Emphasizing the Knowledge of Personalized Medicine

Genetics, Genomics and Personalized Medicine: What Everyone Needs to Know

World Congress on Genetics, Genomics And Personalized Medicine 2017

On 15th, 16th & 17th November 2017

J.N. Tata Auditorium, Indian Institute Of Science, Bengaluru, India.
I am honoured to invite you to participate in the World Congress on Genetics, Genomics And Personalized Medicine 2017 “Emphasizing the Knowledge of Personalized Medicine” which is schedule on 15th, 16th, & 17th of November 2017 at J. N. Tata Auditorium, India Institute Of Science, Bengaluru, Karnataka, India.

The announcement of Obama’s ‘Precision Medicine Initiative’ in 2015 has led to multiple worldwide initiatives that promote research that enhances customized health care via a focus on an individual’s needs for disease detection and treatment. Breakthroughs in gene editing and gene therapy have led to extensive discussions and disputes, but also highlight a future of revolutionary discoveries and technology.

World Congress on Genetics Genomics and Personalized Medicine Conference has aimed at the prospects of genomics, how its advancement will impact human health and disease, emphasizing the need for genomic research, and the critical issues in this field.

World Congress on Genetics, Genomics And Personalized Medicine 2017 will bring together a host of senior level experts to discuss recent developments in the industry and to debate the best strategies and solutions to improve Personal Health.

The conference will host more than 100 world-class speakers from academia and industry who will discuss recent advances in personal Care and innovation going forward. This conference will highlight the latest scientific breakthroughs, explore innovative technologies and approaches that can be used to overcome the recent barriers in treating the critical cases, and bring together industry leaders who will discuss on future opportunities.
Dear Colleagues,

Nearly a quarter of a century after the completion of the Human Genome Project, the goal of developing personalized medicine, enhancing food security, and protecting the environment has not changed, but the technology available to do so has transformed our ability to achieve this. So too has the spirit of the global community to collaborate to share technology, to share data, and to share discoveries, in a way that is unprecedented in the history of science.

This conference will cover work in precision medicine, reproductive health, cancer, advanced omics technologies, Neurodevelopmental, Stem cells, bioethics and data sharing in genomics, genetics and more. It will bring together insightful scholars and scientific experts along with corporate leaders, industrial heavyweights, and biotech investors from all over the world.

I hope you can join us, to give us the opportunity to share your vision and knowledge with the global community. Your participation will add great value to this landmark event.

Co Chairman Message

Dear Colleagues,

This conference will provide an opportunity to learn about and keep up to date with the rapidly progressing area of Genetics, Genomics and personalized medicine. It will cover presentations from cancer genome projects, the areas of cancer functional genomics, cancer genetics, stem cells, systems biology, cancer immunogenomics and epigenomics, cancer mouse models and the translation and clinical impact of scientific results obtained. The meeting will bring together leading scientists from across these areas for a unique opportunity to interact and stimulate further integration of these efforts.
At the Core...

Genomics is the study of understanding the structure of the genome, which contains all genetic instructions for developing and directing the activities within an organism in the form of DNA. The genomic information of every individual is unique as the structure, sequence of gene, or genome, varies between individuals. These variations in a gene may affect the function of its encoded protein products and sometimes may cause a disease. Hence, Genomics has many implications in medicine and health, often referred to as Genomic medicine, as it examines the molecular mechanisms and the interplay of genetic and environmental factors of a disease.

Variations in a Gene

The Human Genome Project sequenced DNA pooled from a range of individuals, to create an average or 'reference' genome. Therefore, it is a "representative" or generic sequence, providing the essential reference map for the human genome. It also stimulated the development of technology and analytic tools to process massive quantities of genomic data. The human genome is made up of more than three billion genetic letters and, hence, sequencing the genome is a pre-requisite to understanding it in its entirety. With the advancements of DNA sequencing technologies, it is also becoming practical and affordable for individuals to get their genomes sequenced. An individual's genomic sequence is compared with the 'reference' genome to identify the variations across genome, with the help of bioinformatics tools. These genomic variations are correlated with the individual's physiological state to confirm whether such genomic variation is pathogenic or not.

Personal Genomics

By sequencing individual genomes, researchers can uncover large amounts of information concerning all aspects of an individual's physiology, from their susceptibility to certain diseases to the way they respond to specific drugs. The first individuals to have their personal genomes sequenced were Craig Venter, founder of Celera Genomics, and James Watson, co-discoverer of the DNA double helix. Steve Jobs, co-founder of Apple Inc., was one of the first 20 people in the world to have his DNA sequenced, for which he paid $100,000. He also had the DNA of his cancer sequenced, in the hope that it would provide information about more appropriate treatments for him and for other people with the same cancer. Personal genomics can also be used to predict a genetic disease by looking at an individual's genome. These kinds of tests are often called lifestyle testing.
For example, it can be used to tell a woman if she carries the BRCA1 breast cancer gene and, if so, how much it increases the probability of her having breast cancer. Furthermore, an individual’s genomic information helps to predict a person’s response to drugs or genes that are affected by a drug.

