

# “Genomics and the Consumer: The Present and Future of Personalized Medicine”

July 14, 2010 • Hyatt Regency San Francisco Airport

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**Registration (8:45 – 9:30)**

**Opening Remarks (9:30 – 9:40)**

California State Senator Alex Padilla

**Welcome (9:40 – 10:00)**

Anne Wojcicki, 23andMe

**P4 Medicine (Predictive, Personalized, Preventive, & Participatory): Catalyzing a Revolution from Reactive to Proactive Medicine (10:00 – 11:00)**

Leroy Hood, MD, Institute for Systems Biology

*There has been a contentious debate about healthcare over the past few years that has failed to realize that medicine stands on the edge of a transformational revolution—it will move from being largely reactive, increasingly expensive and often ineffective to being proactive, far more effective and eventually significantly less expensive. This medicine will have four features—it will be predictive, personalized, preventive and participatory (P4 medicine).*

*I will discuss the general scientific advances that are leading to this revolution—the use of systems approaches to understanding disease, the emergence of transformational technologies and the development of new mathematical and computational tools to analyze, integrate and develop predictive and actionable models of how to deal with disease. I will also discuss the meaning of P4 medicine.*

*Finally, I will also discuss the societal implications for P4 medicine—and how we must develop critical strategic partnerships—between private and public institutions—for moving forward the agenda of P4 medicine.*

**Integrating Personalized Medicine Into Clinical Practice (11:00 – 12:15)**

Moderated by David Ewing Duncan, UC Berkeley

*How are emerging technologies changing the way patients experience health care? What lessons have we learned so far, and what technical, educational, and policy-based hurdles must we overcome in order to make genomics part of regular clinical practice?*

Edward Abrahams, PhD, Personalized Medicine Coalition

Uta Francke, MD, Stanford University

Mark Hoffman, PhD, Cerner Corporation

Kelly Ormond, MS, CGC, Stanford University

**Lunch & Breakout Sessions (12:15 – 1:30)**

*Speakers, panelists, and audience members may choose to sit at a lunch table devoted to one of the following topics. At least three tables per topic will be available.*

- Breakthroughs in Genetic Research
- Regulation of Genetic Tests
- Health Information Technology & Genetics
- Genetic Genealogy & Ancestry
- Personalized Medicine & Health Care
- Privacy, Consent, & Autonomy in Research

### **The Potential and Pitfalls of Genomic Research (1:30 – 2:45)**

Moderated by Thomas Goetz, *Wired*

*The recent spate of genome-wide association studies has produced leads that could expand our knowledge of common diseases and possibly lead to improved diagnostic tests. But privacy groups have raised concerns about the possible re-identification of data published in studies, and the growing threat of cybercrime means that no one's data can be guaranteed to be 100% safe from theft. Genomic research also raises new questions with regard to autonomy, informed consent, and the return of data to study participants. What risks to an individual can result from participation in genomic research, and what can be done to reduce those risks?*

Joanna Mountain, PhD, 23andMe  
 Robert Shelton, PrivateAccess  
 Brad Templeton, Electronic Frontier Foundation  
 David Winickoff, JD, UC Berkeley

### **The Regulatory Landscape for Personal Genomics (2:45 – 3:45)**

Dan Vorhaus, JD, Robinson, Bradshaw & Hinson

### **Break (3:45 – 4:00)**

### **Risks and Benefits of Direct-to-Consumer Access to Genetic Information (4:00 – 5:15)**

Moderated by California State Senator Alex Padilla

*Consumers can now buy genome scans and more may soon be able to join Craig Venter and James Watson among the ranks of those who have had their genomes fully sequenced. The uses of genetic data range from screening for rare diseases to tracing one's ancestry. As we wait for data interpretation to catch up with data generation, should consumers be able to follow scientific progress with their own data in hand? How can consumers and health care professionals cope with ever more complex data and interpretations?*

Misha Angrist, PhD, Duke University  
 Sandra Lee, PhD, Stanford Center for Biomedical Ethics  
 Amy McGuire, JD, PhD, Baylor College of Medicine

### **Summary & Closing Remarks (5:15 – 5:30)**

California State Senator Alex Padilla