BioSpectrum
the business of Bi
24 years of leveraging the business of Bio
www.biospectrumindia.co

Clinical Genomics: Career Opportunities and Skill-sets

01 November 2022 | Views | By Rajavarman Kittu, Clinical Bioinformatics Specialist, Bioinformatics Department, Premas Life Sciences

We are in the Genomics era, cherished by Nobel Prize winners like Dr Jennifer A. Doudna and Dr Emmanuelle Charpentier in 2020 for Genome editing CRISPR technology and Dr Svante Paabo in 2022 for paleogenomics. The 13 years of Human Genome Sequencing project gave hope to modern medicine in understanding disease as well as disease management. Many innovative advanced technologies in screening, diagnostics and treatment options were adopted in this last decade.



Scope of Clinical Genomics: Clinical genomics is a combination of understanding the medical conditions through both biological and computational skills sets to improve the patient's life. Clinical genomics has several segments like Whole Genome Sequencing (WGS), Whole Exome Sequencing (WES), Genotyping, Immune-Profiling, Epigenomics Profiling, Metagenomics and so on. Clinical genomics focuses on all segments of important clinical conditions like cancer, rare genetic disorders, neonatal and prenatal screening, lifestyle disease, infectious disease and in vitro fertility, etc.

Therefore, the immense growth in the scope of study. Understanding technology, following the protocols and guidelines, applying strategies over clinical cases in order to prevent the disease by knowing the risk factors in pharmacogenomics prospects, improve patient's survival rates of cancer patients with target therapy or advanced therapy options recommendation, suggesting better lifestyle to enhance the wellness of future generations are important milestones goals of clinical genomics.

Demand for Clinical Genomics:

There is huge demand for people who specialise in different skills relevant to clinical genomics directly or indirectly would get the opportunity to work in either segment as mentioned below.

â?? **Technology Enablers [TE]**: Companies providing sequencers and third party machines, reagent providers, bioinformatics companies developing and enabling analysis software, IT companies enabling computational needs and policy makers in government bodies.

â?? **End Users [EU]**: Hospitals, medical laboratories, government funded CSIR/DBT/DST/ICMR/DRDO/ research labs, government bodies/organisations, healthcare organisation, industries (pharma, CROs, genomics service providers).

Career Opportunities Possibilities:

Based on the above-mentioned segments [TE/EU] the job roles and the skillsets needed mostly vary. In technology enablers context the possible roles and relevant skills sets needed are as follows.

Click here to read the full article...

Rajavarman Kittu, Clinical Bioinformatics Specialist, Bioinformatics Department, Premas Life Sciences