformation"
        Qiwen Dong, Shanyi Wang, Kai Wang, Xuan Liu, and Bin Liu

    B245 "Algorithmic Detection of Inconsistent Modeling among SNOMED CT Concepts by Combining Lexical and Structural indicators"
        Ankur Agrawal, Yehoshua Perl, Christopher Ochs, and Gai Elhanan

    B248 "Scalable Biobanking: A Modular Electronic Honest Broker and Biorepository for Integrated Clinical, Specimen and Genomic Research"
        Alex Felmeister, Tyler Rivera, Aaron Masino, Jeffrey Pennington, and Adam Resnick

    B262 "Supporting HIV Literature Screening with Data Sampling and Supervised Learning"
        Hayda Almeida, Marie-Jean Meurs, Leila Kosseim, and Adrian Tsang

    B271 "Implicit Knowledge Discovery in Biomedical Ontologies: Computing Interesting Relatednesses"
        Tian Bai, Leiguang Gong, Casimir Kulikowski, and Lan Huang

    B280 "Accelerating Large-Scale Biological Database Search on Xeon Phi-based Neo-Heterogeneous Architectures"
        Haidong Lan, Weiguo Liu, Bertil Schmidt, and Bingqiang Wang

    B286 "A Two-Stage Clustering Technique for Automatic Biaxial Gating of Flow Cytometry Data"
        Maziyar Baran Pouyan, Vasu Jindal, Javad Birjandtalab, and Mehrdad Nourani

    B314 "An integrative measure of graph- and vector-based semantic similarity using information content distance"
        Young-Rae Cho

    B330 "Stabbing Queries for Generalized Longest Repeats"
        Bojian Xu

B336 "Integrating Association Mining into Relevance Feedback for Biomedical Literature Search"
        Yanqing Ji, Hao Ying, John Tran, Peter Dews, and Michael Massanari

B340 "Improved Algorithms for Finding Edit Distance Based Motifs"
        Soumitra Pal and Sanguthevar Rajasekaran

B353 "A generative model for correlation discover of genetic polymorphism and adverse drug reactions"
        Zhaohui Liang, Ziping Li, Gang Zhang, and Jimmy Huang

B372 "Identifying Inorganic Material Affinity Classes for Peptide Sequences Based on Context Learning"
        Guangxu Xun, Xiaoyi Li, Marc R. Knecht, Paras N. Prasad, Mark T. Swihart, Tiffany R. Walsh, and Aidong Zhang

B385 "Identifying the pre-transition state during biological processes by hidden Markov model"
        Pei Chen, Shuoyang Qiu, Yue Wang, and Yongjun Li

B386 "An Integrative Genomic Study for Multimodal Genomic Data Using Multi-Block Bipartite Graph"
        Mingon Kang, Juyoung Park, Dong-Chul Kim, Ashis Biswas, Chunyu Liu, and Jean Gao

B414 "Reference Sequence Selection for Motif Searches"
        Qiang Yu, Hongwei Huo, Ruixing Zhao, Dazheng Feng, Jeffrey Scott Vitter, and Jun Huan

B447 "A novel approach to identify shared fragments in drugs and natural products"
        Akshay Balasubramanya, Ishwor Thapa, Dhundy Bastola, and Dario Ghersi

B462 "Integrating Omics Data for Identifying Disease Subtypes: a Multiplex Network-based Approach"
        Haiying Wang and Huiru Zheng

B494 "Extending Rule-Based Methods to Model Molecular Geometry"
        Brittany Hoard, Bruna Jacobson, Kasra Manavi, and Lydia Tapia

Short Papers:

B203 "Semantic Rules for Extracting Proteins Functions Information from Biomedical Abstracts"
        Kamal Taha

B216 "A Transition-Based Model for Jointly Extracting Drugs, Diseases and Adverse Drug Events"
        Fei Li and Donghong Ji

B276 "The effective diagnosis of schizophrenia by using 4-layer RBMs deep networks"
        Chen Qiao

B277 "ImmPort: Shared Research Data for Bioinformatics and Immunology"

Patrick Dunn, Elizabeth Thomson, Henry Schaefer, John Campbell, Thomas Smith, Sanchita Bhattacharya, Sandra Andorf, Vincent Desborough, Jeff Wiser, and Atul Butte

B281 "A text mining application for linking functionally stressed-proteins to their post-translational modifications"
Oliver Bonham-Carter and Dhundy Bastola

B287 "Sparse Omics-network Regularization to Increase Interpretability and Performance of Linear Classification Models"
Michael Andel, Filip Masri, Jiri Klema, Zdenek Krejcik, and Monika Belickova

B289 "Non-Coding RNA Ontology: A comprehensive resource for unification of non-coding RNA biology"
Jingshan Huang, Karen Eilbeck, Judith Blake, Dejing Dou, Darren Natale, Alan Ruttenberg, Barry Smith, Michael Zimmermann, Guoqian Jiang, Yu Lin, Bin Wu, Yongqun He, Shaojie Zhang, Xiaowei Wang, He Zhang, David Schmitt, and Ming Tan

