# 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 Afanasieva, 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  **TruEimage: 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

### 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

11:45-12:00  Break

### Poster Session 1

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

*End Day 1*

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Zoom links will be provided to registered participants.

December 15, 2020
## Wednesday, January 6, 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 4</th>
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</thead>
<tbody>
<tr>
<td>8:00-8:05</td>
<td>Morning Remarks: Marylyn Ritchie</td>
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<tr>
<td>8:05-8:15</td>
<td>Introduction</td>
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<tr>
<td>8:15-8:30</td>
<td>Pattern Recognition in Biomedical Data for Discovery</td>
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<tr>
<td>Anurag Verma, Christian Darabos, Dokyoon Kim, Brett Beaulieu-Jones, Shilpa Nadimpalli Kobren</td>
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<td>8:30-8:45</td>
<td>Topological Feature Extraction and Visualization of Whole Slide Images Using Graph Neural Networks</td>
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<td>Joshua Levy, Christian Haudenschild, Clark Barwick, Brock Christensen, Louis Vaickus</td>
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<td>8:45-9:00</td>
<td>Cross-modal Representation Alignment of Molecular Structure and Perturbation-Induced Transcriptional Profiles</td>
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<td>Samuel G. Finlayson, Matthew B.A. McDermott, Alex V. Pickering, Scott L. Lipnick, Isaac S. Kohane</td>
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<td>9:00-10:00</td>
<td>A Multi-Scale Integrated Analysis Identifies KRT8 as a Pan-Cancer Early Biomarker</td>
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<td>Madeleine K. D. Scott, Michael G. Ozawa, Pauline Chu, Maneesha Limaye, Viswam S. Nair, Steven Schaffert, Albert C. Koong, Robert West, Purvesh Khatri</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Session 5</th>
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<tbody>
<tr>
<td>10:00-10:10</td>
<td>Introduction</td>
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<tr>
<td>10:10-10:25</td>
<td>How Much Does the (Social) Environment Matter? Using Artificial Intelligence to Predict COVID-19 Outcomes with Socio-demographic Data</td>
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<td>Christos A. Makridis, Anish Mudide, Gil Alterovitz</td>
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<td>Morris A. Aguilar, John McGuigan, Molly A. Hall</td>
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<tr>
<td>10:40-11:10</td>
<td>Discussion</td>
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## Schedule

**December 15, 2020**

**Pacific Symposium on Biocomputing (PSB) 2021 Schedule**

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### Wednesday, January 6, 2021 continued

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>11:50-12:20</td>
<td>Discussion</td>
</tr>
<tr>
<td>12:20-12:30</td>
<td>Break</td>
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<tr>
<td>12:30-1:30</td>
<td>Posters with ODD number assignments</td>
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</tbody>
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*End Day 2*
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

PSB over--see you next year!

Zoom links will be provided to registered participants.

December 15, 2020