

Pacific Symposium on Biocomputing (PSB) 2016 Schedule

January 4-8, 2016, Fairmont Orchid, Big Island of Hawaii

Sunday, January 3, 2016

4:00 – 5:30 pm Registration ([Ballroom Prefunction](#))

Monday, January 4, 2016

7:30 – 9:30 am Registration ([Ballroom Prefunction](#))

9:00 - Noon [Workshops](#)

9:00 – Noon Translational Bioinformatics 101 ([Salon 2&3](#))

Speakers: Jessica Tenenbaum, Lewis Frey, Robert Freimuth, Subha Madhavan, Joshua Denny

9:00 – Noon Computational Approaches to Study Microbes and Microbiomes ([Plaza](#))

Speakers: Susan Holmes, Igor Zhulin Jouline, Tandy Warnow, Chad Myers, Yana Bromberg, Casey Greene, Iddo Friedberg, Fiona Brinkman, Anne Hoen, Dan Knights, Craig Lessard, Serghei Mangul, James Foster, Namphuong Nguyen

Noon – 2:00 pm Registration ([Ballroom Prefunction](#))

Noon – 1:30 pm [Break](#) – Lunch on own

1:30 – 4:30 pm [Workshops](#)

1:30 – 4:30 pm Use of Genome Data in Newborns as a Starting Point for Life-Long Precision Medicine ([Salon 2&3](#))

Speakers: Robert Nussbaum, Stephen Kingsmore, Jennifer Puck, Steven Brenner, Sean Mooney

1:30 – 4:30 pm Biomedical Applications of Topology and Abstract Algebras ([Plaza](#))

Speakers: Eric Neumann, Svetlana Lockwood

4:30 – 7:30 pm [Break](#) – Dinner on own

6:00 – 7:30 pm Registration ([Ballroom Prefunction](#))

7:30 – 8:30 pm [Reception](#) – 21st Anniversary Welcome Drink & Dessert Reception ([Kilohana Room](#))

Tuesday, January 5, 2016

7:30 – 9:00 am Registration ([Ballroom Prefunction](#))

7:30 – 8:30 am PSB Breakfast ([Ballroom Courtyard](#))

8:30 – 8:40 am Welcome ([Salon 2&3](#))

8:40 – 10:55 am [Session 1: Innovative Approaches to Combining Genotype, Phenotype, Epigenetic, and Exposure Data for Precision Diagnostics](#) ([Salon 2&3](#))

8:40 – 8:50 am Introduction

Melissa Haendel, Nicole Washington, Maricel Kann

8:50 – 9:10 am Invited Talk

Elissa Chesler

9:10 – 9:25 am Discovering Patient Phenotypes Using Generalized Low Rank Models

[Alejandro Schuler](#), Vincent Liu, Joe Wan, Alison Callahan, Madeleine Udell, David E. Stark, Nigam H. Shah

9:25 – 9:40 am Diagnosis-Guided Method for Identifying Multi-Modality Neuroimaging Biomarkers Associated with Genetic Risk Factors in Alzheimer's Disease

[Xiaohe Hao](#), Jingwen Yan, Xiaohui Yao, Shannon L. Risacher, Andrew J. Saykin, Daoqiang Zhang, Li Shen, for the ADNI

9:40 – 9:55 am Metabolomics Differential Correlation Network Analysis of Osteoarthritis

[Ting Hu](#), Weidong Zhang, Zhaozhi Fan, Guang Sun, Sergei Likhodi, Edward Randell, Guangju Zhai

9:55- 10:10 am Integrating Clinical Laboratory Measures and ICD-9 Code Diagnoses in Phenome-Wide Association Studies

[Anurag Verma](#), Joseph B. Leader, Shefali S. Verma, Alex Frase, John Wallace, Scott Dudek, Daniel R. Lavage, Cristopher V. Van Hout, Frederick E. Dewey, John Penn, Alex Lopez, John D. Overton, David J. Carey, David H. Ledbetter, H. Lester Kirchner, Marylyn D. Ritchie, Sarah A. Pendergrass

