University of California, San Francisco

Precision Medicine
PMWC 2024

January 24 - 26 Santa Clara, CA

UC**SF**

University of California
San Francisco

UCSF

From Fundamental Discovery
to Health Care Delivery:
Advancing Precision Medicine for Public Benefit

On behalf of UC San Francisco, co-sponsor of the conference, I welcome you to PMWC 2024!

Precision medicine is a central element of UCSF's vision. We are inspired by the progress made in recent years, within our institution and in collaboration with colleagues at other academic centers, in industry, in government, and in patient advocacy organizations. With support and partnerships from federal, state and private sources, we have created and progressively expanded a multi-component precision medicine program across UCSF, enabled by high-powered computational tools, that is integrating and advancing biomedical research, health, and health care.

By establishing a continuum – a multi-directional flow of information – across basic, translational/clinical and population research, we can germinate lab-testable hypotheses, discover disease mechanisms that imply new therapeutic regimens and drive drug discovery, and identify social determinants of health to promote disease prevention and wellness.

The remarkably broad scope of PMWC 2024 demonstrates the true breadth and depth of precision medicine, spanning the spectrum from fundamental discovery to health care delivery and economics. The UCSF speakers featured in these pages are just examples of this diversity of approaches, projects, partnerships, and their impact.

Importantly, as a public university, UCSF is committed to equity and health justice. Our deep conviction is that precision medicine can and must benefit everyone. As we advance technologies and innovations, our patients and community remain at the core of our mission.

I wish you a very productive meeting and look forward to connecting with many of you personally.

Keith R. Yamamoto, PhD
Director, UCSF Precision Medicine
Vice Chancellor for Science Policy and Strategy

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Precision Medicine at UCSF

Precision Medicine collects, connects, and applies vast amounts of data about our health – from the basic molecular understanding of disease to clinical, environmental, psychosocial, and mobile lifestyle data – to understand why individuals respond differently to treatments and to guide more precise and predictive medicine at the individual patient level. Universities associated with major medical centers, with their access to large amounts of patient data, a broad array of analytical and digital technologies and world-class researchers driving the innovation, are particularly well positioned to successfully carry out precision medicine approaches and UCSF has been at the forefront in advancing this field. Our investigators played key roles in establishing the full spectrum of precision medicine approaches, include helping to lead the 2011 National Academy of Sciences committee that envisioned and named precision medicine, and to develop President Obama's Precision Medicine Initiative, announced at the 2015 State of the Union address.
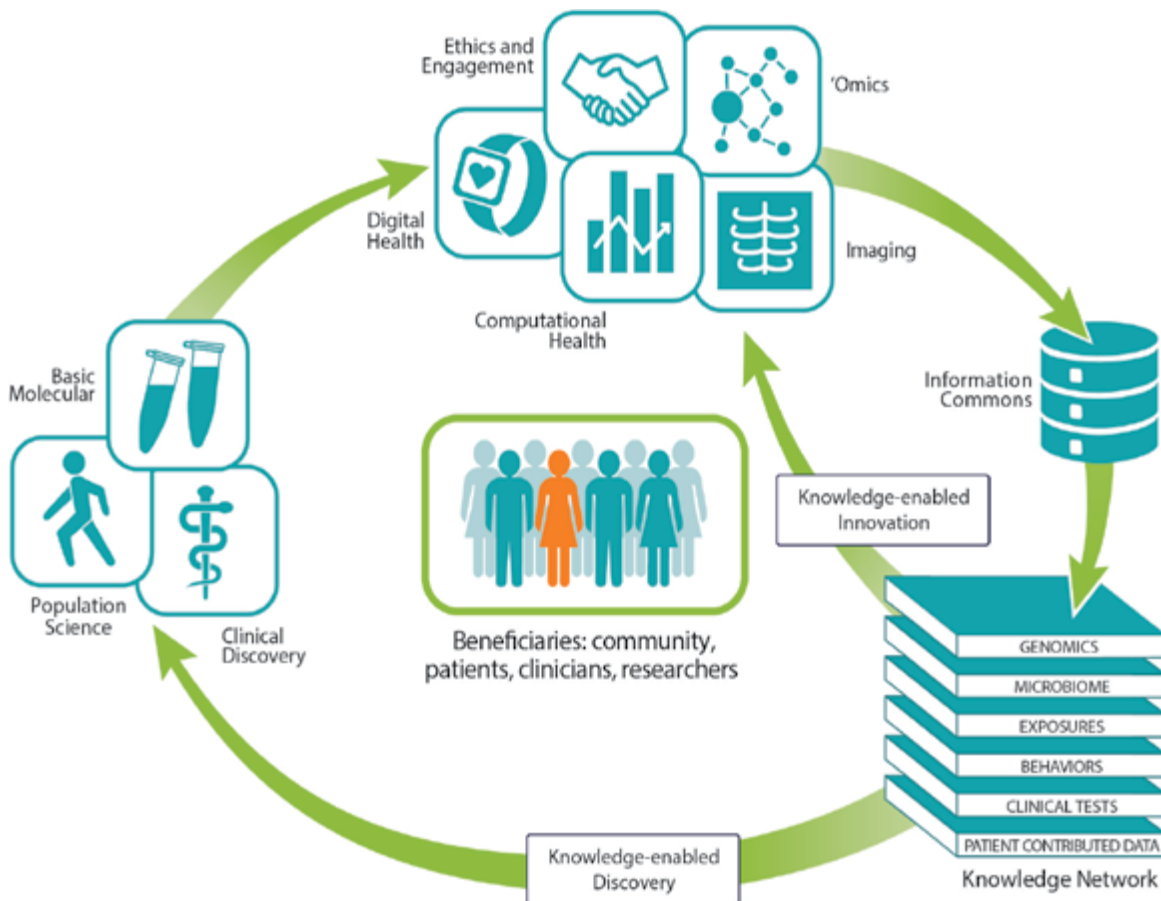
UCSF is committed to taking advantage of precision medicine approaches in equitably advancing patient care worldwide and to that end has built out capabilities across multiple disciplines, such as advanced imaging, 'omics capabilities and computational capabilities along with robust and extensive Knowledge Networks (see figure). These resources are available to our faculty across the full range of indications and are being utilized in projects across our campuses. This brochure showcases examples of the key precision medicine institutes and projects our faculty are advancing.

