PACIFIC SYMPOSIUM ON BIOCOMPUTING 2023

2023 marks the 28th Pacific Symposium on Biocomputing (PSB). We once again expect to be on the Big Island in person with a recognizably "normal" PSB. Our community depends on annual face-to-face interactions to revitalize our work and catalyze progress in the field. As we turn our attention to the ongoing challenges to biology, the environment and health, we continue to see exploding opportunities for computation. In the US, the President has established an ambitious and well-funded Advanced Research Project Administration for Health (ARPA-H) with a mission of speeding progress in research related to health. Other efforts are emerging in synthetic biology, neuroscience, sustained efforts against cancer (e.g. the Cancer Moonshot program), the federation of biobanks, future pandemic preparedness, and many other areas. Computation is central to the success of all these efforts—sometimes this is obvious to their leadership, but at other times our community must demonstrate the power and impact of our technologies and capabilities. PSB is one wonderful forum for assessing the ability of our field to respond to the major challenges facing our society.

In addition to being published by World Scientific and indexed in PubMed, the proceedings from all PSB meetings are available online at http://psb.stanford.edu/psb-online/. PSB has 1298 papers listed in PubMed (as of today). These papers are routinely cited in archival journal articles and often represent important early contributions in new subfields—many times before there is an established literature in more traditional journals; for this reason, many papers have garnered hundreds of citations.

The Twitter handle for PSB is @PacSymBiocomp and the hashtag for PSB 2023 is #PSB23.

The efforts of a dedicated group of session organizers have produced an outstanding program. The sessions of PSB 2023 and their hard-working organizers are as follows:

Digital health technology data in biocomputing: Research efforts and considerations for expanding access
Organizers: Michelle Holko, Chris Lunt, Jessilyn Dunn

Graph Representations and Algorithms in Biomedicine
Organizers: Brianna Chrisman, Cliff Joslyn, Maya Varma, Sepideh Maleki, Maria Brbic, Marinka Zitnik

Overcoming health disparities in precision medicine
Organizers: Kathleen Barnes, Carlos Bustamente, Francisco De La Vega, Chris Gignoux, Eimear Kenny, Rasika Mathias, Bogdan Pasaniuc

Precision Medicine: Using computation and artificial intelligence to improve healthcare and public health
Organizers: Steven E. Brenner, Jonathan Chen, Dana C. Crawford, Roxana Daneshjou, Łukasz Kidziński, David Ouyang, Michelle Whirl-Carrillo

SALUD: Scalable Applications of cLinical risk Utility and prediction
Organizers: Shefali S. Verma, Rachel L. Kember, Renae Judy, Marijana Vujkovic, Olivia J. Veatch, Yoson Park, Pankhuri Singhal, Yogasudha Veturi

Towards Ethical Biomedical Informatics
Organizers: Peter Y. Washington, Dennis P. Wall, Steven E. Brenner, Gamze Gürsoy, Nicholas P. Tatonetti

We are also pleased to present five workshops in which investigators with a common interest come together to exchange results and new ideas in a format that is more informal than the peer-reviewed sessions. For this year, the workshops and their organizers are:

Biomedical research in the Cloud: Options and factors for researchers and organizations considering moving to (or adding) cloud computing resources
Organizers: Michelle Holko, Nick Weber, Chris Lunt, Steven E. Brenner

Accessing clinical-grade genomic classification data through the ClinGen Data Platform
Organizers: Karen P. Dalton, Heidi L. Rehm, Matt W. Wright, Mark E. Mandell, Kilannin Krysiak, Lawrence Babb, Kevin Riehle, Tristan Nelson, Alex H. Wagner

High-Performance Computing Meets High-Performance Medicine
Organizers: Anurag Verma, Jennifer Huffman, Ali Torkamani, Ravi Madduri

Risk prediction: Methods, Challenges, and Opportunities
Organizers: Rui Duan, Lifang He, Ruowang Li, Jason H. Moore

Single Cell Spatial Biology for Precision Cancer Medicine
Organizers: Aaron Newman, Andrew Gentles

The PSB 2023 keynote speakers are Heidi Rehm (Science keynote) and Keolu Fox (Ethical, Legal and Social Implications keynote).

Tiffany Murray has managed the peer review process and assembly of the proceedings since 2001 and plays a key role in many aspects of the meeting. We are grateful for the support of the National Institutes of Health[1], ISCB, Cleveland Institute for Computational Biology, and Galatea Bio Inc. The Research Parasite Awards benefit from support from GigaScience, Jeff Stibel, Mr. and Mrs. Stephen Canon, and Drs. Casey and Anna Greene. The Research Symbiont Awards benefit from support from the Wellcome Trust and the DragonMaster Foundation.

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We look forward to a great meeting and to seeing you on the Big Island. Aloha!

Pacific Symposium on Biocomputing Co-Chairs,
October 13, 2022

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Departments of Bioengineering, Genetics, Medicine & Biomedical Data Science, Stanford University

Lawrence Hunter
Department of Pharmacology, University of Colorado Health Sciences Center

Marylyn D. Ritchie
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Thanks to the Reviewers

We wish to thank the scores of reviewers. PSB aims for every paper in this volume to be reviewed by three independent referees. Since there is a large volume of submitted papers, paper reviews require a great deal of work from many people. We are grateful to all of you listed below and to anyone whose name we may have accidentally omitted or who wished to remain anonymous.

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Brittany Baur
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