"So much knowledge is available right now in our health records and genetic data. Now we need the tools to access it, so we can make sense of that data and truly provide personal, predictive, precise care to our patients."

Susan Desmond-Hellmann, MD, MPH, Chancellor of the University of California, San Francisco

REALIZING THE POTENTIAL OF
PRECISION MEDICINE
Implementing Precision Medicine Programs and Services for Improved Diagnosis, Treatment and Patient Outcomes

October 9 - 11, 2013
New York, New York

A Three-Day Conference Featuring Real World Case Studies, Research Findings, Organizational Models and Outcomes from Precision Medicine Facilities and Programs

"The promise of precision medicine is that one day we would be able to exactly identify the molecular basis of diseases such as diabetes in each individual and then identify the best therapy with the fewest side effects for an individual patient. For anyone who has lived with diabetes, that is an exciting concept."

Jeffrey Bluestone, PhD, Executive Vice Chancellor and Provost at the University of California, San Francisco

Content & Theme:

Precision Medicine has the potential to harness the vast advances in technology, genetics and biomedical research to understand the roots of disease, develop targeted therapies, and ultimately provide predictive, preventive and precise care to patients. Hospital and healthcare systems are moving toward the routine sequencing of every patient’s genome in the quest for "precision medicine," a course for prevention and treatment based on the special and unique characteristics of the patient’s genes.

Efforts into this approach are already being implemented in some areas of medicine, such as cancer research, and in pilot projects in leading academic medical centers.

Precision medicine has the potential to deliver some of the most significant changes on the healthcare horizon; improving diagnosis, treatment and patient prognosis. The arrival of precision medicine is imminent. Ensuring its successful and appropriate adoption will be vital to hospitals and healthcare systems and the patients they treat. As well as improved outcomes for patients, it also has the potential to bring significant efficiency, savings, transforming health and saving lives and money.

From techniques that enable doctors to test tumor samples for hundreds of mutations to activating the immune system to fight cancer and using drugs intended for one indication to successfully treat another, truly individualized success stories are an exciting feature of modern medicine. Could the information revealed by sequencing your genome be the secret weapon against deadly diseases? What tools can turn genomic data into crucial medical information on a large scale? **Realizing the Potential of PRECISION MEDICINE, October 9-11, 2013** will discuss the advances that have been made, those yet to come, and how every patient can gain access to the most individualized medicine possible.
### Confirmed Speakers:

<table>
<thead>
<tr>
<th>Speaker Name</th>
<th>Title and Company</th>
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<tbody>
<tr>
<td>Jane Houldsworth</td>
<td>Vice President - Research and Development, CANCER GENETICS, INC.</td>
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<tr>
<td>Dr. Chris Sasaki</td>
<td>Director, CLEMSON UNIVERSITY GENOMICS INSTITUTE</td>
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<tr>
<td>Dr. Jeremy Stuart</td>
<td>Vice President, Clinical Services, SELAH GENOMICS</td>
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<tr>
<td>Mark Rubin</td>
<td>MD, Director, INSTITUTE FOR PRECISION MEDICINE AT WEILL CORNELL MEDICAL COLLEGE AND NEW YORK-PRESBYTERIAN HOSPITAL</td>
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<tr>
<td>Paul R. Billings</td>
<td>MD, PhD, CMO, LIFE TECHNOLOGIES</td>
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<tr>
<td>Frederick S. Lee</td>
<td>MD, MPH, Director of Clinical &amp; Translational Informatics, P4 Medicine Fellow, ORACLE HEALTH SCIENCES</td>
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<tr>
<td>Trevor W. Brown</td>
<td>Director of Diagnostic Strategy, LUMINEX CORPORATION</td>
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<tr>
<td>E. Robert Wassman</td>
<td>MD, Chief Medical Officer, ROSSETTA GENOMICS</td>
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<tr>
<td>Anthony Johnson</td>
<td>President &amp; CEO, EMPIRE GENOMICS</td>
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<tr>
<td>Samir Tari</td>
<td>Founder &amp; CEO, PCASSO DIAGNOSTICS LLC</td>
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<tr>
<td>Daniel Grosu</td>
<td>MD, MBA - Vice President, Clinical Development &amp; Medical Affairs, ILLUMINA</td>
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<tr>
<td>Chad Robins</td>
<td>CEO, President and Co-Founder, ADAPTIVE BIOTECHNOLOGIES</td>
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<tr>
<td>Jennifer Levin Carter</td>
<td>MD, MPH, Founder and Chief Medical Director, N-OF-ONE</td>
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<tr>
<td>Dr. Jeff Edenfield</td>
<td>Institute for Translation Oncology Research, Medical Director, GREENVILLE HEALTH SYSTEM</td>
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<tr>
<td>Dr. Andre Marziali</td>
<td>Founder, President and Chief Scientific Officer, BOREAL GENOMICS</td>
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<tr>
<td>Erhan Bilal</td>
<td>Post-Doctoral Researcher in the Functional Genomics and Systems Biology Group, IBM’S COMPUTATIONAL BIOLOGY CENTER</td>
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<tr>
<td>Alan Feeney</td>
<td>Biopharmaceutical Patent Attorney, FEENEY LAW GROUP</td>
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<tr>
<td>Aaron Del Duca</td>
<td>Vice President Product Management, DNA GENOTEK</td>
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<tr>
<td>Thomas Mika</td>
<td>Chairman, President and CEO, COLLABRX</td>
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<tr>
<td>Elango Cheran</td>
<td>Founder, PALMYRA SOFTWARE</td>
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</table>

