

7TH ANNUAL PERSONALIZED MEDICINE CONFERENCE

HOSTED BY



CENTER FOR PERSONALIZED
GENETIC MEDICINE



HARVARD
BUSINESS
SCHOOL

NOVEMBER 9-10, 2011

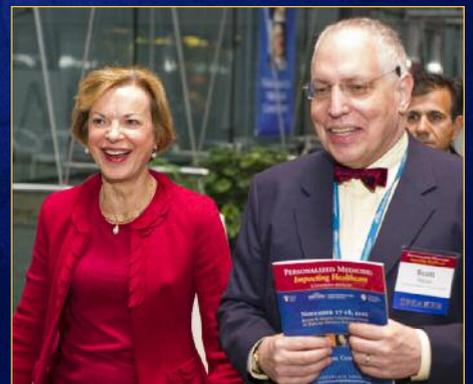
JOSEPH B. MARTIN CONFERENCE CENTER
AT HARVARD MEDICAL SCHOOL, BOSTON

CONFERENCE PROGRAM

www.personalizedmedicineconference.org



HIGHLIGHTS FROM PAST CONFERENCES



November 9, 2011

Dear Colleague,

Welcome to the 2011 Personalized Medicine Conference. We and the other members of the Conference Organizing Committee, whose names you will see on the last page of this program, are pleased to offer this seventh annual gathering co-hosted by Partners HealthCare, Harvard Medical School and Harvard Business School. We offer our profound thanks to the speakers, the panelists, the staff and our generous supporters for their essential contributions.

As has been the case since this Conference was inaugurated, we are especially proud to work with the Personalized Medicine Coalition and to have its valuable perspective on the program and its contents. We are also pleased that the PMC has chosen this venue to annually honor an individual with its Award for Leadership in Personalized Medicine.

This series of meetings was initiated in 2005 with the firm belief that Personalized Medicine would play an important role in healthcare. There were many skeptics at that time who believed that personalized medicine was a promise rather than a reality. To a degree some of that skepticism remains. We believe, however, that there are several indications that important strides have been made. The genetic and genomic understanding of health and disease is improving at a rapid pace, fueled by the ever lower cost of DNA sequencing and other technologies; many pharmaceutical and biotechnology companies have embraced personalized medicine as an important tool in drug development; and investments in molecular diagnostics and healthcare services are on the rise. There now are many national scientific, medical and business meetings with their theme as Personalized Medicine. We believe that continued conversations about the current status of this field, its opportunities for improving the healthcare of human populations without cost increases and the obstacles that face this endeavor are worthy. We have always felt that to promote personalized medicine there needs to be a common forum for physicians, scientists, businesses, investment community, payers, regulators policy makers and the general public. This seventh annual meeting, like its predecessors hopes to provide such a forum.

Our goal for the meeting is to provide information about personalized medicine and engage the audience in intensive discussions about the various topics. We also hope that the meeting provides an opportunity for attendees to renew friendships, convert acquaintances to friends and to meet new people whose knowledge will enhance your own understanding of personalized medicine. We welcome you to this meeting and hope that it will be enjoyable and productive.

Sincerely,



Scott T. Weiss

Scott T. Weiss, M.D., M.S.

Scientific Director,
Partners HealthCare Center for
Personalized Genetic Medicine;
Professor of Medicine,
Harvard Medical School



Raju Kucherlapati

Raju Kucherlapati, Ph.D

Paul C. Cabot Professor of Genetics and
Professor of Medicine, Harvard Medical School;
Chair, Conference Organizing Committee

Thanks to Our Supporters

This conference is organized by the Partners HealthCare Center for Personalized Genetic Medicine and Harvard Business School in collaboration with the Personalized Medicine Coalition. It is made possible by the generous support of our supporters.

PLATINUM



GOLD



SILVER



BRONZE



CONTRIBUTING



Empowering Healthcare



Conference Program **Wednesday, November 9, 2011**

7:00 a.m.	Registration & Continental Breakfast	
8:00 a.m.	Welcome	Raju Kucherlapati, Ph.D. Paul C. Cabot Professor of Genetics, Professor of Medicine, Harvard Medical School
	Opening Remarks	Scott Weiss, M.D., M.S. Scientific Director, Partners HealthCare Center for Personalized Genetic Medicine; Associate Director, Channing Laboratory; Professor of Medicine, Harvard Medical School Dennis Ausiello, M.D. Jackson Professor of Clinical Medicine, Harvard Medical School; Chief of Medicine, Massachusetts General Hospital; Chief Scientific Officer, Partners HealthCare
8:30 a.m.	Keynote: Is Personalized Medicine a Myth? Dr. Emanuel recently joined the University of Pennsylvania. He is a bioethicist and formerly worked at the NIH and as a special advisor to the White House Office of Management and Budget. He will present his rationale as a skeptic of personalized medicine and will discuss the landscape of health care and where personalized medicine fits into it.	Ezekiel Emanuel, M.D., Ph.D. Vice Provost for Global Initiatives, Diane v.S. Levy and Robert M. Levy University Professor and Chair of the Department of Medical Ethics and Health Policy, University of Pennsylvania Introducer: Gregory Downing, Ph.D. Program Director, Personalized Health Care Initiative, The U.S. Department of Health and Human Services
9:00 a.m.	New Health Care Models for Personalized Medicine Several leading medical centers are actively developing plans to implement personalized medicine into their research and medical care. Representatives from two such major centers will discuss how their respective institutions made a decision to make personalized medicine an important component of their medical practice and how they are implementing the principles of personalized medicine.	Moderator: Anna Barker, Ph.D. Professor and Director, Transformative Healthcare Networks; Co-Director, Complex Adaptive Systems Initiative, Arizona State University John Mendelsohn, M.D. Past President, Co-Director of the Institute for Personalized Cancer Therapy, The University of Texas MD Anderson Cancer Center John E. Niederhuber, M.D. Professor of Oncology & Surgery, Johns Hopkins University School of Medicine; Former Director of the National Cancer Institute; Executive VP, Inova Health System; CEO, Inova Translational Medicine Institute
9:45 a.m.	Networking Break	
10:30 a.m.	The Business of Personalized Medicine: A Panel Discussion For personalized medicine to be successful, appropriate businesses have to embrace it. A number of different types of businesses, large and small, are offering goods and services relating to personalized medicine. This panel will discuss how such services are being or may be offered. Such businesses are also attracting the attention of Wall Street analysts, and that perspective will be a part of the conversation.	Moderator: M. Kathleen Behrens Wilsey, Ph.D. Founder, KEW Group, LLC David King President and CEO, LabCorp Stephen Little, Ph.D. Vice President, Personalized Healthcare, QIAGEN Jonathan Sheldon, Ph.D. Senior Director, Translational Medicine, Oracle Health Sciences Global Business Unit Amanda Murphy, CFA Healthcare Analyst, Healthcare Research, William Blair & Company
11:45 a.m.	Presentation of Personalized Medicine Coalition's Seventh Annual Award for Leadership in Personalized Medicine	Award Recipient: Leroy Hood, M.D., Ph.D. President and Co-Founder, Institute for Systems Biology Introducer: Edward Abrahams, Ph.D. President, Personalized Medicine Coalition Presenter: William S. Dalton, Ph.D., M.D. President, CEO & Center Director, Moffitt Cancer Center
12:15 p.m.	Luncheon	<i>Open seating</i>

Conference Program **Wednesday, November 9, 2011**

- 1:15 p.m. **Keynote**
Dr. Spielberg recently joined the FDA. He has been a practitioner of and an advocate for personalized medicine in the pediatric setting. He will talk about his past experiences and his current plans at the FDA about personalized medicine.
- 1:45 p.m. **Personalized Medicine in Academic Medical Centers: A Panel Discussion**
Several large academic medical centers have new initiatives to implement the principles of personalized medicine at their institutions. We will hear examples of the role of personalized medicine in children's health care institutions and a cancer center. For personalized medicine to be an important component of medical practice, it is important to educate primary care physicians, other health care professionals and the public about its benefits. We will hear how some institutions are attempting to accomplish this goal.
- 2:55 p.m. **Perspectives on Personalized Medicine: A Conversation**
Brook Byers has been an important advocate for personalized medicine, and his investment firm has made significant investments in a large number of companies that developed an offering of personalized medicine tools and services. GE Healthcare has also made a substantial financial investment by acquiring Clariant, a diagnostics company. Raju will engage Brook and Pascale in a conversation about the business atmosphere for personalized medicine, how each of them is working to make personalized medicine a reality, and what they see in the future.
- 3:35 p.m. **Networking Break**
- 4:05 p.m. **Personalized Medicine in Practice: A Panel Discussion**
Personalized medicine efforts were initiated at academic medical centers, but now there is a significant effort to move personalized medicine to large populations in the U.S. We will hear examples of efforts at the Veteran's Administration, a large oncology network, and the excitement and challenges of bringing personalized medicine to community practices.
- 5:15-6:30 p.m. **Reception at Elements Café**
- Stephen Spielberg, M.D., Ph.D.**
Deputy Commissioner for Medical Products & Tobacco, FDA
Introducer: **Robert C. Green, M.D., M.P.H.**
Associate Director for Research, Partners HealthCare Center for Personalized Genetic Medicine, Division of Genetics, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School
- Moderator: **Dietrich Stephan, Ph.D.**
Founder & CEO, Institute for Individualized Health
- Howard Jacob, Ph.D.**
Dir., Human & Molecular Genetics Center; Warren P. Knowles Chair of Genetics; Prof., Dept. of Physiology & Pediatrics, Medical College of Wisconsin; Vice Chair of Research, Dept. of Pediatrics, Children's Hospital of Wisconsin
- Bertram Lubin, M.D.**
President & CEO, Children's Hospital & Research Center Oakland
- Amy Abernethy, M.D.**
Associate Professor of Medicine, Division of Medical Oncology, Department of Medicine, Duke University School of Medicine, Director, Duke Cancer Care Research Program
- Cynthia Casson Morton, Ph.D.**
William Lambert Richardson Professor of Obstetrics, Gynecology and Reproductive Biology and Professor of Pathology, Harvard Medical School; Director of Cytogenetics, Brigham and Women's Hospital
- Raju Kucherlapati, Ph.D.**
Paul C. Cabot Professor of Genetics, Professor of Medicine, Harvard Medical School
- Brook Byers**
Partner, Kleiner Perkins Caufield & Byers
- Pascale Witz**
President and CEO, Medical Diagnostics, GE Healthcare
- Moderator: **Katherine Johansen Taber, Ph.D.**
Senior Scientist, Genetics & Molecular Medicine, American Medical Association
- Ronald Przygodzki, M.D.**
Associate Director for Genomic Medicine, Department of Veterans Affairs
- Arthur Staddon, M.D.**
Clinical Professor of Medicine, University of Pennsylvania School of Medicine
- W. Gregory Feero, M.D., Ph.D.**
Sr. Advisor to the Director for Genomic Medicine, NHGRI
- Lynn Dowling**
Executive Director, Genomic Medicine Institute, El Camino Hospital