UCSF in the News

November 2023

Can Gene Expression Predict if a Brain Tumor Is Likely to Grow Back?

Researchers at UC San Francisco and Northwestern Medicine, in collaboration with 10 other medical centers, have found a highly accurate way to predict the best treatment for patients based on patterns of gene expression – which genes are turned on and off – in their tumors.

August 2023

UCSF Sees Benefits and Possibilities After Integrating Dental and Medical Records

UCSF's dental providers can use the connected health record system to coordinate patients' care with clinicians across UCSF. From coordinating care, providing a comprehensive view of patients' health, to facilitating advances in research, the combined health records have yielded positive results in a short time.

June 2023

Newborn Screening is Biggest Factor in 'Bubble Baby Disease' Survival in Last 40 Years

Children with SCID, or bubble baby disease, are born without a functioning immune system, so that even a common cold can be life-threatening. SCID newborn screening enables earlier treatment, boosting 5-year survival to 92.5% up from 73% survival before newborn SCID screening was invented or common."

May 2023

UCSF is First in California to Provide Drug-Gene Testing

UCSF Health is the first hospital system in California, and one of only a few nationwide, to offer pharmacogenetic testing. The test will provide critical clues about a patient's unique genetic makeup, enabling pharmacists better tailor medications and dosages and avoid adverse drug reactions.

Together we will achieve more.

Industry Contracts Division

Dotting the 'i' and crossing the 't' we facilitate research and innovation through partnerships with industry, academia, non-profits, and government.

Our experienced team provides comprehensive guidance during contract negotiation and throughout project lifecycles, allowing you to focus on what you do best –
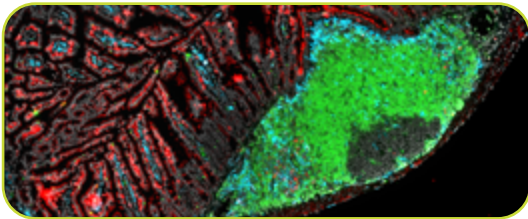
groundbreaking research.
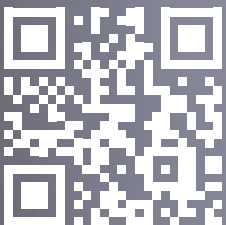
Elevate your Research
Collaborate with UCSF

Key Centers and Institutes

Bakar Computational Health Sciences Institute

Advancing computational health sciences in research, practice and education — in support of Precision Medicine for all.

The Benioff Center for Microbiome Medicine

Accelerating our understanding of how microbes promote health and prevent disease and leveraging this information to develop novel, effective treatment paradigms.

Center for Digital Health Innovation

Pairing UCSF expertise with healthcare and technology leaders to deliver on the promise of digital health technologies.

**Helen Diller Family Comprehensive Cancer Center**

UCSF Helen Diller Family Comprehensive Cancer Center combines basic science, clinical research, epidemiology/ cancer control and patient care from throughout the University of California, San Francisco system.