### Topics to be Addressed Include:

- Planning and development of a Precision Medical program: What is required to make your Precision Medicine vision a reality?
- Understanding the considerations involved in the planning and development of a Precision Medicine program
- Building the business case for a Precision Medicine
- Financial aspects of a Precision Medicine project: Reimbursement, present business models, financial aspects
- Examining the most up-to-date and effective technologies to achieve more efficient workflow and improved patient care
- Integrating Precision Medicine with other programs and service lines
- Overcoming the challenges for making precision medicine part of standard clinical practice
- Marketing the benefits of your program for competitive advantage; creating Precision Medicine public awareness
- Creating next-generation computing technologies to streamline the process of sorting through biomedical data
- Reviewing the economic and medical impact of whole genome sequencing
- Opportunities for offering new treatments for enrollment into clinical trials and ultimately improve outcomes for patients
- Creating a precision paradigm and broad collaboration
- Examining future trends and future challenges in Precision Medicine
- Program experiences, clinical scenarios and future advancements
- Performance and quality outcomes measurement and metrics in Precision Medicine

### Who Will Attend:

The conference is researched, designed and ideally suited for Administrators, CEOs, COOs, Presidents, Vice Presidents, Directors and Health Care Professionals representing Academic Medical Centers, Community Hospitals and Hospital and Health Networks, involved in:

- Precision Medicine
- Personalized Medicine
- Human Genetics
- Genomics
- Genetic Testing

Also:
- Academic Medical/Health Center/Hospital Department Chairs/ Divisional Chiefs
- Healthcare providers-physicians, nurse practitioners, nurses, and pharmacists
- Leaders in clinical and translational research and healthcare informatics, clinicians, scientists and systems biologists
- Government policy makers and insurance companies
- Industry experts from biopharmaceutical and diagnostic companies, IT specialists, vendors, and industry consultants
### Pre-Conference Sessions - October 9, 2013:

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
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<tbody>
<tr>
<td>12:30PM-1:00PM</td>
<td><strong>REGISTRATION</strong></td>
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<tr>
<td>1:00PM-1:45PM</td>
<td><strong>FROM VISION TO REALITY: THE CANCER GENETICS COMPLETE EXPERIENCE</strong></td>
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<tr>
<td></td>
<td>The Complete program at Cancer Genetics, Inc. was conceived to provide the clinician</td>
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<td>with comprehensive and informative diagnostic testing enabling the practice of</td>
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<td>precision medicine at clinically relevant disease-specific end-points. Challenges</td>
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<td>in the development of such programs will be discussed, covering conception,</td>
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<td>laboratory implementation, clinical adoption, and reimbursement. In a small</td>
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<td>diagnostic boutique company, the introduction of proprietary and non-proprietary</td>
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<td>assays to address patient unmet needs is of importance, as is the ability to adapt</td>
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<td>and introduce novel advances into the testing repertoire.</td>
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<td><strong>PARTICIPANTS WILL LEARN HOW TO:</strong></td>
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<td></td>
<td>• Analyze the recent drivers of precision medicine diagnostics</td>
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<td>• Understand the challenges of regulatory oversight of diagnostic tools in the face</td>
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<td>of rapid technological changes</td>
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<td></td>
<td>• Detail how clinical utility and reimbursement can limit access to key areas of</td>
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<td>precision medicine</td>
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<td></td>
<td><strong>Jane Houldsworth</strong>, Vice President - Research and Development,</td>
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<td></td>
<td><strong>CANCER GENETICS, INC.</strong></td>
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<td></td>
<td>Dr. Houldsworth came to CGI in 2007. She has a long standing interest in the biology</td>
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<td></td>
<td>and genetics of lymphoma and male germ cell tumors, with over 20 years experience</td>
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<tr>
<td></td>
<td>in translational research. Dr. Houldsworth has published more than 50 peer-reviewed</td>
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<td>papers, 15 chapters, and continues to consult on academic research projects. She</td>
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<td></td>
<td>is a reviewer for multiple scientific journals. She is an active member of the</td>
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<td></td>
<td>American Society of Hematology (ASH) and American Association for Cancer Research</td>
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<td></td>
<td>(AACR). Dr. Houldsworth was awarded several grants from the National Institutes of</td>
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<td></td>
<td>Health, Lance Armstrong Foundation and other private foundations. In 2005, Dr.</td>
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<tr>
<td></td>
<td>Houldsworth attained her New York State certificate of qualification as a laboratory</td>
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<tr>
<td></td>
<td>director for oncology, molecular and cellular tumor markers. Before coming to CGI,</td>
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<tr>
<td></td>
<td>Dr. Houldsworth was an Associate Attending Geneticist and an Associate Laboratory</td>
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<td></td>
<td>Member within the Memorial Sloan-Kettering Cancer Center in Dr. R.S.K. Chaganti’s</td>
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<td>laboratory.</td>
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<tr>
<td>1:45PM-2:00PM</td>
<td><strong>REFRESHMENT BREAK</strong></td>
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<tr>
<td>2:00PM-4:00PM</td>
<td><strong>MULTIPLE APPROACHES TO TUMOR ANALYSIS USING NEXT GENERATION SEQUENCING IN THE CLINIC</strong></td>
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<td>This interactive, pre-conference workshop will showcase the results of the SELAH /</td>
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<td>CUGI / ITOR whole exome / comprehensive cancer panel project. The workshop will</td>
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<td>describe why we selected the particular patient samples, the methodology used for</td>
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<td>sample prep and sequencing and the bioinformatics tools used to analyze the data.</td>
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<td>This project will provide an excellent demonstration of how collaborative groups</td>
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<td>can combine forces to search for new discoveries with the goal of improving patient</td>
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<td>outcomes.</td>
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<td>This workshop will include interactive discussion about what the results mean and</td>
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<td>might lead to insight that could assist in selecting treatment options for the young</td>
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<td>ovarian cancer patient.</td>
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### WORKSHOP LEADERS

