Pacific Symposium on Biocomputing (PSB) 2015 Schedule
January 4-8, 2015, Big Island of Hawaii

Saturday, January 3, 2015

Registration		
5:00-7:00pm	Registration	Ballroom Prefunction

Sunday, January 4, 2015

Registration		
7:30-9:30am	Registration	Ballroom Prefunction
12:00-2:00pm	Registration	Ballroom Prefunction
6:30-8:00pm	Registration	Kilohana

Tutorials		Salon 2&3
9:00-9:50:	Cancer Pathways: Automatic Extraction, Representation, and Reasoning in the Big Data Era	
10:00-10:50:	Cancer Panomics: Computational Methods and Infrastructure for Integrative Analysis of Cancer High-Throughput "Omics" Data to Enable Precision Oncology	
11:00-11:50:	Crowdsourcing and Mining Crowd Data	

Workshop		Plaza Ballroom
9:00-12:00	Human Evolutionary Genomics and the Search for the Genes that Made Us Human	

Break		
12:00-2:00	Lunch on own	

Tutorials		Salon 2&3
2:00-2:50	Personalized Medicine: From Genotypes, Molecular Phenotypes and the Quantified Self, Towards Improved Medicine	
3:00-3:50	Characterizing the Importance of Environmental Exposures, Interactions between the Environment and Genetic Architecture, and Genetic Interactions: New Methods for Understanding the Etiology of Complex Traits and Disease	

Workshop		Plaza Ballroom
2:00-5:00	Discovery Informatics in Biological and Biomedical Sciences: Research Challenges and Opportunities	

Break		
5:00-7:00	Dinner on own	

Reception		Kilohana
8:00-9:00pm	20th Anniversary Opening Celebration (Drinks and Dessert) *Sponsored by the Institute for Computational Biology, a collaborative effort of Case Western Reserve University, the Cleveland Clinic Foundation, and University Hospitals*	

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Pacific Symposium on Biocomputing (PSB) 2015 Schedule
January 4-8, 2015, Big Island of Hawaii

Monday, January 5, 2015

Registration		
7:30-9:00	Registration	Ballroom Prefunction
10:30-11:30	Registration	Ballroom Prefunction
1:00-2:00	Registration	Ballroom Prefunction
Breakfast		**Ballroom Courtyard**
7:30-8:30	PSB Breakfast	
Welcome		**Salon 2&3**
8:30-8:40	Welcome – Teri Klein	

Session 1:	**Cancer Pathways: Automatic Extraction, Representation, and Reasoning in the Big Data Era**	**Salon 2&3**
8:40-8:50	Introduction	
8:50-9:05	Invited Talk: Russ Altman	
9:05-9:20	*Binning Somatic Mutations Based on Biological Knowledge for Predicting Survival: An Application in Renal Cell Carcinoma*	
	Dokyoon Kim, Ruowang Li, Scott M. Dudek, John R. Wallace, Marylyn D. Ritchie	
9:20-9:35	*Topological Features in Cancer Gene Expression Data*	
	Svetlana Lockwood, Bala Krishnamoorthy	
9:35-9:50	*Distant Supervision for Cancer Pathway Extraction from Text*	
	Hoifung Poon, Kristina Toutanova, Chris Quirk	
9:50-10:05	*Unsupervised Feature Construction and Knowledge Extraction from Genome-Wide Assays of Breast Cancer with Denoising Autoencoders*	
	Jie Tan, Matthew Ung, Chao Cheng, Casey S. Greene	
10:05-10:20	*Automated Gene Expression Pattern Annotation in the Mouse Brain*	
	Tao Yang, Xinlin Zhao, Binbin Lin, Tao Zeng, Shuiwang Ji, Jieping Ye	

Session 2:	**Cancer Panomics: Computational Methods and Infrastructure for Integrative Analysis of Cancer High-Throughput "Omics" Data to Enable Precision Oncology**	**Salon 2&3**
10:30-10:40	Introduction	
10:40-10:55	*Comparing Nonparametric Bayesian Tree Priors for Clonal Reconstruction of Tumors*	
	Amit G. Deshwar, Shankar Vembu, Quaid Morris	
10:55-11:10	*Stepwise Group Sparse Regression (SGSR): Gene-Set-Based Pharmacogenomic Predictive Models with Stepwise Selection of Functional Priors*	
	In Sock Jang, Rodrigo Dienstmann, Adam A. Margolin, Justin Guinney	
11:10-11:25	*Characteristics of Drug Combination Therapy in Oncology by Analyzing Clinical Trial Data on Clinicaltrials.Gov*	
	Menghua Wu, Marina Sirota, Atul J Butte, Bin Chen	
11:25-11:40	*Cell Index Database (CELLX): A Web Tool for Cancer Precision Medicine*	
	Keith A. Ching, Kai Wang, Zhengyan Kan, Julio Fernandez, Wenyan Zhong, Jarek Kostrowicki, Tao Xie, Zhou Zhu, Jean-Francois Martini, Maria Koehler, Kim Arndt, Paul Rejto	
Keynote		**Salon 2&3**
11:50-1:00	David Haussler, University of California at Santa Cruz, with introduction by Russ Altman	