Conference Program Thursday, November 10, 2011

- 7:00 a.m. **Registration & Continental Breakfast**
- 8:00 a.m. **Welcome**
- Public Policy: A Panel Discussion**
It is well recognized that changes in public policy and support from policy makers is critical to advancing personalized medicine. This discussion will involve several individuals who are directly involved in helping direct policy discussions in Washington, DC and in trade associations representing many industries and companies around the country.
- Moderator: **Amy Miller, Ph.D.**
Vice President, Public Policy, Personalized Medicine Coalition
- Mary Pendergast, J.D.**
President, Pendergast Consulting
- Randy Burkholder**
Deputy Vice President, Pharmaceutical Research and Manufacturers of America (PhRMA)
- Andrew Fish**
Executive Director, AdvaMedDx
- 9:00 a.m. **Pfizer's Crizotinib Development – Strategy & Execution**
In August 2011, two new personalized medicine cancer drugs were approved by the FDA. One is XALKOR®[®], a drug for a subset of non small cell lung cancer patients, developed by Pfizer in collaboration with Abbott Molecular. We will hear about how the two companies decided to collaborate, how a companion diagnostic became an important component of drug development and what such collaboration means for the future of targeted therapies in cancer.
- Moderator: **Deborah Dunsire, M.D.**
President & CEO, Millennium: The Takeda Oncology Company
- Hakan Sakul, Ph.D.**
Executive Director and Head of Diagnostics, Worldwide R&D, Clinical Research & Precision Medicine, Pfizer, Inc.
- D. Stafford O'Kelly**
President, Abbott Molecular
- 9:45 a.m. **Networking Break**
- 10:15 a.m. **The Impact of the \$1,000 Genome: A Panel Discussion**
In 2001, when the draft genome sequence was published, it was estimated that the cost of sequencing a single human genome was \$2 to \$3 Billion. The last ten years have seen a revolution in new technologies that are promising human genome sequencing for \$1,000 or less. This panel will discuss the drivers in reducing the cost of sequencing, how the large data sets that are generated are being handled, and how it is affecting the lives of ordinary individuals.
- Moderator: **Heidi L. Rehm, Ph.D., FACMG**
Director, Laboratory for Molecular Medicine, Partners HealthCare Center for Personalized Genetic Medicine; Assistant Professor of Pathology, Brigham and Women's Hospital & Harvard Medical School
- Kevin Davies, Ph.D.**
Editor-in-Chief, Bio-IT World
- Michael Pellini, M.D.**
President & CEO, Foundation Medicine
- Gad Getz, Ph.D.**
Manager, Computational Biology, Broad Institute
- Samuel Aronson, ALM, MA**
Executive Director of IT, Partners HealthCare Center for Personalized Genetic Medicine
- 11:25 a.m. **AACR Cancer Progress Report: 40 Years of Cancer Research and the Role of Personalized Medicine in Cancer**
- Anna Barker, Ph.D.**
Professor and Director, Transformative Healthcare Networks; Co-Director, Complex Adaptive Systems Initiative, Arizona State University
- 11:30 p.m. **Keynote: Personalized Medicine in Practice: An Access for all Patients**
France has made a significant commitment to bringing personalized medicine into cancer care. Professor Calvo will provide a European perspective with special emphasis on France and how the lessons they have learned may be applicable to the rest of the world.
- Prof. Fabien Calvo, M.D., Ph.D.**
Deputy General Director and Director of Research Programs, Institut National du Cancer (INCa), France
- Introducer: **Bruce Johnson, M.D.**
Director, Lowe Center for Thoracic Oncology, Dana-Farber Cancer Institute; Professor of Medicine, Harvard Medical School
- 12:00 p.m. **Bag Lunch**
- Open seating*

Conference Program Thursday, November 10, 2011

- 1:00 p.m. **Genetic Test Offerings to the American Population: A Panel Discussion**
In 2010, several pharmacy benefit managers and pharmacies began to offer genetic testing services to their patients. This offering has the potential to impact tens of millions of people in the United States. This panel will review how these companies made a decision to make personalized medicine an important component of their business plan, how that plan was implemented and how the business is growing. We will also hear payer and analytical perspectives.
- Moderator: **Troyen Brennan, M.D., M.P.H.**
Executive VP & CMO, CVS Caremark
- Glen Stettin, M.D.**
CMO, Medco
- Matthew Zubiller**
Vice President, Decision Management, McKesson Health Solutions
- Louis Hochheiser, M.D.**
Vice President & Chief Medical Leader, Humana, Inc.
- Kristin Ciriello Pothier**
Partner, Health Advances LLC
- 2:15 p.m. **Interactive Case Study on Business Strategies for Personalized Medicine**
- Case:**
Gene Sequencing: Staking a Position in an Expanding Industry
For the past two years, our conference has provided a unique feature in the form of a case study prepared by the Harvard Business School that deals with an aspect of personalized medicine. Continuing this tradition, Professor Hamermesh and Ms. Aspinall will present a case study on the business of advancing technologies for DNA sequencing.
- Moderators:
Richard Hamermesh, D.B.A.
MBA Class of 1961 Professor of Management Practice, Harvard Business School
- Mara Aspinall**
President, Ventana Medical Systems
- Introducer: **Gerald J. McDougall**
Partner, PricewaterhouseCoopers
- 3:35 p.m. **Closing Remarks**
- Raju Kucherlapati, Ph.D.**
Paul C. Cabot Professor of Genetics, Professor of Medicine, Harvard Medical School

Conference Speakers



Amy P. Abernethy, M.D., is a tenured Associate Professor of Medicine, Duke University School of Medicine in North Carolina, USA; Director of the Duke Cancer Care Research Program (DCCRP); and, a hematologist/oncologist and palliative care physician. She participates integrally in high-level national and

international discussions about reforming the evidence development system, presenting a model for a rapid learning cancer care that coordinates clinical and research functions to better serve patients' needs in an evidence-driven, cost-effective, personalized, and patient-centered manner. Dr. Abernethy was recently appointed to the National Cancer Policy Forum with the Institute of Medicine and elected to the Board of Directors of the Personalized Medicine Coalition. She is on ASCO's Advisory Board for the Rapid Learning System in Oncology, ASCO's Clinical Practice Guidelines Committee, the Science Policy Committee for the American Association for Cancer Research, and the Board of Directors for the American Academy of Hospice and Palliative Medicine.

Dr. Abernethy is an internationally recognized expert in health services research and delivery in patient-centered cancer care. She directs a prolific research program (DCCRP) which conducts patient-centered clinical trials, analyses, and policy studies. DCCRP maintains a large portfolio of National Institutes of Health (NIH), National Cancer Institute (NCI), Agency for Healthcare Research & Quality (AHRQ), philanthropic, and private funding. All DCCRP studies make use of, and simultaneously contribute to the development of, an integrated data system that coordinates diverse datasets, leverages novel information technology for patient-reporting of symptoms and other concerns, informs future studies, and facilitates healthcare personalization, patient education and patient-provider communication. Dr. Abernethy is Co-Principal Investigator of the NIH-funded Palliative Care Research Cooperative Group (PCRC) and Co-Principal Investigator of a NCI-funded faculty development (KM1) program in comparative effectiveness research (CER) to develop the CER and personalized healthcare research workforce of the future.



Samuel (Sandy) Aronson, ALM, MA, Executive Director of Information Technology, Partners HealthCare Center for Personalized Genetic Medicine. (PCPGM) which was formally known as the Harvard Partners Center for Genetics and Genomics (HPCGG). His team develops IT infrastructure required to support

the evolution and practice of genetic based personalized medicine in both patient facing and laboratory settings. The team has developed an integrated personalized medicine architecture that includes the GIGPAD system that supports laboratories generating genetic data, the GenInsight Lab application that facilitates clinical interpretation of these data, and the GenInsight Clinic system that provides treating clinicians with a mechanism for managing patient genetic test results.

Prior to this position, Mr. Aronson was an IT consultant to the biotechnology industry working for Tribiosys. Mr. Aronson also held several positions with Sapient Corporation, was a Strategic Consultant for Monitor Company and founded LearningAction, a web-based training company now part of Best Software. Mr. Aronson holds a Masters in Organizational Behavior and a Bachelors in Computer Science from Stanford University. He also holds a Masters in Biology from Harvard Extension School.



Mara Aspinall is President and CEO of Ventana Medical Systems, Inc. and Global Head of Roche Tissue Diagnostics. Ventana, a member of the Roche Group, is a worldwide leader in the development, manufacturing and commercialization of tissue-based cancer diagnostic equipment and products that enable the

delivery of personalized healthcare to cancer patients.

Ms. Aspinall is also the Founder and former CEO of On-Q-ity, an innovative personalized medicine company focused on transforming cancer lifecycle management through patient diagnostics and monitoring. On-Q-ity develops circulating tumor cell technology to identify the unique characteristics of an individual patient's cancer to predict response to therapy, monitor the efficacy of treatment and identify early recurrence in multiple cancers.

Previously, Ms. Aspinall was President of Genzyme

Genetics, a leading provider of testing services in the oncology and reproductive markets. Under her leadership, Genzyme Genetics set the industry standard for quality testing while profitably growing at an unprecedented pace to become one of the nation's largest diagnostic laboratories. Before that, she served as President of Genzyme Pharmaceuticals.

An active participant in the healthcare policy community, Ms. Aspinall is a founding Director of the European Personalized Medicine Association (EPAMED) and a Director of the US Personalized Medicine Coalition (PMC). She served for four years as an active member of the Federal Secretary of Health and Human Services' Advisory Committee on Genetics, Health and Society. She also lectures on life science industry issues at many institutions, including Harvard Medical School and Boston University School of Management. She was a Board Member of Blue Cross Blue Shield Massachusetts for three years.

Ms. Aspinall co-authored "Realizing the Promise of Personalized Medicine" in Harvard Business Review, and has written several articles, case studies and editorials on healthcare topics. In 2010 she was named one of the "100 Most Inspiring People in Life Sciences" by PharmaVOICE magazine.

Ms. Aspinall started her business career at Bain & Company, an international strategic consulting firm. She earned her Master of Business Administration from Harvard Business School and her bachelor's degree in International Relations from Tufts University.



Dennis A. Ausiello, M.D., Jackson Professor of Clinical Medicine at Harvard Medical School; Chief of Medicine at Massachusetts General Hospital since 1996; President of the Association of American Physicians in 2006; Member of the Institute of Medicine and a Fellow of the American Academy of Arts and

Sciences. Director of TARIS BioMedical, Inc. Dr. Ausiello oversees a large research portfolio and an extensive research and education budget at Massachusetts General Hospital, giving him a critical perspective on drug discovery and development and providing a fundamental understanding of the potential pathways contributing to disease.