**Dr. Chris Sasaki**, Director, **Clemson University Genomics Institute**

Dr. Sasaki began his graduate tenure at the University of Arizona in Tucson, where he participated in De novo sequencing of the rice and maize genomes. Chris earned his Doctorate degree in genetics at Clemson University where his studies focused on comparative and evolutionary genetics and genomics. He received specialized training in DNA sequencing and bioinformatics at leading research institutions such as Cold Spring Harbor and Washington University School of Medicine. Dr. Sasaki has participated in multi-million dollar federally funded research projects and has published his work in a number of top peer-reviewed scientific journals. As Director of the Clemson University Genomics Institute, Chris leads a contemporary research unit that specializes in complex genomic systems and applies the latest principals in high performance computing and bioinformatics. Additionally, Chris holds an appointment as Research Assistant Professor in the department of Genetics and Biochemistry at Clemson University.

**Dr. Jeremy Stuart**, Vice President, Clinical Services, **SELAH GENOMICS**

Dr. Stuart obtained his master’s degree in Toxicology from the University of Minnesota prior to earning his doctorate in Genetics & Complex Diseases at Harvard University. He completed his post-doc fellowship at the Harvard School of Public Health, where he studied the effects of adipose tissue on the growth of tumor cells using three dimensional cell culture models. After his post-doctoral studies, Jeremy began a career in industry, comprising the core team that developed the SOLID next-generation sequencing technology which was later acquired by Life Technologies. He served at Life as a Senior Project Coordinator, advising commercial and product development strategies around next-generation sequencing. Jeremy has published his works in a number of leading scientific journals and holds several patents in the next-generation sequencing space. As a scientific advisor and applications scientist, Jeremy enabled the adoption of high throughput sequencing at prominent institutions such as Memorial Sloan-Kettering Cancer Center and the Broad Institute. Most recently, Jeremy was part of the senior management team that completed a management buyout of Lab21 Ltd’s US operations to form Selah Genomics.
Mark Rubin, MD, Director,  
**INSTITUTE FOR PRECISION MEDICINE AT WEILL CORNELL MEDICAL COLLEGE AND NEW YORK-PRESBYTERIAN HOSPITAL**  
Dr. Mark A. Rubin (Co-investigator) is a genitourinary pathologist and physician scientist and Vice Chair for Experimental Pathology. He is the founding Director of the Institute for Precision Medicine at WCMC and New York-Presbyterian Hospital. Dr. Rubin’s laboratory focuses on prostate cancer genomics and biomarkers with the goal of distinguishing indolent from aggressive disease. Dr. Rubin is currently the PI on 3 R01s from the NCI and co-PI with Arul M. Chinnaiyan of an NCI Early Detection Research Network U01 Biomarker Discovery Laboratory grant. He is site PI on a SU2C/PCF focused on a Precision Medicine approach to treating prostate cancer. He leads pathology and bioinformatics efforts with members of the Broad Institute and Memorial Sloan Kettering Cancer Center. He is currently funded by the Department of Defense through the Synergy Grant mechanism. Dr. Rubin closely collaborates with researchers in the fields of urology, medical oncology, clinical outcomes, computational biology and molecular biology. Dr. Rubin and colleagues have identified a number of novel prostate cancer biomarkers including hepsin, pim-1 kinase, ERG, MTA1, Jagged1, EZH2, and alpha-methylacyl-CoA racemase (AMACR). He was integral in identifying the fusion of TMPRSS2 and the ETS family of transcription factors in prostate cancer and co-lead with Dr. Chinnaiyan teams from Harvard and Michigan that were award the AACR 1st inaugural Team Science Award. More recently he has lead whole genome and exome sequencing efforts with Levi Garraway of DFCI/Broad Institute leading to the discovery of recurrent mutations in SPOP, MED12, and FOXA1. Dr. Rubin has over 15 years experience in prostate cancer biobanking efforts. He lead and developed the prostate SPORE core at the University of Michigan and co-lead with Max Loda the Dana Farber Harvard Prostate Cancer SPORE core. Key accomplishments included the development of Standard Operating Procedures for the Rapid Autopsy Program at the University of Michigan with Dr. Pienta and the development of the first Tissue Microarray Core facilities at the University of Michigan and Dana-Farber Harvard Cancer Centers. Dr. Rubin has served on the Cancer Biomarkers Study section and DOD study sections in the past. He currently chairs the Prostate Cancer Group for the EDRN at the NCI and the External Advisory Board for the DoD PCRP Prostate Cancer Biorepository Network.

**Conference Day One • October 10, 2013:**

**8:00AM-8:45AM** 
REGISTRATION AND CONTINENTAL BREAKFAST

**8:45AM-9:00AM** 
WELCOME & CHAIRPERSON’S OPENING ADDRESS

**9:00AM-9:45AM** 
The Future of Genomic Analysis Driven Precision Medicine

Precision Medicine or personalized medicine was driven by the introduction of tests that indicated who would likely respond to a drug treating a specific condition. Whole exome and genome analyses will not only identify these primary response targets but other modifier loci that will impact overall outcomes. It is therefore a necessary advance. In addition, multiplexed genomic assessments will better identify patients who on balance should not receive a specific treatment—a potential for significant savings to the health care system. In this talk, I will review the progress and promise of genomic analyses in Precision Medicine and highlight areas of necessary further development.

