

Modern Day Tools to Combat Modern World Challenges: Next Generation Sequencing Finding Solutions to COVID-19 Pandemic

Divya Vashisht

National Genomics Core-CDFD, India

Next generation sequencing (NGS) has been revolutionizing the modern day biology. In particular, during the unprecedented global scenario, NGS has quickly provided insight in identifying the solutions to combat ongoing pandemic. Using different NGS technologies, researchers have been able to understand the epidemiology and genomics of novel Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) causing COVID-19. In this direction, we have used two different sequencing technologies namely Sequencing-by-synthesis (SBS) by Illumina and Oxford Nanopore to sequence SARS-CoV-2 from samples collected from state of Telangana, India. In our study, we have identified the dominant lineages present in the samples collected in state of Telangana, India, among all identified lineages of SARS-CoV-2. Interestingly, our results show that symptomatic cases of COVID-19 have lower viral load in comparison to asymptomatic cases. Using NGS analysis, further viral genomic variants have been identified in collected samples.

Biography:

Divya Vashisht joined Pondicherry Central University for Masters in Biotechnology. For her doctorate research, she joined Utrecht University, The Netherlands and studied the genomic response of Arabidopsis to multiple stress conditions. She undertook bioinformatics training for the analysis of profiled transcriptome at University of California, Riverside. Subsequently, she joined Gregor Mendel Institute of Plant Molecular Biology, Vienna, Austria for post-doctoral research. In my research she elucidated the role of microRNA in embryo development. Having interest in genomics and ambition to advance scientific understanding with the use of NGS tools, she joined Genewiz, USA as Next Generation Sequencing marketing manager. Currently, she is working as CEO at National Genomics Core, CDFD, Hyderabad, India. NGC is the establishment of Department of Biotechnology, India to provide genomics solutions to all academic and industry users.