Anna Barker, Ph.D., recently joined Arizona State University to plan and direct efforts in transformative knowledge networks – specifically directed toward addressing major problems in healthcare. The Transformative Healthcare Networks initiative (THN) will serve as a foundation for the develop-

ment of new research models that leverage convergent knowledge, innovative teams and novel funding approaches to better prevent and treat acute and chronic diseases. She also serves as Co-Director of a major ASU initiative in complex adaptive systems research. The Complex Adaptive System Initiative (CASI) serves as an organizing construct to approach understanding and solving multi-dimensional problems in the biological and social sciences.

Prior to joining ASU, Dr. Barker served as the Deputy Director of the National Cancer Institute (NCI) and as the NCI's Deputy Director for Strategic Scientific Initiatives from 2002 until her retirement in 2010. She was a member of the NCI's Executive Committee and participated in all aspects of strategic planning, decision making and program implementation to achieve the NCI's mission. Dr. Barker led the planning, development and implementation of a number of strategic scientific and advanced technology initiatives and novel partnerships that emphasize innovation, trans-disciplinary teams and convergence of scientific disciplines to enable progress against cancer. These programs also stress the synergy of large scale and individual initiated research, precompetitive research and public databases and translation of discoveries into new interventions to detect prevent and treat cancer more effectively.

At the NCI Dr. Barker collaborated on the planning and implementation for the Institute's major initiative in bioinformatics (the Cancer Bioinformatics Grid); planned and initiated an NCI wide program to establish biospecimen standards and best practices; and planned and launched the Clinic Proteomics Technology Initiative for Cancer that is focused on the development, standardization and deployment of the technologies, reagents and protocols needed to enable the systematic and reproducible identification of cancer biomarkers. She also co-developed The Cancer Genome Atlas (TCGA) Program jointly with the National Human Genome Research Institute (NHGRI). TCGA's long

continued

Conference Speakers *continued*

term goal is to define all significant genetic changes in most if not all cancers. In addition, under her leadership the NCI planned and deployed an integrated network of nanotechnology centers, the Nanotechnology Alliance for Cancer, working in areas ranging from a new generation of diagnostics to drug delivery and imaging. More recently, Dr. Barker led a multi-year effort to enable the convergence of the physical sciences (physics, mathematics, physical chemistry and engineering) with cancer biology. Launched in 2009, the Physical Sciences-Oncology Centers network is providing a unique opportunity for physical scientists and cancer biologists to collaboratively study cancer at a fundamental level across scales. All of these programs broadly engage the extramural cancer research communities.



M. Kathleen Behrens Wilsey, Ph.D., served as a Member of the President's Council of Advisors on Science and Technology (PCAST), from 2001 to 2009, working on multiple national policy matters. She Chaired PCAST's Subcommittee on Personalized Medicine and led a two year study that culminated in the

September 15, 2008 report, *Priorities for Personalized Medicine*. Dr. Behrens Wilsey was a director of the Board on Science, Technology and Economic Policy (STEP) for the National Research Council from 1997-2005, at which time she participated as a member of the Institute of Medicine Committee on New Approaches to Early Detection and Diagnosis of Breast Cancer. She was a director of the National Venture Capital Association from 1993 to 2000, also serving as President, Chairman and Past Chairman from October of 1999 through April of 2000. Dr. Behrens Wilsey currently serves as a member of the Board of Directors of Amylin Pharmaceuticals, Inc., AVI Biopharma, Inc and KEW Group LLC. Kathy holds a Ph.D. in Microbiology from the University of California, Davis.

Dr. Behrens Wilsey established a career in the financial services industry, working with Robertson Stephens & Co. until 1996, where she became a general partner and managing director. Dr. Behrens Wilsey continued in her capacity as a General Partner for selected venture funds for RS Investments, after management led a buy-out of that firm from Bank of America. Her professional career includes

tenures as a public-market lifesciences securities analyst, as well as venture capitalist focusing on healthcare and technology investments. She was instrumental in the founding of several life-sciences companies including Protein Design Labs, Inc. and CORTherapeutics, Inc. and participated in financing a broad range of health care services and products companies. More recently, she served as a director of Abgenix, Inc. in a role that spanned that firm's early rounds of private financings through the company's sale in 2006 to Amgen, Inc. Dr. Behrens Wilsey has worked for the last two years with KEW Group LLC in developing a fully integrated personalized medicine oncology management company .



Troyen A. Brennan, M.D., M.P.H., is Executive Vice President and Chief Medical Officer of CVS Caremark. Prior to joining CVS Caremark, Dr. Brennan was Chief Medical Officer of Aetna Inc. From 2000 to 2005, Dr. Brennan served as President and CEO of Brigham and Women's Physician's Organization. In

his academic work, he was Professor of Medicine at Harvard Medical School, and Professor of Law and Public Health at Harvard School of Public Health. Dr. Brennan received his M.D. and M.P.H. degrees from Yale Medical School and his J.D. degree from Yale Law School. He completed his internship and residency in internal medicine at Massachusetts General Hospital. He is a member of the Institute of Medicine of the National Academy of Sciences.



Brook Byers, Partner, Kleiner Perkins Caufield & Byers, (KPCB), has been a venture capital investor since 1972. He has been closely involved with more than fifty new technology based ventures, more than half of which have already become public companies. He formed the first Life Sciences practice group in the

venture capital profession in 1984 and led KPCB to become a premier venture capital firm in the medical, healthcare, and biotechnology sectors. KPCB has invested in and helped build over 110 Life Sciences companies which have already developed hundreds of products to treat major underserved medical needs for millions of patients.

Mr. Byers was the founding President and then Chairman, of four biotechnology companies which were incubated in KPCB's offices and went on to become public companies with an aggregate market value over \$8 Billion. He is currently on the Board of Directors of nine companies, most recently joining CardioDX, Crescendo, Genomic Health Incorporated, Five Prime Therapeutics, OptiMedica, Pacific Biosciences, Inc., Tethys, Veracyte and XDX, Inc.

Raised in Atlanta, Georgia, Mr. Byers graduated in Electrical Engineering from Georgia Tech and received an MBA from Stanford.



Randy Burkholder is Deputy Vice President of Policy at the Pharmaceutical Research and Manufacturers of America. Mr. Burkholder directs PhRMA work on issues related to use of evidence in healthcare decision-making, health technology assessment, comparative and cost-effectiveness research, Medicare coverage policy, and innovation and personalized medicine. Mr. Burkholder represents PhRMA at federal agencies and advisory bodies including the Medicare Evidence Development and Coverage Advisory Committee, the Federal Coordinating Council for Comparative Effectiveness Research, Institute of Medicine Committees, and President's Council of Advisors on Science and Technology. He also is a founding member of the Board of Directors of the Personalized Medicine Coalition and serves on the Steering Committee of the Partnership to Improve Patient Care.

Mr. Burkholder has over 17 years experience in health care policy, advocacy and communications in the medical technology and pharmaceutical industries. Prior to joining PhRMA, Mr. Burkholder was Associate Vice President for Public Affairs at AdvaMed, the leading association of the medical device and diagnostics industries.



Fabien Calvo, M.D., Ph.D., Deputy General Director of the National Cancer Institute, INCa, France, has been in charge of the Research Programmes since April 2007. Fabien CALVO is also the director of the Cancer Multi-Institution Alliance (including INSERM, CNRS, Universities and University- hospitals) in France. Previously resident and senior registrar of Paris Hospitals, research associate of the National Cancer Institute in Bethesda (NIH / NCI / DCT, USA), he specialised in oncology and haematology. He is currently a professor of pharmacology at the Denis Diderot Medical University in Paris.

Dr. Calvo has been the director of the Saint-Louis Hospital CIC (clinical investigation center) and he was the director of INSERM unit 716 on the identification of new molecular targets for the treatment of cancer. He has published more than 200 original and review articles. He also worked as the coordinator of the cancer mission for the Director of Research and Innovation, Ministry of Research and Higher Education in 2006 and 2007. His spheres of activity and interest are the biology of metastatic processes, especially proteases, translational research, preclinical pharmacology and early clinical trials in haematology and oncology.



Kevin Davies, Ph.D., is the founding editor of Bio-IT World and Nature Genetics, and the author of *The \$1,000 Genome* (Free Press, 2010), an account of the revolution in DNA sequencing technologies, personal genomics, and personalized medicine. Dr. Davies previously penned *Cracking the Genome*, the first published account of the race for the Human Genome Project and translated into 15 languages. His first book, co-authored with Michael White, was entitled *Breakthrough*, about the race to isolate the BRCA1 breast cancer gene.

Born in London, Dr. Davies read biochemistry at Oxford University and took a Ph.D in human genetics from St Mary's Hospital Medical School (University of London). After postdoctoral fellowships at MIT and Harvard Medical School, he joined the editorial team of the journal *Nature*.

continued

Conference Speakers *continued*

In 1992, he was appointed editor of Nature's first spin-off journal in 20 years, Nature Genetics. After stints at the Howard Hughes Medical Institute and editorial director of Cell Press, where he conceived and developed the journal Cancer Cell, in 2002 Dr. Davies was appointed the chief editor of Bio-IT World, a trade magazine covering the management of life sciences data. Launched by IDG, the publication is now owned and published by Cambridge Healthtech Institute.



Lynn Dowling has led innovative health-care initiatives for over 30 years. She began her career at the American Medical Association as Director of the Department of Practice Management and in the 1980's moved to Florida to help start the Florida Health Choice Plan, one of the nation's first PPOs. She later

served as Executive Director of the American Association of PPOs. Ms. Dowling was also Director of Business Development for the physician practice management division of Caremark, Vice President, Business Development for Tenet HealthCare's Pennsylvania Region and Vice President, Business Development in the northern CA region of Adventist Health. Ms. Dowling has conducted managed care, practice management and healthcare strategy seminars for physicians and healthcare executives in more than 35 states.

In 2006, a personal encounter with genomic medicine after a breast cancer diagnosis convinced Lynn that hospitals and physicians needed to prepare strategically for the coming revolution in personalized medicine. In 2008, she began work on the Genomic Medicine Institute at El Camino Hospital in Mountain View, CA, the first such program of its kind at a community hospital. She currently serves as its Executive Director.

A native of Chicago, Ms. Dowling holds a BA and MA in Communications from the University of Illinois and a MBA from the University of Miami.