Paul R. Billings, MD, PhD, CMO, LIFE TECHNOLOGIES

**9:45AM-10:15AM** 
BIG DATA POWERING BIG OPPORTUNITIES IN PRECISION MEDICINE

Recently, pioneering healthcare organizations globally have made significant investments in leveraging Big Data opportunities to power transformative strategies in digital health, precision medicine, population health, and molecular medicine. We will discuss how other healthcare institutions can invest to achieve transformative impacts to cost, quality, and innovation in healthcare.

**KEY ISSUES TO BE ADDRESSED INCLUDE:**
- Understand the drivers, strategies, and progress that the most recent wave of pioneers in precision medicine have experienced
- Understand the ‘playbook’ for precision medicine that is emerging from these lessons learnt – the change management, technical solution roadmap, and program architecture required for an institution to implement precision medicine

Frederick S. Lee, MD, MPH, Director of Clinical & Translational Informatics, P4 Medicine Fellow, ORACLE HEALTH SCIENCES

Fred leads business development strategies in clinical & translational informatics and personalized healthcare for Oracle’s Health Sciences Global Business Unit. He has helped establish and grow the burgeoning field of personalized healthcare through his ability to merge perspectives from the life sciences, healthcare delivery, clinical informatics, and public health. Prior to Oracle, Fred was the Founding Executive Director & Chief Medical Officer of the P4 Medicine Institute, a translational innovation consortium dedicated to creating a predictive, preventive, personalized, & participatory future of healthcare. In this role, he helped establish Lee Hood’s vision of P4 Medicine by developing partnerships between systems biology & major academic health centers. He continues to play a key role in P4 Medicine, as the first official fellow of the P4 Medicine Institute. Fred brings a unique and broad range of professional experiences to the task of creating healthcare of the future, having spent time as a practicing clinician, as a healthcare executive, and as an industry technologist. Fred has held executive leadership roles in health systems in the New York / Long Island area, as a Chief Operating Officer and as a Chief Medical Information Officer of a large ambulatory care network in New York. Fred’s clinical background is in general surgery and preventive medicine. He received a BS from the Massachusetts Institute of Technology in Life Sciences, an MD and residency training from the Stony Brook University School of Medicine, and a Masters in Public Health degree from the Mailman School of Public Health at Columbia University.
**10:30AM-11:00AM  DIAGNOSTIC TOOLS AND CHALLENGES IN THE PRACTICAL IMPLEMENTATION OF PRECISION MEDICINE**

While the concepts of precision medicine have been touted for decades, it is only in the last few years that we have seen the convergence of technological innovation and advanced therapeutics combine with a focus on improved health outcomes. The result has been the rapid growth in the interest in precision medicine programs across the country. The increasing availability of diagnostic and information management tools to drive decision making for precision medicine is enabling many health systems to initiate programs to leverage the benefits. However reimbursement and regulatory oversight are complicating the practical implementation of these programs as they struggle to keep up with the pace of change; thus creating a complex and risk-filled playing field. This presentation will cover a brief history as well as current trends, both enabling and challenging, pertaining to precision medicine diagnostics from the perspective of a diagnostics tool manufacturer.

**PARTICIPANTS WILL LEARN HOW TO:**
- Analyze the recent drivers of precision medicine diagnostics
- Understand the challenges of regulatory oversight of diagnostic tools in the face of rapid technological changes
- Detail how clinical utility and reimbursement can limit access to key areas of precision medicine

Trevor W. Brown, Director of Diagnostic Strategy,

**LUMINEX CORPORATION**

Trevor W. Brown is the Director of Diagnostic Strategy for Luminex Corporation. In his role, he is responsible for the strategic portfolio direction of the diagnostics business and the emerging needs of the segment. He was previously the Director of Global Marketing for the Molecular Diagnostics business and oversaw the FDA clearance of several novel multiplex molecular IVD assay programs, including pharmacogenetic and gastrointestinal infection assays. Prior to Luminex, Mr. Brown was a global marketing lead for the immunoassay and Flow Cytometry reagents portfolio of BD Biosciences.

**11:00AM-11:30AM  MICRORNA-BASED DIAGNOSTICS IN ONCOLOGY**

MicroRNAs are uniquely suited as biomarkers for oncology and have been reduced to clinical practice in several settings. Cancers of unknown or uncertain origin can routinely be better characterized by a panel of microRNAs and therapy specific to the cancer of origin can be implemented improving care of these patients. In lung and kidney cancers, microRNA fingerprints can help resolve diagnostic challenges due to inherent limitations of histopathology and IHC and allow more accurate diagnoses particularly on small samples from closed biopsy procedures. These assays and their performance and clinical utility will be reviewed.