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January 3, 2015

Pacific Symposium on Biocomputing (PSB) 2015 Schedule

January 4-8, 2015, Big Island of Hawaii

Monday, January 5, 2015 *(continued)*

Lunch	Ballroom Courtyard
1:00-2:15	PSB Hosted Lunch

Discussion	Salon 2&3
2:30-3:30	Cancer Pathways: Automatic Extraction, Representation, and Reasoning in the Big Data Era
3:30-4:30	Cancer Panomics: Computational methods and infrastructure for integrative analysis of cancer high-throughput "omics" data to enable precision oncology

Meeting	Salon 2&3
4:30-5:00	ISCB Open Meeting

Break	
5:00-	Dinner and evening on own

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January 3, 2015

Pacific Symposium on Biocomputing (PSB) 2015 Schedule
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Tuesday, January 6, 2015

Registration		
8:00-9:00	Registration	Ballroom Prefunction
Breakfast		**Ballroom Courtyard**
8:00-9:00	PSB Breakfast	
Announcements		**Salon 2&3**
9:00-9:10	Morning Announcements – Keith Dunker	
Session 3:	**Crowdsourcing and Mining Crowd Data**	**Salon 2&3**
9:10-9:20	Introduction	
9:20-9:35	Invited talk: Gustavo Stolovitzky	
9:35-9:50	*Crowdsourcing Image Annotation for Nucleus Detection and Segmentation in Computational Pathology: Evaluating Experts, Automated Methods, and the Crowd*	
	Humayun Irshad, Laleh Montaser-Kouhsari, Gail Waltz, Octavian Bucur, Jonathan A Nowak, Fei Dong, Nicholas W Knoblauch, Andrew H Beck	
9:50-10:05	*Microtask Crowdsourcing for Disease Mention Annotation in PubMed Abstracts* Benjamin M. Good, Max Nanis, Chunlei Wu, Andrew I. Su	
10:05-10:20	*Reputation-Based Collaborative Network Biology* Jean Binder, Stephanie Boue, Anselmo Di Fabio, R. Brett Fields, William Hayes, Julia Hoeng, Jennifer S. Park, Manuel C. Peitsch	
10:20-10:35	*Refining Literature Curated Protein Interactions Using Expert Opinions* Oznur Tastan, Yanjun Qi, Jaime G. Carbonell, Judith Klein-Seetharaman	
10:35-10:50	Crowdsourcing RNA Structural Alignments with an Online Computer Game Jérôme Waldispühl, Arthur Kam, Paul P. Gardner	
10:50-11:05	*Analyzing Search Behavior of Healthcare Professionals for Drug Safety Surveillance* David J. Odgers, Rave Harpaz, Alison Callahan, Gregor Stiglic, Nigam H. Shah	
Discussion		**Salon 2&3**
11:05-12:05	Crowdsourcing and Mining Crowd Data	
Poster Session Lunch		**Salon 1**
12:00-2:00	Poster Session with Lunch (Posters on ODD numbered boards presented from 12:00-1:00) (Posters on EVEN numbered boards presented from 1:00-2:00)	
Meeting		**Salon 2&3**
2:00-3:00	NIH Big Data from Science to Careers Moderator: Philip E. Bourne, Associate Director for Data Science, National Institutes of Health	
Workshop:		**Salon 2&3**
3:00-5:00	Including the Public in Research Projects: The Impact on Informatics Arising from Emerging Health Research Paradigms	
Break		
5:00 –	Dinner and evening on own	

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January 3, 2015

Pacific Symposium on Biocomputing (PSB) 2015 Schedule

January 4-8, 2015, Big Island of Hawaii

Wednesday, January 7, 2015

Breakfast	Ballroom Courtyard
7:30-8:30	PSB Breakfast

Announcements	Salon 2&3
8:30-8:40	Morning Announcements – Larry Hunter

Session 4: Personalized Medicine: From Genotypes, Molecular Phenotypes and the Quantified Self, Towards Improved Medicine **Salon 2&3**

8:40-8:50 Introduction

8:50-9:05 Invited Speaker: Nathan Price

9:05-9:20 *An Integrative Pipeline for Multi-Modal Discovery of Disease Relationships*
Benjamin S. Glicksberg, Li Li, Wei-Yi Cheng, Khader Shameer, JöRg Hakenberg, Rafael Castellanos, Meng Ma, Lisong Shi, Hardik Shah, Joel T. Dudley, Rong Chen

9:20-9:35 *PEAX: Interactive Visual Analysis and Exploration of Complex Clinical Phenotype and Gene Expression Association*
Michael Hinterberg, David P. Kao, Michael R. Bristow, Lawrence E. Hunter, J. David Port, Carsten Görg