10:10 – 10:25 am Investigating the Importance of Anatomical Homology for Cross-Species Phenotype Comparisons Using Semantic Similarity

[Prashanti Manda](#), Christopher J. Mungall, James P. Balhoff, Hilmar Lapp, Todd J. Vision

10:25 – 10:50 am [Break](#)

10:30 – 11:30 am Registration ([Ballroom Prefunction](#))

10:50 – Noon [Keynote](#): Creating a Gene X Phenome Catalog through Integration of Genome, Transcriptome, and EHR Data ([Salon 2&3](#))

Nancy Cox, with introduction by Russ Altman

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Tuesday, January 5 (cont.)

Noon – 1:15 pm	PSB Hosted Lunch (Ballroom Courtyard)	
1:00 – 2:00 pm	Registration (Ballroom Prefunction)	
1:30 – 3:15 pm	Session 2: Discovery of Molecularly Targeted Therapies (Salon 2&3)	
1:30 – 1:40 pm	Introduction	Philip R.O. Payne, Kun Huang, Nigam Shah
1:40 – 2:00 pm	Invited Talk	Scott Khan
2:00 – 2:15 pm	Collective Pairwise Classification for Multi-Way Analysis of Disease and Drug Data	<u>Marinka Zitnik</u> , Blaz Zupan
2:15 – 2:30 pm	Computing Therapy for Precision Medicine: Collaborative Filtering Integrates and Predicts Multi-entity Interactions	<u>Sam Regenbogen</u> , Angela D. Wilkins, Olivier Lichtarge
2:30 – 2:45 pm	An Integrated Network Approach to Identifying Biological Pathways and Environmental Exposure Interactions in Complex Diseases	<u>Christian Darabos</u> , Jingya Qiu, Jason H. Moore
2:45 – 3:00 pm	Integrating Genetic and Structural Data on Human Protein Kinome in Network-Based Modeling of Kinase Sensitivities and Resistance to Targeted and Personalized Anticancer Drugs	<u>Gennady M. Verkhivker</u>
3:00 – 3:15 pm	A Framework for Attribute-Based Community Detection with Applications to Integrated Functional Genomics	Han Yu, <u>Rachael Hageman Blair</u>
3:15 – 4:15 pm	Discussion Sessions	
4:15 – 5:15 pm	Discovery of Molecularly Targeted Therapies Innovative Approaches to Combining Genotype, Phenotype, Epigenetic, and Exposure Data for Precision Diagnostics	
5:30 pm	Break – Dinner on own	

Wednesday, January 6, 2016

7:30 – 8:30 am	Registration (Ballroom Prefunction)	
7:30 – 8:30 am	PSB Breakfast (Ballroom Courtyard)	
8:30 – 8:40 am	Morning Announcements (Salon 2&3)	
8:40 – 10:50 am	Session 3: Precision Medicine: Data and Discovery for Improved Health and Therapy (Salon 2 & 3)	
8:40 – 8:45 am	Introduction	Bruce Aronow, Steven Brenner, Sean Mooney, Alexander Morgan
8:45 – 9:20 am	Invited Talk	Jennifer Doudna
9:20 – 9:35 am	Multitask Feature Selection with Task Descriptors	<u>Victor Bellon</u> , Veronique Stoven, Chloe-Agathe Azencott
9:35 – 9:50 am	Knowledge Driven Binning and PheWAS Analysis in Marshfield Personalized Medicine Research Project Using BioBin	<u>Anna O. Basile</u> , John R. Wallace, Peggy Peissig, Catherine A. McCarty, Murray Brilliant, Marylyn D. Ritchie
9:50 – 10:05 am	Biofilter as a Functional Annotation Pipeline for Common and Rare Copy Number Burden	<u>Dokyoon Kim</u> , Anastasia Lucas, Joseph Glessner, Shefali S. Verma, Yuki Bradford, Ruowang Li, Alex T. Frase, Hakon Hakonarson, Peggy Peissig, Murray Brilliant, Marylyn D. Ritchie
10:05 – 10:20 am	Separating the Causes and Consequences in Disease Transcriptome	<u>Yong Fuga Li</u> , Fuxiao Xin, and Russ B. Altman
10:20 – 10:35 am	The Challenges in Using Electronic Health Records for Pharmacogenomics and Precision Medicine Research	Sarah M. Laper, <u>Nicole A. Restrepo</u> , Dana C. Crawford
10:35 – 10:50 am	Kidney Disease Genetics and the Importance of Diversity in Precision Medicine	<u>Jessica N. Cooke Bailey</u> , Sarah Wilson, Kristin Brown-Gentry, Robert Goodloe, Dana C. Crawford
10:50 – 11:00 am	Break	