Deborah Dunsire, M.D., has been the President and Chief Executive Officer of Millennium Pharmaceuticals Inc., since July 2005. In 2008 Millennium was acquired by Takeda Pharmaceuticals of Japan, becoming the global oncology center of excellence for Takeda under her leadership. Dr. Dunsire joined Millennium

from her role as Senior Vice President and North American region head of the Oncology Business Unit of Novartis in July 2005. Prior to her move to the US in 1994 – Dr. Dunsire worked in the global headquarters of Sandoz in Switzerland managing launch and growth of global products in the field of immunology and dermatology. She joined Sandoz in South Africa in 1988 as a clinical researcher and expanded her resume to include portfolio and specialty market management. Dr. Dunsire is a member of the Board of Directors of Allergan Inc. and serves as a Director of the Biotechnology Industry Organization where she co chairs the Regulatory and Environment committee and serves as a member of the Executive Committee. Her not for profit board memberships include CancerCare Inc; the G&P Foundation for Cancer Research and the Boston Museum of Science where she chairs the IRB. She served as a Director of Pharmaceutical Research and Manufacturers of America (PhRMA) from 2005 2008 and as a Director of California Healthcare Institute from 2002

2005. Dr. Dunsire was the 2001 recipient of the American Cancer Society Excalibur Award, the 2000 recipient of the Health Care Business Women's Association Rising Star Award, the 2009 Health Care Business Women's Association Woman of the Year Award, and 2011 Massachusetts Biotechnology Organization's Innovative Leadership Award. She received a PhD Honoris Causa from Worcester Polytechnic Institute in 2007. Dr. Dunsire graduated as a physician from the University of Witwatersrand in Johannesburg, South Africa and practiced medicine as a GP before moving into industry.



Ezekiel J. Emanuel, M.D., Ph.D., is the Vice Provost for Global Initiatives, the Diane v.S. Levy and Robert M. Levy University Professor, and Chair of the Department of Medical Ethics and Health Policy at the University of Pennsylvania. He is also an Op-Ed contributor to the New York Times.

He was the founding chair of the Department of Bioethics at the National Institutes of Health and held that position until August of 2011. Until January 2011, he served as a Special Advisor on Health Policy to the Director of the Office of Management and Budget and National Economic Council. He is also a breast oncologist and author.

After completing Amherst College, he received his M.Sc. from Oxford University in Biochemistry. He received his M.D. from Harvard Medical School and his Ph.D. in political philosophy from Harvard University. His dissertation received the Toppin Award for the finest political science dissertation of the year. In 1987-88, he was a fellow in the Program in Ethics and the Professions at the Kennedy School of Government at Harvard.

After completing his internship and residency in internal medicine at Boston's Beth Israel Hospital and his oncology fellowship at the Dana-Farber Cancer Institute, he joined the faculty at the Dana-Farber Cancer Institute. Dr. Emanuel was an Associate Professor at Harvard Medical School before joining the National Institutes of Health.

Dr. Emanuel has authored 3 books and co-edited 4 and will have two books forthcoming in 2012. His publications include The Oxford Textbook of Clinical Research Ethics, edited by Dr. Emanuel and members of the NIH Department of Bioethics and Healthcare, Guaranteed, Dr. Emanuel's own recommendations for health care reform, and, Exploitation and Developing Countries. His book on medical ethics, The Ends of Human Life, has been widely praised and received honorable mention for the Rosenhaupt Memorial Book Award by the Woodrow Wilson Foundation. Dr. Emanuel has also published No Margin, No Mission: Health-Care Organizations and the Quest for Ethical Excellence and co-edited Ethical and Regulatory Aspects of Clinical Research: Readings and Commentary.

Dr. Emanuel developed The Medical Directive, a comprehensive living will that has been endorsed by Consumer Reports on Health, Harvard Health Letter, the New York

Times, Wall Street Journal, and many other publications. He has published widely on the ethics of clinical research, health care reform, international research ethics, end of life care issues, euthanasia, the ethics of managed care, and the physician-patient relationship in the New England Journal of Medicine, the Lancet, JAMA, and many other medical journals.

He has received numerous awards including election to the Institute of Medicine (IOM) of the National Academy of Science, the Association of American Physicians, and the Royal College of Medicine (UK). Hippocrates Magazine selected him as Doctor of the Year in Ethics. He received the AMA-Burroughs Wellcome Leadership Award, the Public Service Award from the American Society of Clinical Oncology, the John Mendelsohn Award from the MD Anderson Cancer Center, and a Fulbright Scholarship (which he declined). In 2007, Roosevelt University presented Dr. Emanuel with the President's Medal for Social Justice.

Dr. Emanuel served on President Clinton's Health Care Task Force, the National Bioethics Advisory Commission (NBAC), and on the bioethics panel of the Pan-American Healthcare Organization. Dr. Emanuel has been a visiting professor at numerous universities and medical schools, including the Brin Professor at Johns Hopkins Medical School, the Kovtitz Professor at Stanford Medical School, the University of Pittsburgh School of Medicine, UCLA, and a visiting professor at New York University Law School.



W. Gregory Feero, M.D., Ph.D., obtained his M.D./Ph.D. from the University of Pittsburgh School of Medicine with a Ph.D. in Human Genetics. He then completed his residency in Family Medicine at the Maine-Dartmouth Family Medicine Residency Program in Augusta, Maine.

After five years in practice in Maine, Dr. Feero accepted a position at the National Human Genome Research Institute, National Institutes of Health, where he is a Special Advisor to the Director for Genomic Medicine. Dr. Feero sees patients at the Maine - Dartmouth Family Medicine Residency, where he is on faculty. Dr. Feero is board certified in family medicine and holds licenses in Maine and West Virginia. He has authored numerous peer-reviewed and invited publications.

continued

Conference Speakers *continued*



Andrew Fish, J.D., is Executive Director of AdvaMedDx, the U.S. trade association representing leading manufacturers of in vitro diagnostic tests. Functioning as an association within AdvaMed, the medical device trade association, AdvaMedDx advocates for health care policies that support robust innovation, ensure timely patient access, and promote rapid adoption of new, safe and effective in vitro diagnostic tests. Mr. Fish has extensive government relations, legal, regulatory, and policy experience. Most recently, he was Senior Vice President of Legal and Government Affairs, General Counsel, and Secretary for the Consumer Healthcare Products Association (CHPA), representing manufacturers of nonprescription medicines. Mr. Fish previously led the American Cancer Society's federal lobbying team as Senior Director of Federal Government Relations. Mr. Fish also has experience as a regulatory attorney in private practice, where he focused on biotechnology regulation, as well as a wide range of food, drug and agriculture issues. Earlier in his career, Mr. Fish served as Assistant Secretary of Agriculture for Congressional and Intergovernmental Affairs during the Clinton Administration. Prior to holding that Senate-confirmed post, he worked twice for the U.S. Senate Agriculture Committee, first as a professional staff member and later as deputy chief counsel. Mr. Fish has a BA from Yale University and a JD from Stanford Law School.



Gad Getz, Ph.D., received his B.A. in Physics and Mathematics from the Hebrew University, Israel in 1992 and his M.Sc. in Physics from the Tel-Aviv University in 1997. He obtained his Ph.D. from the Weizmann Institute of Science in 2004 developing with Prof. Domany their pioneering method Coupled Two-Way Clustering. Dr. Getz then joined the Golub Lab at the Broad Institute of MIT and Harvard as a post-doctoral fellow and worked on the first global map of miRNAs in cancer. Next, Dr. Getz joined the Meyerson group focusing on developing tools for identifying genes that drive cancer from DNA copy-number (GISTIC) and mutation data (MutSig) and together with Dr. Lander developed the princi-

ples for designing cancer genome projects. Dr. Getz is now one of the world leaders in cancer genome analysis using massively parallel sequencing technologies. Currently, Dr. Getz is the Director of Cancer Genome Computational Analysis at the Broad Institute. He is co-leading the primary Genome Data Analysis Center of The Cancer Genome Atlas (TCGA) project and is a co-leader of the TCGA and the International Cancer Genome Consortium (ICGC) Analysis Working Groups.



Heidi Rehm, Ph.D., FACMG, is the Chief Laboratory Director for the Laboratory for Molecular Medicine at the Partners Healthcare Center for Personalized Genetic Medicine and Assistant Professor of Pathology at Harvard Medical School. She was recruited in 2001 to build the CLIA lab after completing her graduate degree in Genetics from Harvard University and her post-doctoral and fellowship training at Harvard Medical School. The lab focuses on the rapid translation of new genetic discoveries into clinical tests that can be used to improve patient outcomes, supporting the model of personalized medicine. In addition, the lab focuses on bringing novel technologies and software systems into molecular diagnostics to support the integration of genetics into clinical use. The laboratory has been a leader in translational medicine, launching the first clinical tests for cardiomyopathy and lung cancer treatment among many achievements. In 2012, the lab will launch a CLIA-approved interpretive service for whole genome sequencing. Dr. Rehm is involved in defining standards for the use of next generation sequencing in clinical diagnostics through her committee roles at the American College of Medical Genetics and collaborative efforts with the CDC. Dr. Rehm is also involved in a major effort to develop and curate a universal human genetic variant database through collaborative efforts with NCBI and international groups. Dr. Rehm directs the Clinical Molecular Genetics training program at Harvard Medical School and conducts research in hearing loss, Usher syndrome, cardiomyopathy, and healthcare IT.



Richard Hamermesh, D.B.A., is the MBA Class of 1961 Professor of Management Practice at the Harvard Business School where he teaches in the MBA Program and is the Faculty Chair of the HBS Healthcare Initiative. Richard created and teaches the second-year MBA elective, Entrepreneurship and

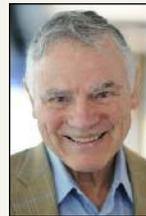
Venture Capital in Healthcare. Previously, he was the Course Head for the required first year course entitled The Entrepreneurial Manager. In addition Richard participates in several HBS Executive Education programs. From 1987 to 2001, Richard was a co-founder and a Managing Partner of The Center for Executive Development, an executive education and development consulting firm. Prior to this, from 1976 to 1987, he was a member of the faculty of the Harvard Business School.

Richard is also an active investor and entrepreneur, having participated as a principal, director, and investor in the founding and early stages of over 20 organizations. These have included start-ups, leveraged buy-outs, industry roll-ups, and non-profit foundations. He was the founding president of the Newton (MA) Schools Foundation and served on the editorial board of the Harvard Business Review. He is currently on the Boards of one public and two private corporations, as well as two non-profit Boards. From 1991 to 1996, he was the founding Chairman of Synthes Spine, Inc. Richard is the author or co-author of five books, including *New Business Ventures* and the *Entrepreneur*. His best-known book, *Fad-Free Management*, was published in 1996. He has published numerous articles and more than 100 case studies. His most recent article, "Realizing the Potential of Personalized Medicine," appeared in the Harvard Business Review (October 2007). Richard received his AB from the University of California, and his MBA and DBA from HBS. He is married, has two children, and his hobbies include tennis, skiing, and yoga.