**PARTICIPANTS WILL LEARN HOW TO:**
- Identify the cancer of origin in CUP using microRNA-based molecular profiling to allow therapy decisions based on a specific cancer type rather than generic chemotherapy
- Discriminate squamous cell and adenocarcinoma of the lung with 95% sensitivity on small cytological specimens from FNA
- Discriminate oncocytomas accurate from renal cell carcinomas on closed core biopsies, avoiding unnecessary surgery in these cases

E. Robert Wassman, M.D., Chief Medical Officer,

**ROSETTA GENOMICS INC.**

Dr. E. Robert Wassman is Chief Medical Officer at Rosetta Genomics, a leader in the development of microRNA-based diagnostics. He has been a pioneer in the introduction of genetic testing and personalized medicine for over 30-years with significant contributions to many innovative and now state-of-the-art laboratory tests. Prior to joining Rosetta Genomics he was Chief Medical and Chief Genomics Officer at Generation Health where he focused on advancing clinical utility and comparative effectiveness studies for emerging diagnostics, and analytics of related payer claims. Prior to that he had been focused on the advancing the translation and delivery of cutting-edge diagnostic technology into clinical service in the areas of rare cell diagnostics and Next Generation DNA sequencing, holding roles as SVP/Chief Medical Officer of Helicos BioSciences; Co-Founder/CMO of Good Start Genetics, and President/CMO of Celula, Inc.. Prior to these start-up ventures, he was the Vice President and National Medical Director of Genzyme Genetics where he led new product evaluation, and was responsible for clinical services and genetic counseling. Early in his career, he was instrumental in the transition of prenatal diagnosis into the private sector at The Genetics Institute/Alfigen, Inc., where he introduced several novel testing methodologies to reproductive medicine. As a consultant he aided the clinical introduction of other significant diagnostic advances including Ambry Genetics, Prometheus Laboratories, Adeaza Biomedical, and Amoco (Vysis). He received his B.S. cum laude from Yale University and his M.D. from Albany Medical College, where as a Beebe Scholar he studied at the National Institutes of Health. He did a pediatric residency at Cornell-NY Hospital, including work at Memorial Sloan-Kettering Cancer Center. He subsequently completed a Fellowship in medical genetics at Harbor-UCLA Medical Center, and later the Executive Program in Managed Care of the Harvard School of Public Health. Dr. Wassman is board certified in pediatrics, clinical genetics and clinical cytogenetics, and has licensure in molecular diagnostics.
11:30AM-12:00PM  
**MULTIPLE MYELOMA THE CASE STUDY-HOW EMPIRE GENOMICS IS REVOLUTIONIZING MANAGEMENT OF THIS DISEASE WITH PRECISION MEDICINE**

Empire genomics is using the first known DNA biomarker to select treatment for patients with multiple myeloma. The testing will enable more precise treatments and ultimately serve to decrease the costs of disease management and increase the survival rate of patients.

**KEY ISSUES TO BE ADDRESSED INCLUDE:**

- The path to introduce genomic biomarker testing into routine clinical use
- Key parameter points that must be met in order to gain adoption and reimbursement
- How the clinical trials must be designed in order to make tests suitable as companion diagnostics

Empire will use its experience and plans as a case study for this presentation.

**Anthony Johnson**, President & CEO,  
**EMPIRE GENOMICS**

Anthony Johnson serves as the President and CEO of Empire Genomics. He is an expert in the field of precision medicine and has guided the firm into being a leader in this market. Empire Genomics LLC is a firm in the field of molecular genomic testing specializing in oncology. The company offers a wide range of best in class products and services that are used to quantify genomic changes. The firm is a leader in the field of personalized medicine and helps clinicians, drug developers and researchers answer key questions in disease diagnosis, disease prognosis, and ideal treatment for diseases.

12:00PM-1:15PM  
**LUNCHEON FOR DELEGATE AND SPEAKERS**

1:15PM-2:00PM  
**GENOMICS IN PRECISION ONCOLOGY**

Rapid advances in next-generation sequencing technology are now enabling routine interrogation of tumor genetics on an unprecedented scale. From deep targeted panels to whole genome sequencing, innovative research tools are providing critical new insights into tumor biology, paving the way for earlier diagnosis and more personalized treatment. Emerging methods based on circulating tumor DNA are particularly exciting as they hold the promise of non-invasive tumor detection and characterization, with potential applications across the continuum of cancer care.

**KEY ISSUES TO BE ADDRESSED INCLUDE:**

- Understand the developments leading up to the current explosion in next-generation sequencing (NGS) in Oncology
- Understand the major applications of NGS at the present time
- Develop an appreciation for the most promising near-term NGS developments in Oncology

**Daniel Grosu**, MD, MBA - Vice President, Clinical Development & Medical Affairs,  
**ILLUMINA**

Dr. Daniel Grosu is the Vice President of Clinical Development and Medical Affairs at Illumina. He has a longstanding interest in innovative cancer diagnostics spanning previous assignments with Siemens Medical Solutions, Bayer HealthCare Pharmaceuticals, and Johnson & Johnson. Dr. Grosu holds an MD (with Distinction in Research) from Saint Louis University School of Medicine and an MBA from the University of Oxford.

2:00PM-2:45PM  
**INTERPRETING AND REPORTING ON GENOMIC TEST RESULTS IN ONCOLOGY – THE KEY TO CLINICAL DECISION-MAKING” (OR “IT'S THE REPORT, ___”)**

Question: How is the quality of a genomic cancer panel to be judged by an ordering physician? Answer: By the clarity, depth and timeliness of insight presented in the test report. CollabRx, Inc. has developed a set of products and services that address the need to provide clinicians with up-to-date information about the therapeutic strategies associated with genetic biomarkers present in human tumors. CollabRx uses information technology to aggregate and contextualize the world's knowledge on genomics-based medicine with specific insights from the nation's top cancer experts, starting with the area of greatest need: advanced cancers in patients who have effectively exhausted the standard of care.