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Wednesday, January 6 (cont.)

11:00 – 11:15 am	Personalized Hypothesis Tests for Detecting Medication Response in Parkinson Disease Patients Using iPhone Sensor Data	Elias Chaibub Neto, Brian M. Bot, Thanneer Perumal, Larsson Omberg, Justin Guinney, Mike Kellen, Arno Klein, Stephen H. Friend, Andrew D. Trister <u>Maulik R. Kamdar</u> , <u>Michelle J. Wu</u>
11:15 – 11:30 am	PRISM: A Data-Driven Platform for Monitoring Mental Health	Vladimir Gligorijevic, <u>Noel Malod-Dognin</u> , Natasa Przulj
11:30 – 11:45 am	Patient-Specific Data Fusion for Cancer Stratification and Personalised Treatment	<u>Sahand Khakabimamaghani</u> , Martin Ester
11:45 – Noon	Bayesian Biclustering for Patient Stratification	<u>Alex M. Fichtenholtz</u> , Nicholas D. Camarda, Eric K. Neumann
Noon – 12:15 pm	Predicting Significance of Unknown Variants in Glial Tumors Through Sub-Class Enrichment	<u>Artem Sokolov</u> , Evan O. Paull, Joshua M. Stuart
12:15 – 12:30 pm	One-Class Detection of Cell States in Tumor Subtypes	ODD numbered boards presented from 12:30-1:15
12:30 - 2:30 pm	<u>Poster Session with Lunch</u> <u>Salon1 and Ballroom Courtyard</u>	EVEN numbered boards presented from 1:15-2:30
2:30 – 3:30 pm	<u>Discussion Session (Salon 2&3)</u> Precision Medicine: Data and Discovery for Improved Health and Therapy	
3:45 – 4:15 pm	<u>ISCB Open Meeting</u>	
4:15 -	<u>Break</u> - Dinner and evening on your own	