Key Centers and Institutes

Bakar ImmunoX Initiative

Integrating space, infrastructure, and technology through CoProjects for scientists to share ideas and data and advance hypotheses around research for the benefit of the broader immunology community.
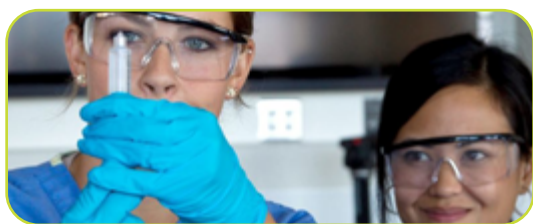
Center for Maternal-Fetal Precision Medicine

The Center for Maternal-Fetal Precision Medicine is developing research studies and clinical trials aimed at understanding, and ultimately curing, a host of fetal and congenital diseases.

UCSF Center for Next-Generation Precision Diagnostics

Pioneers the development of novel technologies for diagnosing mysterious illnesses.

Center for Translational and Policy Research on Precision Medicine (TRANSPERS)

TRANSPERS is the premier research organization for developing evidence-based information about the use of precision medicine - addressing key issues around the access, quality, and value of precision medicine that will help guide patients, healthcare providers, researchers, industry and policymakers on how it can be best applied to improve health.

Key Centers and Institutes

Computational Precision Health

The UCSF UC Berkeley Joint Program in Computational Precision Health (CPH) is building a new discipline at the intersection of machine learning/AI, clinical and public health practice, and equity.

Clinical & Translational Science Institue

The Clinical & Translational Science Institute (CTSI) facilitates clinical and translational research to improve patient and community health – it provides infrastructure, services, and training to enable research to be conducted more efficiently and effectively, and in new ways.
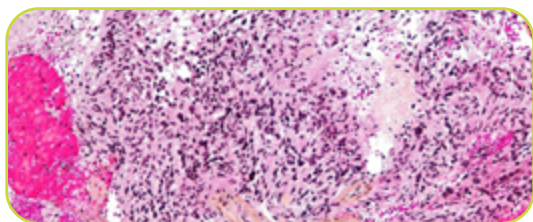
UCSF Brain Tumor Center:

The UCSF Brain Tumor Center is one of the largest and most comprehensive programs for brain tumor treatment in the United States. It is dedicated to serving every aspect of the patient experience.

Center for Intelligent Imaging

The Center for Intelligent Imaging (ci2) leads in the discovery, innovation and translation of intelligent medical imaging by leveraging the power of data -- access to massive image databases, extensive annotated image archives, and domain knowledge at all organ and disease levels.

Key Centers and Institutes

UC Space Health

A UC-wide program. Our Precision Space Health focus includes research, education, and innovation for complex health/medical considerations of Human Spaceflight. The Spaceflight environment generates novel R+D directly transferable to terrestrial healthcare challenges and needs – especially in areas of Precision Health, remote sensing, and distributed care.
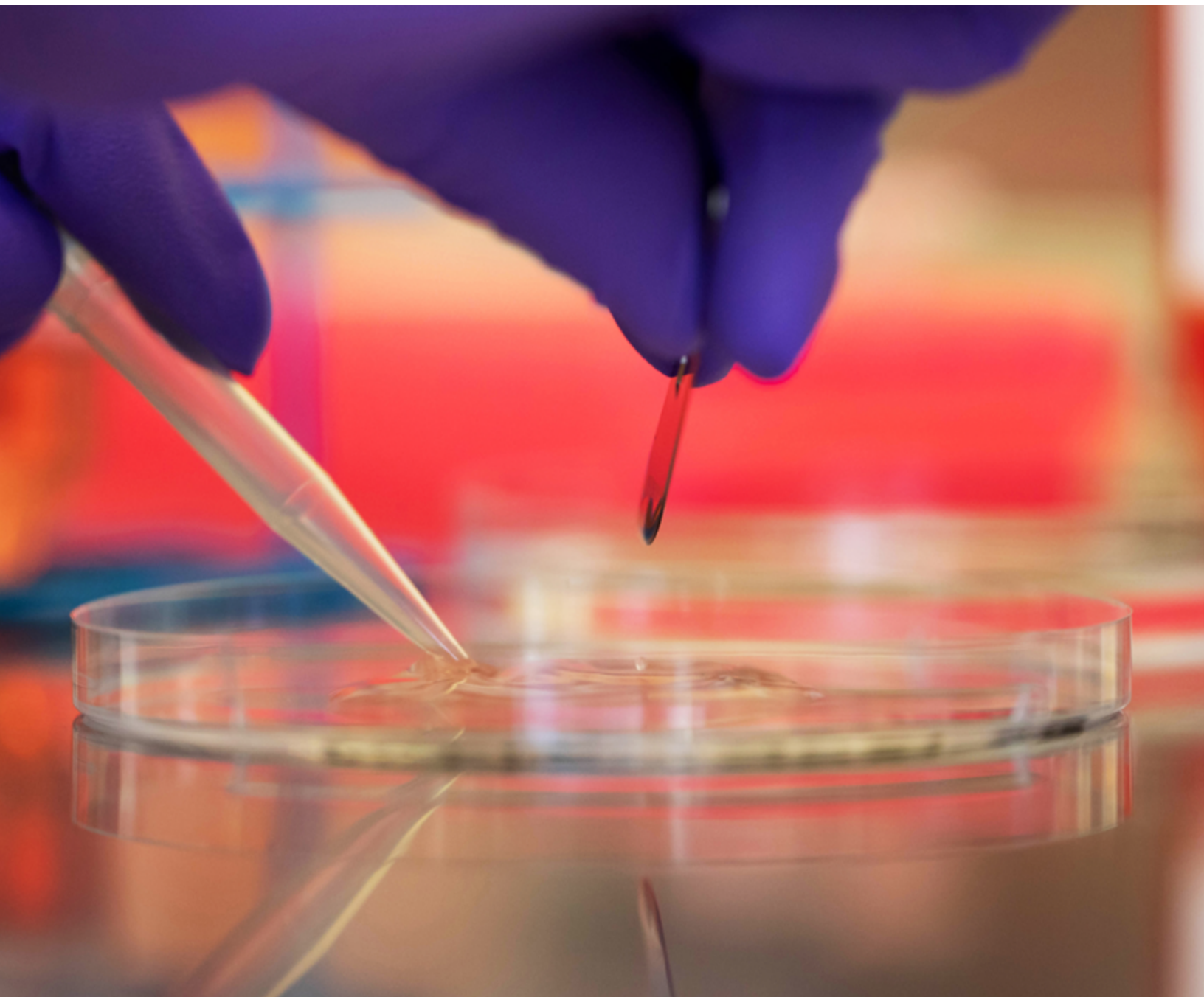
2024 PMWC Pioneer Awards

