



**At the end of the Conference, the participants will be able to:**

- Understand the latest scientific advances regarding the collection and analysis of big data in the field of genomics and precision medicine.
- Gain oversight regarding the assessment of the functional consequences of variants in the human genome that appear to be associated with clinical phenotype.
- Have an appreciation of the translation of genomic knowledge in the prevention, diagnosis and treatment of rare and common genetic disorders of infancy.

**Functional Genomics 2018 Target Audience**

- Physicians
- Nurses
- Pharmacists
- Scientists
- Academic researchers
- Students
- Allied Health

(Involved in the field of Biology, Genomics, Genomic Medicine, Genetics, Cancer and other Chronic Diseases.)

**SPC STATEMENT**

The Scientific Planning Committee has reviewed all disclosed financial relationships of speakers, moderators, facilitators and/or authors in advance of this CPD activity and has implemented procedures to manage any potential or real conflicts of interest.

## Program Schedule

Day 1: Saturday 8 December 2018 "Human Genomes and Big Data"	
07:00 – 7:40	Registration and refreshments
<b>Introduction:</b>  <b>Objective:</b> Define the Aims of the Symposium and its Framework with Respect to Qatar and Sidra Medicine.	
07:40 – 07:45	<b>Welcome note</b> Mr. Peter Morris CEO, Sidra Medicine - Qatar
07:45 – 07:55	<b>Overview of Sidra Research Achievements</b> Dr. Christof Von Kalle CRO, Sidra Medicine - Qatar
07:55 – 08:15	<b>The Functional Genomics Symposium Series</b> Professor Xavier Estivill Co- Chair of the Functional Genomics Symposium 2018
<b>Session 1:</b> The Message of Genes  <b>Moderators:</b> Nicole Soranzo and Jithesh Puthen  <b>Objective:</b> To Show the Bulk of Information that the Genome Contains and the Challenges to Decode the Message for Clinical Purposes.	
8:15 – 8:50	<b>"From Genomics To Therapeutics: Uncovering And Manipulating The Genetic Circuitry of Human"</b> <b>Manolis Kellis</b> MIT Computer Science, CSAIL, Broad Institute- Massachussetts,USA
8:50 – 9:25	<b>"Tohoku Medical Megabank Project- A National Challenge to Realize Personalized Medicine"</b> <b>Masayuki Yamamoto</b> Tohoku Medical Megabank Organization- Sendai, Japan
9:25 – 9:55	<b>"Using Single-cell Genomics to Understand Cell fate Decisions in Early Mammalia Development"</b> <b>John Marioni</b> University of Cambridge- Cambridge, UK
9:55 – 10:10	<b>"Abstract Winner "</b> Abstract Winner Sidra Medicine- Doha, Qatar
10:10 – 10:25	<b>"Abstract Winner "</b> Abstract Winner Institution- Country
10:25 – 10:55	Coffee break
<b>Session 2:</b> Genome Sequencing in Action  <b>Moderator:</b> Manolis Kellis and Stephan Lorenz  <b>Objective:</b> To Show how the Activities in Genome Sequencing Projects Define the Dissection of Human Phenotypes	
10:55 – 11:30	<b>"Genome Sequencing and Multi-Omics Phenotyping in Precision Medicine"</b> <b>Nicole Soranzo</b> Wellcome Trust Sanger Institute- Hinxton, UK
11:30 – 12:05	<b>"Long-Read Sequencing of Complex Genomes and Improved Structural Variation Characterization" (UNCREDITED TALK)</b> <b>Evan E. Eichler</b> University of Washington School of Medicine- Seattle, USA
12:05 – 12:40	<b>"The Use of Population Biobanks for Translational Research"</b> <b>Cisca Wijmenga</b> University Medical Center Groningen- Groningen, Netherlands
12:40 – 12:55	<b>"Exomes in a Clinical Setting: The Promise and the Delivery"</b> Donald Love Sidra Medicine- Doha, Qatar
12:55 – 13:10	<b>"Abstract Winner "</b> Abstract Winner Institution- Country