Louis Hochheiser, M.D., joined Humana in March of 2006 and was recently appointed to the position as Chief Medical Leader. He provides oversight for the technology assessment process, policy implementation, molecular diagnostic strategy and the medical directors who conduct reviews and provide medical

leadership within Humana's markets. He is responsible for supervising the clinical components of Humana's objective to providing guidance for its members and providers in order to support the information and knowledge necessary to make appropriate choices about health care needs. Assuring that there is consistent decision making based upon evidence based peer reviewed published literature. Prior to joining Humana, Dr. Hochheiser led medical management of the TRICARE program in the Mid-Atlantic Region. His background includes 17 years as Chairperson of Family Medicine, first at Brown University and then the University of Vermont, where he holds the position of professor emeritus.



Leroy Hood, M.D., Ph.D., is a pioneer in the systems approach to biology and medicine. His research has focused on the study of molecular immunology, biotechnology and genomics. Dr. Hood's professional career began at Caltech, where he and his colleagues developed the DNA gene sequencer and synthesizer

and the protein synthesizer and sequencer—four instruments that paved the way for the successful mapping of the human genome and lead to him receiving the 2011 Fritz J. and Delores H. Russ Prize awarded by the Academy of Engineering for automating DNA sequencing that revolutionized biomedicine and forensic science. A pillar in the biotechnology field, Dr. Hood has played a role in founding more than fourteen biotechnology companies, including Amgen, Applied Biosystems, Darwin, The Accelerator and Integrated Diagnostics. He is a member of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. Of the 6,000+ scientists world-wide who belong to one or more of these academies, Dr. Hood is one of only fifteen people accepted to all three.

continued

Conference Speakers *continued*

He is also a member of the American Philosophical Society and a Fellow of the American Academy of Arts and Sciences. His work has been widely published, and he has coauthored numerous textbooks in biochemistry, immunology, molecular biology and genetics, as well as a popular book on the human genome project, *The Code of Codes*. He is the recipient of numerous awards, including the Lasker Award, the Kyoto Prize and the Heinz Award in Technology. In addition to having received 17 honorary degrees from prestigious universities in the US and abroad, Dr. Hood has published more than 700 peer reviewed articles and currently holds 30 patents.



Howard Jacob, Ph.D., received his Ph.D. in Pharmacology from the University of Iowa in 1989. He completed two parallel post-doctoral fellowships in functional genomics and molecular genetics/genomics at Harvard, Stanford and MIT with Victor J. Dzau, M.D. and Eric S. Lander, Ph.D. He was on the faculty

at Massachusetts General Hospital and Harvard Medical School for nearly 4 years before moving to Milwaukee. He joined the Medical College of Wisconsin in 1996 as an Associate Professor, Department of Physiology with full Professorship and Tenure in 2001. He was appointed the Founding Director of the Human and Molecular Genetics Center (HMGC) and was awarded the Warren P. Knowles Chair of Genetics in 1999.

Under his leadership the Human and Molecular Genetics Center (HMGC) has grown from two faculty members to 30 and is one of the top funded genetic programs based on NIH funding.

Last year, Dr. Jacob led a team of researchers at the Medical College who used an innovative DNA sequencing technique to unravel the medical mystery of Nicholas Volker, a young boy whose life-threatening disease had baffled his doctors and tested his family's faith. Working with Medical College scientists and physicians at the Children's Hospital of Wisconsin, Dr. Jacob's team used Nicholas' DNA to diagnose his disease and recommend a course of treatment. This treatment has so far been successful.



Katherine Johansen Taber, Ph.D., has been a Senior Scientist at the American Medical Association since 2006. She leads the AMA's Program in Genetics and Molecular Medicine, which focuses on educating physicians about the clinical implementation of genetics and on identifying emerging genetic policy issues

affecting health care providers. She also advises the AMA Board of Trustees and the House of Delegates on genetics issues such as the oversight of genetic testing, gene patenting, stem cell research, and newborn screening. Dr.

Johansen Taber has held a position on the Board of NCHPEG since 2006, and will be Vice Chair beginning in 2012. She also serves as the AMA appointment to the Institute of Medicine's Roundtable on Genomics, and has served as an Advisory Board member for Genetic Services Policy Project and as an advisor for the Illinois Humanities Council's community genetics education program Future Perfect. Dr. Johansen Taber earned her PhD in Molecular, Cell, and Developmental Biology at the University of California, Los Angeles, and conducted post-doctoral research at the USDA. She has held teaching appointments at UCLA, California State Polytechnic University, University of Idaho, and Columbia College Chicago.



David P. King, J.D., is Chairman and Chief Executive Officer of Laboratory Corporation of America® Holdings (LabCorp). LabCorp, one of the world's largest clinical laboratories, has annual revenues of \$4.7 billion (2009) and more than 28,000 employees nationwide.

Prior to becoming Chief Executive Officer on January 1, 2007, Mr. King served as LabCorp's Executive Vice President and Chief Operating Officer since 2005. Previously, he served as head of the Company's US LABS / Esoterix Division, one of the nation's leading specialty testing and cancer diagnostic laboratories, as well as Executive Vice President of Strategic Planning and Corporate Development. He is a member of the Company's Management Committee.

Mr. King initially joined LabCorp as Senior Vice President, General Counsel and Chief Compliance Officer in 2001 after

working for many years with the Company as an outside counsel. Prior to joining the Company, he was a partner with Hogan & Hartson L.L.P. in Baltimore, Maryland from 1992 to 2001.

Mr. King is also on the board of The Personalized Medicine Coalition (PMC) which seeks to advance the understanding and adoption of personalized medicine concepts and products for the benefit of patients. Mr. King, holds an AB degree, cum laude, from Princeton University and a JD degree, cum laude, from the University of Pennsylvania Law School.



Raju Kucherlapati, Ph.D., is the Paul C. Cabot Professor in the Harvard Medical School Department of Genetics. He is also a professor in the Department of Medicine at Brigham and Women's Hospital. Dr. Kucherlapati was the first Scientific Director of the Harvard Medical School-Partners HealthCare Center for Genetics and Genomics. His research focuses on gene mapping, gene modification, and cloning disease genes. During 1989-2001, Dr. Kucherlapati was the Lola and Saul Kramer Professor of Molecular Genetics and Chairman of the Department of Molecular Genetics at the Albert Einstein College of Medicine in New York. He was previously a professor in the Department of Genetics at the University of Illinois, College of Medicine. He began his research as an assistant professor in the Department of Biochemical Sciences at Princeton University.

He has chaired numerous NIH committees and served on the National Advisory Council for Human Genome Research and the NCI Mouse Models for Human Cancer Consortium. He is also a member of the Cancer Genome Atlas project of the National Institutes of Health. He is a member of the Institute of Medicine of the National Academy of Sciences and a fellow of the American Association for the Advancement of Science. He is a member of Presidential Commission for the Study of Bioethical Issues.

Dr. Kucherlapati received his B.S. and M.S. in Biology from universities in India, and he received his Ph.D. from the University of Illinois at Urbana, as well as conducting post-doctoral work at Yale University.



Stephen Little, Ph.D., is a leading figure in the global personalized healthcare and companion diagnostics industry. Co-founder and former CEO of DxS Ltd, Dr Little led the company from its inception in 2001 to become the market leader in the provision of molecular diagnostics for cancer. In September 2009 DxS was acquired by QIAGEN, a global sample and assay company, DxS is now QIAGEN Manchester Ltd, a global Center of Excellence in Companion Diagnostics.

Dr Little has over 20 years experience in the pharmaceutical and diagnostics sectors, and as VP of Personalized Healthcare at QIAGEN continues to help shape the personalised medicine marketplace, championing the cause for pharmaceutical partnering and companion diagnostic provision in healthcare.



Bertram Lubin, M.D., is currently serving as the President and Chief Executive Officer of Children's Hospital & Research Center Oakland.

Throughout his career in medicine, Dr. Lubin has directed his energies to fostering biomedical research and has been involved in a number of clinical and

basic research projects. His primary research interest has been in sickle cell disease. He developed a Sickle Cell Screening, Counseling, and Education Program at Children's Hospital Oakland (CHO), and subsequently with a UCSF colleague, started the Northern California Comprehensive Sickle Cell Center, a program that is in its twenty-third year of NIH funding. Lubin was a member of the NIH Executive Committee that initiated the Cooperative Study of Sickle Cell Disease, a program that supported clinical research in sickle cell disease for over fifteen years. He is an editor of the NIH-published monograph "Current Treatment for Sickle Cell Anemia."

In addition to his interest in clinical hematology, Lubin directed a NIH-funded basic research program to study membrane phospholipid organization in human red blood cells. His group discovered that alterations in membrane phospholipids occurred when cells containing sickle hemoglobin were deoxygenated and that these changes could

continued

Conference Speakers *continued*

contribute to clinical events that occur in sickle cell anemia.

Recently, Lubin began the CHO Related Donor Cord Blood Program. The program is offered to families across the United States who currently have a child with a blood disorder such as sickle cell anemia, thalassemia, aplastic anemia, or leukemia, and are expecting another child.

Following the birth of a healthy child, blood remaining in the placenta (cord blood) is harvested. Because cord blood is enriched with bone marrow cells, it is cryopreserved and can later be used for transplantation. A number of lives have been saved following transplantation with cord blood units collected in this program.

Dr. Lubin has many general interests in pediatric research and research education. These range from asthma, obesity, diabetes, and nutrition to studies of the neonate. He is particularly interested in how environmental factors interact with genetics to cause disease. He is involved in the UC Berkeley Pediatric Environmental Health Center, providing core laboratory services to investigate the effects of pesticide exposure during pregnancy on the health of children. He is the director of the Pediatric Clinical Research Center at Children's Hospital Oakland, the director of an Institutional Post-Doctoral Training Program, and the director of a Short Term Minority Training Program for Undergraduate Students, all of which are NIH-supported. He participates in a number of projects with NIH staff, has served on many NIH peer-review committees, has been a reviewer for many biomedical scientific journals, and is on a number of biomedical advisory committees.



John Mendelsohn, M.D., completed his 15th year as president of The University of Texas MD Anderson Cancer Center. On September 1, 2011, he assumed the position of co-director of the cancer center's Institute for Personalized Cancer Therapy. Under his direction, MD Anderson has taken a leadership role in translational and clinical cancer research, and has been named the top cancer hospital in the United States eight of the past 10 years in U.S. News & World Report's "America's Best Hospitals" survey. At the University of California San Diego (1970-85), Dr. Mendelsohn was founding director of a NCI-designated cancer center. There he initiated his research on

epidermal growth factor receptor function and its inhibition by anti-receptor monoclonal antibody C225, which was the first reported anti-tyrosine kinase. At Memorial Sloan-Kettering Cancer Center (1985-96), he chaired, reorganized and expanded the Department of Medicine. His group's continuing laboratory, pre-clinical and clinical studies pioneered the concept of targeted anti-receptor and anti-tyrosine kinase therapy as cancer treatment. Monoclonal antibody C225 (Cetuximab) was approved by the FDA for colon cancer in 2004 and for head and neck cancer in 2006. Dr. Mendelsohn earned his bachelor's degree in biochemical sciences from Harvard College and received his medical degree from Harvard Medical School.



