

Genome Information to Help Precise and Personalized Healthcare

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New Delhi, Jan 17 (India Science Wire): Researcher from India and USA, who work to understand the genetic basis of diseases among various ethnic populations from different parts of the world, participated in a workshop organized by CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad. The workshop focussed on understanding genome information in a better way. Improved information on genome can help fine-tune genome-assisted healthcare, and could even lead to precise, personalized, more effective and economical approaches to healthcare.

The three-day workshop, which started on January 16, is being attended by around 200 researchers, many of whom are promising PhD scholars from research institutes, universities, hospitals and life science companies in India and USA. This workshop is arranged by the Indo-US Science and Technology Forum, supported by the Department of Science and Technology, India, and Department of State, USA, with an aim to create fruitful collaborations between the two countries.

Director CCMB, Dr Rakesh K Mishra says, "Variation in our population and differential susceptibility to diseases and response to treatment methods have been known. With genome information, we can now think of precision and personalized approach for more effective and economical approaches to healthcare. This meeting brings experts from India and the US to discuss the latest findings. This is likely to help us fine-tune our way forward towards genome-assisted healthcare."

These researchers believe that one size doesn't fit all – especially in healthcare. Much of it depends on the genetic make-up and the surroundings, which modify the genes of a person – what is called as the epigenetics. As genetics of populations in different parts of the world differs from each other, there is immense interest among researchers and governments to look at genetic details of many non-communicable diseases.

Researchers are deliberating on genetic and epigenetic basis of different forms of cancer, diabetes, heart and neurological diseases in South Asia and the US. It will also have focused discussions on the promise of personalized medicine, and advancements in technologies to make it possible. Dr Thangaraj from CCMB and Dr Keshav Singh from the University of Alabama, Birmingham – the convenors of the meeting from the two countries – mention that most of the data that we have today is based on European populations. For the field of personalized medicine to progress, it is imperative for us to understand population-specific genetics.

Keywords – Genetic basis of diseases, Genome information, Genome-assisted healthcare, Effective and economical approach to healthcare



Director CCMB, Dr Rakesh K Mishra (Third from left) with researchers