



2016 ADVANCES IN GENOME BIOLOGY AND TECHNOLOGY PRECISION HEALTH MEETING

The Phoenician
Scottsdale, Arizona

SCIENTIFIC PROGRAM



THURSDAY, SEPTEMBER 22, 2016 MORNING

TIME	PLACE	EVENT
8:00 am – 8:00 pm	Phoenician Grand Ballroom Registration Desk	Meeting Registration
11:00 am – 5:00 pm	Phoenician Grand Ballroom	Exhibit Hall and Poster Gallery
PRE-CONFERENCE	Camelback Ballroom	AGBT Precision Health Training Session (Elaine Mardis, The Institute for Genomic Medicine at Nationwide Children’s Hospital/ Diana Bianchi, Tufts Medical Center, Hosts) Target Audience: Clinicians and trainees without a strong background in genomics. These lectures will provide exposure to familiarize attendees with NGS terminology and workflow, as well as associated challenges. 1. NGS 101: Basics of NGS data generation, jargon and acronyms defined (Madhuri Hegde, Emory Genetics Laboratory) 2. NGS data analysis: Basic process in data analysis including alignment, quality and coverage evaluations, algorithm basics for variant detection; human genome reference versions (Paul Flicek, European Bioinformatics Institute)
10:00 am – 12:00 pm		

TIME

10:00 am - 12:00 pm

PLACE

Camelback Ballroom

EVENT

3. Challenges of NGS data

interpretations: Annotations, nomenclature inconsistency, gene homology; copy number detection; and associated challenges of making sense of genes and variants (databases and interpretation criteria, etc.) (Heidi Rehm, Partners Healthcare Personalized Medicine)

12:00 pm - 1:00 pm

East Lawn

Lunch

1:00 pm - 4:00 pm

Camelback Ballroom

NGS Applications Lectures and Cases

These lectures will be case reports where experts in different applications of clinical NGS will provide pertinent examples of the application and the associated challenges (to highlight the introductory lectures).

1. NIPT—Diana Bianchi, Tufts Medical Center

2. Cancer—Kenna Mills Shaw, Ph.D., MD Anderson Cancer Center, Howard McLeod, Moffitt Cancer Center

3. Medical Genetics—Fowzan Alkuraya, Alfaisal University, Stephen Kingsmore, Rady Children's Hospital, Hakon Hakonarson, Children's Hospital of Philadelphia, William Gahl, National Human Genome Research Institute

4. Microbial/Infectious Disease – Julie Segre, National Human Genome Research Institute



THURSDAY, SEPTEMBER 22, 2016 EVENING

TIME

PLACE

EVENT

SESSION I

Camelback Ballroom

Population-Based Approaches to Precision Medicine (Paul Flicek, European Bioinformatics Institute, Chair)

4:30 pm – 5:00 pm

Howard Jacob, Hudson Alpha Institute for Biotechnology
“Clinical sequencing for patients, adoptees, and the health curious”

5:00 pm – 5:30 pm

Teri Manolio, National Human Genome Research Institute
“Genomics and the Precision Medicine Initiative”

5:30 pm – 6:00 pm

Hakon Hakonarson, Children’s Hospital of Philadelphia
“Genomics-driven biomarker discovery and utilization: The precision medicine experience from CHOP”

6:00 pm – 6:30 pm

Fowzan Alkuraya, Alfaisal University
“It’s your variant, it’s your problem, not and mine”

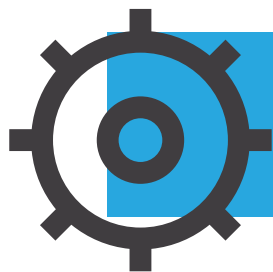
6:30 pm – 7:00 pm

Jonathan Marchini, University of Oxford
“Phasing, imputation and analysis of 500,000 UK individuals genotyped for UK Biobank”