Congratulations to Atul Butte!

Winner of a PMWC Pioneer Award: Outstanding contributions to precision medicine include analyzing large-scale biomedical data, uncovering novel insights to improve patient care, and impacting the field through research on big data analysis, drug repurposing, biomarker discovery, patient stratification, and data-driven clinical decision support.

Translational Science

We have a single purpose

To facilitate the commercialization of UCSF innovation

The translation of UCSF innovation out of the lab and into the marketplace.

We evaluate discoveries, secure funding, negotiate partnerships, license technologies, and launch startups.

UCSF Innovation Ventures

UCSF Presenters

Sara Ackerman, PhD, MPH

Associate Professor, Social Behavioral Sciences

Sara Ackerman is a medical anthropologist working in the interdisciplinary fields of empirical bioethics and implementation science. Her research draws on ethnographic methods to examine social, ethical and equity issues in emerging precision medicine initiatives. Along with her team at the UCSF Clinical and Translational Science Institute's Regulatory Knowledge and Support Program, she is working to increase community participation in decisions about how health data is shared and used. Dr. Ackerman has received several honors, including the Diana Forsythe Award from the American Medical Informatics Association in 2013.

Day 1/Track 4: New Frontier of Precision Medicine
*AI and Precision Medicine: Navigating Equity and Social Justice Challenges - **3:30 pm***

Julia Adler-Milstein, PhD

Chief, Division of Clinical Informatics & Digital Transformation

Julia AdlerMilstein is a renowned health IT researcher at the University of California, San Francisco, is a Professor in the Department of Medicine, Chief of the Division of Clinical Informatics Digital Transformation, and Director of the Center for Clinical Informatics Improvement Research. Dr. Adler-Milstein's research focuses on the intersection of health information technology and healthcare delivery.

Day 1/Track 2: AI and Data Science in Clinical Practice
*Health IT and Interoperability Policy Panel - **11:00 am***

UCSF Presenters

Atul Butte, MD, PhD

Distinguished Professor and Director, BCHSI

Atul Butte is the Priscilla Chan and Mark Zuckerberg Distinguished Professor and Director of the Bakar Computational Health Sciences Institute at UCSF. Dr. Butte is also the Chief Data Scientist over all 6 academic health centers and 10 hospitals of the University of California Health System, the eighth largest by revenue in the United States. Dr. Butte has been continually funded by NIH for 25 years, is an inventor on 24 patents, and has authored over 300 publications, with research repeatedly featured in the New York Times and Wall Street Journal.

Day 2/Track 2: Real World Evidence Data
Award Ceremony - 9:00 am
*Strategies to Enhance Data Sharing in Medical Research Panel - **9:30 am***

Simona Carini, MA

Programmer / Analyst

Simona Carini is a researcher at the University of California, San Francisco (UCSF), where she specializes in healthcare informatics with a focus on data harmonization. Throughout her career, she has worked tirelessly to develop strategies that facilitate the seamless integration of diverse datasets, enhancing the scope and depth of research outcomes in the medical field. Ms. Carini brings to the table a deep understanding of the intricacies involved in harmonizing data from disparate sources, and a critical approach to querying this data to extract meaningful insights.