13:10 – 14:40	<b>Lunch break</b>
<b>Session 3:</b>	<b>Qatar Genome and Medical Knowledge</b>
<b>Moderators:</b>	<b>Asmaa Al-Thani and Evan Eichler</b>
<b>Objective:</b>	<b>To Present the Objectives and First Results of the Qatar Genome Program Analysis</b>
14:45 – 15:05	<b>“Overview- Qatar Genome Project”</b> Said Ismail Qatar Genome Proram- Doha, Qatar
15:05 – 15:25	<b>“The Biomedical Landscape of Genetic Variation in the Population of Qatar”</b> <b>Xavier Estivill</b> Sidra Medicine- Doha, Qatar
15:25 – 15:45	<b>“The Genetic Architecture of Health and Disease-related Trait in Qatari Population”</b> <b>Omar Albagha</b> Hamad Bin Khalifa University- Doha, Qatar
15:45 – 16:05	<b>“Exploring Pharmacogenetic Variants in the Qatari Population”</b> <b>Jithesh Puthen</b> Sidra Medicine- Doha, Qatar
16:05 – 16:20	<b>“Abstract Winner”</b> Abstract Winner Institution- Country
16:20 – 16:35	<b>“Abstract Winner ”</b> Abstract Winner Institution- Country
16:35 – 16:50	<b>“Abstract Winner”</b> Abstract Winner Institution- Country
16:50 – 17:00	<b>Conclusion of First Day</b>
<b>Day 2: Sunday 9 December 2018</b> <b>“Modelling and Treating Disease”</b>	
07:15 – 8:15	Registration and Refreshments
<b>Session 4:</b>	<b>Modelling Human Disease</b>
<b>Moderators:</b>	<b>Xavier Estivill and Cisca Wijmenga</b>
<b>Objective:</b>	<b>To Show how to Develop and Analyze Human Mutations in Animal Models</b>
8:15 – 8:50	<b>“The Use of Functional Genomics to Accelerate Drug Discovery”</b> <b>Nicholas Katsanis</b> Duke University- NC, USA
8:50 – 9:25	<b>“Liver Organoids for the Study of Human Biology and Disease”</b> <b>Meri Huch</b> University of Cambridge- Cambridge, UK
9:25 – 10:00	<b>“ZCARDIO: A Versatile Screening Platform for Cardiovascular Functional Genomics and Drug”</b> <b>(UNCREDITED TALK)</b> <b>Javier Terriente</b> ZeClinics, Drug Discovery Through Zebrafish- Barcelona, Spain
10:00 – 10:15	<b>“Short Talk ”</b> Abstract Winner Institution- Country
10:15 – 10:30	<b>“Short Talk ”</b> Abstract Winner Institution- Country
10:30 – 11:00	<b>Coffee Break</b>
<b>Session 5:</b>	<b>Exploring the Consequences of Mutation in Model Systems</b>
<b>Moderators:</b>	<b>Tomo Kino and Anne Ferguson-Smith</b>
<b>Objective:</b>	<b>To Show how to Evaluate the Consequences of Mutations in Model Systems</b>
11:00 – 11:35	<b>“RNA Toxicity in Huntington’s Disease: A Therapeutic Target in Polyglutamine Disorders”</b> <b>Eulalia Marti Puig</b> University of Barcelona- Barcelona, Spain