**Precision Medicine**

Precision medicine or 'specific treatment' will also help researchers and doctors understand the exact treatment they need to offer to patients. The advent of precision medicine is moving us closer to more precise, predictable and powerful healthcare customised for the individual patient.

Certain individuals have specific variations in their drug metabolising genes, and their drug metabolising activity changes accordingly. Thus, pharmacogenetics helps to tailoring a drug treatment to match a person's genetic makeup. For example, if a person is categorised as Ultra-rapid metaboliser (UM) based on his or her genetic changes in drug metabolism and transporter genes, he or she can be prescribed a higher dose than the normal. Likewise, poor metabolisers (PM) may need lower dose because the drug will not easily be removed from blood stream than normal. This kind of personalised medicine will be highly helpful to avoid side effects during chemotherapy.

Pharmacogenomics has proved to be very useful in many clinical practices; the prescription of drugs like analgesics, antidepressants, and anticoagulants. It resorts to population genetic information to carry on research, design and develop new drugs, and understands the uses and dosage of these drugs in clinical practice. Intense research is being carried out and it may assist in paving the path for customised drugs for patients.

**Future of Personalised Genomics**

Though it is at a nascent stage, precision medicine is evolving at a fast pace. Moving from a traditional medical model of treating pathologies to an individualised predictive and preventive model of personalised medicine promises to reduce healthcare costs. The increasing number of catalogues of causative and risk genes will provide a foundation for personalised medicine and pharmacogenomics. The advent of next generation sequencing has helped in bringing down the cost of genome sequencing to less than $1,000. People can now take distinct medical advice, follow prescribed regimens and a course of medication to avoid getting affected by the same.
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Genetics, Genomics and Personalized Medicine will take a major part in it. With emerging research on human genome structure and function, newer insights and facts about diseases and human gene-specific responses are revealed. These advances will call for better understanding about genomics and the opportunities it provides in developing new therapeutic approaches and creating a revolution in the way medicine is practiced.

Our focus on Genetics, Genomics and Personalized Medicine in health care, to identify clinically actionable genetic aberrations from affected organ of patient, and diagnostic genetic information from affected organ to predict optimal therapies, Determination of faster development of genomics personalized medicine to provide patients with precision medicine and also to understand application and limitations genomic medicine in prenatal genetic screening and diagnosis, technologies and their utility, limitations.

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For more topics please visit: http://geneticsgenomicsmedicine.com/program/

### Call for Abstracts:

All investigators are invited to submit abstracts on topics pertaining to conference topics mentioned on the website. Authors are invited to submit abstract(s) online using our website submission page or they can send your abstracts to:

info@geneticsgenomicsmedicine.com

To submit abstract online please visit http://geneticsgenomicsmedicine.com/call-for-abstracts/

### Important Dates:

- Abstract Submission Deadline: 10th August 2017
- Early Bird Deadline (With Reduce fee): please visit www.geneticsgenomicsmedicine.com
“Suddenly to see the molecule which is responsible for heredity, and makes possible human existence, was a big step in man's understanding of himself in the same sense that Darwin knew that the human species wasn't fixed — that we were changing. It was bound to affect your attitude to everything.”

James D. Watson

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Dr. Nicole Boczek
Professor, Department of Medicine, Mayo Clinic, USA.

Dr. Hemma Bauer
Head, Department of Life Sciences, Austrian University of Science, Austria.

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Senior Scientific Advisor, Human Medicines Research and Development United Kingdom.

Dr. Leticia Rao
Director, Calcium Research Laboratory, Staff Scientist, St Michael’s Hospital, Toronto, Canada.
FUTURE CONFERENCES BY BIOGENESIS HEALTH CLUSTER

- 4th World Congress On Women (WCW-2017) from 15th, 16th and 17th November 2017 at J. N. Tata Auditorium, IISc Bangalore.
- 5th World Congress on Gerontology and Geriatrics 2018 from 19th, 20th and 21st September 2018 at J. N. Tata Auditorium, IISc Bangalore.
- 3rd Global Cancer Summit 2018 from 21st, 22nd and 23rd November 2018 at J. N. Tata Auditorium, IISc Bangalore.

For the list of Past Conferences organized BioGenesis Health Cluster please visit: http://biogenesis.in/workshops-conferences.html