

"Genomics is changing the face of biology"

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The development and application of genome sequences and enabling technologies will lead to the removal of road blocks to progress, said Dr Manju Sharma, secretary, Department of Biotechnology, Ministry of Science and Technology, government of India.

Delivering the keynote address at the 37th convocation of University of Agriculture Sciences, Bangalore, Dr Sharma said the genomic technology would enable the discovery of novel plant functions previously obscure to conventional genetic and biochemical analysis. Apart from that the technology will enable the discovery of novel signaling molecules, including peptide and other small molecules responsible for intracellular, intercellular and inter-organismal interactions.

The mechanism for biosafety protocols, risk evaluation methods, awareness about patent issues, ethical, legal, social implications (ELSI) of biology of genomics are in place and what we require is the continuous investment for growth, she said. In this regard, the Department of Biotechnology is supporting the institutes and universities doing research in biotechnology.

"Genomics is changing the face of biology. At first glance it is largely a change of scale when we move from considering hundreds or thousands of genes at once. Genomics research is providing bridges between different branches of natural sciences," Dr Sharma said. Explaining the scope of understanding genomics, she said, all biological research largely has been permeated by genomics. "New ways of tailoring crops for the economical production of grains, vegetables, fruits, fibers, herbal medicines etc., are emerging. The world is on the eve of a bountiful harvest to mitigate the hunger, malnutrition and heralding a novel health care regime on an environmentally sustainable basis keeping in view that environment is our most precious natural resource, " she said.