

Pacific Symposium on Biocomputing (PSB) 2021 Schedule

January 5-7, 2021 (Times are listed in Pacific Time)

Tuesday, January 5, 2021

Announcements

8:00-8:10 Welcome: Larry Hunter

- Session 1** **Computational Challenges and Artificial Intelligence in Precision Medicine**
Olga Afanasiev, Joanne Berghout, Steven Brenner, Martha L. Bulyk, Dana Crawford, Jonathan H. Chen, Roxana Daneshjou, Łukasz Kidziński
- 8:10-8:20 Introduction
- 8:20-8:35 *AeQTL: eQTL Analysis Using Region-Based Aggregation of Rare Genomic Variants*
Guanlan Dong, Michael C. Wendl, Bin Zhang, Li Ding, Kuan-lin Huang
- 8:35-8:50 *Truelmage: A Machine Learning Algorithm to Improve the Quality of Telehealth Photos*
Kailas Vodrahalli, Roxana Daneshjou, Roberto A. Novoa, Albert Chiou, Justin M. Ko, James Zou
- 8:50-9:05 *CheXclusion: Fairness Gaps in Deep Chest X-ray Classifiers*
Laleh Seyyed-Kalantari, Guanxiong Liu, Matthew McDermott, Irene Y. Chen, Maryzeh Ghassemi
- 9:05-9:20 *Drug Response Pharmacogenetics for 200,000 UK Biobank Participants*
Gregory McInnes, Russ B. Altman
- 9:20-9:35 *Incorporation of DNA Methylation into eQTL Mapping in African Americans*
Anmol Singh, Yizhen Zhong, Layan Nahlawi, C. Sehwan Park, Tanima De, Cristina Alarcon, and Minoli A. Perera
- 9:35-10:35 Discussion
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Session 2

Achieving Trustworthy Biomedical Data

- 10:35-10:45 Introduction
- 10:45-11:00 *Differential Privacy Protection Against Membership Inference Attack on Machine Learning for Genomic Data*
Junjie Chen, Wendy Hui Wang, Xinghua Shi
- 11:00-11:15 *Selection of Trustworthy Crowd Workers for Telemedical Diagnosis of Pediatric Autism Spectrum Disorder*
Peter Washington, Emilie Leblanc, Kaitlyn Dunlap, Yordan Penev, Maya Varma, Jae-Yoon Jung, Brianna Chrisman, Min Woo Sun, Nathaniel Stockham, Kelley Marie Paskov, Haik Kalantarian, Catalin Voss, Nick Haber, Dennis P. Wall
- 11:15-11:45 Discussion
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11:45-12:00 Break

Poster Session 1

12:00-1:00 Posters with EVEN number assignments

End Day 1

Zoom links will be provided to registered participants.

December 18, 2020

Pacific Symposium on Biocomputing (PSB) 2021 Schedule

January 5-7, 2021 (Times are listed in Pacific Time)

Wednesday, January 6, 2021

Announcements

8:00-8:05 Morning Remarks: Marylyn Ritchie

Session 3 [Pattern Recognition in Biomedical Data for Discovery](#)

Anurag Verma, Christian Darabos, Dokyoon Kim, Brett Beaulieu-Jones, Shilpa Nadimpalli Kobren

8:05-8:15 Introduction

8:15-8:30 *Topological Feature Extraction and Visualization of Whole Slide Images Using Graph Neural Networks*

[Joshua Levy](#), Christian Haudenschild, Clark Barwick, Brock Christensen, Louis Vaickus

8:30-8:45 *Cross-modal Representation Alignment of Molecular Structure and Perturbation-Induced Transcriptional Profiles*

Samuel G. Finlayson, [Matthew B.A. McDermott](#), Alex V. Pickering, Scott L. Lipnick, Isaac S. Kohane

8:45-9:00 *A Multi-Scale Integrated Analysis Identifies KRT8 as a Pan-Cancer Early Biomarker*

[Madeleine K. D. Scott](#), Michael G. Ozawa, Pauline Chu, Maneesha Limaye, Viswam S. Nair, Steven Schaffert, Albert C. Koong, Robert West, Purvesh Khatri

9:00-10:00 Discussion

Session 4 [What about the environment? Leveraging multi-omic datasets to characterize the environment's role in human health](#)

Kristin Passero, Shefali Verma, Kimberly McAllister, Arjun Manrai, Chirag Patel, Molly A Hall