7:00 pm – 10:00 pm

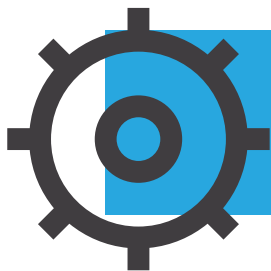
Casita Lawn

Welcome Reception



FRIDAY, SEPTEMBER 23, 2016 MORNING

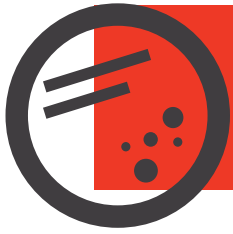
TIME	PLACE	EVENT
7:30 am – 9:00 am	East Lawn	Breakfast
7:30 am – 5:30 pm	Phoenician Grand Ballroom	Exhibit Hall and Poster Gallery
8:00 am – 3:00 pm	Phoenician Grand Ballroom Registration Desk	Meeting Registration
Session II	Camelback Ballroom	Genomic Medicine (Howard McLeod, Moffitt Cancer Center, Chair)
9:00 am – 9:30 am		Jonathan Berg , University of North Carolina, Chapel Hill “ClinGen and ClinVar: Approaches to variant curation and dissemination for genomic medicine”
9:30 am – 10:00 am		Jeff Barrett , Wellcome Trust Sanger Institute “Open Innovation Partnerships to bridge the gap from GWAS to drug targets”
10:00 am – 10:15 am		Ryan Hartmaier, Foundation Medicine, *(Abstract selected talk) “Genomic analysis of 63,220 tumors reveals insights into tumor uniqueness and cancer immunotherapy strategies”
10:15 am – 10:30 am		Nicolas Robine, New York Genome Center, *(Abstract selected talk) “NYGC glioblastoma clinical outcome study: Discovering therapeutic potential in GBM through integrative genomics”
10:30 am – 10:50 am	Phoenician Grand Ballroom	Coffee Break
	Camelback Ballroom	Industry Perspectives
10:55 am – 11:15 am		Alan Shuldiner , Regeneron Genetics Center, Co-Head “DiscovEHR(y) of new drug targets and the implementation of precision medicine”
11:15 am – 11:35 am		David Shaywitz , DNA Nexus, Chief Medical Officer, “Creating the high value health data networks of the future”



FRIDAY, SEPTEMBER 23, 2016

AFTERNOON

TIME	PLACE	EVENT
11:35 am – 11:55 pm	Camelback Ballroom	AmirAli Talasaz , Guardant Health, President, “NGS analysis of circulating tumor DNA from 20,000 advanced cancer patients demonstrates similarity to tissue alteration patterns”
12:00 pm – 1:30 pm	East Lawn	Lunch
1:30 pm – 3:00 pm	Phoenician Grand Ballroom	Poster Session
SESSION III	Camelback Ballroom	Prenatal Testing (Mike Talkowski, Center for Human Genetic Research – Massachusetts General Hospital and Harvard, Chair)
3:00 pm – 3:30 pm		Diana Bianchi , Tufts Medical Center “Noninvasive prenatal DNA testing: The vanguard of genomic medicine”
3:30 pm – 4:00 pm		Patricia Deverka , University of North Carolina, Chapel Hill “Payer perspectives on NIPT – What can we learn from coverage policies?”
4:00 pm – 4:30 pm		Mary Majumder , Baylor College of Medicine “What to expect when you are expecting: Ethics of prenatal and newborn sequencing”
4:30 pm – 4:50 pm	Phoenician Grand Ballroom	Coffee Break
SESSION IV	Camelback Ballroom	Clinical Implementation (Paul Flicek, European Bioinformatics Institute, Chair)
4:50 pm – 5:20 pm		Josh Peterson , Vanderbilt University Medical Center, “Scaling precision health across an enterprise”
5:20 pm – 5:50 pm		John Mattison , Kaiser Permanente “The last mile of precision medicine: Big challenges, big opportunities”
5:50 pm		Dinner on your own, free evening