B297 "Training Word Embeddings for Deep Learning in Biomedical Text Mining Tasks"
Zhenchao Jiang, Lishuang Li, Degen Huang, and Liuke Jin

B344 "HPMA: High-performance Metagenomic Alignment Tool, on a Large-Scale GPU Cluster"
Ibrahim Savran and John Rose

B350 "Predicting Microbial Interactions by Using Network-constrained Regularization Incorporating Covariate Coefficients and Connection Signs"
Hu Xiaohua and Wang yan

B394 "Sequential Data Selection for Predicting the Pathogenic Effects of Sequence Variation"
Mark Rogers, Hashem Shihab, Tom Gaunt, Matthew Mort, David Cooper, and Colin Campbell

B407 "Biomedical Named Entity Recognition Based on Extended Recurrent Neural Networks"
Lishuang Li, Liuke Jin, Zhenchao Jiang, and Dengen Huang

B418 "A New Approach For Estimating Probability of Metastasis at Diagnosis"
Shuhao Sun, Fima Klebaner, and Tianhai Tian

B420 "TMDFM: A Data Fusion Model for Combined Detection of Tumor Markers"
Chi Yuan, Yongli Wang, Yanchao Li, Xiaohui Jiang, and Isma Masood

B463 "SphereGrinder - reference structure-based tool for quality assessment of protein structural models"
Piotr Lukasiak, Maciej Antczak, Tomasz Ratajczak, and Jacek Blazewicz

B469 "A new method for prioritizing drug repositioning candidates extracted by literature-based discovery"
Majid Rastegar-Mojarad, Ravikumar Komandur Elayavilli, Dingcheng Li, Rashmi Prasad, and Hongfang Liu

B482 "Detecting Adverse Drug Effects Using Link Classification on Twitter Data"
        Satya Katragadda, Harika Karnati, Murali Pusala, Vijay Raghavan, and Ryan Benton

B505 "ENISI Multiscale modeling of mucosal immune responses driven by high performance computing"
        Vida Abedi, Raquel Hontecillas, Stefan Hoops, Adria Carbo, Pinyi Lu, Cassandra Philipson, Nathan Liles, and Josep Bassaganya-Riera

B520 "Large scale multi-species palindrome study using distributed in-memory computing"
        Devin Petersohn, Matt Spencer, Alex Fratila, and Chi-Ren Shyu

B530 "Bayesian Classification with Local Probabilistic Model Assumption in Aiding Medical Diagnosis"
        Bin Hu, Chengsheng Mao, and Xiaowei Zhang

5. Healthcare Informatics

    Regular Papers:

    B265 "Automatic weighing attribute to retrieve similar lung cancer nodules"
        David Jones Ferreira de Lucena, José Raniery Ferreira Junior, Marcelo Costa Oliveira, and Aydano Pamponet Machado

    B285 "Collaborative and Trajectory Prediction Models of Medical Conditions by Mining Patients' Social Data"
        Xiang Ji, Soon Ae Chun, James Geller, and Vincent Oria

    B310 "Facial Color Management for Mobile Health in the Wild"
        Jinling Niu, Changbo Zhao, and Guozheng Li

    B321 "Classification with Imbalance: A Similarity based Method for Predicting Respiratory Failure"
        Harsh Shrivastava, Vijay Huddar, Sakyajit Bhattacharya, and Vaibhav Rajan

    B334 "Framework for Workflow-driven Clinical Decision Support in Oncology"
        Anca Bucur, Jasper van Leeuwen, and Norbert Graf

    B495 "A Grammar-based Approach to Model the Patient's Clinical Trajectory after a mild Traumatic Brain Injury"
        Filip Dabek and Jesus Caban

    Short Papers:

    B249 "Insight: Semantic Provenance and Analysis Platform for Multi-center Neurology Healthcare Research"
        Priya Ramesh, Annan Wei, Johnny Sams, Elisabeth Welter, Samden Lhatoo, Martha Sajatovic, and Satya Sahoo

B274 "Prediction of Systemic-to-Pulmonary Artery Shunt Surgery Outcomes Using Administrative Data"

Sara Moein, Hao Yan, Sanmay Das, Matthew Hall, and Pirooz Eghtesady

B366 "Chronic Lymphocytic Leukemia Patient Classification Methodology Through Flow Cytometry Analysis"

Evdoxia Papadopoulou, Konstantia Kotta, Panagiotis Moschonas, Vassiliki Douka, Achilles Anagnostopoulos, Kostas Stamatopoulos, and Dimitrios Tzovaras

B477 "SmartStep 2.0 – A completely wireless, versatile insole monitoring system"

Nagaraj Hegde and Edward Sazonov

B479 "A Method for Imputation of Semantic Class in Diagnostic Radiology Text"

Eamon Johnson, W Christopher Baughman, and Gultekin Ozsoyoglu