

Pacific Symposium on Biocomputing (PSB) 2018 Schedule

January 3-7, 2019, Fairmont Orchid, Big Island of Hawaii

Thursday, January 3, 2019

7:30 – 9:30 am
9:00 – Noon

Registration ([Ballroom Prefunction](#))
[Workshop](#) – Merging Heterogeneous Data to Enable Knowledge Discovery ([Salon 2&3](#))

Organizers: Tina Hernandez-Boussard, Michael Kahn

Noon – 1:30 pm
Noon – 2:00 pm
1:30 – 4:30 pm

[Break](#) – Lunch on own
Registration ([Ballroom Prefunction](#))
[Workshop](#) – Translational informatics of population health: How large biomolecular and clinical datasets ([Salon 2&3](#))

Organizers: Yves Lussier, Atul Butte, Jason Moore, Rong Chen, Haiquan Li

4:30 – 7:00 pm
7:00 – 8:00 pm
7:00 – 8:00 pm

[Break](#) – Dinner on own
Registration ([Kilohana Room](#))
[Reception](#) – 24th Anniversary Welcome Drink & Dessert Reception ([Kilohana Room](#))

Friday, January 4, 2019

7:30 – 9:00 am
7:30 – 8:45 am
8:30 – 8:40 am

Registration ([Ballroom Prefunction](#))
[PSB Breakfast](#) ([Ballroom Courtyard](#))
[Welcome](#) ([Salon 2&3](#))
[Session 1: Pattern recognition in biomedical data: challenges in putting big data to work](#)

Co-chairs: Shefali Setia Verma, Anurag Verma, Dokyoon Kim, Christian Darabos

8:40 – 8:50 am
8:50 – 9:10 am
9:10 – 9:25 am

Introduction
Invited Talk

Barbara Engelhardt

[Daisy Yi Ding](#), Chloe Simpson, Stephen Pfohl, Dave Kale, Kenneth Jung, Nigam Shah, Rui Duan, Mary Regina Boland, Jason Moore, [Yong Chen](#)

9:25 – 9:40 am

The Effectiveness of Multitask Learning for Phenotyping with Electronic Health Records Data
ODAL: A one-shot distributed algorithm to perform logistic regressions on electronic health records data from multiple clinical sites

[Max Gordon](#), Cranos Williams

9:40 – 9:55 am

PVC Detection Using a Convolutional Autoencoder and Random Forest Classifier

[Haohan Wang](#), Zhenglin Wu, Eric Xing

9:55 - 10:10 am

Removing Confounding Factors Associated Weights in Deep Neural Networks Improves the Prediction Accuracy for Healthcare Applications
DeepDom: Predicting protein domain boundary from sequence alone using stacked bidirectional LSTM

[Yuexu Jiang](#), Duolin Wang, Dong Xu

10:10 – 10:25 am

10:25 – 10:40 am

Res2s2aM: Deep residual network-based model for identifying functional noncoding SNPs in trait-associated regions

[Zheng Liu](#), Yao Yao, Qi Wei, Benjamin Weeder, Stephen Ramsey

10:30 – 11:30 am

Registration ([Ballroom Prefunction](#))

10:40 – 10:50 am

[Break](#)

10:50 – Noon

[Keynote](#): Russ Altman ([Salon 2&3](#))

Introduction by Steve Brenner

12:00 – 1:00 pm

PSB Hosted Lunch ([Ballroom Courtyard](#))

12:00 – 1:00 pm

Registration ([Ballroom Prefunction](#))
[Session 1 \(continued\) Pattern recognition in biomedical data: challenges in putting big data to work](#) ([Salon 2&3](#))

Co-chairs: Shefali Setia Verma, Anurag Verma, Dokyoon Kim, Christian Darabos

1:00 – 1:10 pm

Introduction to second half of session

1:10 – 1:25 pm

Bi-directional Recurrent Neural Network Models for Geographic Location Extraction in Biomedical Literature

[Arjun Magge](#), Davy Weissenbacher, Abeer Sarker, Matthew Scotch, Graciela Gonzalez-Hernandez

1:25 – 1:40 pm

PLATYPUS: A Multiple-View Learning Predictive Framework for Cancer Drug Sensitivity Prediction
Computational KIR copy number discovery reveals interaction between inhibitory receptor burden and survival

[Kiley Gram](#), Verena Friedl, Kathleen E. Houlahan, Joshua Stuart

1:40 – 1:55 pm

Implementing and Evaluating A Gaussian Mixture Framework for Identifying Gene Function from TnSeq Data

[Rachel Pyke](#), Raphael Genolet, Alexandre Harari, George Coukos, David Gfeller, Hannah Carter

1:55 – 2:10 pm

Extracting allelic read counts from 250,000 human sequencing runs in Sequence Read Archive

[Kevin Li](#), Rachel Chen, William Lindsey, Aaron Best, Matthew DeJongh, Christopher Henry, Nathan Tintle

2:10 – 2:25 pm

[Brian Tsui](#), Michelle Dow, Dylan Skola, Hannah Carter

Please wear your PSB name tag and lanyard for admission to all events and hosted meals.