Amy Miller, Ph.D., is the Vice President of Public Policy for the Personalized Medicine Coalition (PMC) which represents a broad spectrum of academic, industrial, patient, provider, and payer organizations that seek to advance the understanding and adoption of personalized medicine concepts and products for the benefit of patients. Dr. Miller works with these communities to reach consensus on policy issues impacting personalized medicine and share those views with policy makers.

Before joining the PMC, Dr. Miller worked in the office of the Director of the National Institute of Mental Health where she served as a liaison among the scientific community, the legislative branch, and the consumers of mental health care and their families. A former AAAS fellow, she also served as a domestic policy advisor to Senator Jay Rockefeller. She began her career as a researcher at National Institute of Child Health and Human Development.

Dr. Miller received a BA from the University of New Orleans and holds a doctoral degree in Human Development from the University of Connecticut.



Cynthia Casson Morton, Ph.D., received her Bachelor's of Science degree from the College of William and Mary in Virginia and her Ph.D. in Human Genetics from the Medical College of Virginia in Richmond. She is the William Lambert Richardson Professor of Obstetrics, Gynecology and Reproductive Biology

and Professor of Pathology at Harvard Medical School, Director of Cytogenetics and Past Director of the Biomedical Research Institute at Brigham and Women's Hospital. Dr. Morton is certified by the American Board of Medical Genetics in Ph.D. Medical Genetics, Clinical Cytogenetics and Clinical Molecular Genetics. Her research interests are in molecular cytogenetics, hereditary deafness, genetics of uterine leiomyomata and human developmental disorders.

As Director of Cytogenetics, Dr. Morton oversees one of the largest full-service academic cytogenetics laboratories in the country. This laboratory has been at the forefront in implementing molecular methods in diagnostic testing for chromosome studies that cross the lifespan. These tests include preimplantation and prenatal diagnostics, perinatal and childhood studies in the evaluation of congenital and developmental disorders, infertility and pregnancy loss studies, and cytogenetics of leukemias, lymphomas and solid tumors. Her laboratory has been a major site for training laboratory geneticists in clinical cytogenetics.

Dr. Morton is a past member of the Board of Directors of the American Board of Medical Genetics where she served as Secretary, Treasurer and Chair of the Accreditation Committee. She was the Chair of the Molecular Genetic Pathology Policy and Exam Committees of the American Board of Medical Genetics and the American Board of Pathology. She served as Member and Chair of the Board of Scientific Counselors of the National Institute of Deafness and Other Communication Disorders, and Member and Chair of the Board of Regents of the National Library of Medicine. Dr. Morton is currently a member of the Council of Scientific Trustees of the Deafness Research Foundation, the VA Genomic Medicine Program Advisory Committee, the Board of Directors of the American Society of Human Genetics, and Editor of *The American Journal of Human Genetics*.



Amanda Murphy, CFA, joined William Blair & Company in 2006. Ms. Murphy is a healthcare analyst with a focus on diagnostic services, life sciences, and pharmacy benefit management. Previously, Ms. Murphy worked at Caremark as a business analyst and as a senior consultant within

PricewaterhouseCoopers's strategy consulting division. She received a B.S. in biology from Boston College's honors program and holds an M.B.A. in finance, accounting, and economics from the Kellogg Graduate School of Management at Northwestern University.



John E. Niederhuber, M.D., is currently the Executive Vice President Inova Health System, Falls Church, VA and CEO of the Inova Translational Medicine Institute. He joined Inova in September 2010 after serving five years as Director of the National Cancer Institute (NCI). He also is currently Professor of Oncology and

Surgery at the Johns Hopkins University School of Medicine and Deputy Director of the Johns Hopkins Clinical Research Network. Dr. Niederhuber is an internationally recognized academic leader, cancer surgeon and laboratory investigator. Throughout his distinguished career, he has held a number of prestigious positions including Director, of the University of Wisconsin Comprehensive Cancer Center, Chairman, of the Department of Surgery at Stanford University, and professorships at the Johns Hopkins University School of Medicine and at the University of Michigan. Prior to his presidential appointment as NCI Director, he served as NCI's Chief Operating Officer. He has served as President of the Society of Surgical Oncology and of the American Association of Cancer Institutes and Chair of the National Cancer Advisory Board. Dr. Niederhuber is a member of the Institute of Medicine in recognition of his outstanding scientific accomplishments and commitment to service in health sciences.

His laboratory research focuses on tissue stem cells as the cell-of-origin for cancer, as well as the complex relationship between tumor cells and their microenvironment. As a surgeon, Dr. Niederhuber's clinical emphasis is on gastroin-

Conference Speakers *continued*

testinal cancer, hepatobiliary (liver, bile duct, and pancreatic) cancer, and breast cancer. Recognized for his pioneering work in hepatic artery infusion chemotherapy, he was also the first to demonstrate the feasibility of totally implantable vascular access devices. He has given over 330 professional presentations and published over 230 peer-reviewed articles or book chapters as well as editor or coeditor of eight textbooks.



D. Stafford O'Kelly is Vice President and President, Molecular Diagnostics, Abbott Molecular. He was appointed to his current role in April 2007. Previously, he served as Vice President, Latin America and Canada for Abbott International.

Mr. O'Kelly joined Abbott in 1984 and has served in various management positions. These include Division Vice President Finance, Abbott International, Divisional Vice President and Controller, Ross Products Division (now Abbott Nutrition), and Vice President of Finance, TAP Pharmaceuticals, Inc.

Mr. O'Kelly serves on the boards of Youth Conservation Corps, Inc., the Clara Abbott Foundation, and the Personalized Medicine Coalition (PMC).

He has a bachelor's degree in Engineering and MBA from Trinity College, Dublin, Ireland.



Michael Pellini, M.D., joined Foundation Medicine as President and Chief Executive Officer in May 2011. Dr. Pellini came to Foundation Medicine from Clariant, a GE Healthcare Company, where he held the position of President and Chief Operating Officer. Dr. Pellini joined GE Healthcare through the integration of Clariant, Inc., where he worked with the company's leadership team to drive critical regulatory and reimbursement strategies in parallel with the development and commercialization of multiple diagnostic tests.

Prior to his tenure with Clariant, Dr. Pellini served as Vice President, Life Sciences at Safeguard Scientifics, Inc. where he leveraged his business and medical expertise to explore new market opportunities and to support Safeguard's part-

ner companies. Prior to Safeguard, he was Executive Vice President and Chief Operating Officer at Lakewood Pathology Associates, a national molecular and pathology services company, which was acquired by Water Street Healthcare Partners in 2006. Prior to that, Dr. Pellini was an Entrepreneur-in-Residence at BioAdvance. He also served as President and Chief Executive Officer of Genomics Collaborative, Inc., a Boston-based biotech firm that was acquired by SeraCare Life Sciences, Inc. in 2004.

Dr. Pellini received a B.A. from Boston College, an M.B.A. from Drexel University and an M.D. from Jefferson Medical College of Thomas Jefferson University. Dr. Pellini serves as a member the Boston College Technology Council, the Executive Committee of the Jefferson Medical College Alumni Association, and the Board of Trustees for the Coriell Institute of Medical Research.

Mary Pendergast, J.D., has served as a member of the Company's Board of Directors since the merger and as a member of Nuvelo's Board of Directors since May 2002. Since September 2003, Ms. Pendergast has been president of Pendergast Consulting. Ms. Pendergast served as Executive Vice President, Government Affairs for Elan Corporation from 1998 to December 2003. Ms. Pendergast was Deputy Commissioner and Senior Advisor to the Commissioner, Food and Drug Administration, Department of Health and Human Services from 1990 to 1998 and spent eighteen years in total at the Food and Drug Administration. Ms. Pendergast received her LL.M. from Yale Law School in 1977, her J.D. from the University of Iowa College of Law in 1976, and her B.A. from Northwestern University in 1972. Ms. Pendergast is an appropriate member of the Company's Board of Directors, given her extensive experience in government regulation of pharmaceutical products, including extensive experience as an employee, including senior positions, at the Food and Drug Administration and in the pharmaceutical industry.

Mary has served since 2002 as a member of the Board of Directors at Nuvelo, a biotechnology company in California which seeks to develop products for hematology and cancer uses. She is currently on the Boards of Directors for Child Trends, a research organization that focuses on research on children, and Johns Hopkins Genetics and

Public Policy Center, an organization that studies and communicates to the public on gene testing and related topics.

Currently, she serves as president of Pendergast Consulting. Prior to forming her own consulting business, she served as executive vice president, government affairs at Elan Corporation, where she was involved in significant regulatory, strategic and government issues. From 1990 to 1998, Ms. Pendergast was the deputy commissioner and senior adviser to the commissioner at the U.S. Food and Drug Administration (FDA).

Ms. Pendergast has served as associate chief counsel for enforcement at the FDA from 1979 to 1990 and as attorney, Office of the General Counsel, Department of Health and Human Services from 1977 to 1979. She also is currently completing a term on the Board of Directors for the Regulatory Affairs Professional Society. Ms. Pendergast received her LL.M., J.D. and B.A. from Yale Law School, the University of Iowa College of Law and Northwestern University, respectively.



Kristin Ciriello Pothier leads the Diagnostics and Life Sciences Practice at Health Advances, a global practice which meshes her consulting and scientific experience to provide results-oriented commercialization strategies for her clients in the biotech and clinical diagnostics sectors, including focus on launch

strategy, pricing, and R&D prioritization for novel diagnostics and biotech platforms for the research laboratory, personalized medicine, point-of-care, and mainstream clinical diagnostics. Her clients range from small diagnostics and tools start-ups to the largest public companies and non-profit institutions in the industry. Ms. Pothier is a noted speaker, workshop leader and writer in the diagnostics and life sciences industries, covering topics such as the future of point-of-care platforms, the commercialization of companion diagnostics, and innovations in personalized medicine. Most recently, she worked with MassBio to develop its Personalized Medicine Year, was a judge for the Coulter Translational Research Awards, and is working with BIO to promote reimbursement reform for personalized medicine products.

Ms. Pothier has over 15 years of experience in the diagnostics and drug discovery industries. Prior to joining Health Advances in 2002, she was a scientist in diagnostics technology development at Genzyme and genomics research at Genome Therapeutics. She has an undergraduate degree in Biochemistry from Smith College and a Masters degree in Epidemiology, Health Management, and Maternal and Child Health from the Harvard School of Public Health.