**KEY ISSUES TO BE ADDRESSED INCLUDE:**

- Disaggregate Test and Report
- Define “Actionability”
- Differentiate “Independence”
- Gain Scale Through Automation
- Compare Reports
- Meet the Oncologist/Pathologist Where She Lives (Clinic, Lab and Home)

**Thomas Mika**, Chairman, President and CEO,  
**COLLABRX, INC.**

A senior executive with broad experience in technology and health care, Mr. Mika’s career has included successful runs in consulting, investment banking, finance and operations in a variety of companies, including start-ups and established companies, both in the US and abroad. Mr. Mika holds a Bachelor of Science degree in Microbiology from the University of Illinois at Urbana-Champaign and a Master of Business Administration degree from the Harvard Graduate School of Business.
2:45PM-3:15PM  APPLYING NEXT GENERATION SEQUENCING OF THE ADAPTIVE IMMUNE SYSTEM TO THE PROGNOSIS, DIAGNOSIS AND MONITORING OF CANCER(S)

Characterizing a cancer patient’s immune repertoire has many applications over the life cycle of a cancer patient. These stages correspond to specific subcategories of precision medicine. Adaptive’s technology, products and future products target these subcategories such as tumor sub-classification predicting effectiveness of immunotherapy drugs, and early detection of recurrence in blood-based cancers.

Chad Robins, CEO, President, & Co-Founder,
ADAPTIVE BIOTECHNOLOGIES
Mr. Robins is CEO of Adaptive Biotechnologies. He has held executive positions in finance and operations. As an investment banker, Mr. Robins executed mergers & acquisitions and leveraged buyouts at Wasserstein Perella and BofA. Additionally, he was COO of Connaught LLC, VP of Operations for Pulte Homes, and Vice President of Business Development for HealthAxis.com. He obtained a BS from Cornell University and an MBA from The Wharton School at the University of Pennsylvania.

3:15PM-3:30PM  AFTERNOON REFRESHMENT BREAK AND EXHIBITOR SHOWCASE

3:30PM-4:00AM  BRINGING PRECISION MEDICINE TO THE POINT-OF-CARE BY TRANSLATING MOLECULAR DATA INTO CLINICALLY ACTIONABLE INSIGHTS

Systematic and appropriate implementation of molecular and other genetic based diagnostic testing to guide more precise use of cancer drugs (“precision medicine”) can improve therapeutic effectiveness, patient outcomes, and reduce inappropriate utilization and potential related costs. N-of-One was founded to deliver these incredible advances in the science of cancer biology to physicians and patients at the point of care in a highly usable and meaningful form. Through the analysis and interpretation of molecular data, N-of-One bridges the gap between the valuable data from each patient’s tumor molecular profile and the complex web of evolving treatment information to help providers, physicians, and patients access and utilize molecular diagnostic technologies to make molecularly-guided treatment decisions in real time.

PARTICIPANTS WILL LEARN HOW TO:
• Understand the challenges in delivering molecular medicine to the point of care
• Understand why it is becoming more complex
• Where are the gaps
• Why interpretation and integration of data is critical to the success of precision medicine
• Model for delivery of precision medicine to the point of care

Jennifer Levin Carter, MD, MPH, Founder and Chief Medical Officer,
N-OF-ONE
Jennifer Levin Carter, MD, MPH, founded N-of-One in 2008 and currently serves as President and Chief Medical Officer. A board-certified internist and seasoned entrepreneur, she has more than 20 years of experience evaluating existing and emerging markets, new medical technologies, and early-stage companies in the health care field. In establishing N-of-One, Dr. Carter brought to the enterprise extensive experience analyzing market opportunities, creating services to improve health care delivery, forming expert teams, and identifying business synergies. She also has experience in business analysis and planning for new technologies in health care. Prior to launching N-of-One, Dr. Carter was a consultant and analyzed biotechnology, pharmaceutical, and medical device firms on behalf of investors. She previously worked with Angel Healthcare Investors evaluating early-stage private companies and raising seed capital for start-ups. Dr. Carter has B.S. degrees in Biochemistry and Biophysics from Yale University. She received an M.D. from Harvard Medical School and an M.P.H. from The Harvard School of Public Health.

4:00PM-5:00PM  ENABLING GENOMIC MEDICINE IN A COMMUNITY BASED SETTING

Selah Genomics and Greenville Health System’s Institute of Translational Oncology Research (ITOR) are working together to enable genomic medicine in our community. Our new PrecisionPath™ service incorporates a range of clinically validated biomarker assays to support stratification and management of patients diagnosed with cancer. This service commenced in April 2013 and is now piloting at Selah’s Clinical Genomics Center at ITOR. Knowledge of tumor biomarkers empowers the design of treatment plans for specific cancer types; treatment options can be tailored according to information the tumor is providing.