Thursday, January 7, 2016

7:30 – 8:30 am	PSB Breakfast (Ballroom Courtyard)	
8:30 – 8:40 am	Morning Announcements (Salon 2&3)	
8:40 – 10:40 am	Session 4: Social Media Mining for Public Health Monitoring and Surveillance (Salon 2&3)	
8:40 – 8:50 am	Introduction	Graciela Gonzalez, Matthew Scotch, Karen Smith, John Brownstein, Abeed Sarker, Michael Paul, Azadeh Nikfarjam Abeed Sarker
8:50 – 9:10 am	Invited Speaker	Bahadorreza Ofoghi, Meghan Mann, <u>Karin Verspoor</u>
9:10 – 9:25 am	Towards Early Discovery of Salient Health Threats: A Social Media Emotion Classification Technique	
9:25 – 9:40 am	Monitoring Potential Drug Interactions and Reactions via Network Analysis of Instagram User Timelines	Rion Brattig Correia, Lang Li, <u>Luis M. Rocha</u>
9:40 – 9:55 am	Text Classification for Automatic Detection of E-Cigarette Use and Use for Smoking Cessation from Twitter: A Feasibility Pilot	<u>Yin Aphinyanaphongs</u> , Armine Lulejian, Duncan Penfold Brown, Richard Bonneau, Paul Krebs
9:55 – 10:10 am	Insights from Machine-Learned Diet Success Prediction	<u>Ingmar Weber</u> , Palakorn Achananuparp
10:10 – 10:25 am	Predicting Individual Well-Being Through the Language of Social Media	H. Andrew Schwartz, Maarten Sap, Margaret L. Kern, Johannes C. Eichstaedt, Adam Kapelner, Megha Agrawal, Eduardo Blanco, Lukasz Dziurzynski, Gregory Park, David Stillwell, Michal Kosinski, Martin E.P. Seligman, Lyle H. Ungar
10:25 – 10:40 am	Finding Potentially Unsafe Nutritional Supplements from User Reviews with Topic Modeling	<u>Ryan Sullivan</u> , Abeed Sarker, Karen O'Connor, Amanda Goodin, Mark Karlsrud, Graciela Gonzalez
10:40 – 12:45 pm	<u>Discussion Sessions</u>	
10:40 – 11:40 am	Social Media Mining for Public Health Monitoring and Surveillance	
11:45 – 12:45 pm	Regulatory RNA	
12:45 – 2:00 pm	<u>Break</u> – Lunch on own	
2:00 – 3:30 pm	NIH Open Meeting, moderated by Larry Hunter (Salon 2&3)	

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Thursday, January 7 (cont.)

2:00 – 3:30 pm

A SWOT Analysis of Big Data @ the NIH

Philip E. Bourne, Associate Director for Data Science, National Institutes of Health

Rochelle Long, Acting Director, PPBC Division, NIGMS, NIH

Jane Ye, Program Officer, Division of Extramural Programs, NLM, NIH

3:30 – 5:30 pm

Funding Computational Research at NIGMS, and the New MIRA Program

Introduction to NLM Career Development Awards and Research Grants in Biomedical Informatics

Break

5:30 – 7:30 pm

Dinner Party (Coconut Grove)

7:30 – 8:45 pm

Keynote: Public Health Information in Social Networks (Salon 2&3)

Winter Mason, with introduction by Marylyn Ritchie

Friday, January 8, 2016

7:30 – 8:30 am

Breakfast (Ballroom Courtyard)

8:30 – 8:40 am

Closing Announcements (Salon 2&3)

8:40 – 10:05 am

Session 7: Methods to Enhance the Reproducibility of Precision Medicine (Salon 2&3)

8:40 – 8:50 am

Introduction

Arjun Manrai, Chirag Patel, Nils Gehlenborg, Nicholas Tatonetti, John Ioannidis, Isaac Kohane

8:50 – 9:05 am

Dynamically Evolving Clinical Practices and Implications for Predicting Medical Decisions

Jonathan H. Chen, Mary K. Goldstein, Steven M. Asch, Russ B. Altman

9:05 – 9:20 am

Identification of Questionable Exclusion Criteria in Mental Disorder Clinical Trials Using a Medical Encyclopedia

Handong Ma, Chunhua Weng

9:20 – 9:35 am

Repurposing Germline Exomes of the Cancer Genome Atlas Demands a Cautious Approach and Sample-Specific Variant Filtering

Amanda Koire, Panagiotis Katsonis, Olivier Lichtarge

9:35 – 9:50 am

Reproducible Research Workflow in R for the Analysis of Personalized Human Microbiome Data

Benjamin Callahan, Diana Proctor, David Relman, Julia Fukuyama, Susan Holmes

9:50 – 10:05 am

Reproducible and Shareable Quantifications of Pathogenicity

Arjun K. Manrai, Brice L. Wang, Chirag J. Patel, Isaac S. Kohane

10:05 – 11:05 am

Discussion Session (Salon 2&3)

Methods to Enhance the Reproducibility of Precision Medicine

11:05 – 12:30 pm

Break - Lunch on own

12:30 – 3:30 pm

Workshop (Salon 2&3)

Social Media Mining Shared Task Workshop

PSB over—see you next year!!

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