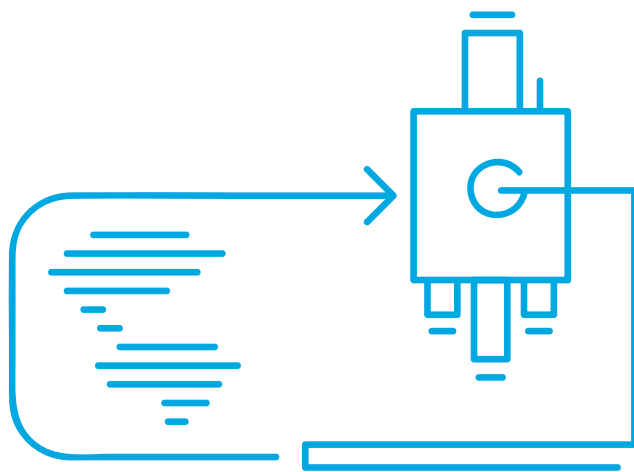
SATURDAY, SEPTEMBER 24, 2016 MORNING

TIME	PLACE	EVENT
7:30 am – 9:00 am	East Lawn	Breakfast
7:30 am – 5:50 pm	Phoenician Grand Ballroom	Exhibit Hall and Poster Gallery
SESSION V	Camelback Ballroom	Rare Genetic Disease (Len Pennacchio, Lawrence Berkeley National Laboratory, Chair)
9:00 am – 9:30 am		Ramnik Xavier , Massachusetts General, Broad Institute of MIT and Harvard “Microbes, genes and gut immunity”
9:30 am – 10:00 am		William Gahl , National Human Genome Research Institute “The NIH Undiagnosed Diseases Program: Expansion to a national and international network”
10:00 am – 10:30 am		Stephen Kingsmore , Rady Children’s Hospital, “Delivering 26-hour diagnostic genomes to all NICU infants who will benefit in California and Arizona: Potential impact, bottlenecks and solutions”
10:30 am – 10:50 am	Phoenician Grand Ballroom	Coffee Break
10:50 am – 12:00 pm	Camelback Ballroom	The Great Debate—Panels vs. Exomes vs. Genomes (Mike Talkowski, Center for Human Genetic Research – Massachusetts General Hospital and Harvard, Chair) 1. Richard Gibbs , Baylor College of Medicine 2. Heidi Rehm , Harvard Medical School School, Partners Healthcare 3. Stephen Kingsmore , Rady Children’s Hospital
12:00 pm – 2:00 pm	East Lawn	Lunch



SATURDAY, SEPTEMBER 24, 2016 AFTERNOON

TIME	PLACE	EVENT
SESSION VI	Camelback Ballroom	Cancer Genomics (Elaine Mardis, The Institute for Genomic Medicine at Nationwide Children's Hospital, Chair)
2:00 pm – 2:30 pm		Nickolas Papadopoulos , Johns Hopkins School of Medicine, "Detection of rare somatic mutations in bodily fluids in the era of precision medicine: Challenges and opportunities"
2:30 pm – 3:00 pm		Imran Haque , Counsyl "Overcoming artificial selection to realize the potential of germ line cancer screening"
3:00 pm – 3:30 pm		Kenna Mills Shaw , Executive Director, Institute for Personalized Cancer Therapy, MD Anderson Cancer Center "Precision oncology decision support: Building a tool to deliver the right drug(s) at the right time(s) to the right patient(s)"
3:30 pm – 3:50 pm	Phoenician Grand Ballroom	Coffee Break
3:50 pm – 5:00 pm	Camelback Ballroom	Mock Tumor Board (Elaine Mardis, The Institute for Genomic Medicine at Nationwide Children's Hospital/ Howard McLeod, Moffitt Cancer Center, Hosts) 1. Mia Levy , Vanderbilt Ingram Cancer Center 2. Christine Walko , Moffitt Cancer Center 3. Nirali Patel , University of North Carolina, Chapel Hill
5:00 pm – 5:30 pm		Closing Comments and Meeting Feedback
7:00 pm – 10:00 pm	Jokake Inn A short walk from the main building but golf cart transports will be available to and from the "Cowboy Chic" party	Farewell Dinner Party



THE GENOME
PARTNERSHIP™