Ronald Przygodzki, M.D., holds a degree in medicine from the Warsaw Medical University, Warsaw, Poland. He is board certified in Anatomic and Clinical Pathology by the American Board of Pathology, with subspecialization boards in Molecular Genetic Pathology. He has served as Associate Director of the

Molecular Diagnostics Laboratory at the Armed Forces Institute of Pathology, Washington, DC, and as Chief of Pathology at the Children's National Medical Center, Washington, DC. Currently, he is the Associate Director for Genomic Medicine, and the Acting Director, Biomedical Laboratory Research and Development in the Office of Research and Development. His research interests and expertise include human pharmacogenomics, toxicogenomics, metabolomics, as well as tumor genomics. He has been instrumental in creating methodologies for esoteric molecular testing of small biopsy and large resection archival tissue samples. His latest effort is leading and establishing a large National prospective longitudinal research cohort identified as the Million Veterans Program.



Hakan Sakul, Ph.D., is currently an Executive Director in the Clinical Research and Precision Medicine Group in Pfizer's Development Operations where he oversees Pfizer's diagnostics needs across the R&D Portfolio. Dr Sakul received his BS and MS degrees from Ankara University in Turkey, and his PhD

in Quantitative Genetics from the University of Minnesota as a Rotary Foundation Scholar. After conducting his post-doctoral studies at the University of California-Davis, he

Conference Speakers *continued*

worked in the biotech industry in human genetics, pharmacogenomics and statistical genetics fields. His tenure at Pfizer started at Parke-Davis Pharmaceuticals where he directed human genetics, statistical genetics and pharmacogenetics programs. Subsequently, he served as Director and Site Head for Clinical Pharmacogenomics in Groton/New London Laboratories before taking the role of Senior Director and Global Head of Companion Diagnostics for about four years to oversee Pfizer's companion diagnostics needs across the pharmaceutical portfolio. In 2010, Dr. Sakul moved to Pfizer's Oncology Business Unit to serve as Program Manager for the Xalkori (Crizotinib) Companion Diagnostics Development program, leading to simultaneous FDA approvals of both the drug and the companion diagnostic test. He is keenly interested in technologies for identification of patient sub-groups for targeted treatment and the development of companion diagnostics to advance Precision Medicine for the improvement of individualized healthcare.



Jonathan Sheldon, Ph.D., is Senior Director of Translational Medicine in Oracle's Health Sciences Global Business unit responsible for Oracle's product strategy in Translational Research/Medicine. Previously, Dr. Sheldon was Chief Scientific Officer at InforSense, where he was responsible for

the company's scientific strategic direction, as well as managing the technical services group responsible for customer implementations. Prior to InforSense, he was Chief Technology Officer for Confirmant Ltd, where he was responsible for developing the company's proteomics products and services. He also established the first bioinformatics group and was Head of Bioinformatics for five years at Roche Welwyn, UK. Dr. Sheldon holds a Ph.D. in Molecular Biology/Biochemistry from the University of Cambridge.



Stephen P. Spielberg, M.D., Ph.D., is the Marion Merrell Dow Chair in Pediatric Pharmacogenomics, and Director of the Center for Personalized Medicine and Therapeutic Innovation at Children's Mercy Hospital, Kansas City, MO. He is also Principal Investigator for the Institute for Pediatric Innovation, a

non-profit organization focused on developing improved medicines and devices to meet the therapeutic needs of sick children. He was previously Professor of Pediatrics, and of Pharmacology and Toxicology at Dartmouth Medical School, where he also served as Dean as well as Vice President for Health Affairs, Dartmouth College, from 2003-2007.

He received an AB (Biology) from Princeton University, an MD and PhD (Pharmacology) from the University of Chicago, did a pediatric internship and residency at Children's Hospital, Boston, and a post-doctoral fellowship in human biochemical genetics at the National Institute of Child Health and Human Development. He then joined the faculty of Johns Hopkins University School of Medicine as Assistant Professor of Pediatrics and Pharmacology, moving to the University of Toronto, Hospital for Sick Children where he was Professor of Paediatrics and Pharmacology, Director of the Division of Clinical Pharmacology and Toxicology, and Director of the Centre for Drug Safety Research. After 15 years in academic medicine, he moved to Merck Research Laboratories as Executive Director, Exploratory Biochemical Toxicology and of Clinical and Regulatory Development in 1992, and subsequently to Johnson & Johnson from 1997 to 2003 to become Vice President for Pediatric Drug Development. He chaired the Pediatric Task Force for PhRMA, represented the pharmaceutical industry on the FDA Pediatric Advisory Subcommittee and on pediatric legislative initiatives in the US and EU, and was the Rapporteur for the Pediatric ICH Initiative (ICH E-11) to harmonize pediatric drug development regulations among Europe, Japan, and the US.

He has served as Associate Editor of Drug Metabolism and Disposition, and on the editorials boards of multiple pediatric and pharmacology journals. He serves on the Board of Directors of the Foundation for the National

Institutes of Health, the Science Board Advisory Committee for the FDA, the Council of the Convention of United States Pharmacopeia, the Executive Board of OMOP (Observational Medical Outcomes Partnership – FDA, FNIH, PhRMA), and was President of the American Society for Clinical Pharmacology and Therapeutics (2006).

His research interests include: mechanisms of idiosyncratic adverse drug reactions, human pharmacogenetics and personalized medicine, and pediatric clinical pharmacology; he has published over 130 papers in these areas. He is the recipient of the Rawls-Palmer Award and Lectureship from the American Society of Clinical Pharmacology and Therapeutics (1992), the first recipient of the Werner Kalow Award in Pharmacogenetics and Drug Safety (1995), the Williams B. Abrams Lectureship from FDA/ASCPT (2001), Award in Excellence in Clinical Pharmacology, PhRMA Foundation (2007), the Distinguished Service Award from the University of Chicago, Pritzker School of Medicine (2008), presented the FDA Chief Scientist's Distinguished Lecture (2009), and received the Sumner J. Yaffe Lifetime Achievement Award in Pediatric Pharmacology and Therapeutics from the Pediatric Pharmacy Advocacy Group (2009).



Arthur "Chip" Staddon, M.D., graduated with a BS in Mathematics from Denison University and an MD from the University of Pennsylvania School of Medicine. His postgraduate training, fellowship in hematology-oncology and residency were conducted at the Hospital of the University of Pennsylvania in

Philadelphia, where he was Chief Resident. He has practiced or taught medicine in Iran, Korea and Egypt. He is a Clinical Professor of Medicine at the University of Pennsylvania School of Medicine, President of Pennsylvania Oncology Hematology Associates and is the Medical Director for the Joan Karnell Cancer at Pennsylvania Hospital in addition to being the Medical Director of the University of Pennsylvania's Sarcoma Program. He is actively engaged in clinical research and is a Principal Investigator in the Sarcoma Alliance for Research through Collaboration (SARC). Dr. Staddon is the Chairman of the Cancer Clinics of Excellence (CCE).



Dietrich A. Stephan, Ph.D., currently serves as the founder and CEO of the Institute for Individualized Health. The Institute's goal is to discover and translate personalized genomic medical tools and strategies to benefit patients in a scalable fashion. He has led efforts at Children's Hospital Boston (the nation's

number one ranked pediatric hospital) and Fox Chase Cancer Center (an NCI-designated comprehensive cancer center) to re-architect the care delivery model to improve outcomes, and concurrently power research. Stephan is assisting each organization by bringing next-generation molecular scanning to the clinical setting, with associated clinical decision support and sustainable business processes. Bringing this type of new care to patients in these academic medical center settings in a fully integrated fashion, in both heritable and acquired human diseases such as cancer, is a stepping stone to scaling in community-based settings to make a broad public health impact.

In 2006, Dr. Stephan founded Navigenics Inc. and acquired financial backing from Kleiner Perkins Caufield Byers, Mohr Davidow Ventures, Sequoia Capital, Affymetrix and Google. The company provides the infrastructure for clinical delivery of complex and ever-evolving personalized genetic risk assessments and clinical decision support for a plethora of diseases to make a public health impact in common disease. Under Dr. Stephan's scientific leadership, Navigenics brought the notion of "genetic risk factors" from concept to a paradigm that is now in use broadly in health care settings. Dr. Stephan joined Navigenics after serving as part of the leadership team of TGen in Phoenix, Arizona. His roles at the Institute were Chairman and Professor of the Neurogenomics Division, and Deputy Director for Discovery Research of the Institute overall where he oversaw the R&D portfolio. Dr. Stephan was among the first scientists to join TGen and built his Division from the ground up to among the most productive neurological and mental health research groups in the world. Some of his sentinel scientific successes include identifying the genetic basis of over a dozen monogenic disorders such as sudden infant death syndrome, autism, cardiac arrhythmias, and deafness. His laboratory identified the genetic drivers of more than two dozen complex genetic disorders such as Alzheimer's disease, memory performance, and Parkinsonian disorders. Dr. Stephan has published extensively and been highlighted twice on the front page of the Wall Street Journal for his contributions to medicine.



Glen Stettin, M.D., is an accomplished clinician, business leader and innovator, committed to his passion for driving evidence-based, data-driven healthcare at scale to improve quality, affordability and access. He is also a champion and pioneer in the use of business technology to better manage clinical and business

processes and mission-critical data.

At Medco, Dr. Stettin leads the Health Businesses and Practice group, which includes Medco's Liberty and DNA Direct subsidiaries, which offer medical supplies and genetic testing programs and services, and for a portfolio of clinical products for customers of Medco's pharmacy benefits business. The latter include RationalMed®, Optimal Health® and Utilization Management – three important products that help Medco clients improve care and lower cost – products that Dr. Stettin developed and launched during his 15-year tenure with Medco. This group also includes all clinical practices and enterprise shared services for data, analytics and reporting.

As Chief Medical Officer, Dr. Stettin ensures the integrity of Medco's clinical practice, which includes benefit consulting, traditional and specialty pharmacy, nursing and genetic counseling. He is also responsible for Medco's Pharmacy and Therapeutics Committee and Medical Advisory Boards, clinical surveillance and product development, and the award-winning Medco Therapeutic Resource Centers® (TRCs), which provide specialized pharmacy care for people with chronic and complex medical conditions. He is also responsible for the integrity of Medco's data assets, data governance and quality, analytics and reporting across all Medco businesses.

Dr. Stettin is a researcher, published author and inventor, with several patents for intelligent systems for better managing pharmacy benefits and improving processes of care.