Day 3/Track 2: AI & Data Sciences in Drug Discovery & Clinical Research
*Challenges of Remote Data Harmonization and Querying Panel- **9:30 am***

UCSF Presenters

Charles Chiu, MD, PhD

Professor, Laboratory Medicine & Medicine/Infectious Diseases

Charles Chiu is a Professor at UCSF, Director of the UCSF Abbott Viral Diagnostics and Discovery Center (VDDC), and Associate Director of the UCSF Clinical Microbiology Laboratory. Chiu currently leads a translational research laboratory focused on clinical meta genomic sequencing assay development for infectious diseases and genomic investigation and surveillance of emerging pathogens, including the SARSCoV2 coronavirus. He also uses RNASeq transcriptome profiling to develop predictive models using machine learning for host responsebased diagnosis of COVID19 and other infections.

Day 3/Track 3: Infectious Disease & Microbiome
*Metagenomic Sequencing Challenges in Microbiology Labs Panel - **9:00 am***

*Advancing Infectious Disease Management through AI, Metagenomics, and Emerging Technologies Panel - **11:00 am***

Day 3/Track 4: Sequencing Tech and Applications
*From Potential to Reality: Bringing Nanopore Sequencing to Clinical Practice Panel- **10:00 am***

UCSF Presenters

Russ Cucina, MD

VP, Genetics & Genomics, & Chief Medical Information Officer, UCSF Health

Dr. Cucina is Vice President, Genetic and Genomic Services, and Chief Medical Information Officer for the UCSF Health system. Working with the Chief Genomics Officer, he is responsible for the strategy and operations of UCSF's clinical genetic and genomics laboratories and services, and for the analytics, software, and information infrastructure to further the missions of UCSF Health. Dr. Cucina is board certified in Clinical Informatics and Internal Medicine, and practices in Hospital Medicine at UCSF's Parnassus Campus.

Day 1/Track 2: AI and Data Science in Clinical Practice
*Health IT and Interoperability Policy Panel - **11:00 am***

Joe DeRisi, PhD

President, CZ Biohub SF

Dr. Joe DeRisi is a professor of biochemistry and biophysics at UCSF and President at the Chan Zuckerberg Biohub SF, a nonprofit research institute affiliated with UCSF, UCB, and Stanford. Dr. DeRisi specializes in infectious diseases, including viral, fungal, and parasitic microbes, in addition to autoimmune syndromes in humans. He is a member of the NAS, the NAM, and the American Academy of Arts and Sciences.

Day1/Track 4: New Frontier of Precision Medicine
*Precision Medicine in New Research Panel - **1:00 pm***

UCSF Presenters

Lawrence Fong, MD

Professor in Cancer Biology

Lawrence Fong is the Efim Guzik Distinguished Professor in Cancer Biology in the Helen Diller Family Comprehensive Cancer Center at the University of California, San Francisco, where he leads the Cancer Immunotherapy Program. He also co-directs the Parker Institute of Cancer Immunotherapy at UCSF and co-leads the Cancer Immunity and Immunotherapy Program in the Cancer Center. He is a physician-scientist in the Department of Medicine, Division of Hematology/Oncology directing both a translational research program and an NIH-funded research lab.

Day 2/Track 1: Gene Modified Cell Therapies
*Discovery of Novel Targets in Cell Therapies in Oncology and Autoimmune Disorders Panel - **9:30 am***

Monica Fung, MD, MPH

Assist Professor, of Medicine in the Division of Infectious Diseases

Dr. Fung is an infectious disease clinician and researcher at the University of California, San Francisco (UCSF). Dr. Fung obtained her medical degree from the University of British Columbia in Vancouver, Canada, and completed her residency in internal medicine at the University of Toronto. She then completed a fellowship in infectious diseases at UCSF, where she currently serves as an Assistant Professor of Medicine in the Division of Infectious Diseases. Dr. Fung's research focuses on using metagenomic sequencing and other innovative technologies to improve the diagnosis and management of infectious diseases.

Day 3/Track 3: Infectious Disease & Microbiome
*Advancing Infectious Disease Management through AI, Metagenomics, and Emerging Technologies Panel - **11:00 am***

UCSF Presenters

Monica Gandhi, MD, MPH

Professor of Medicine & Assoc. Division Chief, HIV, Infectious Diseases

Dr. Monica Gandhi is an expert in infectious diseases, specializing particularly in the care of patients with HIV and AIDS. In her research, Gandhi has a special interest in HIV in women, including differences between women and men in exposure to antiretroviral medication and responses to therapy. Her work on these subjects has been widely published. Gandhi earned her medical degree at Harvard Medical School. At UCSF, she completed an internal medicine residency and infectious diseases fellowship, as well as a postdoctoral fellowship at the Center for AIDS Prevention Studies.