10:00-10:10 Introduction

10:10-10:25 *How Much Does the (Social) Environment Matter? Using Artificial Intelligence to Predict COVID-19 Outcomes with Socio-demographic Data*

[Christos A. Makridis](#), Anish Mudide, Gil Alterovitz

10:25-10:40 *Semi-automated NMR Pipeline for Environmental Exposures: New Insights on the Metabolomics of Smokers versus Non-smokers*

[Morris A. Aguilar](#), John McGuigan, Molly A. Hall

10:40-11:10 Discussion

Session 5 [Advanced Methods for Big Data Analytics in Women's Health](#)

Graciela Gonzalez-Hernandez, Karin Verspoor, Maricel G Kann, Su Golder, Lisa Levine, Mary Regina Boland, Natalia Villanueva-Rosale, Karen O'Connor

11:10-11:20 Introduction

11:20-11:35 *Intimate Partner Violence and Injury Prediction from Radiology Reports*

[Irene Y. Chen](#), Emily Alsentzer, Hyesun Park, Richard Thomas, Babina Gosangi, Rahul Gujrathi, and Bharti Khurana

11:35-11:50 *Co-occurrence Patterns of Intimate Partner Violence*

Ahmet Hacialiefendioglu, Serhan Yilmaz, Mehmet Koyuturk, [Gunnur Karakurt](#)

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December 18, 2020

Pacific Symposium on Biocomputing (PSB) 2021 Schedule

January 5-7, 2021 (Times are listed in Pacific Time)

Wednesday, January 6, 2021 continued

Session 5 [Advanced Methods for Big Data Analytics in Women's Health \(continued\)](#)

11:50-12:20 Discussion

12:20-12:30 Break

Poster Session 2

12:30-1:30 Posters with ODD number assignments

End Day 2

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December 18, 2020

Pacific Symposium on Biocomputing (PSB) 2021 Schedule

January 5-7, 2021 (Times are listed in Pacific Time)

Thursday, January 7, 2021

Announcements

8:00-8:05 Closing Remarks: Russ Altman

Session 6 [Biocomputing and AI for infectious disease modelling and therapeutics](#)

8:05-8:15 Introduction

8:15-8:30 *TreeFix-TP: Phylogenetic Error-Correction for Infectious Disease Transmission Network Inference*

[Samuel Sledzieski](#), Chengchen Zhang, Ion Mandoiu, Mukul S. Bansal

8:30-8:45 *Characterization of Anonymous Physician Perspectives on COVID-19 Using Social Media Data*

[Katherine J. Sullivan](#), Marisha Burden, Angela Keniston, Juan M. Banda, Lawrence E. Hunter

8:45-9:00 *Protein Sequence Models for Prediction and Comparative Analysis of the SARS-CoV-2-Human Interactome*

[Meghana Kshirsagar](#), Nure Tasnina, Michael D. Ward, Jeffrey N. Law, T. M.

Murali, Juan M. Lavista Ferres, Gregory R. Bowman, Judith Klein-Seetharaman

9:00-10:00 Discussion

Workshop 1 [Bioinformatics of Corals](#)

Lenore J. Cowen, Judith Klein-Seetharaman, Hollie Putnam

10:00-2:00 Live Meeting

Workshop 2 [Translational Bioinformatics](#)

Jason Moore, Ju Han Kim, Dokyoon Kim

10:00-1:00 Webinar & Live Panel Discussion

Workshop 3 [Making Tools that People Will Use: User-Centered Design in Computational Biology Research](#)

Mary Goldman, Nils Gehlenborg

10:00-1:00 Webinar

Workshop 4 [Raising the Stakeholders: Improving Patient Outcomes Through Interprofessional Collaborations in AI for Healthcare](#)

Carly A. Bobak, Kristine A. Giffin, Marek Svoboda, Jason Moore, Dennis P. Wall

10:00-1:00 Live Meeting

Workshop 5 [Establishing the Reliability of Algorithms in Biomedical Informatics](#)

Lara Mangravite, Sean Mooney, Iddo Friedberg, Justin Guinney

10:00-1:00 Live Meeting

[Parasite & Symbiont Awards](#)

1:00-1:30 Parasite & Symbiont Awards

PSB over--see you next year!

Zoom links will be provided to registered participants.

December 18, 2020