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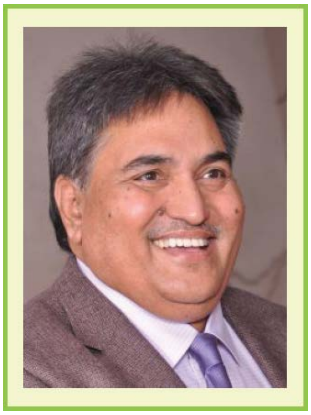
# From the Patron's Desk



## Big data analytics in drug discovery

Bioinformatics is a data-driven branch of science, with many of the algorithms and databases developed or adapted in response to new types of data. Bioinformatic analysis accelerate drug target identification and drug candidate screening and refinement, facilitate characterization of side effects and predict drug resistance. High-throughput data such as genomic, epigenetic, proteomic, and ribosome profiling data have all made significant contribution to mechanism-based drug discovery and drug repurposing. The process of drug discovery requires the analysis, collection, and processing of unstructured and structured data which forms a very huge volume to explore. To examine in detail, such diversified types of data in huge volumes for purpose of discovery of the drug, we need to have algorithms that are scalable, efficient, effective and simple.

Big data analytics greatly improves the workflow in drug discovery. Algorithms have been developed to uncover the patterns which are hidden in such data as unreported drug side-effect, sequencing, drug-protein interaction and regulatory monitoring data, data regarding chemical-protein interactions etc., for the prediction of drug side-effects. These types of analysis and their predictions are also used in identifying the possible drug structures with necessary features.

Effective utilization of the bigdata analytics helps pharmaceutical organizations to evaluate and determine new candidates which have the capacity to get them reimbursed more quickly. Learning bigdata is of so much use today because of its wide range of applications in day-today life.

Big data analytics greatly contributes to the drug discovery as well as in handling the safety issues for regulators and pharmaceutical companies.