01/03/19

Pacific Symposium on Biocomputing (PSB) 2018 Schedule

January 3-7, 2019, Fairmont Orchid, Big Island of Hawaii

Friday, January 4 (cont)

2:25 – 2:40 pm	Semantic workflows for benchmark challenges: Enhancing comparability, reusability and reproducibility	Arunima Srivastava , Raveli Adusumilli, Hunter Boyce, Daniel Garijo, Varun Ratnakar, Rajiv Mayani, Thomas Yu, Raghu Machiraju, Yolanda Gil, Parag Mallick
2:40 – 3:40 pm	Discussion Session (Salon 2&3) Pattern recognition in biomedical data: challenges in putting big data to work	
3:45 – 5:00 pm	Working Group Meeting: Writing bio-computational manuscripts with Manubot (Salon 2&3)	Organizer: Daniel Himmelstein
5:00 –	Break – Dinner & evening on own	

Saturday, January 5, 2019

7:30 – 8:30 am	Registration (Ballroom Prefunction)	
7:30 – 8:45 am	PSB Breakfast (Ballroom Courtyard)	
8:30 – 8:40 am	Morning Announcements (Salon 2&3)	
	TERI Talks (Salon 2 & 3)	
8:40 – 9:10 am	Dennis Wall, Stanford University	
9:10 – 9:40 am	Marylyn Ritchie, University of Pennsylvania Session 2: When biology gets personal: hidden challenges of privacy and ethics in biological big data	Co-chairs: Gamze Gürsoy, Arif Harmanci, Haixu Tang, Erman Ayday, Steven Brenner
9:45 – 9:55 am	Introduction	
9:55 – 10:15 am	Invited Talk	Greg Hampikian
10:15 – 10:30 am	<i>Leveraging summary statistics to make inferences about complex phenotypes in large biobanks</i>	Angela Gasdaska, Derek Friend, Rachel Chen, Jason Westra, Matthew Zawistowski, William Lindsey, Nathan Tintle
10:30– 10:45 am	Protecting Genomic Data Privacy with Probabilistic Modeling	Sean Simmons , Bonnie Berger, Cenk Sahinalp
10:45 – 11:00 am	Evaluation of patient re-identification using laboratory test orders and mitigation via latent space variables	Kipp Johnson, Jessica De Freitas , Benjamin Glicksberg, Jason Bobe, Joel Dudley
11:00 – Noon	Discussion Session (Salon 2&3) When biology gets personal: hidden challenges of privacy and ethics in biological big data	
Noon – 2:30 pm	Poster Session with Lunch Salon1 and Ballroom Courtyard	ODD numbered boards presented from 12:30-1:30 EVEN numbered boards presented from 1:30-2:30
2:30 – 5:30 pm	Workshop: Text Mining and Machine Learning for Precision Medicine (Salon 2&3)	Organizers: Graciela Gonzalez, Hongfang Liu, Zhiyong Lu, Robert Leaman
5:30 – 6:00 pm	Meeting: ISCB Meeting (Salon 2&3)	
6:00 -	Break – Dinner & Evening on own	

Sunday, January 6, 2019

7:30 – 8:45 am	PSB Breakfast (Ballroom Courtyard)	
8:30 – 8:40 am	Morning Announcements (Salon 2&3)	
8:40 – 11:10 am	Session 3: Precision medicine: improving health through high-resolution analysis of personal data (Salon 2&3)	Co-chairs: Steven Brenner,, Martha Bulyk, Dana Crawford, Jill Mesirov, Alexander Morgan, Predrag Radivojac
8:40 – 8:50 am	Introduction	
8:50 – 9:10 am	Invited Talk	John Witte
9:10 – 9:25 am	CrowdVariant: a crowdsourcing approach to classify copy number variants	Peyton Greenside , Justin Zook, Marc Salit, Madeleine Cule, Ryan Poplin, Mark DePristo
9:25 – 9:40 am	<i>A repository of microbial marker genes related to human health and diseases for host phenotype prediction using microbiome data</i>	Wontack Han , Yuzhen Ye
9:40 – 9:55 am	AICM: A Genuine Framework for Correcting Inconsistency Between Large Pharmacogenomics Datasets	Zhiyue Tom Hu , Yuting Ye, Patrick A. Newbury, Haiyan Huang, Bin Chen

Please wear your PSB name tag and lanyard for admission to all events and hosted meals.