9:35-9:50 *Machine Learning from Concept to Clinic: Reliable Detection of BRAF V600E DNA Mutations in Thyroid Nodules Using High-Dimensional RNA Expression Data*
James Diggans, Su Yeon Kim, Zhanzhi Hu, Daniel Pankratz, Mei Wong, Jessica Reynolds, Ed Tom, Moraima Pagan, Robert Monroe, Juan Rosai, Virginia A. Livolsi, Richard B. Lanman, Richard T. Kloos, P. Sean Walsh, Giulia C. Kennedy

9:50-10:05 *T-ReCS: Stable Selection of Dynamically Formed Groups of Features with Application to Prediction of Clinical Outcomes*
Grace T. Huang, Ioannis Tsamardinos, Vineet Raghu, Naftali Kaminski, Panayiotis V. Benos

10:05-10:20 *BayClone: Bayesian Nonparametric Inference of Tumor Subclones Using NGS Data*
Subhajit Sengupta, Jin Wang, Juhee Lee, Peter Mueller, Kamalakar Gulukota, Arunava Banerjee, Yuan Ji

10:20-10:35 KLEAT: Cleavage Site Analysis of Transcriptomes
Inanç Birol, Anthony Raymond, Readman Chiu, Ka Ming Nip, Shaun D Jackman, Maayan Kreitzman, T. Roderick Docking, Catherine A. Ennis, A. Gordon Robertson, Aly Karsan

10:35-10:50 *Drug-influenced mRNA Signatures Are Enriched for the Minority of Genes that Are Highly Heritable*
Tianxiang Gao, Petter Brodin, Mark M Davis, Vladimir Jojic

10:50-11:05 *A Systematic Assessment Of Linking Gene Expression with Genetic Variants for Prioritizing Candidate Targets*
Hua Fan-Minogue, Bin Chen, Weronika Sikora-Wohlfeld, Marina Sirota, Atul Butte

11:05-11:20 *Causal Inference in Biology Networks with Integrated Belief Propagation*
Rui Chang, Jonathan R. Karr, Eric E. Schadt

Discussion	Salon 2&3
11:20-12:20	Personalized Medicine: From Genotypes, Molecular Phenotypes and the Quantified Self, Towards Improved Medicine

Pacific Symposium on Biocomputing (PSB) 2015 Schedule

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Wednesday, January 7, 2015 *(continued)*

Break	
12:20-1:30	Lunch on Own
Workshop	**Salon 2&3**
1:30 – 4:30	Training the Next Generation of Quantitative Biologists in the Era of Big Data
Dinner	**Coconut Grove**
5:30-7:30	Dinner Party
Keynote and Dessert	**Salon 2&3**
7:30-8:45	Lucila Ohno-Machado, University of California at San Diego, with introduction by Larry Hunter
	20th Anniversary dessert sponsored by the Computational Genetics Laboratory at Dartmouth College and DNAnexus

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Thursday, January 8, 2015

Breakfast		Ballroom Courtyard
7:30-8:30	Breakfast	

Closing		Salon 2&3
8:30-8:40	Closing – Marylyn Ritchie	

Session 7:	Characterizing the Importance of Environmental Exposures, Interactions between the Environment and Genetic Architecture, and Genetic Interactions: New Methods for Understanding the Etiology of Complex Traits and Disease	Salon 2&3
8:40-8:50	Introduction	
8:50-9:05	Invited Talk: Scott Willams	
9:05-9:20	*Genome-wide genetic interaction analysis of glaucoma using expert knowledge derived from human phenotype networks* Ting Hu, Christian Darabos, Maria Cricco, Emily Kong, Jason Moore	
9:20-9:35	*iPINBPA: An Integrative Network-Based Functional Module Discovery Tool for Genome-Wide Association Studies* Lili Wang, Parvin Mousavi, Sergio E. Baranzini	
9:35-9:50	*Development of exposome globes to map out environment-wide associations* Chirag J. Patel, Arjun K. Manrai	
9:50-10:05	*A Screening-Testing Approach for Detecting Gene-Environment Interactions Using Sequential Penalized and Unpenalized Multiple Logistic Regression* H. Robert Frost, Angeline S. Andrew, Margaret R. Karagas, Jason H. Moore	
10:05-10:20	*Identification of Gene-Gene and Gene-Environment Interactions within the Fibrinogen Gene Cluster for Fibrinogen Levels in Three Ethnically Diverse Populations* Janina M. Jeff, Kristin Brown-Gentry, Dana C. Crawford	

Discussion		Salon 2&3
10:20-11:20	Characterizing the Importance of Environmental Exposures, Interactions between the Environment and Genetic Architecture, and Genetic Interactions: New Methods for Understanding the Etiology of Complex Traits and Disease	

*** PSB over--see you next year! ***