KEY ISSUES TO BE ADDRESSED INCLUDE:
• How we formed Selah’s Clinical Genomics Center at ITOR
• The motivation behind the design of PrecisionPath™
• Our intent to inform treatment for every patient treated for cancer at ITOR while concurrently building a molecularly profiled biorepository
• The success we have enjoyed in using PrecisionPath™ to help select patients for a first-in-human / phase 1 oncology clinical trial at GHS / ITOR

Dr. Jeremy Stuart, Vice President, Clinical Services,
SELAH GENOMICS
Dr. Jeff Edenfield, Institute for Translational Oncology Research, Medical Director,
GREENVILLE HEALTH SYSTEM
Dr. Edenfield earned his medical degree from the University of Miami, Florida. He completed his internship, residency and fellowship at Walter Reed Army Medical Center in Washington, DC, where he received the Bailey K. Ashford Research Medal. Dr. Edenfield also completed a research fellowship in Hematologic Malignancy at Johns Hopkins University School of Medicine in Baltimore, Maryland. He served as Chief of Oncology at Womack Army Medical Center in North Carolina. He is a diplomate of the boards of internal medicine, medical oncology, and hematology. He is also board certified by the American Association of Hospice and Palliative Care Medicine in palliative care. He has published his works in a number of leading scientific journals. He serves as Principal Investigator for US Oncology trials at the Cancer Centers of the Carolinas.
### 8:30AM-9:00AM
**Continental Breakfast and Exhibitor Showcase**

### 9:00AM-10:00AM
**Genomics in Oncology: Past, Present and Future**

**Dr. Andre Marziali**, Founder, President and Chief Scientific Officer, **Boreal Genomics**

>Dr. Andre Marziali is the Founder, President, Chief Scientific Officer, and Director of Boreal Genomics Inc. Dr. Marziali serves as a Member of Science Advisory Board at Stratos Genomics Inc. A leading innovator, educator, and entrepreneur with over 15 years’ experience in developing tools for life science research and technologies for nucleic acid analysis, Andre founded Boreal Genomics with colleagues from the University of British Columbia in 2007. Andre received his B.A.Sc. in Engineering Physics from UBC in 1989, and his Ph.D. in Physics from Stanford University in 1994. He subsequently worked for several years with Dr. Ron Davis, in the Stanford DNA Sequencing Technology Center, developing instruments for DNA sequencing and sample purification. He returned to Canada in 1998, as an Assistant Professor at University of British Columbia in the Department of Physics and Astronomy, where he founded the Applied Biophysics Laboratory and the Genome BC Technology Development Platform. In 2005 he was appointed Director of the Engineering Physics program at UBC. In 2004, Andre co-invented the concept of using synchronous mobility perturbations to create divergent velocity fields for selective focusing of nucleic acids, the technology which forms the basis for Boreal’s platform. He has been awarded the 2004 BC Innovation Council – Young Innovator award, the 2007 Association for Lab Automation Innovation Award, and the 2011 Life Science BC Award for Innovation and Achievement.

### 10:00AM-10:30AM
**MorninG reFresHMent bre Ak And eXHibitor sHowcAse**

### 10:30AM-11:15AM
**Verification of Systems Biology Research in the Age of Collaborative-Competition**

Industrial Methodology for PROCess VErification in Research (IMPROVER) was designed as a methodology to verify industrial research processes related to systems biology by decomposing an industrial research workflow into individual components, termed building blocks that can be independently verified.

The first challenge (Diagnostic Signature) was designed to determine to what extent transcriptomic data can be used for phenotype prediction and to identify best-performing computational methods.

The second challenge (Species Translation) was designed to address the extent to which biological effects of stimulus-induced perturbations in one species translate to those in another species.

In the third challenge we will provide the community with network models of molecular events contributing to Chronic Obstructive Pulmonary Disease (COPD). These models of key biological processes include access to underlying scientific literature citations that have been expertly curated to provide mechanistic substantiation for each molecular relationship present in the network model. The scientific community will be encouraged in the review of the relationships between molecular entities and to make improvements on the represented biology covering fundamental processes involved in respiratory disease.

The fourth and final challenge (Grand Challenge) aims to develop methodologies for predicting the prognostic impact of different stimuli on COPD by leveraging the outcomes from the previous challenges.

The sbv IMPROVER project is part of a collaborative effort designed to enable scientists to learn about and contribute to the development of a new crowd sourcing method for verification of scientific data and results. The project team includes scientists from Philip Morris International’s (PMI) Research and Development department and IBM’s Thomas J. Watson Research Center. The project is funded by PMI.

**Erhan Bilal**, Post-Doctoral Researcher in the Functional Genomics and Systems Biology Group, **IBM’s Computational Biology Center**

Erhan Bilal is a post-doctoral researcher in the Functional Genomics and Systems Biology group at IBM’s Computational Biology Center, as well as an affiliate member of Sage Bionetworks. He received MSc and BS degrees in Automatic Control and Industrial Informatics from the Politehnica University of Bucharest in Romania, and a PhD degree in Computational Biology from Rutgers University. His research is focused on the application of big data analytics to the development of biomarkers and therapeutic strategies in cancer.
11:15AM-12:00PM  UNITED STATES PATENT REVOLUTION: STRATEGY FOR FILING PATENT APPLICATIONS DIRECTED TO PRECISION MEDICINE IN LIGHT OF RECENT U.S. PATENT LAW REFORMS

Understanding the America Invents Act and several key decisions from the U.S. Supreme Court are crucial to protecting scientific intellectual property assets. What you thought you knew about patenting is no longer true because these changes have turned the world of U.S. patenting upside down. The course will address the basics of U.S. patent law and how the recent changes impact the patenting process with particular emphasis on Precision Medicine.

Alan Feeney, Biopharmaceutical Patent Attorney, FEENEY LAW GROUP

Alan Feeney is an experienced U.S. intellectual property attorney. He served as the Senior Patent Counsel for a major biopharmaceutical company and was responsible for the development of their pharmaceutical portfolio for all research conducted in the United States, Ireland, and Spain. Serving as both in-house counsel and in private practice, Mr. Feeney possess over 20 years’ experience practicing law, fourteen (14) years’ experience in intellectual property law, twelve (12) years’ experience in the development of biopharmaceutical patents, and six years’ experience with working in the development of partnerships, joint ventures, and acquisitions. Mr. Feeney specializes in the procurement and enforcement of intellectual property rights, including patents, trademarks, and copyrights. Scientific areas of his practice include chemistry, biotechnology, pharmaceutical, molecular diagnostics, oncology, medical devices, design, and mechanical arts.