11:35 – 12:10	<p><b>“Non-self Mutations: Neurodegenerative Diseases have Genetic Hallmarks of Autoinflammatory Disease”</b>  <b>Robert Richards</b>  University of Adelaide- Adelaide, Australia</p>
12:10 – 12:45	<p><b>“Gene Discovery Mediated by the Drosophila Model Organism Screening Center”</b>  <b>Hugo Bellen</b>  Baylor College of Medicine- Texas, USA</p>
12:45 – 13:00	<p><b>“Abstract Winner ”</b>  Abstract Winner  Institution- Country</p>
13:00 – 13:15	<p><b>“Abstract Winner”</b>  Abstract Winner  Institution- Country</p>
13:15- 14:45	<b>Lunch Break</b>
<b>Session 6:</b>	<b>Sidra Medicine Lecture in Human Genetics</b>
<b>Moderators:</b>	<b>Donald Love</b>
<b>Objective:</b>	<b>To Show how to Develop and Analyze Human Mutations in Animal Models</b>
14:45 – 15:30	<p><b>“Genetic Approaches to Therapy for Duchenne Muscular Dystrophy”</b>  <b>Kay Davies</b>  Oxford Neuromuscular Centre- Oxford, UK</p>
15:30 – 16:55	<p><b>Women in Science Workshop</b></p> <p><b>Objective:</b> <b>To Show how Successful Careers in Science can be Achieved by Women</b></p> <p><b>Panelists:</b></p> <ul style="list-style-type: none"> <li>▪ <b>Kay Davies</b>  Professor of Genetics  Oxford Neuromuscular Centre - Oxford, UK</li> <li>▪ <b>Elizabeth Phimister</b>  Deputy Editor The New England Journal of Medicine- Boston, USA</li> <li>▪ <b>Bernice Lo</b>  Investigator, Sidra Medicine- Doha Qatar</li> <li>▪ <b>Mariam Al Maadeed</b>  Vice President for Research &amp; Graduate Studies, Qatar University- Doha, Qatar</li> <li>▪ <b>Kholoud Al- Shafai</b>  HBKU PhD Student, Sidra Medicine- Doha Qatar</li> </ul>
16:55-17:00	<b>Conclusion of Second Day</b>
<b>Day 3: Monday 10 December 2018</b>	
<b>“Mother and Child Health”</b>	
07:15 – 8:15	Registration and Refreshments
<b>Session 7:</b>	<b>From Models of Cells to Disease Phenotypes</b>
<b>Moderators:</b>	<b>Nicholas Katsanis and Luis Saraiva</b>
<b>Objective:</b>	<b>To Evaluate the Impact of Knowledge in Cellular Models in Managing Human Disease</b>
08:15 – 08:50	<p><b>“Investigating Cellular Fate decision in Mouse Embryos by Single-cell RNA- Sequencing”</b>  <b>Antonio Scialdone</b>  Helmholtz Zentrum München- Munchen, Germany</p>
08:50 – 09:25	<p><b>“Genetic Regulators of Maternal Immune Tolerance and Pregnancy Success”</b>  <b>Sarah Robertson</b>  Robinson Research Institute- Adelaide, Australia</p>
09:25 – 10:00	<p><b>“New Applications of Genomic Medicine in Women's Health”</b>  <b>Lee Schulman</b>  Feinberg School of Medicine of Northwestern University- Illinois, USA</p>
10:00 – 10:15	<p><b>“Abstract Winner ”</b>  Abstract Winner  Institution- Country</p>
10:15 – 10:30	<p><b>“Abstract Winner”</b>  Abstract Winner  Institution- Country</p>

10:30 –11:00	<b>Coffee Break</b>
<b>Session 8:</b>	<b>Diagnosis of the Future Child</b>
<b>Moderators:</b>	<b>Khalid Fakhro and Meritxell Guarch</b>
<b>Objective:</b>	<b>To Show how to Evaluate the Consequences of Mutations in Genes that Lead to Human Genetic Diseases</b>
11:00 – 11:35	<b>“Variable Silencing of the Repeat Genome - Implications for Non-Genetic Inheritance”</b> <b>Anne Ferguson-Smith</b> University of Cambridge- Cambridge, UK
11:35 – 12:10	<b>“The Renaissance of Genomic Medicine”</b> <b>Stylios Antonarakis</b> University of Geneva Medical School- Geneva, Switzerland
12:10 – 12:45	<b>“The Results of the Undiagnosed Rare Disease Program of Catalonia (URDCat)”</b> <b>Luis Perez-Jurado</b> Pompeu Fabra University Barcelona- Spain and University of Adelaide- Australia
12:45 – 13:15	<b>“Pathologic Glucocorticoid Receptor Mutations: From their Clinical Manifestations to Molecular Impact on the Glucocorticoid Receptor Protein”</b> <b>Tomoshige Kino</b> Sidra Medicine- Doha, Qatar
13:15- 14:45	<b>Lunch Break</b>
<b>Session 9:</b>	<b>Patient Genome Sequencing</b>
<b>Moderators:</b>	<b>Stylios Antonarakis and Bernice Lo</b>
<b>Objective:</b>	<b>To Show how Personal Genome Sequencing Provides Key Information to Manage Disease</b>
14:45 – 15:20	<b>“Clinical Genomic: Discovery and Building Genetics Models for Complex Traits”</b> <b>James R. Lupski</b> Baylor College of Medicine- Texas, USA
15:20 – 15:55	<b>“Genomics Research Uncovers the Primary Role of Complement Pathway in a Familial Form of Protein Losing Enteropathy”</b> <b>Ahmet Ozen</b> National Institute of Allergy and Infectious Diseases (NIH)- Maryland, USA
15:55 – 16:30	<b>“A Nuts and Bolts Approaches to Diagnosis of SCID Patients in the Era of Newborn Screening”</b> <b>Mehdi Adeli</b> Sidra Medicine/Hamad Medical Corporation- Doha, Qatar
16:30 – 16:45	<b>“Short Talk ”</b> Abstract Winner Institution- Country
16:45 –16:55	<b>Poster Awards</b>
16:55 – 17:00	<b>Closing Remarks</b>