Day 2/Track 3: Women's Health
*Systems and Sex Differences - **1:00 pm***

Luke Gilbert, PhD

Assoc. Professor, Core Investigator

Dr. Luke Gilbert is an esteemed researcher at the UCSF Helen Diller Family Comprehensive Cancer Center and the Arc Institute. Dr. Gilbert's expertise is in synthetic biology, functional genomics and therapeutics. Dr. Gilbert's medical areas of focus are oncology and diseases which can be addressed by genetic medicines such as CRISPR.

Day1/Track 4: New Frontier of Precision Medicine
*Precision Medicine in New Research Panel - **1:00 pm***

UCSF Presenters

Amy Gryshuk, PhD

Assoc. Director, Strategic Alliances, UCSF Innovation Ventures,

Amy designs, implements, and maintains tailored action plans and partnering strategies for multidisciplinary research collaborations and agreements with industry partners. Previously, Amy served as a Lead within the Strategic Science Engagements Office for the Physical and Life Sciences Directorate at Lawrence Livermore National Laboratory where she coordinated highlevel efforts across various Department of Energy (DOE) labs and the National Cancer Institute and was recognized in 2017 by the United States Department of Energy for the Secretary's Appreciation Award for responding to the Vice President's Cancer Moonshot.

Day1/Track S2: Clinical Dx and Clinical & Research Tools Showcase
*Digital Health Showcase - **9:00 am***

Michelle Hermiston, MD

Clinical Director, Pediatric Immunotherapy Program

Dr. Michelle Hermiston is Professor of Pediatrics at UCSF Benioff Children's Hospital. Her research focuses on improving the outcomes for children, adolescents, and young adults with leukemia, lymphoma, and histiocytic disorders. She led development of the Pediatric Immunotherapy Program (including Chimeric Antigen Receptor T cell therapy) from scratch and continues to serve as medical director of this program. Dr. Hermiston also is associate director for education of the Helen Diller Comprehensive Cancer Center Global Cancer Program and site director for their activities in Vietnam where she led development of the first ever Ministry of Health approved training program in Pediatric Hematology Oncology.

Day1/Track 4: New Frontier of Precision Medicine
*Living Therapeutics for Precision Medicine Panel - **2:00 pm***

UCSF Presenters

William Hyun, PhD

Director, Genoa Ventures

Bill is a respected expert in both basic research and clinical lab technology development as faculty in UCSF Laboratory Medicine and Venture Partner at Genoa Ventures. Academically, Bill directed several labs with a strong concentration on cytometry and genomic technologies implementing a myriad of research, translational and clinical applications. His career includes joint appointments at UC Berkeley and LBNL, three honorary doctorates, and authorship of over 100 peer reviewed publications.

Day 3/Track 4: Sequencing Tech and Applications
*The Economic Perspective on Genomics Panel - **1:45 pm***

Sharat Israni, PhD

CTO, Bakar Institute, UCSF & NIH Data Scholar

Sharat also serves as Dir of Research Computing at UC Davis Center for Precision Medicine. Previously, he was Executive Director, Data Science at Stanford Medicine. A long-serving Technology executive, Sharat served as SVP/VP of Data at Yahoo! and Intuit, which pioneered Data Science/AI to re-invent their products. He led Digital Media systems for broadcast/interactive TV at Silicon Graphics; and data teams at IBM and HP. Sharat is a frequent reviewer at refereed journals and grant proposals, and was PI for the NITRD organized workshop, which led to a White House OSTP initiative on knowledge networks.

Day1/Track 4: New Frontier of Precision Medicine
*AI-driven Advances in Precision Medicine Panel - **11:00 am***

UCSF Presenters

Regis B Kelly, PhD

Director Emeritus of QB3

Dr. Regis B. Kelly was the Director of QB3, a renowned institute at UCSF that focuses on quantitatively analyzing biological systems. With a distinguished career in neurobiology, Dr. Kelly's research primarily revolved around the molecular mechanisms of neurotransmitter release, a fundamental process of the nervous system. He has held esteemed positions at UCSF, including serving as the Executive Vice Chancellor, and has been recognized with numerous awards for his contributions to science and education.

Day1/Track 4: New Frontier of Precision Medicine
*Precision Medicine in New Research Panel - **1:00 pm***

Nevan Krogan, PhD

Professor, Cellular & Molecular Pharmacology; Director, Quantitative Biosciences Inst. (QBI); Investigator, Gladstone Inst.

Nevan Krogan is a distinguished molecular biologist with a focus on understanding the mechanisms of complex diseases. His work has been instrumental in mapping intricate networks of molecular interactions, providing invaluable insights into various diseases and psychiatric disorders. Dr. Krogan's commitment to global scientific collaboration was evident during the COVID19 pandemic, where he played a pivotal role in the formation of an international alliance of scientists dedicated to understanding the biology of SARSCoV2 and identifying potential therapeutic targets.In recognition of his outstanding contributions to science, Dr. Krogan was awarded France's highest honor, the Legion of Honor, in 2022, and the Research!America Discovery Innovation Health Prize in 2023.

