Personalized Medicine 11.0

Big Data
Artificial Intelligence
& Precision Healthcare

A San Francisco State University Biology Conference

South San Francisco Conference Center

Thursday 31 May 2018

8:00am - 7:30pm

http://personalizedmedicine.sfsu.edu

DEPARTMENT OF BIOLOGY

Personalized Medicine 11.0

Big Data Artificial Intelligence & Precision Healthcare

### Personalized Medicine at San Francisco State University

A star-studded cast of biotechnology, investment, academic, diagnostic, nonprofit and corporate research leaders share their perspectives on how the evolving landscape of Personalized Medicine is changing medical care and preventive medicine.

The Time is Now

Now in its eleventh year, the Conference, hosted by the Department of Biology, draws more than 140 scientists, health professionals, business leaders, educators, journalists and students, providing amazing opportunities for networking and discussion of the hottest topics in the field.

Personalized medicine

seeks to use genetic variation to develop new diagnostic tests and treatments and to identify the sub-groups of patients for whom they will work best. This approach can also help determine which groups of patients are more prone to developing some diseases and, ideally, help with the selection of lifestyle changes and/or treatments that can delay onset of disease or reduce its impact. This year, we focus on the enormous potential of artificial intelligence and machine learning in leveraging large data sets and electronic health records to revolutionize healthcare, enabling precision medicine, breakthrough treatments, and an extended healthspan. We consider the computational and biological principles, clinical and drug development applications, the business potential, and the regulatory, privacy and ethical implications of personalized medicine in the age of AI and Big Data.

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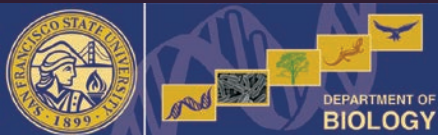
2018 Conference 31st May

Conference Program
At-A-Glance

8:00
Breakfast, Networking & Registration

8:50
Opening Remarks

9:00
Opening Keynote
Massive Datasets in Human Genetics Reveal the Architecture of Type II Diabetes
Manuel Rivas, Ph.D., Assistant Professor, Biomedical Data Science – Stanford University

9:30
Panel
Moderator: Gini Deshpande, Ph.D., Founder & CEO – NuMedii

Augmenting the Discovery of Precision Therapeutics Using Big Data and Artificial Intelligence
Gini Deshpande, Ph.D., Founder & CEO – NuMedii

An Air Traffic Control System for Clinical Science
Jeff Shrager, Ph.D., CTO – xCures, Inc., and Adjunct Professor – Stanford University

Single cell analysis of the tumor microenvironment
Zemin Zhang, Ph.D., Professor -- Beijing Advanced Innovation Center for Genomics, Peking University

11:00
Break

11:15
Single-cell developmental classification of B cell precursor acute lymphoblastic leukemia at diagnosis reveals predictors of relapse
Kara Davis, D.O., Assistant Professor, Pediatrics – Stanford University

11:45
Genome-wide Sequencing of Cell-free DNA: Utilizing Big Data to Develop Personalized Assays
Taylor Jensen, Ph.D., Director of Research and Development - Sequenom, a LabCorp Company

12:15
Lunch

1:00
Panel
Moderator: Wyatt Clark, Ph.D., Scientist, Research & Development - BioMarin Pharmaceutical Inc.

Utilizing ExAC to Assess the Hidden Contribution of Variants of Unknown Significance to Sanfilippo Type B Incidence
Wyatt Clark, Ph.D., Scientist, Research & Development - BioMarin Pharmaceutical Inc.

Potential of Exome Sequencing for Newborn Screening
Aashish Adhikari, Ph.D., Research Fellow, Computational Biology - UC Berkeley

CAGI: The Critical Assessment of Genome Interpretation
Gaia Andreoletti, Ph.D., Research Fellow, Computational Biology - UC Berkeley

2:30
Data-driven Models of Clinical Intelligence for Disease Characterization and Management
Dexter Hadley, MD, Ph.D., Assistant Professor, Pathology – UCSF

3:00
Break

3:15
Panel
Moderator: Dragutin Petkovic, Ph.D., Professor, Computer Science – SF State

To Trust or Not to Trust: Toward Best Practices for Explainable AI Relevant to Precision Medicine
Dragutin Petkovic, Ph.D., Professor, Computer Science – SF State

Using and Protecting Data - Genome Analysis Leveraging Blockchain Protocols and AI
Jochen Kumm, Ph.D., CEO – Healio

4:15
Personalizing Treatments for Individuals and Populations: Integrating an Epidemiologic and Data Science Perspective into Drug Development
Khaled Sarsour, Ph.D., MPH, Principal Scientist – Genentech

4:45
Closing Keynote
Big Data and Health
Michael Snyder, Ph.D., Professor & Chair, Genetics – Stanford University

5:15
Closing Remarks

5:30
Reception, Posters, & Networking

**2018
Organizing Committee:**

Michael A. Goldman, Ph.D.
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SF State Department of Biology

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*Special thanks to the Staff of the
Department of Biology and the
College of Science & Engineering
at SF State University, and the
City of South San Francisco*

**Watch for
Personalized Medicine 12.0
in 2019!**

http://personalizedmedicine.sfsu.edu

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The Department of Biology
at SF State University

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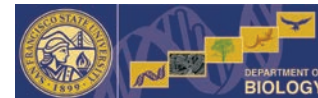& the biosphere

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