Dr. Stettin completed his residency in internal medicine and fellowship training at the University of California, San Francisco, where he also served as Medical Chief Resident at Moffitt Hospital and as a Robert Wood Johnson Clinical Scholar. Dr. Stettin earned his medical and bachelor's degrees through a joint program of the Medical College of Pennsylvania and Lehigh University. He is board certified in internal medicine, and has practiced internal medicine and emergency medicine in New Jersey and California.



Scott Weiss, M.D., M.S., is currently Scientific Director of the Partners HealthCare Center for Personalized Genetic Medicine (PCPGM) and Associate Director, Channing Laboratory, and Professor of Medicine at Harvard Medical School. In this latter capacity, he leads a 28 investigator, 120 person

research group examining the environmental and genetic origins of asthma and COPD.

He has authored or coauthored over 500 publications and four books in the area of asthma and COPD risk factors, natural history, and genetics. His initial work concerned the role of airways responsiveness and environmental tobacco smoke exposure in asthma and COPD, the effect of allergen exposure and airways responsiveness on markers of inflammation and the combined effect of these factors on the development of COPD. In 1996, he developed a strong interest in the genetics of asthma and his work over the past 14 years has focused on this, and novel environmental exposures such as vitamin D and the bowel flora. His laboratory is the only laboratory in the world that has active NIH research in the areas of asthma genetics, asthma pharmacogenetics, and COPD genetics. He is the principal investigator or co-investigator on a total of six separate NHLBI-funded grant proposals in the area of the genetics of asthma and Asthma Pharmacogenetics, including a MERIT award.



Pascale Witz is the President and Chief Executive Officer of GE Healthcare's Medical Diagnostics business (MDx), and an officer of the General Electric Company. Medical Diagnostics is a \$2bn global leader in pharmaceutical and molecular diagnostics which are used by physicians in the early detection, diagnosis,

and management of disease.

Prior to leading Medical Diagnostics, Ms. Witz led GE Healthcare's global Interventional business. Pascale has also held senior leadership roles in Functional Imaging, Computed Tomography and other imaging modalities.

Ms. Witz has been an active leader in the GE Women's Network, now serving on the executive board. The GE Women's Network boasts a membership of over 180,000 women globally with a goal of focusing on Professional

Development of women throughout the company. She holds a master's degree in life sciences from INSA Lyon, and an M.B.A. from INSEAD.



Matthew Zubiller is vice president for McKesson's Decision Management business. He leads the company's evidence-based decision support and personalized medicine initiatives, areas that promise to change the paradigm for healthcare practice and delivery. Responsible for McKesson's flagship InterQual product

line and its Clear Coverage SaaS based decision support platform, he drives operations, strategy, and product development for the business. He is a frequent speaker and author on topics such as next generation exception-based utilization management, decision support, and public policy for molecular and genetic testing.

Previously, he ran McKesson's Advanced Diagnostics Management business and was part of the corporate strategy team. His background includes diagnostics, healthcare, enterprise software, global strategy consulting and M&A.

Recognized for his innovation, Mr. Zubiller was voted to Healthspottr's "The Future of Health 100" list (ranked #49). Mr. Zubiller is a leading voice and thinker helping to usher in a new collaborative era of healthcare where stakeholders work together to develop and deploy connected decision management solutions that benefit all stakeholders by optimizing decision-making at all points of care.

Mr. Zubiller's academic credentials include a Bachelor of Science in Economics (BSE) from the Wharton School, University of Pennsylvania, an MBA from the London Business School, and a certificate in Management of Technology jointly from the University of California, Berkeley's HAAS School of Business and the College of Engineering. He enjoys spending his free time with his wife, Love and two young children, Texas and India.

Partners HealthCare Center for Personalized Genetic Medicine

The Partners HealthCare Center for Personalized Genetic Medicine (PCPGM) was launched in 2001 as the Harvard Medical School-Partners HealthCare Center for Genetics and Genomics. Its purposes from its founding have been to promote genetics and genomics in research and clinical medicine and to help realize the promise of personalized medicine by accelerating the integration of genetic knowledge into clinical care throughout the Partners HealthCare System (PHS) and in healthcare nationally and globally. PCPGM is accomplishing its mission by supporting and facilitating:

- pursuing important discoveries that will enable advancing the knowledge of how genetics affects human health and disease
- offering genetic-based diagnostic testing and developing new tests through a CLIA- and state-approved Laboratory for Molecular Medicine
- developing an IT infrastructure to integrate genetic and genomic data into clinical decision support systems
- educating practicing clinicians, investigators, health care professionals
- developing a program in Personalized Predictive Medicine

Personalized medicine is the ability to determine an individual's unique molecular characteristics and to use those genetic distinctions to diagnose more finely an individual's disease,

select treatments that increase the chances of a successful outcome and reduce possible adverse reactions. Personalized medicine also is the ability to predict an individual's susceptibility to diseases and thus to try to shape steps that may help avoid or reduce the extent to which an individual will experience a disease.

For personalized medicine to be a fully functioning reality at the clinical level, certain elements are essential: an electronic medical record, personalized genomic data available for clinical use, physician access to electronic decision support tools, a personalized health plan, personalized treatments, and personal clinical information available for research use. Partners HealthCare has made a firm commitment to the principles of personalized medicine and to the importance of genetics and genomics in delivering the best care of patients. PHS also has committed to ensuring that the features above are or will be available.

The essential feature of the revolution in genetics and genomics has been an explosion in the amount of data available for use in translational research. This massive data profusion has enhanced our ability to predict clinical phenotypes and to predict clinical outcomes on the basis of genome scale data. However, to be able to do this sort of prediction investigators

need several tools. First, they need a robust bioinformatics infrastructure with secure pipelines and robust algorithms for data cleaning and manipulation. Second, they need very strong bioinformatics platforms for data analysis and data management. Third, they need access to large numbers of very well phenotyped patients. Fourth, they need access to the genomic platforms to create genomic scale data on these patients for prediction of clinical outcomes. Finally, they need novel statistical and bioinformatics methods to analyze these data for predictive medicine. PCPGM makes all of these resources available to Partners investigators through a highly developed infrastructure consisting of bioinformatics and genetic statistics; biosample repository; core sequencing, genotyping and GeneChip® and microarray laboratories; and information technology services.

For more information about PCPGM, please visit <http://pcpgm.partners.org>.

Harvard Business School

Harvard Business School's mission is to train business leaders in all industries. Healthcare, a \$2 trillion industry, has become one of the school's key priorities. The Healthcare Initiative at HBS was launched in 2005 to bring together the extensive research, thought leadership, and interest in the business and management of healthcare that exists at HBS.

Healthcare research at HBS focuses on entrepreneurship, innovation and disruption. Faculty and students seek to understand and identify new products, services and delivery methods that will help to reshape the industry. HBS believes this focus on "creative destruction" will result in business

models that offer the hope of improved outcomes, reduced costs, streamlined systems, and enhanced services.

Personalized medicine presents tremendous opportunities in healthcare and has garnered much attention at HBS. With its expertise in technology, commercialization, and business model development, HBS can play a critical role in the widespread adoption of personalized medicine applications.

For more information about the HBS Healthcare Initiative, please visit www.hbs.edu/healthcare.

Conference Organizing Committee

Raju Kucherlapati, Ph.D., Chair
Harvard Medical School

Edward Abrahams, Ph.D.
Personalized Medicine Coalition

Mara G. Aspinall
Ventana Medical systems, Inc.

Anna Barker, M.D.
Arizona State University

Troyan Brennan, M.D., M.P.H.
CVS Caremark

Brook Byers
Kleiner Perkins Caufield & Byers

Nadine Cohen, Ph.D.
Janssen Pharmaceutical Companies of
Johnson & Johnson

Gregory Downing, Ph.D.
The U.S. Department of Health
and Human Services

Stephen Eck, M.D., Ph.D.
Astellas Pharma Global Development, Inc.

Robert S. Epstein, M.D., M.S.
Medco Health Solutions, Inc.

Kathy Giusti
Multiple Myeloma Research Foundation
(MMRF)

Richard G. Hamermesh, D.B.A.
Harvard Business School

Marcia A. Kean
Feinstein Kean Healthcare

Lawrence Lesko, Ph.D., F.C.P.
University of Florida at Lake Nona

Gerald J. McDougall
PricewaterhouseCoopers

Kristin Pothier
Health Advances LLC

Lori M. Reilly
PhRMA

Hakan Sakul, Ph.D.
Pfizer – Worldwide R&D

Sue Siegel
MDV-Mohr Davidow Ventures

Katherine Johansen Taber, Ph.D.
American Medical Association

Scott Weiss, M.D., M.S.
Harvard Medical School
Partners HealthCare Center
for Personalized Genetic Medicine

M. Kathleen Behrens Wilsey, Ph.D.
KEW Group

PCPGM Contacts

Rebecca Rehm
Partners HealthCare Center for
Personalized Genetic Medicine (PCPGM)

Janice Larson
Partners HealthCare Center for
Personalized Genetic Medicine (PCPGM)

Alfred A. Blum
Partners HealthCare Center for
Personalized Genetic Medicine (PCPGM)

7TH ANNUAL PERSONALIZED MEDICINE CONFERENCE



Scott Weiss, M.D., M.S.

Scientific Director, Partners HealthCare Center for Personalized Genetic Medicine
Professor of Medicine, Harvard Medical School, Brigham and Women's Hospital

CONFERENCE STAFF

Partners HealthCare Center for Personalized Genetic Medicine



Alfred A. Blum, Jr.
Chief Development Officer
aablum@partners.org



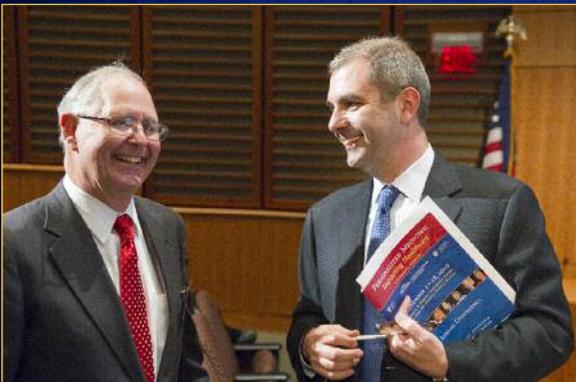
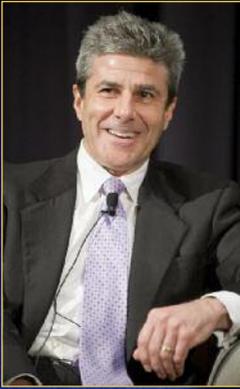
Rebecca Rehm
Program Associate
rehm@partners.org



Janice Larson
Development Associate
jalarson@partners.org



Meini Sumbada Shin
Administrative Director
msumbadashin@partners.org





SAVE THE DATE

8th Annual Personalized Medicine Conference
November 28-29, 2012

www.personalizedmedicineconference.org