Day1/Track 4: New Frontier of Precision Medicine
*AI-driven Advances in Precision Medicine Panel - **11:00 am***

UCSF Presenters

Chaz Langelier, MD, PhD

Assoc. Professor, Medicine School, School of Medicine

Dr. Chaz Langelier, an Associate Professor specializing in Infectious Diseases at UCSF, has a keen interest in exploring genomic technologies to understand microbial interactions and host responses in clinical scenarios. His work notably involves devising innovative diagnostic techniques by melding metagenomic sequencing and machine learning, aiming to advance the understanding and profiling of both host and microbiome from clinical samples. His academic and professional journey encompasses a Clinical Fellowship in Infectious Diseases and a Medical Residency in Internal Medicine at UCSF, alongside an M.D., Ph.D. in MedicineBiochemistry from the University of Utah.

Day 3/Track 4: Sequencing Tech and Applications
*New Frontiers in Genomic Analysis & Interpretation - **9:00 am***

Wendell Lim, PhD

Professor, UCSF Dept. of Cellular & Molecular Pharmacology

Wendell Lim is a Professor at the UCSF Department of Cellular and Molecular Pharmacology. He also serves as the Director of the UCSF Cell Design Institute and the UCSF Center for Synthetic Immunology (NIH IOTNi3 Center). He completed his A.B. at Harvard University and his Ph.D. at the Massachusetts Institute of Technology. Subsequently, he was a Postdoctoral Fellow at Yale University. Wendell Lim's scientific interests revolve around understanding how genetically encoded molecular programs can produce the remarkable behaviors observed in biological organisms across multiple scales.

Day1/Track 4: New Frontier of Precision Medicine
*Living Therapeutics for Precision Medicine Panel - **2:00 pm***

UCSF Presenters

Sara Murray, MD, MAS

Assoc. Professor, Medicine, School of Medicine

Dr. Murray is a strategic health system leader for clinical informatics, digital health, and data science. She strives to leverage healthcare data in new and impactful ways to support improvements in quality, safety, and value for patients and providers. She has a focus on predictive analytics and artificial intelligence (AI) in healthcare, and her team has built infrastructure and governance processes to ensure deployment of ethical and robust AI. She is responsible for the overall strategy and vision for the use of AI to transform healthcare delivery at UCSF Health and beyond. She spends her clinical time caring for patients and teaching medical students and residents on the Hospital Medicine service at UCSF Health.

Day1/Track 2: AI and Data Science in Clinical Practice Track
Barriers and Challenges of Deploying AI into Clinical Use - ***1:00 pm***

Mike Papac, PhD

Senior Manager, Business Development

Mike has a PhD from UC Irvine in Mechanical and Aerospace Engineering and is an inventor with over 42 patents and serves as a business development manager at UCSF Innovation Ventures. Before UCSF, Mike was with Optovue where he served as the VP of Strategic Planning and Innovation. And was with Alcon for 15 years where he held several roles including the lead on the development of a white space strategy to expand Alcon's portfolio in new therapeutic areas, head of surgical glaucoma R&D, and the research head for vitreoretinal instrumentation. He has been responsible for moving several products through the development and commercialization process.

Day1/Track S2: Clinical Dx and Clinical & Research Tools
Digital Health Showcase: UCSF Innovation Ventures - ***9:15 am***

UCSF Presenters

Kathrine A. Phillips, PhD

Professor, Clinical Pharmacy

Kathryn A. Phillips founded the UCSF Center for Translational and Policy Research on Precision Medicine over a decade ago. She has published 200 articles in major journals (e.g., JAMA, New England Journal of Medicine, Science, Health Affairs) and has had funding from NIH as a PI for 30 years. Kathryn is the Editor-in-Chief of Health Affairs Scholar; serves on the editorial boards for Health Affairs, Value in Health, JAMA Internal Medicine; is a member of the National Academy of Medicine Roundtable on Genomics; has served on the Board of Directors for GenomeCanada and as an advisor to the FDA and the CDC; and is a member of ICERs evidence review committee.

Day1/Track 3: Oncology Applications
*Legislation Mandating Insurance Coverage for Biomarker Testing - **1:00 pm***

Jennifer Puck, MD

Professor of Pediatrics

Jennifer Puck served on the faculties of U of Pennsylvania Medical School and the National Human Genome Research Institute before becoming a Professor of Pediatrics at UC San Francisco in 2006. While caring for patients with immune disorders, she has researched the genetic causes and mechanisms for rare human immune deficiencies. She developed the newborn screening test for severe combined immunodeficiency (SCID), now adopted throughout the USA and in many countries, enabling early diagnosis and optimal treatment. She has participated in multiple gene therapy trials for SCID and is currently CoPI of the successful first-in-human Artemis SCID lentiviral gene addition trial at UCSF.

