



One Million Genomes: From Discovery to Health

June 4–8, 2018 | Herrenhausen Palace | Hannover | Germany

Scientific Organizers:

Geoffrey S. Ginsburg, Duke University, USA

Teri Manolio, National Institutes of Health, USA

Patrick Boon Ooi Tan, Genome Institute of Singapore, Singapore

In cooperation with Volkswagen Foundation

The completion of the Human Genome Project in 2003 has catalyzed innovations in scientific research and in health care embodied in the term “precision medicine.” Across the globe, many nations are investing in large-scale national sequencing cohort programs resulting in over one million human genomes sequenced and linked to dense phenotypic and clinical data. This Keystone Symposia conference will bring together scientists and leaders from healthcare and industry to discuss how to maximize the value of that investment for human health. It will assemble a unique and highly interdisciplinary international community to articulate how best to use these data-rich resources to provide novel insights into the biology of disease, tools for the management of patients and population health management strategies. The meeting will highlight challenges and potential solutions for germ-line and somatic sequencing programs and make recommendations for optimizing their impact on global health. The crucial role of free and open sharing and exchange of human variation data from these programs in allowing all of them to interpret novel variants and use them in clinical care will be emphasized. The meeting will focus on various scientific challenges for the field, including implementation science, the scalable data infrastructures and analyses required for impact on discovery and clinical care, and the value proposition for the investments that have been made in national programs. The leading edge of clinical impact of clinical sequencing with will be highlighted in sessions on pharmacogenomics, and in developing novel therapeutics.

Session Topics:

- Large-Scale National Sequencing Programs: Implementation to Impact
- Somatic Sequencing Programs: Biological Insights and Diagnosis
- Implementation Science for Genomic and Precision Medicine
- International Data Resources Enabling Genomic Medicine
- The Actionable Genome
- The Value Proposition for National Sequencing
- Pharmacogenomics: The Leading Edge of Genomics Impact in Medicine
- Use of Large-Scale Bio-Clinical Resources for Drug Discovery

Global Health Travel Award Deadline: January 9, 2018

Scholarship Application & Discounted Abstract Deadline: February 7, 2018

Abstract Deadline: March 7, 2018

Discounted Registration Deadline: April 11, 2018



Note: Scholarships are available for graduate students and postdoctoral fellows and are awarded based on the abstract submitted. Submitting an abstract is an excellent opportunity to gain exposure for your work. Global Health Travel Awards are for LMIC investigators. Abstracts submitted by the abstract deadline will also be considered for short talks on the program.

Upper image of GeneChip loaded with hybridized RNA courtesy of National Institute of Arthritis, Musculoskeletal and Skin Diseases, NIH and photographer Rhoda Baer

Meeting Hashtag: #KS1Mgenome
www.keystonesymposia.org/18G1

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KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

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MONDAY, JUNE 4

Arrival and Registration

TUESDAY, JUNE 5

Welcome and Keynote Address

Sue Hill, NHS England, UK
Genomics England and the NHS

Large-Scale National Sequencing Programs: Implementation to Impact

Qimin Zhan[†], Chinese Academy of Medical Sciences, China
The Chinese Precision Medicine Initiative

Andres Metspalu, Estonian Genome Center / University of Tartu, Estonia
The Estonian Genome Project

Gad Rennert, Rappaport Faculty of Medicine, Technion – Israel Institute of Technology, Israel
Clalit's National Israeli 100K Genomes Personalized Medicine RCT

Brian F. Meyer, King Faisal Specialist Hospital and Research Centre, Saudi Arabia
Saudi Human Genome Program - Addressing Unique Needs of a Population

Michael Gaziano, VA Boston Healthcare System, USA
The Million Veterans Program

Mark Caulfield, William Harvey Research Institute, Queen Mary University of London, UK
Genomics England: 100K UK Genomes

Speaker to be Announced
Iceland

Poster Session 1

Somatic Sequencing Programs: Biological Insights and Diagnosis

Peter Campbell, Wellcome Trust Sanger Institute, UK
Precision Oncology through International Collaboration and Data Sharing

James R. Lupski, Baylor College of Medicine, USA
Somatic Mosaicism

Patrick Boon Ooi Tan, Genome Institute of Singapore, Singapore
Environmental Agents and Asian-Endemic Cancers

Short Talk Chosen from Abstracts

WEDNESDAY, JUNE 6

Implementation Science for Genomic and Precision Medicine

Robyn Ward, University of Queensland, Australia
A National Cancer Genomic Testing Strategy

John EL Wong, National University Health System, Singapore
Challenges of Precision Medicine Implementation in a High Volume Clinical Environment

Kathryn North, Murdoch Childrens Research Institute, University of Melbourne, Australia
Implementing Genomics into Healthcare: A National and Global Perspective

Geoffrey S. Ginsburg, Duke University, USA
A National Network for Implementing Genomic Medicine in Practice (IGNITE)

Short Talk(s) Chosen from Abstracts

International Data Resources Enabling Genomic Medicine

Daniel MacArthur, Massachusetts General Hospital, USA
Databases for Rare Disease

Peter N. Robinson, JAX Genomic Medicine, USA
The Human Phenotype Ontology Project

Erkki Leego, Estonian Genome Center, University of Tartu, Estonia
A National Information Technology Structure for Data Integration

Short Talk Chosen from Abstracts

THURSDAY, JUNE 7

The Actionable Genome

Nazneen Rahman, Institute of Cancer Research, UK
Making Genetic Medicine Work

Heidi Rehm, Harvard Medical School, USA
The Clinical Genomics Resource

James S. Ware, Imperial College London, UK
Variation in Cardiac Disease Genes: Location Matters

Teri Manolio, National Institutes of Health, USA
NIH Programs Developing Actionable Genomics

Short Talk(s) Chosen from Abstracts

The Value Proposition for National Sequencing

Joanne Yoong, National University of Singapore, Singapore
Is Precision Medicine Cost Effective? Starting with the Goal in Mind
Speaker to be Announced

Surakameth Mahasirimongkol, Ministry of Public Health, Thailand
Genomics in Clinical Care on a National Scale

Short Talk Chosen from Abstracts

FRIDAY, JUNE 8

Pharmacogenomics: The Leading Edge of Genomics Impact in Medicine

Henk-Jan Guchelaar, Leiden University, Netherlands
The Ubiquitous Pharmacogenomics Project

Mary V. Relling, St. Jude Children's Hospital, USA
Clinical Implementation of Pharmacogenetics

Maja Mockenhaupt, Universitätsklinikum Freiburg, Germany
Using Genetics to Prevent Stevens Johnson Syndrome/Toxic Epidermal Necrolysis

Jianjun Liu, Genome Institute of Singapore, Singapore
The SaPHIRE Program. Enabling Adverse Drug Reaction Research in Real-Time

Short Talk(s) Chosen from Abstracts

Use of Large-Scale Bio-Clinical Resources for Drug Discovery

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Alan R. Shuldiner, Regeneron Pharmaceuticals, Inc, USA

Discovery of Novel Drug Targets: High-throughput Genomics of 250,000 Exomes

Anne Wojcicki[†], 23andMe, USA

A Consumer Based Genomic Platform for Drug Discovery

Jeong-Sun Seo, Seoul National University and MacroGen, South Korea

100K Asian Genomes with de novo Assembled Reference

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

SATURDAY, JUNE 9

Departure