12:00PM-1:00PM  LUNCHEON FOR DELEGATE AND SPEAKERS

1:00PM-1:45PM  PRECISION MEDICINE FOR RETINAL VASCULAR DISEASES: AN EMERGING NEED IN A BURGEONING MARKET

With more than 200 ongoing clinical trials for retinal vascular diseases, the need for tools to facilitate treatment choice, dosage and frequency become critical. This presentation will survey the retinal vascular diseases market and assess potential needs for precision medicine tools. It will also discuss PCasso’s response to this need.

KEY ISSUES TO BE ADDRESSED INCLUDE:
• Current retinal vascular diseases agents and pipeline
• Emerging need for precision medicine tools for retinal vascular diseases
• Potential solutions to bridge the precision medicine gap in retinal vascular diseases

Samir Tari, Founder & CEO, PCASSO DIAGNOSTICS LLC

Dr. Tari an inventor/entrepreneur. He was the leading inventor of Polychromatic Angiography and is taking the lead on developing it by starting and running PCasso Diagnostics LLC. Before PCasso, Dr. Tari was the medical director with Lux Biosciences, Inc for North America and India. Dr. Tari received his medical training in Cairo University, Egypt followed by several research, translational and clinical fellowships at Columbia University and the New York Eye and Ear Infirmary in retinal diseases and ocular inflammatory diseases. He is a strong advocate for precision medicine as he is a founding member of the BIONJ committee for diagnostics and personalized medicine and an active member in the pharmaceutical and biotechnology community in New Jersey in addition to serving as an advisory board member for the Monmouth University School of Science.

1:45PM-2:30PM  ENABLING IMPROVED PATIENT CARE AND SCALABILITY FOR PRECISION MEDICINE

When introducing precision medicine offerings it is imperative to consider all parts of the patient value chain from sample collection to processing and validated results. Optimizing the patient experience, ensuring quality samples and future-proofing lab analysis through high quality specimen inputs is key to enabling successful, scalable health solutions.

Aaron Del Duca, Vice President Product Management, DNA GENOTEK

2:30PM-3:15PM  UI FOR EXECUTING WORKFLOWS OF HIGH THROUGHPUT DATA ANALYSIS ON GRID COMPUTE CLUSTERS

High throughput data has required new paradigms for executing analyses. Grid computing clusters are common in providing extra computing power, and they are often shared within a large-scale institution to reduce overall costs and ensure controls (ex: data privacy). Workflow Commander provides a visual, flowchart-style interface to execute and monitor analyses on a compute cluster that is designed to be especially intuitive and flexible for all users.

KEY ISSUES TO BE ADDRESSED INCLUDE:
• Steps to create and edit new workflows in the visual editor
• Steps to monitor workflow execution
• Easily access execution state information to mash up in other applications

Elango Cheran, Founder, PALMYRA SOFTWARE

Mr. Cheran is a Founder at Palmyra Software. He previously had extensive hands-on experience at The Centre for Applied Genomics running analyses of Next Generation Sequencing DNA data for various experiment types and sequencing platforms. He has an MS in computational biology from the University of Toronto and a BS with highest honors from UNC-Chapel Hill.
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Mission Statement
aCi's mission is to unite key industry influencers and leaders to build strong relationships and enable our clients to achieve operational efficiencies, maintain competitive advantage in the marketplace, and increase their profitability.

Quality
aCi invites senior-level executives and key industry leaders to share their insights and real-life working experiences with our audience. Our unique conference format offers an intimate and time-efficient educational development platform where our attendees can meet one-on-one with the people that can assist them in achieving their goals.

Research
aCi offers cutting-edge conferences that are developed through extensive research and development with industry experts to bring you the latest trends, forecasts, and best practices.

Experience
Our team of experienced conference producers and managers know you and your business demands. aCi has the resources, knowledge, and experience to create the events you need to remain on the forefront of your industry.

Venue Information:
AMA Conference Center
1601 Broadway, New York, NY 10019
T: 212-903-8277
AMA's New York Conference Center is conveniently located at 48th and Broadway in the heart of New York City’s bustling Times Square. The Center is within blocks of some of the best restaurants, shops, and entertainment for which New York is famous. The state-of-the-art executive conference center is comprised of 31 comfortable executive meeting rooms that range in size from 168 to 3000 square feet. The executive conference center can accommodate meetings for over 200 participants. As a purpose-built meeting environment, it provides the comforts of executive chairs, indirect lighting, and a staff specially attuned to the unique needs of meeting planners and attendees.

3:15PM-3:30PM      AFTERNOON REFRESHMENT BREAK AND EXHIBITOR SHOWCASE

3:30PM-4:30PM      INTERACTIVE PANEL DISCUSSION: THE BUSINESS OF PRECISION MEDICINE
Participate in this lively interactive exchange between all presenting faculty and conference attendees. Presenters will provide a short summary of key points from their original programs and open the floor to questions and comments from participants. Registrants are encouraged to submit questions prior to this live event. Panelists will be announced shortly.

4:30PM-5:00PM      CHAIRPERSON’S CLOSING

5:00PM             CLOSE OF CONFERENCE

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