01/03/19

Pacific Symposium on Biocomputing (PSB) 2018 Schedule

January 3-7, 2019, Fairmont Orchid, Big Island of Hawaii

Sunday, January 6 (cont.)

9:55 – 10:10 am	Outgroup Machine Learning Approach Identifies Single Nucleotide Variants in Noncoding DNA Associated with Autism Spectrum Disorder	<u>Maya Varma</u> , Kelley Marie Paskov, Jae-Yoon Jung, Brianna Sierra Chrisman, Nate Tyler Stockham, Peter Yigitcan Washington, Dennis Paul Wall
10:10 – 10:25 am	Detecting potential pleiotropy across cardiovascular and neurological diseases using univariate, bivariate, and multivariate methods on 43,870 individuals from the eMERGE network	<u>Xinyuan Zhang</u> , Yogasudha Veturi, Shefali Verma, William Bone, Anurag Verma, Anastasia Lucas, Scott Hebbing, Joshua C. Denny, Ian Stanaway, Gail Jarvik, David Crosslin, Eric Larson, Laura Rasmussen-Torvik, Sarah A. Pendergrass, Jordan W. Smoller, Hakon Hakonarson, Patrick Sleiman, Chunhua Weng, David Fasel, Wei-Qi Wei, Iftikhar Kullo, Daniel Schaid, Wendy Chung, Marylyn Ritchie
10:25 – 10:40 am	Integrating RNA expression and visual features for immune infiltrate prediction	Derek Reiman, Lingdao Sha, Irvin Ho, Timothy Tan, Denise Lau, <u>Aly Khan</u>
10:40 – 10:55 am	Precision drug repurposing via convergent eQTL-based molecules and pathway targeting independent disease-associated polymorphisms	<u>Francesca Vitali</u> , Joanne Berghout, Jungwei Fan, Jianrong Li, Qike Li, Haiquan Li, Yves Lussier
10:55 – 11:10 pm	An Optimal Policy for Patient Laboratory Tests in Intensive Care Units	Li-Fang Cheng, <u>Niranjani Prasad</u> , Barbara Engelhardt
11:10-12:10 pm	<u>Discussion Session (Salon 2&3)</u> Precision medicine: improving health through high-resolution analysis of personal data	
12:10 – 1:30 pm	<u>Break – Lunch on own</u>	
1:30 – 4:30 pm	<u>Workshop: Reading between the genes: interpreting non-coding DNA in high-throughput (Salon 2&3)</u> <u>Parasite & Symbiont Awards (Salon 2&3)</u> <u>Break</u> <u>PSB Dinner Banquet (Coconut Grove)</u> <u>Keynote: Lawrence Hunter (Salon 2&3)</u>	Organizers: Joanne Berghout, Yves Lussier, Francesca Vitali, Martha Bulyk, Maricel Kann, Jason Moore
4:30 – 5:00 pm		
5:00 – 5:30 pm		
5:30 – 7:15 pm		
7:30 – 8:30 pm		Introduction by Russ Altman

Monday, January 7, 2019

7:30 – 8:30 am	<u>Breakfast (Ballroom Courtyard)</u>	
8:30 – 8:40 am	<u>Closing Announcements (Salon 2&3)</u> <u>TERI Talks (Salon 2&3)</u>	
8:40 – 9:10 am	Graciela Gonzalez, University of Pennsylvania	
9:10 – 9:40 am	Keith Dunker, University of Indiana Introduction	
9:45 – 11:00 am	<u>Session 4: Single cell analysis, what is in the future? (Salon 2&3)</u>	Co-chairs: Lana X. Garmire, Guo-Cheng Yuan, Rong Fan, Gene Yeo, John Quackenbush
9:45 - 9:55 am	Introduction	
9:55 – 10:15 am	Invited Talk	Zemin Zhang
10:15 – 10:30 am	LISA: Accurate reconstruction of cell trajectory and pseudo-time for massive single cell RNA-seq data	Yang Chen, Yuping Zhang, <u>Zhengqing Ouyang</u>
10:30 – 10:45 am	Topological Methods for Visualization and Analysis of High Dimensional Single-Cell RNA Sequencing Data	<u>Tongxin Wang</u> , Travis Johnson, Jie Zhang, Kun Huang
10:45 – 11:00 pm	Parameter tuning is a key part of dimensionality reduction via deep variational autoencoders for single cell RNA transcriptomics	<u>Qiwen Hu</u> , Casey Greene
11:00 – 12:00 pm	<u>Discussion Session (Salon 2&3)</u> Single cell analysis, what is in the future?	

PSB over—see you next year!!

Please wear your PSB name tag and lanyard for admission to all events and hosted meals.

01/03/19