Day1/Track 1: Cell and Gene Therapies For Rare Diseases
*Accelerated Approval for Small Populations: Biomarkers & Endpoints Panel - **9:30 am***

UCSF Presenters

Hope S. Rugo, MD

Professor of Medicine & Winterhof Family Professor of Breast Oncology, UCSF Cancer Center

Hope S. Rugo is a Professor of Medicine in the Division of HematologyOncology at the University of California, San Francisco (UCSF). She is Director of Breast Oncology and Clinical Trials Education at UCSF's Helen Diller Family Comprehensive Cancer Center. Dr. Rugo is an internationally recognized expert in breast cancer. Her research interests include novel therapies for advanced breast cancer, immune modulation to restore chemotherapy sensitivity, evaluation of circulating tumor DNA as a marker of response and resistance to therapy, neoadjuvant therapy, and safety supportive care. She is a principal investigator of multiple clinical trials and has published widely in medical journals.

Day 1/Track 3: Oncology Applications
*Antibody-Drug Conjugates: Tracing the Evolution and Forecasting the Future Panel - **3:45 pm***

Marina Sirota, PhD

Assoc. Professor

Dr Sirota is an Associate Professor at the Bakar Computational Health Sciences Institute at UCSF. Prior to that she was a Senior Research Scientist at Pfizer after getting her PhD in Biomedical Informatics at Stanford. Dr. Sirota's research experience spans over 10 years during which she has coauthored over 100 scientific publications. Her research interests lie in developing computational integrative methods and applying these approaches in the context of disease diagnostics and therapeutics. The Sirota laboratory is funded by NIA, NLM, NIAMS, March of Dimes and the Burroughs Wellcome Fund.

Day2/Track 3: Women's Health
*Sex Differences in Alzheimer's Disease - **2:15 pm***

UCSF Presenters

Bani Tamraz, PhD

Assoc. Prof. Dept. of Clinical Pharmacy

Dr. Tamraz's primary interest is identification of genetic determinants of drug response through modern methods aimed at addressing pharmacogenomics research and translating that information into new diagnostics and treatment strategies at point-of-care.

Day3/Track 1: Pharmacogenomics
*PMWC Showcase UCSF - **1:45 pm***

Laura Van't Veer, PhD

Inventor, MammaPrint; Professor of Laboratory Medicine, Director of Applied Genomics

Dr. Van't Veer is a worldrenowned molecular biologist whose research focuses on precision medicine to advance patient management based on knowledge of the genetic makeup of the tumor and the patient. As inventor of MammaPrint she has made seminal impact on rightsizing the treatment of breast cancer and on molecular genomics. Dr. Van't Veer is Biomarker Committee Chair for the multicenter clinical trial ISPY 2, overseeing the processes for FDAIDE biomarker usage and qualifying biomarker companion diagnostics.

Day2/Track 4: Clinical Utility of Liquid Biopsies
*Utilities of Liquid Biopsy in Biomarker Testing - **9:15 am***

UCSF Presenters

Arun Wiita, MD, PhD

Assoc. Professor, Department of Laboratory Medicine

Dr. Wiita is a Clinical Pathologist and physician-scientist with research focus on the development of novel immunotherapies for blood cancers. His group aims to integrate mass spectrometry-based proteomics, chemical biology, protein engineering, and cellular engineering to treat these diseases. His group specifically focuses on target discovery to overcome poorprognosis or refractory forms of hematologic malignancies via novel cellular therapies. Dr. Wiita completed his undergraduate degree in Chemistry at Princeton, his MDPhD with graduate training in biophysics at Columbia, and residency training in Laboratory Medicine at UCSF.

Day 2/Track 1: Gene Modified Cell Therapies
PMWC Showcase: UCSF - 3:30 pm

Keith Yamamoto, PhD

Vice Chancellor for Science Policy & Strategy

Dr. Yamamoto is a leader in science and public policy. He has made an indelible impact by simultaneously advocating for Precision Medicine across the .edu, .gov, .com and .org sectors. As Chair of the National Academies Board on Life Sciences, he appointed and served on the study committee that produced Toward Precision Medicine: Building a Knowledge Network for Biomedical Research and a New Taxonomy of Disease, the report that enunciated the precision medicine concept. He helped to stimulate President Obama's interest, which led to the Precision Medicine Initiative, as well as Gov. Jerry Brown's launch of the California Initiative to Advance Precision Medicine. He also promoted a precision medicine approach to Vice President Biden's Cancer Moonshot, and directs UCSF Precision Medicine, an institution-wide imperative.

Day 1/Track 4: New Frontier of Precision Medicine
Fireside Chat Panel - 9:45 am

New Federal Programs Driving Transformative Health Breakthroughs Panel - 1:00 pm

https://precisionmedicine.ucsf.edu

UCSF